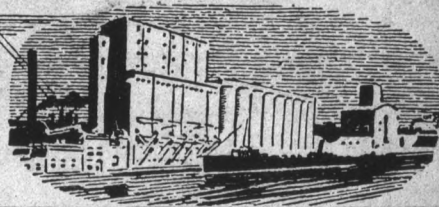


The Michigan BUSINESS FARMER



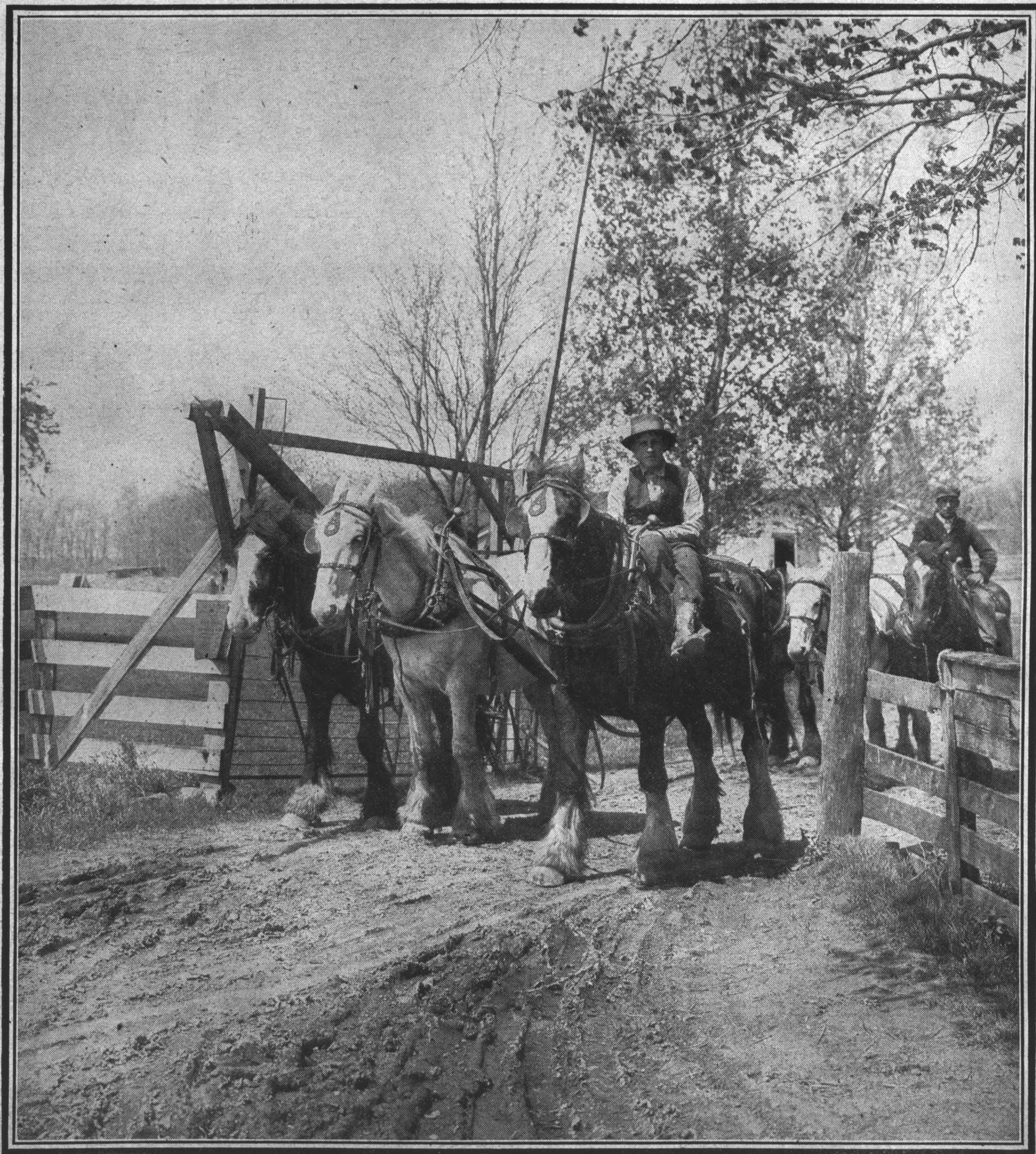
An Independent
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SATURDAY, MARCH 31, 1923

\$1 PER YEAR



Glad to Get in the Fields Again

Read in this issue: Government Millions Available for Farm Credits—Shall We Plant Our Late Potatoes Earlier?—Commercial Fertilizer Found to be Better than Manure for Sugar Beets—Build a Septic Tank to Dispose of Sewerage



The streets of the big shoe towns are lined with the attractive homes of the E-J Workers.

Style at a Low Price!— Our Easter Greeting to You

IN the past few months we've made hundreds of thousands of shoes for the Easter season. And the results are so good that this year it's E-J's for Easter everywhere.

Never have our shoes been so good looking. Never have they represented such splendid values. They're built the E-J way to last long and keep their good looks. We're proud of every pair.

The big sale of these new shoes has made us very happy. You'll be happy too when you see them. There's a pair for you at your own shoe store now. Get them today.



Styleroom scene. Expert designers and fashion artists create the styles for E-J shoes

The E-J Workers



At any shoe dealer's with an E-J Sign in the window.
Men's oxfords, boy's and girl's shoes at economy prices.

ENDICOTT-JOHNSON SHOES

Made With Smiles

YOUR AUTOMOBILE undoubtedly needs a good cleaning after seeing service through the winter months and **MARVELITE—THE WONDER POLISH**—should be at hand. This new discovery is the only polish on the market which **CLEANS AND POLISHES** in one operation. There are already thousands of satisfied **MARVELITE** users in Michigan. One application of **MARVELITE** will restore the lustre to the body of any machine, and the surface will be left perfectly smooth and dry so that no dust, oil, or rain will accumulate. Send a dollar bill for special introductory offer, or send your name and we will send you more information and an interesting discussion on "BODY FACTS".
ELMER ECKERT, 104 South Avenue, Mount Clemens, Michigan.

FARM AND LANDS

(ADS UNDER THIS HEAD 10c PER WORD)

JUST OUT: BIG ILLUSTRATED GUIDE of the organization selling over 35,000 improved farms since its founding in 1900.—filled with agricultural information—carefully planned to save you money and valuable time; hundreds of farms of all descriptions at bargain prices. See page 17 for 58-acre Michigan farm for \$600 down; on improved road handy village, 35 acres tillage, good orchard; comfortable house, barn, poultry house. Age forces sale; furniture, organ, horse, poultry, full implements included, all \$1200. Productive 62-acre Michigan farm described page 18; horses, cows, poultry, sows, 15 pigs; city markets; all tillable; variety fruit; 9-room house, 85-ft. barn, silo, poultry houses; all \$4000, only \$1200 needed. Then on page 29 comes 195-acre So. Michigan farm; 120 acres tillable; variety fruit; new 2-story 7-room house, furnace, bathroom; 100-ft. barn, silo. Retiring owner's low price \$13,200, horses, 8 cows, full implements, tools, etc., included, only \$2000 needed. Hundreds of bargains throughout Michigan, Illinois, Indiana, Ohio, 29 other states and Canada.—stock, furniture, tools, seed included—ready for spring's planting. You can save time and money through this big helpful book. Copy free. Write today. **STROUT FARM AGENCY, 427KJ Marquette Building, Chicago, Illinois.**

80 ACRES, GOOD HOUSE, 40 FARM LAND 40 swamp. Grass and water good for muskrat raising. Rent or sell. Inquire BOX 232, care Michigan Business Farmer.

SMALL DOWN PAYMENT—80-ACRE NEW Ground farm 3 1/2 miles from Gladwin, Gladwin County on State Trunk Line M-18 excellent location for berry, bee and poultry farming; market right at your door, where hundreds of tourists pass for northern Michigan resorts. Twelve acres ready to crop, new 16'x24' frame house, stable, well, etc. Write me at once for particulars. U. G. REYNOLDS, Gladwin, Michigan.

HELP WANTED MALE

SALESMEN, GREAT OPPORTUNITY FOR pushers to make big money selling oils and greases on liberal commission and bonus. Unlimited prospects for men who know how. Old company. Quality products. Attractive prices. Square deal. Write today to Dept. A-22, MANUFACTURERS OIL & GREASE COMPANY, Cleveland, Ohio.

WANTED—SINGLE MAN FOR YEAR. Prefer some feeding experience, good wages and good home. State wages in first letter. Position open April 1st. CHAS. HAUCH, Whittemore, Michigan.

DON'T Waste Your Money on Cheap Tires

I offer Business Farmers genuine, guaranteed new stock, **CORD TIRES**, of standard makes:

Kelly-Springfield or Goodrich-Silvertowns

Ford Oversize at \$12.95 each
or Two for \$25.90

(Ask me for prices on any other size)
I also offer my own special

VULCAN FLAT TREAD CORD

Covered by standard manufacturers warranty and adjusted on a 10,000 mile basis.

Ford Size, \$10.95

I ship same day your order is received from Detroit, C. O. D., subject to your examination before you pay your own postman. I warn you that tire prices are already on the way up—**ORDER A NEW SET FOR YOUR CAR TODAY!** I guarantee to save you money

WM. C. SCHMIDT, Tire Broker
134 East Jefferson ave., Detroit

(Reference: Publisher of The Business Farmer.)

WE PAY \$200 MONTHLY SALARY, FURNISH rig and expenses to introduce our guaranteed poultry and stock powders. **BIGLER COMPANY, X682, Springfield, Ill.**

KEEP THE BUSINESS FARMER COMING—
SEE PAGE 13.

Current Agricultural News

BIG TURN-OVER IN FARM OCCUPANTS LAST YEAR

NEARLY 1,250,000 farms, or approximately one out of every five farms in the United States, changed occupants in 1922, according to a survey made by the United States Department of Agriculture.

In 9 southern states one farm in every four changed occupants; in 6 states in the New England group the turn-over was one farm in every ten, and in most of the corn belt and western states between 10 and 15 per cent of the farms changed hands.

Changes in ownership of farms took place on nearly 400,00 farms, or approximately one farm in every sixteen in the United States. In general, more farms changed owners in the west and south than in the New England, Middle Atlantic and Corn Belt states.

Of the 2,300,000 or more farm tenants in the United States more than 625,000 changed the scene of their operations during the year. More than 75 per cent of these tenant changes occurred in the 15 southern states.

Although the number of tenant farms in United States shows a net increase of 27,000 for the year, more than 230,000 tenants either discontinued farming for some other occupation or left their communities for parts unknown to the department's correspondents. A percentage decrease in tenant farms is shown in only 10 states; in 2 states the percentage was unchanged. In general, the largest exodus occurred in the south and west.

A. B. COOK TALKS TO GRANGERS

A. B. COOK, Master of State Grange, was the speaker at the Huron County Pomona Grange hall, Thursday, March 15th. The Grange, he said, is the only national farmers progressive organization that has stood for 50 years and is really doing things to educate the farmer so that he delights in raising No. 1 products and then can demand eventually a No. 1 price in proportion to the prices he has to pay for what he needs.

One of the things that the Grange is striving for is a fertilizer plant which will be operated by the inmates of the State prison. This will not interfere with any Michigan business as practically all of our fertilizer is manufactured outside this state. This will materially benefit the Michigan farmers as it will lower the cost of fertilizer to the user. The Michigan State Grange at the present time has a contract with the prison to use its binder twine. They also have a contract with the State of Minnesota for farm machinery. This machinery is made by prison labor.

AMERICAN CORN HANDICAPPED IN EUROPE

EUROPEAN corn millers and stock breeders believe that the meal obtained from the Argentina hard flint corn is more nutritious than that obtained from the yellow and white corn shipped from the United States. Consul F. F. Dumont, Frankfort-on-Marne, Germany informs the Department of Commerce that the Argentine product is reputed to be better dried and to have better keeping qualities than American corn. The nutritive qualities of the two stocks are tested abroad by putting equal quantities of the different varieties in containers and pouring water over them. As Argentine corn absorbs more water, it is considered the better.

CANADIAN RAILROAD WILL HELP FARMERS

NEW plans, never before tried, to increase immigration into Canada from European countries are being put into effect by the Canadian Pacific Railway. Printed forms for the use of farmers have been distributed throughout Canada. These are to be filled out by agriculturalists requiring help, setting forth the nationality of the help wanted, male or female, wages, kind of work, and so on. With the direct demands of the farmers to guide them, officials of the Canadian Pa-

cific Railway will undertake to deliver immigrants who will fill the requirements.

ANNUAL MEET OF HURON CO. SHORTHORN BREEDERS

THE Huron County Shorthorn Cattle Breeders' Association annual meeting and banquet Wednesday night, March 7th, at the Irwin House was a blinger. It easily topped anything of the kind previously held here. A few over 100 sat down to the well filled tables after singing "America."

Community Club members were invited guests, of whom about 40 were present. Cattle men representing the Holstein and Hereford county associations were also guests. County Agent E. E. Twing presided and he certainly made it snappy. There was surely a flow of soul that kept the feast of reason guessing, but the great and growing cattle industry of Huron county was ever kept to the front, as it is all over Michigan.

S. H. Pangborn, president of the State Shorthorn Association, was the first speaker. He commended the get-together spirit so manifest the past year among farmers, stock men and town people and paid some nice compliments to the Community Club.

Prof. W. E. Edwards of the M. A. C., talked on the present day business farmer and the person that at one time was known to the city people as a "hay seed." He was followed by Dr. J. S. Wurm, of Pigeon, president of the State Veterinary Association, who gave a short talk which created much laughter and at the same time gave the listeners some valuable pointers on the raising of stock. Mr. R. A. Turner, state leader of Boys' and Girls' Club Work, discussed the club work in Michigan and told how it was helping to keep the boys and girls on the farms. Mr. W. H. McCarty, leading Hereford breeder of Huron county also gave a talk that will be remembered. Musical features followed the speaking and after that the program was concluded with a picture reel on stock and farm topics by E. E. Twing and C. M. Horn.

GOVERNMENT BULLETINS OF INTEREST IN APRIL

A SMALL list of Farmers' Bulletins and Circulars of general interest during April is believed to be of value to our readers. Copies may be obtained free by addressing the Division of Publications, United States Department of Agriculture, Washington, D. C. Specify number and name and whether Farmers' Bulletins or Department Circular.

Farmers Bulletin 181, Pruning; 609, Bird Houses and How to Build Them; 662, The Apple Tree Tent Caterpillar; 710, Bridge Crafting; 734, Fly raps and Their Operation; 766, The Common Cabbage Worm; 842, Methods of Protection Against Lightning; 849, Capons and Caponizing; 851, The House Fly; 874 Swine Management; 896, Rats and Mice; 909, Cattle Lice and How to Eradicate Them; 932, Rodent Pests on the Farm; 946, Care and Repair of Plows and Harrows; 948, The Rag Doll Seed Tester; 949, Dehorning and Castrating Cattle; 959, The Spotted Garden Slug; 975, The Control of European Foulbrood; 976, Cooling Milk and Cream on the Farm; 979, Preparation of Strawberries for Market; 1045, Laying Out Field for Tractor Plowing; 1085, Hog Lice and Hog Mange; 1096, Frost and the Prevention of Damage From It; 1175, Better Seed Corn; 1176, Root, Stalk and Earworm Diseases of Corn; 1250, Green Manuring; 1284, Apple-Orchard Renovation. Department Circular 36, Use of Poultry Club Products; 48, The Club Members Home Vegetable Garden; 214, Fusarium Tuber Rot of Potatoes; 219, Phoma Rot of Tomatoes; 238, United States Grades for Potatoes Recommended by the United States Department of Agriculture.

The largest yield of wheat ever recorded was 117.2 bushels per acre. It was produced on an 18 acre field in Island county, Washington, in 1895.

SATURDAY
MARCH 31st,
1923

VOL. X. NO. 16

Being absolutely independent
our columns are open for the
discussion of any subject per-
taining to the farming business.

"How to the line, let the chips fall where they may!"

The Michigan BUSINESS FARMER

"The Only Farm Magazine Owned and Edited in Michigan"

Published Bi-Weekly
Mt. Clemens, Mich.

\$1 PER YEAR

Entered as second-class mat-
ter, August 22, 1917, at the
post-office at Mt. Clemens,
Mich., under act of March
3rd, 1879.

Government Millions Available for Farm Credits

Judge Lobell, Head of Farm Loan Board, Explains New Credit Legislation Passed by Last Congress—
Question Now is: Can Farmers Use It to Practical Advantage?

TWELVE million dollars is ready to be turned over by the U. S. Treasury to the twelve intermediate credit banks of the Federal Farm Loan Board immediately the charters are issued. The \$60,000,000 capital authorized by the new law for the banks has been automatically accredited to the Farm Loan Board by the Treasury, according to Secretary of the Treasury A. W. Mellon.

The Federal Farm Loan Board has completed the regulations which will serve as the guide for the system's operations in aid of the farmer. Temporarily, at least, the board plans to hold loans made under the new law to a basis of nine months' maturity. Judge Charles E. Lobdell, executive of the Farm Loan Board, is quoted as follows:

"It is the ambition of those charged with the administration of the new law to render maximum service, but elemental safety must be the first consideration. Banks and co-operative associations desiring to use the service and see it developed will make their best contribution by offering nothing but perfectly good paper.

Direct Loans to Co-Ops.

"Direct loans cannot be made to individuals. Direct advances may be made to co-operative marketing associations or livestock associations secured by warehouse receipts for staple agricultural products or by chattel mortgages on livestock.

"No such loan may exceed 75 per cent of the market value of the agricultural product or livestock.

"Loans may be rediscounted for national and state banks, savings banks, trust companies, agricultural credit corporations and incorporated livestock loan companies.

"No paper can be rediscounted upon which the borrower has been charged a rate more than one and one-half per cent in excess of the discount rate of the intermediate credit bank of the district.

"In making advances on warehouse receipts, the credit from bonded government warehouses or satisfactorily bonded warehouses operating under satisfactory State supervision and regulation. This should lead to broader interest and greater activity in the development of warehouse facilities and proper regulation.

Will Promote Co-Operation

"The facilities which the banks will be able to afford to co-operative marketing concerns should lead to a greater development of such enterprises.

"Ample funds will be available for loans to facilitate original marketing but none to support speculative holding of farm products.

"No loans will be made for a longer period than 9 months, until the system is thoroughly tried out. Upon livestock paper, satisfactory assurance of renewal will be given in proper cases but only in aggregate amounts equal to the bank's capital, and then the subject of the mortgage must submit to reinspection and a satisfactory condition of security provided."

Many writers and students of economics fail to see where the present legislation is going to help the small farmer and stock or fruit grower such as we have in the middle west, they are not optimistic as Judge Lobdell, that all is well, but they are generally agreed that the opportunity is now presented for the measure to be tried out and if found wanting, it can be so altered as to meet the needs of actual conditions.

ANALYSIS OF CREDITS LAW

THE American Farm Bureau Federation submits the following brief analysis of the rural credits bill:

(1) The maximum loan which may be extended to one borrower by the Federal Land Banks raised from \$10,000 to \$25,000. The larger loans under the Federal Farm Loan System have been made by the joint stock land banks. Under the new legislation, the Federal Land Banks will be able to make these loans and the borrower will get the money about 1 per cent cheaper.

(2) Intermediate credit departments are established in each of the twelve Federal Land Banks. These departments may extend loans for agricultural and livestock purposes from six months to three years. They may make loans directly to co-operative associations. They may discount for or buy from any state or national bank or trust company, co-operative marketing association, livestock company, or agricultural credit corporation, notes, bills, drafts, etc., the proceeds of which have been advanced or employed in the first instance for any agricultural purpose or to raise, breed, fatten, or market livestock. These departments may issue and sell tax-exempt collateral trust debentures with a maturity of not more than five years.

(3) National agricultural credit corporations, with a minimum capital of \$25,000, may organize under the jurisdiction of the Comptroller of the Currency. They may make loans, rediscount, purchase or sell, commercial paper and also accept drafts drawn for agricultural purposes, or the principal of which are to be so used. The notes and drafts are to be secured by warehouse receipts or other documents conveying title to unperishable and readily marketable agricultural products, or by chattel mortgages or other similar instruments conveying a first lien upon cattle being fattened for market; such notes and drafts to have a maturity when purchased, of not more than nine months. These credit corporations may also make advances upon, discount, etc., notes secured by chattel mortgages upon breeding stock and dairy herds, such notes to have a maturity at time of discount of not more than three years. The corporation may issue collateral trust notes or debentures with maturities not exceeding three years. National agricultural credit rediscount corporations may also be organized under the Comptroller of the Currency with capital stock of \$1,000,000 or more, for the purpose of rediscounting notes, drafts, etc., for the national agricultural credit corporations.

(4) Federal Reserve banks may now rediscount agricultural and livestock paper having a maturity up to nine months.

(5) The War Finance Corporation has been extended to April 1, 1924.

It is now possible for agriculture to borrow money for production purposes for a period of time long enough to cover the regular production process. Heretofore, farmers have borrowed on the same basis as merchants and manufacturers who needed credit for only thirty, sixty, or ninety days, or six months at the most. Farmers may need credit for the entire growing season and after harvest may wish to hold the crop for a favorable time to market. This is likely to require a twelve or eighteen months loan. For raising livestock a loan as long as three years may be desirable.

the ground the more vitality it has, but be sure it is treated with corrosive sublimate and is disease free if you would reap the full benefits of early planting.

Diseased seed will not have as good a chance of infecting your crop when planted late and harvested early, but why plant diseased seed?

To summarize—If you would reap the advantages of early planting, plow in the fall, fit like a garden, plant disease-free seed, cultivate shallow and spray continually. If the field has good under drainage and is full of humus you are "sitting pretty" as far as yield and quality are concerned.

If you are bound to put a piece of thin land into spuds and your source of seed is questionable; and if you don't believe in spraying, even for bugs, plant 'em late and sell 'em to any old line dealer. He will pay you just as much as he would if they were good for humans to eat.

WOOL MARKETS FOR 1923

LAST year the mills and Eastern wool buyers felt that the local buyers put one over on them by advancing prices during the buying season and charging the full advance of purchased wools to them. The local dealer made, as one expressed, "a barrel of money," and in many cases made up the losses which were heavy in 1920. This year the East has said "that this must not happen again" and are paying steady to higher prices for imported wool, and acting real indifferent to the new clip. This is part of the play. Foreign markets are higher proportionately than Boston. Imports at Boston for the first week in March were 15,374,600 pounds; almost 1-10 of the U. S. production. There is a world's shortage of wool; 10 per cent, as compared with the five years pre-war average, and a 15 per cent shortage of wool in North America. In the U. S. from 1909-13 the average was 314,110,000 pounds; in 1921, 273,064,000 and 1922, 261,095,000. Western wool producers are standing firmer for what is more than equivalent to 50 cents a pound in Michigan, freight, shrinkage and quality considered. These men are asking that Ohio and Michigan do not cut the ground from under them by selling at a less figure. There is no better wool in the world than is produced in Ohio, Michigan and portions of adjoining states. Australian wool comes to the mills, skirted or with the legs and belly wool trimmed off. In this sense it is preferable, but the new tariff makes it cost proportionately more. Prior tariffs were practically of no protection to the American grower, when skirted prior to exportation, and the rejected portions were sent to free trade countries. Rejections and discount wool is a trade practice which has made undue exactions from the grower for burry, seedy and chaffy wool. Importers of carbonized wool did not want to have this stock considered as anything but clean content wool, claiming that carbonizing was merely a cleansing process and the cost was normal. The treasury department however ruled that carbonized wool was partially manufactured and must pay the higher duty. Unreasonable penalizing of chaffy and burry wool belongs to the past if growers would stand firm. Eight to ten cents per pound is a very liberal discount. Fifty cents per pound for average clips of wool should be the growers price this year.—Jas. N. McBride, Pres. Mich. Sheep Feeders and Breeders Ass'n.

Shall We Plant Our Late Potatoes Earlier?

By R. R. ROSSMAN, Lakeview
IHAVE often heard that late planted potatoes outyielded early planted ones. Our experience is contrary to this. We find with the Russet Rural that the earlier they are planted the greater the yield. This we find is a practical advantage in favor of early planting. Of course we usually have a drouth in August and these early planted potatoes have quite a top by that time and are using a lot of moisture. If one has followed good farm practices up to this time and has lots of organic matter in the soil, it will be a very protracted drouth indeed that will reduce the crop to or below the level of the late planted patch.

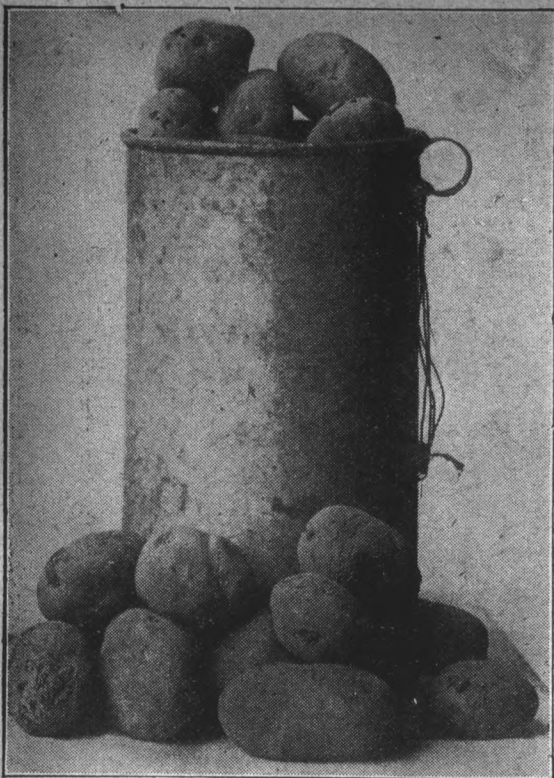
An early planted potato stands up under hauling better than a late one at harvesting time and is the only kind fit to go on the fall market. If the late planted potato is given time to ripen in the bin before marketing, I see no objection to late planting from this angle, but we all know that a lot of immature stock is dumped on the market every fall and the general potato market suffers from it. I don't think a late planted potato should be allowed in braded sacks until it has ripened in the bin.

Field frost cost us hundreds of thousands of dollars last fall. Had

our potatoes been planted early, we would have escaped a lot of this as they would then have been dug and out of danger before the frost came. Then if those that were waiting for the frost to ripen their potatoes had been compelled to store them for a few weeks in bins and pits before marketing, we could have gotten entirely away from this loss. If our potatoes were all pooled, too, our growers would lose interest in this idea of rushing their spuds on the market and we could market the ripe potatoes first, and let the immature spuds ripen in storage.

In 1921 we had a great demonstration of the advantage of early planting over late, in another way. We had the hottest June on record. Those who planted before June seventh obtained a good stand and harvested a ripe even sized crop. After June seventh, because of the heat, seed potatoes deteriorated very rapidly as the ground dried out deeper and deeper. The result for the late planter with their weakened seed planted in the hot soil, followed up with a cloud burst that packed the soil, was about a 50 per cent stand. When the harvest came they got a lot of pumpkins, fit only for hog feed.

The earlier you get your seed in



WHEN THE POTATO CROP OVERFLOWS!

There is no market for the over-production and those that are not needed to fill the market, serve only to demoralize the normal market, so no fair price is paid for the entire crop and growers must sell at less than it cost to produce.

MR. MURPHY is sick. He has an obscure ailment. Doctors from seven states have been in consultation and, as doctors sometimes do, both agreed and disagreed as to Mr. Murphy's symptoms. Some thought he should have an operation, some that his physical system needed regulating, but all agreed that he'd been over-exerting himself and needed to relax a bit.

"What under the sun is she talking about?" I hear you exclaim. Why about our humble friend, Mr. Potato Murphy, to be sure. Of course you know he's ailing. Getting down to cases, here's the story.

Several years ago, three or four to be exact, potato producers became aroused to the fact that their product was subject to competitive juggling of prices, discriminatory shipping agreements, hazy and biased inspection reports and various other manipulations, most of them decidedly unfair.

As a cure-all for these troubles it was thought a good system of co-operative marketing would meet the needs. A great step in improvement was soon noticeable. Michigan first, then other in the "potato belt" organized and started to work with

The purpose of the call was to consider ways and means to better the marketing conditions in the potato industry in the northern group of potato growing states, by means of better diversified farming, or by better enforcement of grade quality by state grading or by improved car service, or by co-operative marketing control of crop thru binding contracts calling for quality, time and place delivery, warehousing and financing.

Delegates from four of these states

zeal and promised such noteworthy results that the enthusiasm surged back and forth all along the line. It took root on the farm and in the small market town; great waves of it lapped the studios halls of agricultural colleges and the public mind focussed on Mr. Murphy gave a little bit of an inflated idea of himself.

An Interesting Conference

Minnesota having bumped the bumps probably fully as much as any locality in the Northwest, The Minnesota State Department of Agriculture on January 12, 1923, called a potato conference of the states of Michigan, Wisconsin, North and South Dakota, Montana, Nebraska and Minnesota, the 9th Federal Reserve Bank and the National Markets Committee.

BY M. L. BIGELOW

were present and two others while not able to be at the meeting signified their desire to co-operate and to work together instead of competitively.

Those who sat in at this discussion were able to visualize the status of the industry. As one speaker after another spoke and different phases of the problem were presented one could not fail to realize the magnitude of the work ahead, and its absolute necessity if potatoes are to continue to be an important crop in the Northwest.

Co-operative marketing, that magic idea, so potent when accompanied by its able lieutenants, efficient and controlled production and expert handling, so helpless when standing alone, has been expected to do the trick.

In any great manufacturing concern the sales organization is supposed to take charge when, and only when, a high grade, salable commodity has been produced in the right quantities which careful surveys have ascertained that the market can absorb, and a product which when sold will be shipped to the consumer in such manner that it will arrive in salable condition. Added to this the article manufactured is christened with a branded name, and this brand means a certain known quality and on this quality its price is fixed. How has it been with potatoes? Has the exchange manager been able to say definitely what he is offering to the market?

The crepe hangers tell us that in this case co-operation has fallen

down; but indeed it hasn't. There simply wasn't enough of it. Those who are working out the potato problem are convinced that co-operation is the answer. Not co-operative marketing alone, but co-operation between producer and producer that may grow the amount and quality that all may sell at a profit. Co-operation between grower and the local warehouse manager, that the product may be graded and stored in such manner that when called out by market demand there will be no come-back from the buyer to reflect back on the man who grew the potatoes. Co-operation between state exchanges so that when one exchange has its market demand established and the channels of trade open, a sister state will not pour in an avalanche of potatoes and, as was done only last season in Michigan by the states immediately west, and wreck the market.

Over-production

Mr. Hughes, Director of Markets, in stating the object of the meeting called attention to the fact that 62 per cent of the potatoes which rolled in interstate commerce are produced in the seven states represented in the conference. He had prepared charts which were hung where all could study them. Among these was a very illuminating table showing an increase in potato production in these states of 33 per cent in the last three years, with disastrous results. Here are the figures:

	Acreage—Three Years		
	1920	1921	1922
Mich.	345,000	340,000	357,000
Wis.	308,000	315,000	328,000
Minn.	319,000	450,000	486,000
N. D.	83,000	124,000	138,000
S. D.	75,000	90,000	110,000
Neb.	85,000	102,000	139,000
Mont.	40,000	41,000	46,000

Total, 7 states—1,255,000 1,442,000 1,664,000

	Yields—Three Years		
	1920	1921	1922
Mich.	36,225,000	27,200,000	37,800,000
Wis.	33,200,000	21,400,000	40,600,000
Minn.	31,500,000	32,200,000	43,700,000
N. D.	6,500,000	11,900,000	17,800,000
S. D.	7,900,000	5,400,000	8,500,000
Neb.	8,400,000	8,100,000	11,600,000
Mont.	4,400,000	4,700,000	5,700,000

Total, 7 states—128,000,000 111,000,000 165,000,000

The Director of Markets said: "Farmers agree that it is a bad year, next year will be a good year. And what I am afraid of is that next year again will see an increase in acreage and that we will be faced with a sec-

(Continued on Page 19)

DON'T PLUNGE IN POTATOES

REX E. WILLARD, North Dakota potato expert says: "Potatoes in a limited acreage are a profitable crop over a period of years but the man who jumps into potatoes in one year without the next, usually jumps in at the wrong time. The price of potatoes fluctuates up and down pretty consistently in alternate years in the opposite direction from the amount of production in the country. Our records indicates, however, that over the long time period potatoes are even more profitable, acre for acre, than some other cash crops.

Commercial Fertilizer Found to be Better than Manure for Sugar Beets

FEW crops give as large returns on expenditure for fertilizer as do sugar beets. Increases of from 1% to 3 tons of beets are not uncommon for 400 pounds of fertilizer. The sugar beet demands a liberal supply of available plantfood, particularly in the early stages of growth. It takes a certain amount of plantfood to start the plant and make the leaves. Any plantfood in excess of this amount goes into making larger beets, increased leaf surface and capacity to make sugar.

Fertilizer vs. Manure

Manure, while an excellent fertilizer for most crops, has some disadvantages for sugar beets as compared with commercial fertilizer. When used, manure should be well rotted, applied during the previous fall, and plowed under so as to decay. Spring applications of fresh manure may cause short prongy, low yielding beets, and in many cases it carries so many weed seeds that the labor necessary to care for the crop is greatly increased. Furthermore, the plantfood in manure is not so readily available as in fertilizers, and does not supply available plantfood so quickly early in the season. Frequently, manure produces an unduly large growth of leaves and root above ground. Altogether, the best place for manure is on the crops preceding beets, to build up the soil to the point where fertilizers can be used more profitably.

What Kind of Fertilizer

For most soils, the right kind of fertilizer should contain from two to

four per cent ammonia or nitrogen, eight to twelve per cent of phosphoric acid, and two to six per cent of potash. The proportions of each of these fertilizer constituents will depend on the nature of your soil, and the farming practice you follow. In a system of dairy or livestock farming, where plenty of manure has been applied to the preceding crops, it is not necessary to use much ammonia and potash in the fertilizer, especially on the heavier dark color-

ed soils. On thin soils, a fertilizer fairly high in both ammonia and potash will be most profitable. Practically all soils in Michigan respond to a fertilizer high in phosphoric acid, we are advised by the Michigan Agricultural College. On sands and light sandy loams, where legumes are grown in the rotation the 3-12-4, 2-12-6, and 4-8-6 analyses are recommended. On heavy sand loams, silt loams and clay loams, the choice of analyses may be confined to 2-12-6,

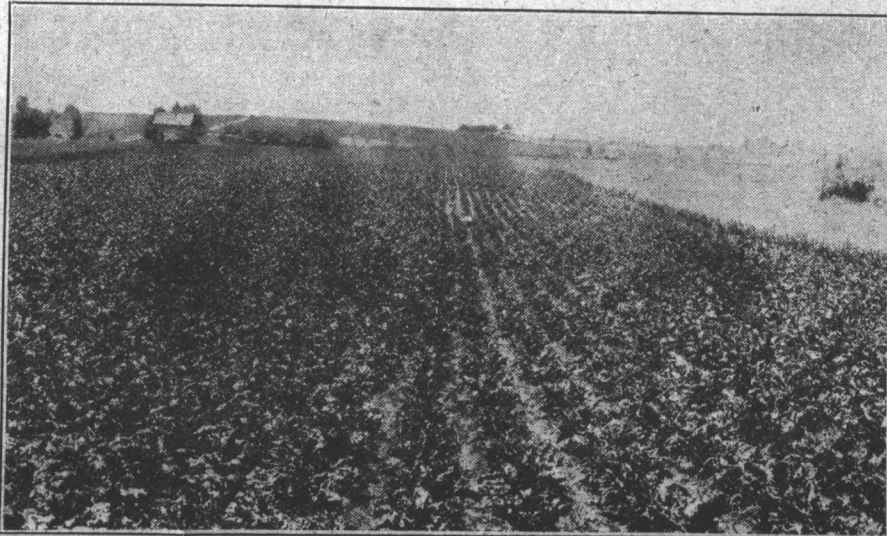
2-16-2, 0-12-6, and 3-12-4. Where a considerable amount of manure has been used previously in the rotation, the 0-16-0, 0-14-4, and 2-16-2 fertilizers are suggested. All of these fertilizers are what is known as high-analysis fertilizers, carrying the maximum amount of plantfood with the least amount of filler. Such fertilizers are more economical per pound of plantfood than the lower analyses sometimes offered.

How Much Fertilizer

Some growers use 800 pounds of fertilizer to the acre. It is not advisable to use less than 200 pounds except under special conditions. In the majority of cases from 400 to 600 pounds per acre will prove to be the most profitable amount to apply. A common error is to use too little fertilizer, or too low an analysis.

How to Apply

If the beet drill has a fertilizer attachment, a part of the fertilizer, not to exceed 200 per acre, may be applied at seeding time through this attachment. The remainder should be broadcasted by means of a fertilizer grain drill or a lime and fertilizer distributor, and harrowed or disked in before planting. When beet seed is sown with a grain drill, leaving every third hole open for the seed, all of the fertilizer holes may be left open. Some growers prefer to broadcast all of the fertilizer, which is a good practice when 600 or 800 pounds are used to the acre. Such an application should be made before seeding so that the fertilizer can be worked thoroughly into the soil.

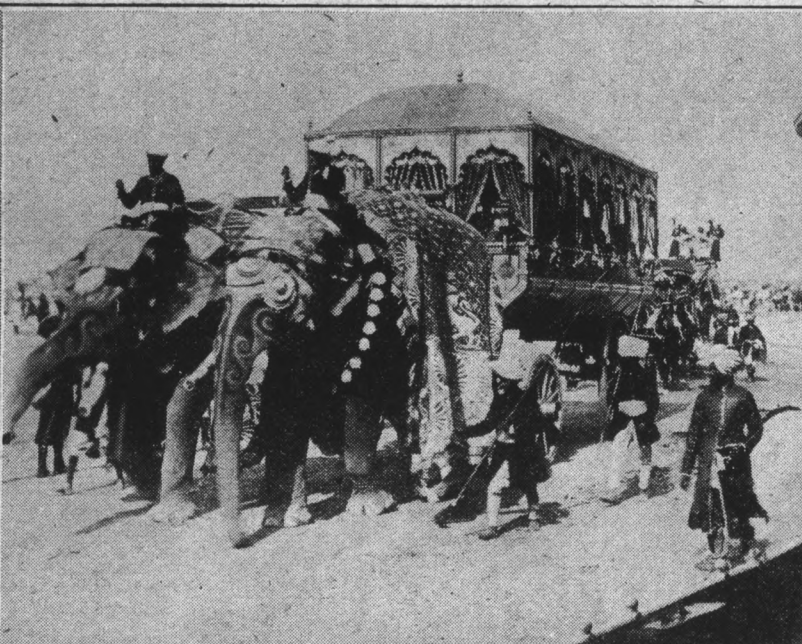


This Michigan field of sugar beets shows the value of fertilizing your sugar beets. Fertilizer was used on a part of the field and the remainder sown without fertilizer. The fertilized part is shown on the left.

PICTURES FROM FAR AND NEAR



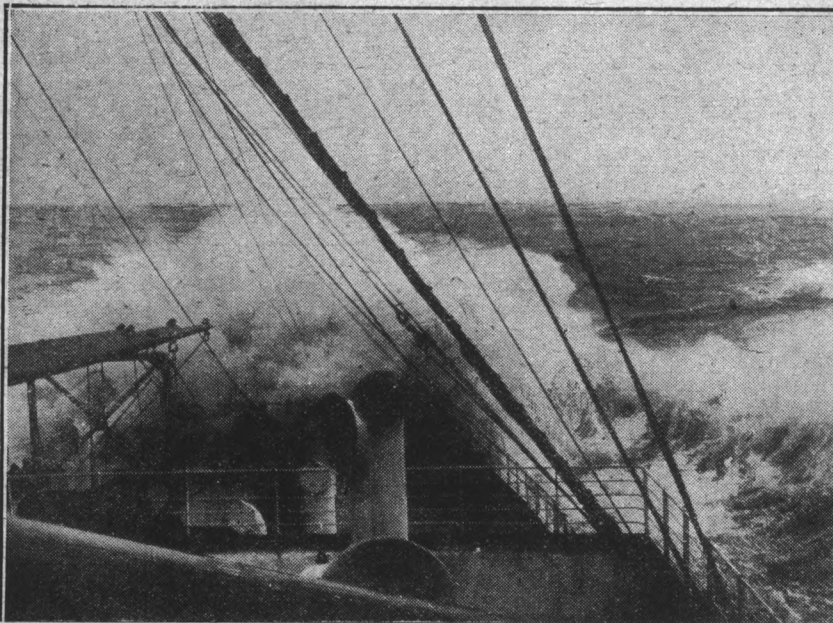
MRS. HENRY FORD, who was Clara Bryant, the daughter of a farmer who lived eight miles from the Ford farm near Dearborn, Michigan. Mr. Ford attributes a large measure of his success to his faithful helpmate and companion and she is carrying on as aggressively as her husband many plans of social uplift and charity.



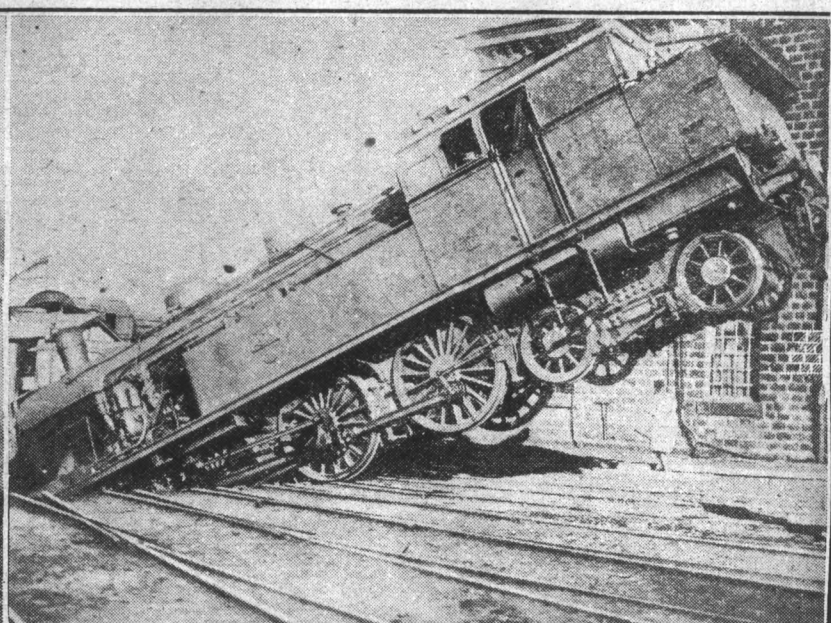
THE ROLLS ROYCE OF INDIA.—For real class, the elephant cars kept by the native Princes of India surpass anything in the world in the way of private equipages. The most magnificent trappings are used while artists are hired to decorate the tusks of the animals with carvings in precious metals and to paint extraordinary designs in glowing colors over the hides of the beasts. The upkeep of such a car would make the expense of keeping up a high powered automobile compare with the upkeep of a kiddie car. Photo shows such a car being conducted through the streets on a native holiday.



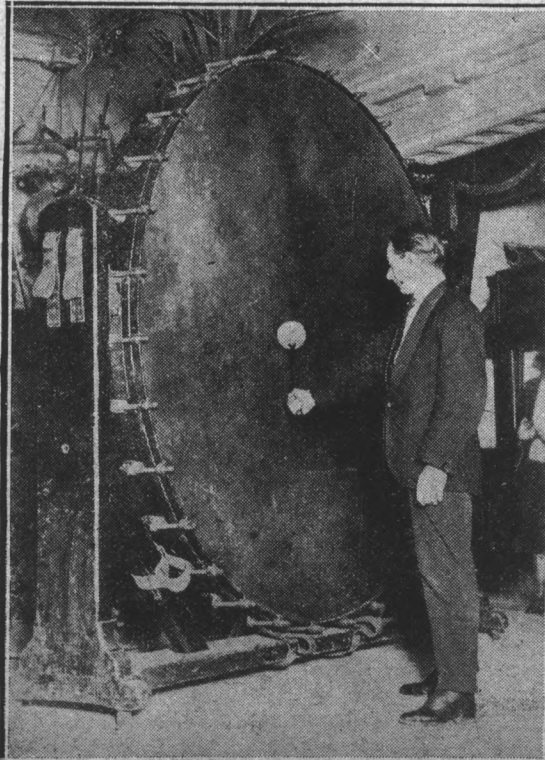
"MARK" THIS COSTUME.—On the continent the mark doesn't mean a thing, and it is being used instead of paper to cover walls, wrap up commodities, etc. Here is an original costume, taken at a masquerade in Amsterdam, Holland. The Dutch girl is covered with 100 and 1000 marks.



"THE BREAKING WAVES DASHED HIGH."—Passengers and crew on the steamship *Homeric* declared that she had passed through what was the worst seas of her career during her last trans-Atlantic trip. Many never expected to see land again. Here is a view of the ship driving through an 80 mile gale with the waves actually mountain high.



SABOTAGE IN THE RUHR.—Incensed by the French invasion, the Germans are committing many acts of sabotage. Here is what happened in one of the railroad yards, in the occupied Ruhr territory. The train was derailed and it was many hours before order was restored. The French are finding it difficult to punish the culprits.



BIGGEST DRUM IN THE WORLD.—What is said to be the biggest drum in the world, is this one, discovered in a London movie theatre. It is 8½ feet in diameter, and was made by Henry Giston many years ago. The hide comes from an enormous prize bull featured in a Cattle Show.



A VICTIM OF "BLIND" JUSTICE.—Leroy McKinney of Cincinnati, Ohio, was the victim of miscarried justice. He was sent to the Ohio penitentiary for life as the slayer of a policeman and had served five months when the perpetrator of the crime confessed.



THOUSANDS FLOCK TO LUXOR.—The discovery of King Tutankhamen's tomb, in the ruins of Luxor, Egypt, has converted the desolate ravine into a veritable mecca for tourists, historians and archaeological students, who come streaming here from all parts of the world.



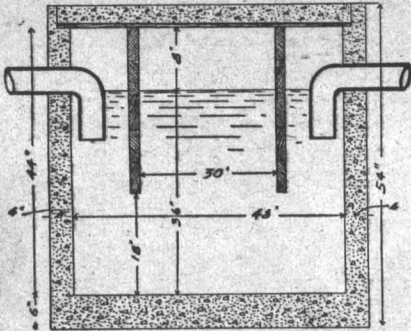
TWO HUNDRED AND SEVENTY-GALLON SEPTIC TANK AND DISPOSAL LINE—SUITABLE FOR THE AVERAGE HOME

Build a Septic Tank to Dispose of Sewerage

Complete Directions on Constructing Tank that Meets Demand of Average Farm Home

THERE is much evidence to show that a tight, well-built, underground septic tank, so called, with shallow distribution of the effluent in porous soil, generally is the safest and least troublesome method of treating sewage upon the farm, while at the same time more or less of the irrigating and manurial value of the sewage is realized.

The antecedents of the septic tank were known in Europe more than 50



VERTICAL SECTION OF SEPTIC TANK

years ago. Between 1876 and 1893 a number of closed tanks with submerged inlet and outlet, and all embodying the principle of storage of sewage and liquefaction of the solids, were built in Massachusetts, New Jersey, Maryland, and Canada. In the past 20 years great advance has been made, and many plants, large and small, have been built. Much remains to be learned, but it is now certain that many of the early claims for the septic process were extravagant. There is nothing magical about a septic tank, and citizens should not trust implicitly in the name. The liquid escaping from a septic tank is assuredly not "spring water," nor is it harmless. It may contain, since the process involves intensive growths, even more bacteria than the raw sewage. As to the effects upon the growth and virulence of disease germs, little is known definitely. If disease germs be present, many of their number, along with other bacteria, may pass through with the flow or may be enmeshed in the settling solids and there survive a long time. Hence, so far as the danger of transmitting disease is concerned, septic sewage is not improved materially over crude sewage, and the farmer should safeguard wells and springs from the seepage or the discharges from a septic tank with no less certainty than from that of liquefying closets and cesspools.

In all sewage tanks a considerable portion of the solid matter, especially if the sewage contains much grease, float on the liquid as a scum, the heavier solids settle to form sludge, while other finely divided solids and matter in a state of emulsion neither float nor subside. If the sludge is held in the bottom of the tank to be converted into liquids and gasses, virtually to rot, the tank is called a septic tank and the process is known as septicization. Just how far this process may be carried to obtain the maximum sanitary benefit with the least nuisance and cost is still open to question. As preciously stated, septic sewage implies offensive putrefaction. Not only is this objectionable as to odors, but numerous examples indicate that sewage reduced to the septic condition, or even highly staled, is less effectively purified, whether subjected to artificial filtration or to the natural filtration of the soil, than is moderately stale sewage. Aeration of a septic effluent seems to aid in its purification, but aeration lowers the temperature of the sewage and may result in the spread of objectionable odors or disease.

From what has preceded it is seen

NEARLY five years ago I built a septic tank, similar and no larger than the one here described to care for the sewage from a toilet, bath-tub, wash-stand and kitchen sink at my home. From that day to this it has cared for every particle of sewage from our family. Has never frozen up, filled up or otherwise given a moment's trouble of any kind. The outside privy ought to be one of the first things abandoned on any farm, there is no greater human convenience than an inside toilet and bath-room and none that will contribute so much to keeping your young folks on the farm.—Editor.

that the septic tank is not a complete method of sewage treatment. With the general run of small septic tanks, it probably is close to the facts to say that of all the solid matter in the crude sewage one-third is reduced to liquids and gas, one-third remains in the tank and one-third escapes with the effluent.

The tank shown herewith is easy to build and meets the demands of the average home. It has a capacity of 270 gallons, sufficient for not more than 6 or 8 persons.

The construction of this tank falls under four heads as follows: Digging the hole, building and placing the forms; pouring and finishing the tank; constructing the disposal field.

Select a place for the tank. This may be as near the house as desired but care should be taken so that the tile line does not run into a hillside, necessitating extra digging to reach grade. Dig a hole 44 inches wide and 56 inches long, making the sides straight and square, the hole must be 42 inches deep below the level of the sewer from the house. If the depth of the sewer is not known, make the hole 54 inches deep and then lay the house sewer to agree. If

the hole is dug true and clean, the forms will fit into them nicely.

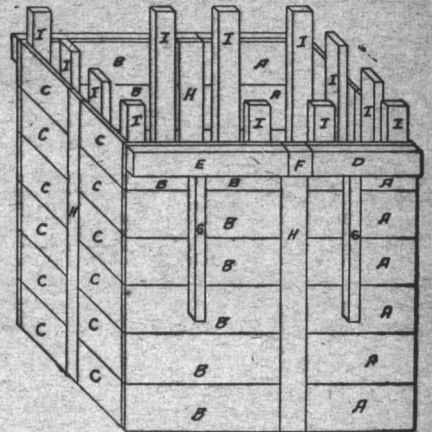
The number and dimensions of the pieces required for making the form are shown on the drawing of the form. Cut these pieces and put them together as indicated. The pieces marked "H" must be fastened in by toe-nailing, and by inside cleats. With the form put together as shown in the drawing, nail or bolt two pieces of 2x4 timbers across the top to aid in handling. The form is now ready to place in the hole.

By means of the 2x4 timbers the form can be placed as desired, centered carefully and held at the right height, which allows a clearance of 6 inches between the bottom of the form and the bottom of the hole. Put interior braces in the form—pieces of board a little longer than the inside of the form will do—to prevent the weight of the concrete from caving in the form. Level the form, and be sure that it is firmly in place.

The material required for the concrete work includes 9 sacks of cement, half a yard of sand, and a yard of broken stone, slag or gravel. Mix the concrete about 1:2:4—not leaner than 1:2½:5. Mix the first few

batches a little stiff and use these for the bottom of the tank. If the mixture is not too wet, the sides can be poured without waiting for the bottom to be set, thus saving time.

The inlet and outlet pipes can be placed in the form, or wooden boxes can be used to form holes through which the pipe can later be led. The later method is usually the easiest one. A 6-inch hole should be provided, into which the pipe may later



FORMS ASSEMBLED

THE FOLLOWING PIECES ARE REQUIRED FOR CONSTRUCTING FORM

Piece No.	Dimension	Piece No.	Dimension
A	12...1x8x18 in.	F	2...1x4x4 in.
B	12...1x8x26 in.	G	4...2x4x24 in.
C	24...1x8x15 in.	H	4...1x4x48 in.
D	2...2x4x18 in.	I	12...2x4x54 in.
E	2...2x4x26 in.		

MATERIAL FOR MAKING TANK

- 9 Sacks cement.
- ½ Yard sand.
- 1 Yard broken stone or gravel.

be concreted. Place elbows at both inlet and outlet, as shown in the drawing.

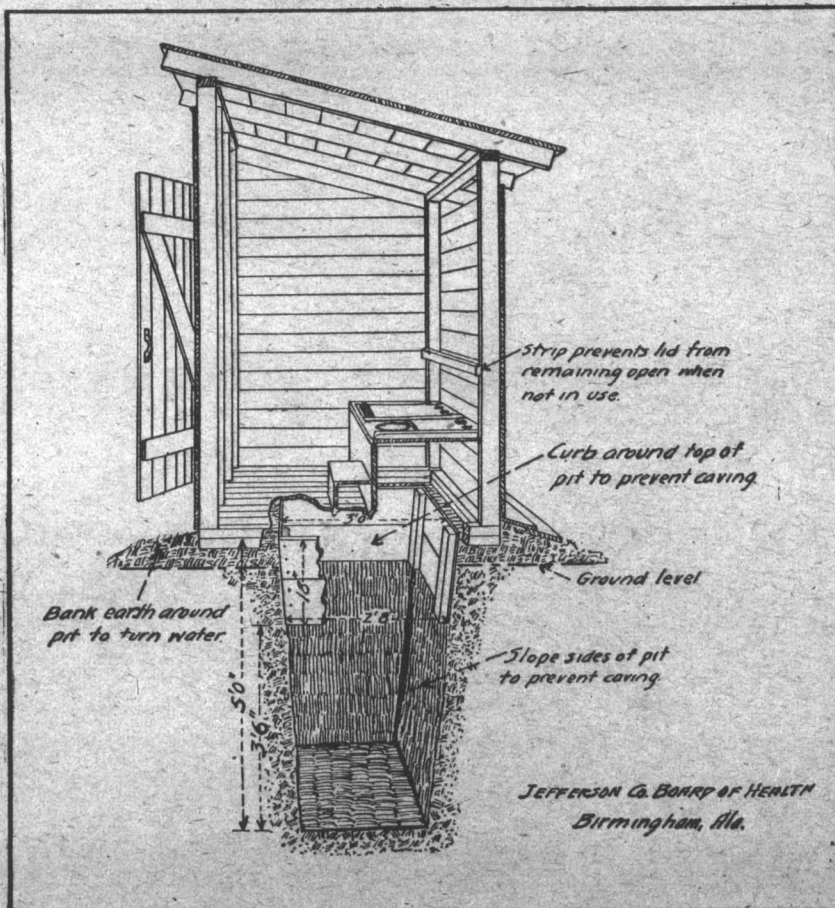
Let the forms remain until the concrete has set for 36 or 48 hours. In taking down the forms, remove the pieces marked "H" first, after which the main portion will slip out easily. Place the wooden baffles in the grooves provided for them, set the elbows firmly, and place the wooden floor for the cover. A shoulder is provided along the top for the purpose of supporting this. Make the concrete cover 5 or 6 inches thick. It is well to construct a manhole in the cover, and to use some reinforcing.

While the concrete is setting, the trench for the line may be dug. This should be at least 100 feet in length, but need not be in a straight line. Methods of bracing are shown for use where straight-away space is not available. Dig the trench 12 inches wide and 10 inches deeper than the outlet of the tank. Fill the trench to the level of the outlet with broken stone, slag, gravel, or cinder, and on this porous bed lay the tile, carefully and to line, with a fall of about 4 inches to the hundred feet. The best tile for the purpose, as well as the cheapest, is the unglazed farmer tile, without bells. One hundred feet will be required. About 3 or 4 yards of gravel, broken stone, slag, or cinder will be needed for the trench filling.

After the tile is laid carefully to grade, protect each joint from wash by placing over it a cover of burlap, roofing paper, tile or similar material, as shown. Then cover with 3 or 4 inches additional of gravel or slag, and fill the remainder of the trench with earth.

The outfit is now completed, and will start to work as soon as sewage is discharged into it. No chemicals or other means for starting action are needed.

If properly and carefully built, there should be no trouble for many years. 8 or 10 years the tile disposal line may clog and require relaying. The tank needs an occasional cleaning out, possibly once in 3 to 5 years.



IF YOU CAN'T HAVE A SEPTIC TANK, TRY THIS

Dig a hole three feet square and five feet deep. Build a curb around the top to prevent caving. Build the privy over it. When the hole is filled to within about 18 inches of the top, move the house to a new pit and cover the old one with soil. Moving will have to be done only about once in three or four years.

JEFFERSON CO. BOARD OF HEALTH
Birmingham, Ala.

Farmers Service Bureau

(A Clearing Department for farmers' every day troubles. Prompt, careful attention given to all complaints or requests for information addressed to this department. We are here to serve you. All inquiries must be accompanied by full name and address. Name not used if so requested.)

CAN NOT HOLD SILAGE

I filled a silo for a party last fall and said party has not paid for filling yet. He put me off and then he had a sale and sold everything off. He promised to settle with me after the sale, but he still keeps putting me off. Knowing he was in hard shape, I didn't like to push him, but would like to settle now, and he doesn't seem to be in a hurry. Would like to know whether the ensilage in the silo still stands good for the pay of cutting and filling. How would I have to go about it to get it?—V. C., Whittemore, Mich.

—I am of the opinion you would not have a lien on the ensilage for your labor, but would have an adequate remedy in an action at law for the amount due on your contract of labor. I would sue and get judgment and levy an execution on the ensilage.—Asst. Legal Editor.

MAKING VINEGAR FROM SOUR-ED HONEY

Would like to hear from some one if soured honey could be made into vinegar and if so how made?—L. V., Riggsville, Mich.

—Soured honey may be utilized for vinegar, provided that the acidity does not exceed one and one-half percent after the honey is diluted. A very good formula for making honey vinegar is forty to forty-five pounds of strained honey, thirty gallons of water (preferably soft), ammonium chloride four ounces, potassium carbonate and sodium phosphate two ounces each. The chemicals should be dissolved in water and added to the honey. This will assure their complete solution.

The above chemicals are added to the honey stock because the honey after dilution is poor in nitrogen and phosphorus and these are necessary foods for the vinegar-making microorganisms. Heat should be used to facilitate the dilution of the honey and also to destroy the undesirable germs which the soured honey probably contains.

After being diluted according to the above formula it should weight not less than nine pounds per gallon in order to contain sufficient sugar. From twelve to fifteen percent sugar should be present. Diluted honey prepared in the above manner will then have to be inoculated with vinegar yeast, as the heat used in dissolving the honey also destroys the desirable germs. Pure cultures of yeast selected for its ability to produce high percentages of alcohol from sugar may be secured from the Bacteriological Laboratory, East Lansing, Michigan, as may also the chemical salts. The price of the chemicals and the vinegar yeast is twenty-five cents each for one-barrel amounts.

Following the alcoholic fermentation produced by the yeast it will be necessary to add a vinegar bacteria culture which is for the purpose of changing the alcohol into acetic acid of vinegar and which the state law requires to be four percent before it is marketable. This vinegar bacteria culture may also be obtained from the Bacteriological Laboratory, East Lansing, Michigan, and at the same price as the vinegar yeast.—R. L. Tweed, Res. Asst. in Bacteriology, M. A. C.

ASSESSED TOO HIGH

When personal property is assessed for two hundred dollars more than he would sell it for, or what he thinks is the real value of it, and he refused to pay taxes for that amount and it is sold, don't they have to allow a man at least what it is assessed for, or can the assessor value your property anything he wants to, and you have to pay it or have it sold for whatever it brings, or just enough to pay the tax for that year? Also how is real estate that is over-valued? All of our taxes are assessed from one to four hundred more than we think they are worth or what we would sell them at.—H. A., Doster, Michigan.

—If any person fails to pay the taxes on his property and it is sold for

taxes, the defaulting taxpayer will receive, upon sale, whatever the property actually brings, after deducting the amount of the delinquent taxes. He may redeem the property so sold at any time prior to the first Tuesday in May following the sale, upon payment of the amount of the sale, with interest at 1 percent per month. Property should be assessed at its actual cash value, and when any taxpayer feels that his property is over-assessed, he should make complaint to the board of review of his township, to have such assessment adjusted.—Asst. Legal Editor.

HAS WILL BEEN PROBATED?

Will you please let me know if heirship property can be outlawed or barred when there is a good title and also a will left to heirs and their heirs for ever and ever? Please let me hear from you. The property is in New York City. I have a large sum of money that was left me years ago.—Mrs. R. B., Beaverton, Mich.

—If money or other personal property was bequeathed to you by a valid will and the will duly probated, I am of the opinion you have a good

title to the property. However, if the will has not been probated and more than 4 years have elapsed since testator's death, you may have lost your right to the property by its having been sold to a bona fide purchaser after the lapse of 4 years. Title to real property may be barred by adverse possession.—Asst. Legal Editor.

MORE INFORMATION NEEDED

A farmer wishes me to help him farm on shares this summer but he does not know what share I should get. He has his hay planted and has about 20 acres and it is all good hay; has wheat planted, but the potatoes, oats and bean land has not had anything done to it. He has enough barn yard manure to spread it. Now the machinery and team all belong to him. All I do is to go in and help him and he is to work the same as I do. He has eight cows to milk and sells his cream. What share should I get from all these different things? Should I get a share of the calves and pigs or any other increase in live stock?—H. H., Boyne Falls, Mich.

—Sufficient data is not given to figure definitely what share of the farm income should go to you for your work? If it is possible to estimate the income from the various sources and knowing what you can afford to work for it would be an easy matter to determine what portion you should have.—F. T. Riddell, Dept. of Farm Management, M. A. C.

ENTITLED TO ONE HALF OF ESTATE

At the death of the husband several years ago no will was left, and only one child. There was some indebtedness on the farm, but widow and child have remained on farm, paid the indebtedness, everything is clear from debt. The widow has lived there continuously for 46 years. What share is the widow entitled to?—Mrs. S., Branch County, Mich.

—Upon the death of the husband without having made a will and leaving a widow and one child, the widow and child would each be entitled to one half of the estate, according to the statutes relative to descent and distribution.—Asst. Legal Editor.

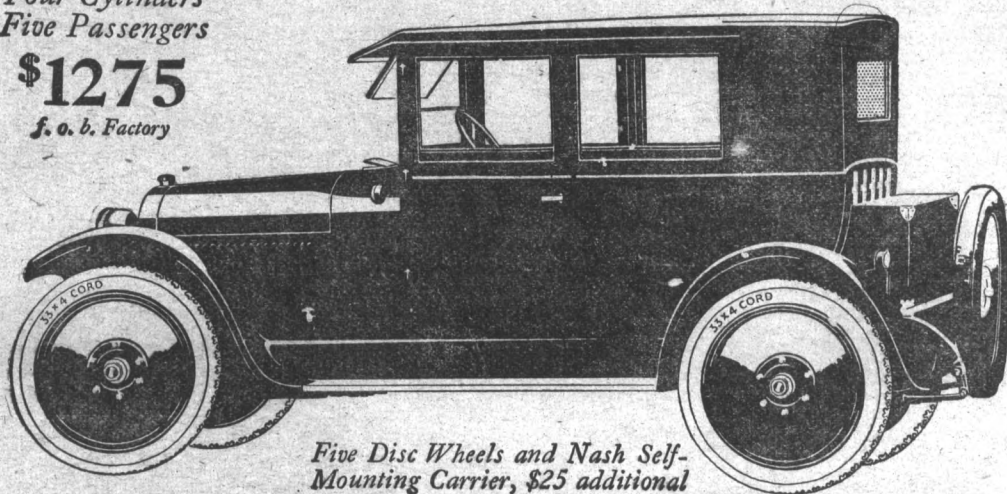
CAN RECOVER DAMAGE

I am writing to you for a little information. I bought a cow registered and she was to have a calf in the spring, and she never had it or come around, and we went and seen the man I bought her of, and he made me an offer. I was to give \$25.00 more and receive another cow. She was to come fresh inside of four weeks. I asked him if he thought it would hurt her to move her, and he said it would not hurt her, but he did not move her for 12 days after the bargain was made, and he put her in a truck and tied her, and she was sick when she was delivered. The cow was sick before she got to (Continued on Page 10)

Nash Leads the World in Motor Car Value

NASH

New Carriole
Four Cylinders
Five Passengers
\$1275
f. o. b. Factory



Five Disc Wheels and Nash Self-Mounting Carrier, \$25 additional

Now you can have an enclosed car that will stand up under the "racketing" of country driving. The new Nash Carriole for five people is built with surplus strength and solidity in every unit. And the body is of *all-metal* construction. Along with this greater endurance Nash has also given the motor greater power, intensified smoothness, and increased economy in operation.

FOURS and SIXES

Prices range from \$915 to \$2190, f. o. b. factory

The Nash Motors Company, Kenosha, Wisconsin

(Continued from
Mar. 17th issue)
CHAPTER XI
The Ford Fac-
tory, Foundry
and Trade
School

The Truth About Henry Ford

The Ford Factory, Foundry and Trade School—His Americanism

By Sarah T.
Bushnell

ness, which was
the making of
men. He took
wise men and
good men, suc-
cessful and un-
successful. He
took Americans
of good old col-

WHEN the first Ford factory outgrew the Piquette street plant, the larger plant in Highland Park was built. This is really a great industrial city in itself. It covers one hundred and twenty acres and employs fifty-three thousand men. Each employee receives his wages twice a month; yet every day is a pay day in some section of the plant and a half million dollars is handed the men.

In the Ford organization are men doing every conceivable kind of work. The factory operates its own power, heating and lighting plant, fire department, telephone and telegraph exchange, freight and express offices, hospital, safety and hygiene departments, motion picture studio, park and athletic field, band and auditorium, educational and legal departments, grocery, drug and shoe stores, meat market, tailor shop, and publishes its own newspaper—the Ford News.

The Ford fire alarm system is said to be more efficient and up-to-date than any other in the country, even including the cities of New York and Chicago. Ninety experienced fire fighters are employed in the plant and two hundred trained workmen are ready to aid at an instant's notice. When a general alarm is sounded the automatic call goes instantly to the Superintendent's office, factory service office, fire department headquarters and Chief Engineer's office. The minute, hour, day, month, year and box from which the call comes are thus recorded. Three hundred call stations are placed throughout the factory two hundred feet apart.

The medical department is wonderful and is one of the most modern institutions of its kind in the world. This is entirely separate and distinct from the Henry Ford Hospital, built at a cost of three million dollars and rented to the government during and after the war for one dollar a year. Mr. Ford calls this his garage. "It is my shop," he says, "where I hope people can get well as rapidly as possible and have their injured parts repaired." A pretty bit of sentiment is connected with the tall elms that reach to the fifth story of this building. They were moved from his Dearborn estate and replanted so that the new part of the hospital, which is the same length as the National Capitol, is surrounded by old trees that once had their roots in the soil of his boyhood home. This hospital was not built to serve the very poor, for whom free clinics are provided, nor to serve the very rich, who can afford to pay large surgical fees; but is for those of us who find it difficult to make ends meet and to whom heavy hospital bills are a calamity.

The moving picture laboratory, in in the Highland Park plant, is remarkable. Its educational pictures are shown in seventy per cent of our country's theaters. It may not be known that these are sent to Mexico, Brazil, Chile, Argentina, South Africa, Spain, Sweden, Norway, Japan, China, Alaska and other countries. Mr. Ford desires that they be used in the large and small schools, wherever they can be of service or can give pleasure. Therefore, the rental price to schools is fifty cents a day per reel. The movie staff includes many of the best-known specialists in educational lines, under whose guidance are editors, scenario writers and directors. They strive to produce films of value to teachers throughout the land, to be used for instructing their pupils.

The Ford educational department, its welfare work and Americanization school have been treated at length elsewhere. The Ford trade school is in a large wing of the plant which serves as a school building. It is incorporated under the Michigan laws and extends to a limited number the opportunity to continue their academic education while learning a trade. It is one of the best plans for salvaging some of our destitute boys, or boys who have no one to care if they succeed or fail. Mr. Ford is not willing for them to be called destitute; he prefers to think of them as boys without friends. For

several years he maintained a home for homeless boys near his estate. This required such a large amount of his time and interest that he planned the trade school. Each student receives a scholarship which amounts to four hundred dollars annually, divided into semi-monthly portions. This enables him to be self-supporting while studying. His scholarship is increased in accordance with his ability and effort until it reaches nine hundred dollars. To develop thrift one dollar is added to each pay envelope, provided the boy keeps a savings account. There are fifteen instructors employed; a board of five members directs the policy of the school, and a long waiting list is kept of boys who wish to be admitted. Mr. Searles, the head of the school, is a distinguished educator.

Mr. Ford realizes that the future of our country depends on the boys and girls of today. He gives to those he befriends his money, his time and thought, and to each an opportunity to achieve success. They will be the men and women of tomorrow, and it is his hope that they become good and honorable citizens.

Some idea of the gigantic size of the Ford organization may be secured from the fact that besides the Highland Park plant, the tractor plant is located at the River Rouge foundry where twenty-one railroad tracks enter. Here at one point a log goes in and at another point comes out a finished body. There are thirty-one assembling plants in this country and others in different parts of North and South America, Europe, Australia and the Orient. During the last year nearly one hundred thousand freight cars were needed to handle Ford shipments. Every available method of transportation was used also, such as express companies, parcel post and motor truck.

With a total of sixty-six thousand employees in the Highland Park, River Rouge and Dearborn plants, it is a conservative estimate to say that one-fourth of the men, women and children in Detroit and its environs are directly dependent on the Ford industries for support, and that an equal number are indirectly supported from this source.

It is said that man's efficiency has been increased 66 per cent by the automobile; families and friends

have been drawn closer together; health has improved; lives have been prolonged. It has given more service and pleasure than any other invention in the last several decades. The inventor who built a car within the reach of the mass of the people has been a benefactor to his fellow man, and has helped make history.

* * * *

For sentimental reasons the hand-made bricks that were in the foundation of Ten Eyck's tavern are part of the hugh fireplace in the trophy room, on the lower floor of the Ford mansion. The great iron horse storms through Wayne County at a more rapid rate as it parallels the Michigan highway toward Chicago. The forests have been cleared. There are no more Indians about. For many years the Dearborn arsenal has not been used as an army post, but the thick, gray stockade walls still stand. One of the square, gray buildings flanked by twin chimneys is the City Hall, where William Ford acts as Mayor. The old site of Ten Eyck's tavern is interesting to people who flash by in their motors, because it is the entrance to Henry Ford's estate. The gray-stone entrance is kept locked and guarded; it is adjacent to the gatekeeper's tiny gray-stone cottage, tucked quaintly under its Indian red-tiled roof; around it sturdy forests look down on the spot which William Cremer won his wager that he could beat the iron horse into Dearbornville, just two miles away.

CHAPTER XII

His "Honest-to-Goodness Americanism"

Five years ago a rainbow of promise, with a bag of gold at each end, hung over a great industrial plant. When the rainbow appeared some called it a menace, but it grew brighter and clearer; some of the colors became obscure; three came out stronger than all the others, and behind them stars formed the two words, "Americans all." At each end of the rainbow the bags emptied an endless stream of gold, and with the gold came freedom from old industrial conditions and with the freedom came the privileges and obligations of American citizenship.

Henry Ford made automobiles to defray the expense of his main busi-

HENRY FORD'S SUCCESS RULES

FEAR is the great canker that eats at the hearts of men. Most men are entirely too confident of their ability to fail—and they fail. If they were as confident of their ability to succeed, most of them would succeed.

What the world needs is more faith. We haven't half enough of it. We are always saying "I can't," when we should be saying, "I'll try and I'll never stop until I succeed."

The idea of human beings in a hurry always seemed a little absurd to me. Haste is a great maker of discouragement. It was nearly twelve years from the time that I built my first car before I put one on the market.

It is work done against the will that wears. Or work done merely for wages. Wages are necessary, of course, but mere wages are not enough to keep body awake or prevent him from becoming weary.

Nobody who is willing to get money legitimately need think about money. It is only the people who want to get money without earning it who need think about it.

Right now there are thousands of opportunities to make fortunes. People don't see them; that is all. Let anybody who wants money to come to him take the simplest useful thing he can think of; let him study it, improve it and refine it until it is better than anybody ever made it before. Then let him manufacture it on a big scale and money will come to him.

Money mixes with nothing that is worth doing. The right way to get money, therefore, is not to try to get it. Money, when it comes, should come as an incident to something else—as the result of doing something useful.

One of the reasons why American business men, as a class, are not as efficient as they might be is because they think first of profits and next of service.

If American manufacturers and business men generally would, for a period of five years, cease thinking of profits and devote all of their energies to giving the greatest values and the best possible service to the public, they would make more money and they would revolutionize American business.

ness, which was the making of men. He took wise men and good men, successful and unsuccessful. He took Americans of good old colonial stock and laborers from every nook and corner of obscure foreign lands. He took men with the stigma of wrong-doing upon their lives. He took untried men and men who had tried and failed. Through one great system he put them all, to determine the number who would come out pure gold. He thrust aside labor organizations and paid his workers wages at that time considered fabulous. He had his own dreams and he followed them to fulfillment.

Beyond a few brief newspaper reports, the light of publicity never disclosed the inner workings of Henry Ford's mind, yet the spirit of it permeates the country from Canada to the Gulf and from the Atlantic to the Pacific where other plants have used the Ford idea on a smaller scale. The pioneer who began the movement has been assailed and held up for ridicule, yet he was the first advocate of simonpure Americanism in industry. What would his critics have said had they known that he took the dean of a great cathedral, made him head of a vast educational system and gave him power no clergyman ever before had had in the history of business—entire authority over the living conditions of the Ford workman and real influence in the case of labor difficulties? Labor difficulties, however, refused to arise. During strikes at nearby plants the Ford workers remained at their posts, performing their labors in contented prosperity.

Henry Ford had evolved a system so unique and remarkable that his plans and dreams blend, making a practical whole which has actually benefited over fifty thousand homes. The foundation is education and Americanism. That the system has paid commercially is only a side issue, but one of tremendous importance—marking the ideal adjustment of capital and labor, and proving beyond doubt that the experiment is overwhelmingly correct. The assistants in this department are called advisors, and the welfare work they are doing is as helpful as it is novel. What they do and how they do it will be explained later.

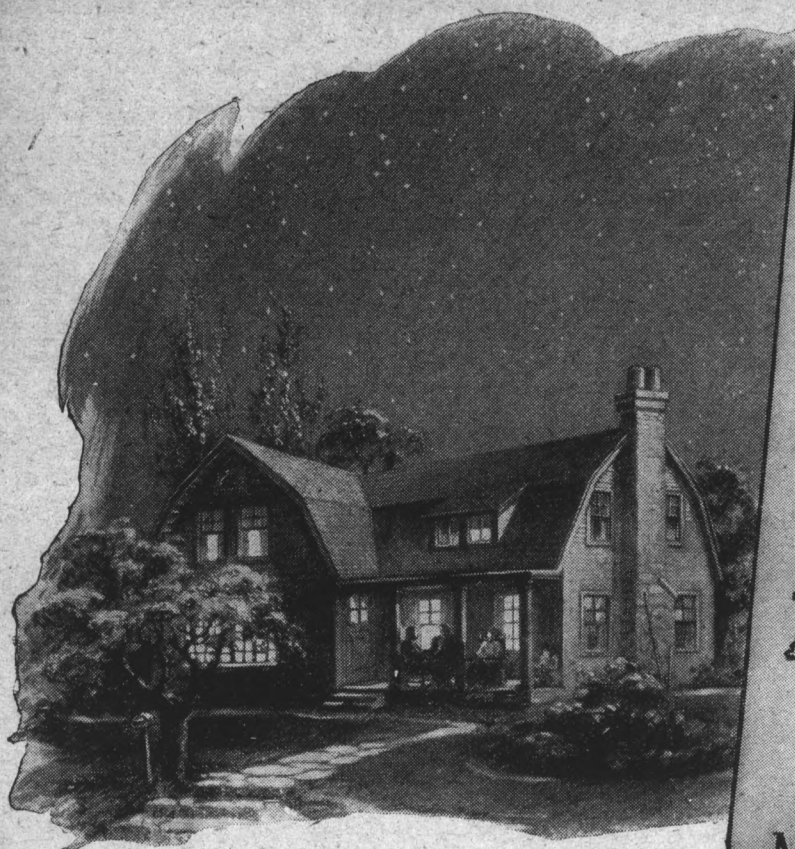
Mr. Ford states his position frankly. "If I can make men of my employees, I need have no fear for my business," he says. "Everything I do to help them ultimately benefits me; the more money I spend on them, the more enthusiasm they will have for my interests and the more money they will make for themselves and for me."

And he uses all possible labor-saving devices, for he says: "The less fatigued a man is when he leaves his work the more self-improvement can he gain during leisure hours." This is the message of Henry Ford to mankind: "Be your brother's helper." In his plant Bolshevism has not dared to rear its serpent head.

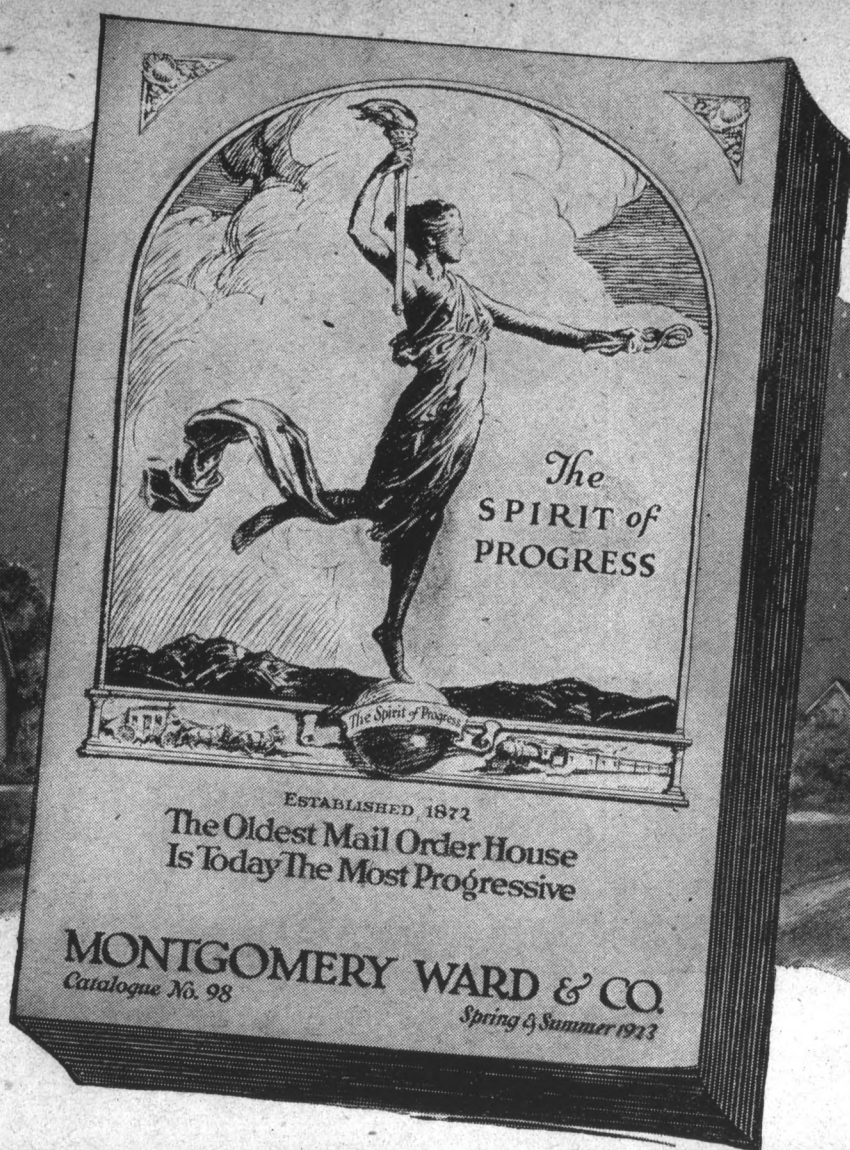
The Ford plan is not to build elaborate libraries, gymnasiums or lunch rooms for the employees, but serviceable and substantial ones. The difference in the expense is given the working men for their homes, their living and their families. It is not the possession of money but the right use of it which is emphasized. Mr. Ford holds that the system of education which increases, through the so-called cultural studies, the capacity for happiness and fails to develop the financial power for gaining the same is a cruel, not a kindly system. It increases human misery and failure. The Ford idea, while increasing a man's capacity for happiness, at the same time increases his efficiency, his earning capacity, his home conditions, his knowledge of the laws of the state and the nation, making him a more valuable citizen, more worthwhile to society, giving him a broader vision, all of which develops a man's mind while training his hands.

The factory has two slogans: "Be a Good American," and "Help the Other Fellow." You find these signs in the working sections of the plant. The workmen are taught self-application of these slogans, even beneficially coerced into adapting them as life standards.

(Continued in April 14th issue)



To more than four million homes
this book brings a saving



This book is saving millions of dollars for the American people

Are you using this Book? Is it saving money for *you and your family*?

Are you taking full advantage of the opportunity for saving it brings into your home?

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It will bring you the advantage of always getting dependable goods. It will insure your getting prompt, courteous service. It will insure your always buying at the lowest price.

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- No. 160—**HOG BOOKLET.** Covers the common hog diseases.
- No. 185—**HOG WALLOWS.** Gives complete directions for the construction of a concrete hog wallow.
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AND BLOWS

Keep The Business Farmer Com-
ing—See Page 13.

FRUIT AND ORCHARD

Edited by FRANK D. WELLS

CALLUS GRAPE CUTTINGS

How can I callus grape cuttings? The bulletins say that they should be callused, but do not say how it is done.—R. M. Saginaw County.

—The callus is the formation on the wound at the end of the cutting. Place cuttings of grape, currant, gooseberry, or any of the plants that take root readily, in moist sand and keep in a cool place. If done when the plant is dormant the callus will soon form. The sand should be kept moist, but not wet, until the weather is warm enough for planting out.

BEST GRAPE FOR MICHIGAN

What is the most profitable grape for Michigan? What is the right distance for planting? Does the grape bear on the new or the year-old wood?—E. T. C., Oakland County.

—The Concord is by far the most important variety of grape for Michigan. All other varieties combined come far short of the Concord. In the Grape Belt there are a few Morris Early, for the first of the market, a few Niagara and three or four others, but they are unimportant. The general market takes the Concord and so do the juice factories. The variety is hardy, productive and a good shipper, a combination suited to the commercial vineyard. For home use Niagara for a white grape and Brighton for an amber might be added to Morris, and Concord. For a special market they have been found desirable. But in general there is nothing to take the place of the Concord. Some years ago the Worden was introduced as an improvement which was to supercede the old favorite. It has much in its favor, but the berries come off the stems too easily. Grape vines are planted about 12 feet apart in the row, and the rows far enough apart to admit cultivation, about 8 feet. The wood which grew last year will produce the fruit next summer.

GRAFTING GRAPES

Can grape vines be grafted, and if so how is it done? Are seedling grapes like the parent?—H. G. C., Livingston County.

—Grapes can be grafted, though that is not often done, since a vine can be grown so easily and quickly from a cutting. As the vine is flexible the graft is put in the root. Dig down four or five inches below the surface, cut off the root and make a cleft graft. Cover with wax, clay, or some material to protect from moisture. Grafting may be of little commercial value, but it may occasionally be of service. A wild vine could soon be made profitable, as a strong root system would force a graft into a vigorous growth. Seedling grapes cannot be depended upon to be like the parent. Like the orchard fruits they produce new varieties. Many kinds have been produced by hybridizing or the crossing of two varieties, but few of them have been of any value.

NOTES AND COMMENTS

The questions asked regarding grape culture indicate the interest taken in this fruit. The planting this spring promises to be unusually large, but as the demand has increased enormously during the last few years there seems little danger of over production for several years to come.

While the Concord is the most important variety, both for the commercial plants and for home use, there are other varieties that merit consideration. The Cotowaba requires too long a season for Michigan, but the Delaware, Brighton, Ogawan, Niagara, Morris Deamond, Green Mountain and Salem have many friends. Will it not be well for grape growers to plant a greater variety than they have in the past? An orchardist is not content with one peach, even the Alberta, or with one apple, even the Jonathan. Why be satisfied with one or two grapes, even Morris Early and Concord?

One of the needs of the hour is a sweet cherry suited to Southern Michigan. This is not saying that

the sweet cherry will not grow in this part of the state, but is difficult to get started. The trees have the bad habit of dying the first season, or if they live through that year they try it the next summer. Then there is sun scald and other ills to which the tree is heir, all of which is discouraging to the fruit grower. So to plant some other tree, here is an opportunity for some good work. Let someone develop a fruit for the purpose. It ought not to be more difficult than some of the work that has been done.

A cherry not often seen, yet one of the best in flavor is the Princess Eugenie. It is slow to bear, which is the chief reason for its neglect, though production if given time, for a sour cherry it has few equals.

The shortage in raspberries is an encouragement to the strawberry grower. This fruit promises to be in good demand for some time to come.

Scions may be low cut now, and stored in moist sand or sawdust until wanted. Use last season's growth, discard the tip or immature wood.

Seedling apple trees in out-of-the-way places may be made useful at the cost of a little time and labor. If the trunks and limbs are sound they make the best of stock for grafting. Put in some Delicious, Steel's Red or Grimes Golden. They do well on vigorous natural stock.

Japanese plums are poor self-pollinizers. It is not safe to plant one variety alone Abundance or Burbank when sanding alone may blossom freely, then shed their fruit. Much disappointment has resulted from this. Grow at least two kinds.

The plum can be grafted, but the varieties should have similar habits of growth. To graft Burbank and Abundance would result in a freakish tree in looks, at least.

Why not grow more currants? They soon begin to bear and there is a ready market for the fruit. The plants are scarce and expensive, but it is not difficult for one to grow his own. Make cuttings and plant them this spring. Foy's Prolifer, Cherry and Wilder are good market varieties, but for jelly it is hard to beat the old Red Dutch, though the fruit is small. It is very productive too. The greatest enemy is the current worm, but that is easily controlled.

Peach trees ought to be sprayed for leaf curl. Copper sulphate at the rate of one pound to 50 gallons of water, no line, may be used at any time when the liquid will not freeze, the earlier in the spring, the better.

CAN RECOVER DAMAGE

(Continued from Page 7)

my place, but he kept her moving around so we did not notice her being sick when she was unloaded, but noticed it shortly afterwards. She lost her calf, and will not get with calf now. I had a veterinary and he said it was caused by moving her. I have got proof that the cow was sick before he got to my place.—J. L., Midland, Mich.

—If you can show that the seller was negligent in delaying to remove the cow, or that he failed to use proper care in moving her, and that as a result of such negligence she lost her calf, I think you would have a right of action against him to recover the damage you have suffered.—Asst. Legal Editor.

TRY TO HAVE CHILD ADOPTED

I have a step daughter that has had epileptic fits for five years. At the age of 17 she gave birth to a baby which is now 11 months old. I took this matter up with our prosecutor. She told him who the baby's father was and he was a poor married man. The prosecutor said he could not do anything for the reason the girl's mind was too bad for evidence against him. The girl now has gone to a home, and the baby is left with me. Is there any support I can

get for such a child? If so, will you please tell me whom to apply to, and how to do this. The baby must have support.—F. C. T., Mecosta County, Mich.

—If the legibility of the father for the child's support cannot be enforced, it would become the duty of the county or township to provide such support. However, if you cannot take care of the child, you should make every effort to have it adopted by some private family or sent to some good orphan's home, so it will not become a public charge. It should be realized that the child is the innocent victim of unfortunate circumstances over which it had no control, and is as deserving of a fair chance in life as if born in lawful wedlock.—Asst. Legal Editor.

FINISHING MAPLE FLOORS

What is the most successful method of finishing a hard maple or elm floor in a light finish?—H. B. A., Otisville, Mich.

—The following formula for finishing maple floors has proved very satisfactory for several years:

Boiled linseed oil, ½ gal.; raw linseed oil, ½ gal.; turpentine, 2½ pints; Japan dryer, ¼ pint; bees wax, ¼ pound.

Shave or cut the wax in small pieces and dissolve in the turpentine. Heat wax and turpentine by setting in a dish of hot water. When hot add Japan dryer and mix with the oil.

For new floors apply by dipping a soft rag or waste into the oil and rub into floor until thoroughly covered. Let stand about one-half hour. Then wipe thoroughly dry with rags or waste. Burn oily rags at once. Let floor stand 3 or 4 days until thoroughly dry. Then finish with wax or varnish as desired.

Elm floors are more open grained and will need a light paste wood filler the first application.—S. B. Howard, College Painter, M. A. C.

COULD NOT COLLECT FEE

Will you please tell me whether a note is legal drawn up in this manner? A buys from B, cattle amounting to \$450.00. B tells A that C has money to loan. B goes and talks with C, comes and gets A, A and B goes to C, C makes out he will have to go to Reed City Bank to get the money, and his fee would be \$25.00 and a bonus of \$25.00. C draws up note for \$500.00 payable one year with 7 per cent interest. C is a stockholder and director of the local bank. C presents note to cashier, takes \$25.00. A gets \$450.00 and the bank gets the rest. Would this note be collectable?—C. H. S., Evart, Mich.

—The \$25.00 charged by the bank as a bonus would be usurious and could not be collected from the maker of the note. If C is a director of the bank loaning money, I am of the opinion he could not collect from A the \$25.00 charged as his fee.—Asst. Legal Editor.

INDORSER RELEASED

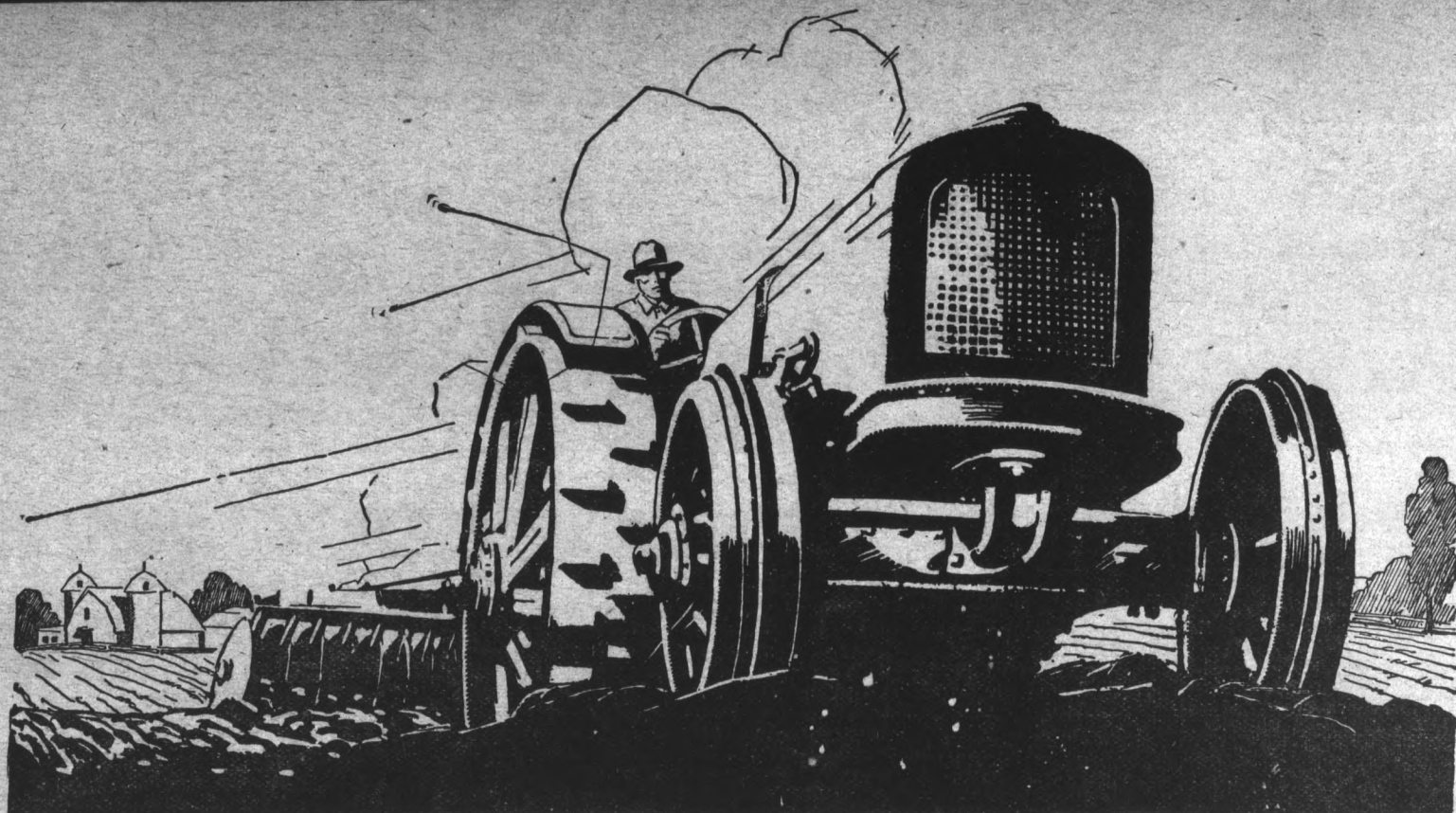
Please give me information in regards to a note. A sells a horse to B for \$30.00 taking a property note and C indorses note with B. There A sells note to the bank and endorses same. I don't know whether note was recorded or not. Then B moves and gets an extension of time on this note, has the interest charged to note. During this 30 days extension, B has a sale and moves away taking horse with him, afterwards selling it. Now the bank insists upon C paying the note. C was not notified that the note was not paid until after the 30 day extension had expired. Is C liable to pay or should A pay, and take his property with his property note?—J. V., Remus, Michigan.

—Where an extension of time is given to the maker of a note, an accommodation indorser thereon is released if such extension was given without his knowledge.—Asst. Legal Editor.

DO NOT PUT KEROSENE IN GASOLINE CAN

—Would like to know if it is lawful to put kerosene in gasoline cans?—F. V., Fremont, Mich.

—The statutes expressly prohibit the putting of kerosene in gasoline cans. The law provides that gasoline containers be painted red to make errors of this nature next to impossible.—Chas. J. DeLand, Secretary of State.



Get All the Power from Your Tractor

Tractor Chart of Recommendations

Trade Name	Motor Oil	Trade Name	Motor Oil
Adaptable.....	H.	Linn.....	S. H.
Allis-Chalmers, 6-12.....	H.	Little Giant, A & B.....	S. H.
Allis-Chalmers, 15-25.....	S. H.	Magnet, 14-28.....	S. H.
Allis-Chalmers, 18-30 and 20-35.....	S. H.	Mark VI.....	S. H.
All Work.....	S. H.	McCormick-Deering, 15-30.....	H.
Andrews-Kinkade.....	E. H.	Minneapolis, 12-25 and 17-30.....	S. H.
Armington.....	S. H.	Minneapolis, 22-44 and 35-70.....	E. H.
Aultman-Taylor, 15-30.....	S. H.	Mogul.....	S. H.
Aultman-Taylor, 22-45 and 30-60.....	S. H.	Moline Universal.....	S. H.
Automotive.....	S. H.	Monarch.....	S. H.
Avery, Model C.....	H.	Montana.....	E. H.
Avery, 8-16, 12-20, 12-25, 14- 28, 18-36, 25-50, 40-65, 20- 35.....	E. H.	Nelson Junior and Senior.....	S. H.
Avery Track Runner.....	S. H.	Oil Gas, 20-42 and 25-50.....	E. H.
Bates Steel Mule, All Models.....	S. H.	Peoria.....	E. H.
Best Tractor, All Models.....	E. H.	Pioneer, 18-36 and 30-60.....	E. H.
Big Farmer.....	E. H.	Port Huron.....	S. H.
Big Four E-B.....	E. H.	Quadpull.....	S. H.
Buckeye Trundear.....	S. H.	Reed.....	S. H.
Burnell.....	E. H.	Rex.....	S. H.
Capitol, All Models.....	E. H.	Rogers.....	E. H.
Case, 10-18, 10-20, 12-20, 15- 27, 9-18.....	H.	Rumley, Oil Pull, 12-20, 16-30 and 20-40.....	E. H.
Case, 22-40.....	S. H.	Rumley, Oil Pull, 30-60.....	E. H.
Case, 12-25, 30-60, 40-72.....	E. H.	Russell "Junior", 12-24.....	S. H.
Case, 20-40.....	E. H.	Russell Boss.....	S. H.
Cletrac, All Models.....	S. H.	Russell "Giant", 30-60.....	E. H.
Coleman.....	E. H.	Sampson, Model M.....	H.
Dart Blue "J".....	S. H.	Savage A.....	E. H.
Dill Harvesting.....	H.	Shawnee, 6-12 and 9-18.....	E. H.
Eagle.....	E. H.	Shelby, All Models.....	S. H.
E-B, All Models.....	S. H.	Square Turn.....	E. H.
Ellwood.....	S. H.	Stinson.....	S. H.
Farm Horse.....	E. H.	Titan.....	S. H.
Farquhar, 15-25.....	S. H.	Topp-Stewart.....	S. H.
Farquhar, 18-35 and 25-50.....	S. H.	Townsend.....	E. H.
Fitch Four Drive.....	E. H.	Traylor.....	H.
Flour City Junior.....	H.	Trundear.....	S. H.
Flour City, 20-35.....	S. H.	Twin Ports.....	E. H.
Flour City, 30-50, 40-70.....	E. H.	Twin City, 12-20 and 20-35.....	S. H.
Fordson.....	H.	Twin City, 40-65 and 60-90.....	E. H.
Fox.....	E. H.	Uncle Sam, All Models.....	S. H.
Frick, All Models.....	S. H.	Wallis.....	S. H.
Good Field.....	H.	Waterloo Boy.....	S. H.
G-O.....	S. H.	Wellington, 12-22 and 16-30.....	S. H.
Grain Belt.....	S. H.	Wetmore.....	S. H.
Gray.....	S. H.	Wheat.....	S. H.
Great Western.....	S. H.	Western.....	E. H.
Hadfield-Penfield.....	S. H.	Wisconsin.....	E. H.
Hart-Parr, All Models.....	E. H.	Yuba Ball Tread.....	S. H.
Heider.....	S. H.		
Holt Caterpillar, All Models.....	E. H.		
Huber, All Models.....	S. H.		
Indiana.....	H.		
International, 8-16.....	H.		
International, 15-30.....	S. H.		
Klumb.....	E. H.		
Lauson, All Models.....	S. H.		
Leader.....	E. H.		
Leonard Four Wheel Drive.....	S. H.		
Liberty.....	E. H.		
Lincoln.....	S. H.		

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The Hunted Woman

By James Oliver Curwood

Michigan's Own and America's Foremost Author of the Great Northwest

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(Continued from March 17th Issue)

CHAPTER XVII

HALF an hour later Blackton had shown Aldous to his room and bath. It was four o'clock when he rejoined the contractor in the lower room, freshly bathed and shaven and in a change of clothes. He had not seen Joanne, but half a dozen times he had heard her and Peggy Blackton laughing and talking in Mrs. Blackton's big room at the head of the stairs, and he heard them now as they sat down to smoke their cigars. Blackton was filled with enthusiasm over the accomplishment of his latest work, and Aldous tried hard not to betray the fact that the minutes were passing with gruelling slowness while he waited for Joanne. He wanted to see her. His heart was eating like an excited boy's. He could hear her footsteps over his head, and he distinguished her soft laughter, and her sweet voice when she spoke. There was something in her nearness and the fact that she did not once show herself at the top of the stair. Blackton was still talking about "coyotes" and dynamite when, an hour later, Aldous looked up, and his heart gave a big, glad jump.

Peggy Blackton, a plump little golden-haired vision of happiness, was already half a dozen steps down the stairs. At the top Joanne, for an instant, had paused. Through that space, before the contractor had turned, her eyes met those of John Aldous. She was smiling. Her eyes were shining at him. Never had he seen her look at him in that way, he thought, and never had she seemed such a perfect vision of loveliness. She was dressed in a soft, clinging something with a flutter of white lace at her throat, and as she came down he saw that she had arranged her hair in a marvellous way. Soft little curls half hid themselves in the shimmer of rich coils she had wreathed upon her head, and adorable little tendrils caressed the lovely flush in her cheeks, and clung to the snow-whiteness of her neck.

For a moment, as Peggy Blackton went to her husband, he stood very close to Joanne, and into his eyes she was smiling, half laughing, her beautiful mouth aquiver, her eyes glowing, the last trace of their old suspense and fear vanished in a new and wonderful beauty. He would not have said she was twenty-eight now. He would have sworn she was twenty.

"Joanne," he whispered, "you are wonderful. Your hair is glorious!"

"Always—my hair," she replied, so low that he alone heard. "Can you never see beyond my hair, John Aldous?"

"I stop there," he said. "And I marvel. It is glorious!"

"Again!" And up from her white throat there rose a richer, sweeter color. "If you say that again now, John Aldous, I shall never make curls for you again as long as I live!"

"For me—"

His heart seemed near bursting with joy. But she had left him, and was laughing with Peggy Blackton, who was showing her husband where he had missed a stubby patch of beard on his cheek. He caught her eyes, turned swiftly to him, and they were laughing at him, and there came a sudden pretty upturn to her chin as he continued to stare, and he saw again the color deepening in her face. When Peggy Blackton led her husband to the stair, and drove him up to shave off the stubby patch, Joanne found the opportunity to whisper to him.

"You are rude, John Aldous! You must not stare at me like that!"

And as she spoke the rebellious colour was still in her face, in spite of the tantalizing curve of her red lips and the sparkle in her eyes.

"I can't help it," he pleaded. "You are—glorious!"

During the next hour, and while they were at supper, he could see that she was purposely avoiding his eyes, and that she spoke oftener to Paul Blackton than she did to him, apparently taking the keenest interest in his friend's enthusiastic des-

criptions of the mighty work along the line of steel. And as pretty Peggy Blackton never seemed quite so happy as when listening to her husband, he was forced to content himself by looking at Joanne most of the time, without once receiving a smile.

The sun was just falling behind the western mountains when Peggy and Joanne, hurried most incontinently by Blackton, who had looked at his watch left the table to prepare themselves for the big event of the evening.

"I want to get you there before dusk," he explained. "So please hurry!"

They were back in five minutes. Joanne had slipped on a long gray coat, and with a veil that trailed a yard down her back she had covered her head. Not a curl or a tress of her hair had she left out of its filmy prison, and there was a mischievous gleam of triumph in her eyes when she looked at Aldous.

A moment later, when they went ahead of Blackton and his wife to where the buckboard was waiting them, he said:

"You put on that veil to punish me, Ladygray?"

"It is a pretty veil," said she.

"But your hair is prettier," said he.

"And you embarrassed me very much by staring as you did, John Aldous!"

"Forgive me. It is—I mean you are—so beautiful."

"And you are sometimes—most displeasing," said she. Your ingenuousness, John Aldous, is shocking!"

"Forgive me," he said again.

"And you have known me but two days," she added.

"Two days—is a long time," he argued. "One can be born, and live, and die in two days. Besides, our trails have crossed for years."

"But—it displeases me."

"What I have said?"

"Yes."

"And the way I have looked at you?"

"Yes."

Her voice was low and quiet now, her eyes were serious, and she was not smiling.

"I know—I know," he groaned, and there was a deep thrill in his voice. "It's been only two days after all, Ladygray. It seems like a lifetime. I don't want you to think badly of me. God knows I don't!"

"No, no, I don't," she said quickly and gently. "You are the finest gentleman I ever knew, John Aldous. Only—it embarrasses me."

"I will cut out my tongue and put out my eyes—"

"Nothing so terrible," she laughed softly. "Will you help me into the wagon? They are coming."

She gave him her hand, warm and soft; and Blackton forced him into the seat between her and Peggy, and Joanne's hand rested in his arm all the way to the mountain that was to be blown up, and he told himself that he was a fool if he were not supremely happy. The wagon stopped, and he helped her out again, her warm little hand again close in his own, and when she looked at him he was the cool, smiling John Aldous of old, so cool, and strong, and unemotional that he saw surprise in her eyes first and then that gentle, gathering glow that came when she was proud of him, and pleased with him. And as Blackton pointed out the mountain she unknotted the veil under her chin and let it drop back over her shoulder, so that the last light of the day fell richly in the trembling curls and thick coils of her hair.

"And that is my reward," said John Aldous, but he whispered it to himself.

They had stopped close to a huge flat rock, on this rock men were at work fitting wires to a little boxlike thing that had a white button-lever. Paul Blackton pointed at this, and his face was flushed with excitement.

"That's the little thing that's going to blow it up, Miss Gray—the touch of your finger on that little white button. Do you see that black base of the mountain yonder?—right

there where you can see men moving about? It's half a mile from here, and the 'coyote' is there, dug into the wall of it."

The tremble of enthusiasm was in his voice as he went on, pointing with his long arm: "Think of it! We're spending a hundred thousand dollars going through that rock that people who travel on the Grand Trunk Pacific in the future will be saved seven minutes in their journey from coast to coast! We're spending a hundred thousand there, and millions along the line, that we may have the smoothest roadbed in the world when we're done, and the quickest route from sea to sea. It looks like a waste, but it isn't. It's science! It's the fight of competition! It's the determination behind the forces—the determination to make this road the greatest road in the world! Listen!"

The gloom was thickening swiftly. The black mountain was fading slowly away, and up out of that gloom came now ghostly and far-reaching voices of men booming faintly through giant megaphones.

"Clear away! Clear away! Clear away!" they said, and the valley and the mountain-sides caught up the echoes, until it seemed that a hundred voices were crying out the warning. Then fell a strange and weird silence, and the echoes faded away like the voices of dying men, and all was still save the far-away barking of a coyote that answered the mysterious challenges of the night. Joanne was close to the rock. Quietly the men who had been working on the battery drew back.

"It is ready!" said one.

"Wait!" said Blackton, as his wife went to speak. "Listen!"

For five minutes there was silence. Then out of the night a single megaphone cried the word:

"Fire!"

"All is clear," said the engineer, with a deep breath. "All you have to do, Miss Gray, is to move that little lever from the side on which it now rests to the opposite side. Are you ready?"

In the darkness Joanne's left hand had sought John's. It clung to his tightly. He could feel a little shiver run through her.

"Yes," she whispered.

"Then—if you please—press the button!"

Slowly Joanne's right hand crept out, while the fingers of her left clung tighter to Aldous. She touched the button—thrust it over. A little cry that fell from between her tense lips told them she had done the work, and a silence like that of death fell on those who waited.

A half a minute—perhaps three-quarters—and a shiver ran under their feet, but there was no sound; and then a black pall, darker than the night, seemed to rise up out of the mountain, and with that, a second later came the explosion. There was a rumbling and a jarring, as if the earth were convulsed under foot; volumes of dense black smoke shot upward, and in another instant these rolling, twisting volumes of black became lurid, and an explosion like that of a thousand great guns rent the air. As fast as the eye could follow sheets of flame shot up out of the sea of smoke, climbing higher and higher, in lightning flashes, until the lurid tongues licked the air a quarter of a mile above the startled wilderness. Explosion followed explosion, some of them coming in hollow, reverberating booms, others as if in mid-air. Unseen by the watchers, the heavens were filled with hurtling rocks; solid masses of granite ten feet square were thrown a hundred feet away; rocks weighing a ton were hurled still farther, as if they were no more than stones flung by the hands of a giant; chunks that would have crashed from the roof to the basement of a skyscraper dropped a third of a mile away. For three minutes the frightful convulsions continued, and the tongues of flame leaped into the night. Then the lurid lights died out, shorter and shorter grew the sullen flashes, and then again fell—silence!

During those appalling moments, unconscious of the act, Joanne had shrank close to Aldous, so that he felt the soft crush of her hair and the swift movement of her bosom. Blackton's voice brought them back to life.

He laughed, and it was the laugh of a man who had looked upon work well done.

"It has done the trick," he said.

"To-morrow we will come and see. And I have changed my plans about Coyote Number Twenty-eight. Hutchins, the superintendent, is passing through in the afternoon, and I want him to see it." He spoke now to a man who had come up out of the darkness. "Gregg, have Twenty-eight ready at four o'clock to-morrow afternoon—four o'clock—sharp!"

Then he said: "Dust and a bad smell will soon be settling about us. Come, let's go home!"

And as they went back to the buckboard wagon through the gloom John Aldous still held Joanne's hand in his own, and she made no effort to take it from him.

CHAPTER XVIII

THE next morning, when Aldous joined the engineer in the dining-room below, he was disappointed to find the breakfast table prepared for two instead of four. It was evident that Peggy Blackton and Joanne were not going to interrupt their beauty nap on their account.

Blackton saw his friend's inquiring look, and chuckled.

"Guess we'll have to get along without 'em this morning, old man. Lord bless me, did you hear them last night—after you went to bed?"

"No."

"You were too far away," chuckled Blackton again. "I was in the room across the hall from them. You see, old man, Peggy sometimes gets fairly starved for the right sort of company up here, and last night they didn't go to bed until after twelve o'clock. I looked at my watch. Mebbe they were in bed, but I could hear 'em buzzing like two bees, and every little while they'd giggle, and then go on buzzing again. By George, there wasn't a break in it! When one let up the other'd begin, and sometimes I guess they were both going at once. Consequently they're sleeping now."

When breakfast was finished Blackton looked at his watch.

"Seven o'clock," he said. "We'll leave word for the girls to be ready at nine. What are you going to do meantime, Aldous?"

"Hunt up MacDonald, probably."

And I'll run down and take a look at the work."

As they left the house the engineer nodded down the road. MacDonald was coming.

"He has saved you the trouble," he said. "Remember, Aldous, nine o'clock sharp!"

A moment later Aldous was advancing to meet the old mountaineer. "They've gone, Johnny," was Donald's first greeting.

"Gone?"

"Yes. The whole bunch—Quade, Culver Rann, DeBar, and the woman who rode the bear. They've gone, hide and hair, and nobody seems to know where."

Aldous was staring.

"Also," resumed old Donald slowly, "Culver Rann's outfit is gone—twenty horses, including six saddles. An' likewise others have gone, but I can't find out who."

"Gone!" repeated Aldous again.

MacDonald nodded.

"And that means—"

"That Culver Rann ain't lost any time in gettin' under way for the gold," said Donald. "DeBar is with him, an' probably the woman. Likewise three cut-throats to fill the other saddles. They've gone prepared to fight."

"And Quade?"

Old Donald hunched his shoulders, and suddenly John's face grew dark and hard.

"I understand," he spoke, half under his breath. "Quade has disappeared—but he isn't with Culver Rann. He wants us to believe he has gone. He wants to throw us off our guard. But he's watching, and waiting—somewhere—like a hawk, and swooping down on Joanne! He—"

"That's it!" broke in MacDonald hoarsely. "That's it, Johnny! It's his old trick—his old trick with women. There's a hundred men who've got to do his bidding—do it 'r get out of the mountains—an' we've got to watch Joanne. We have, Johnny! If she should disappear—"

Aldous waited.

"You'd never find her again, so 'elp me God, you wouldn't, Johnny!" he finished.

"We'll watch her," said Aldous quietly. "I'll be with her to-day, Mac, and to-night I'll come down to the camp in the coulee to compare

notes with you. They can't very well steal her out of Blackton's house while I'm gone."

For an hour after MacDonald left him he walked about in the neighborhood of the Blackton bungalow smoking his pipe. Not until he saw the contractor drive up in the buckboard did he return. Joanne and Peggy were more than prompt. They were waiting. If such a thing were possible Joanne was more radiantly lovely than the night before. To Aldous she became more beautiful every time he looked at her. But this morning he did not speak what was in his heart when, for a moment, he held her hand, and looked into her eyes. Instead, he said:

"Good morning, Ladygray. Have you used—"

"I have," she smiled. "Only it's Potterdam's Tar Soap, and not the other. And you—have not shaved, John Aldous!"

"Great Scott, so I haven't!" he exclaimed, rubbing his chin. "But I did yesterday afternoon, Ladygray!"

"And you will again this afternoon, if you please," she commanded. "I don't like bristles."

"But in the wilderness—"

"One can shave as well as another can make curls," she reminded him, and there came an adorable little dimple at the corner of her mouth as she looked toward Paul Blackton.

Aldous was glad that Paul and Peggy Blackton did most of the talking that morning. They spent half an hour where the explosion of the night before had blown out the side of the mountain, and then drove on to Coyote Number Twenty-eight. It was in the face of a sandstone cliff, and all they could see of it when they got out of the wagon was a dark hole in the wall of rock. Not a soul was about, and Blackton rubbed his hands with satisfaction.

"Everything is completed," he said. Gregg put in the last packing this morning, and all we are waiting for now is four o'clock this afternoon."

The hole in the mountain was perhaps four feet square. Ten feet in front of it the engineer paused, and pointed to the ground. Up out of the earth came two wires, which led away from the mouth of the cavern.

"Those wires go down to the explosives," he explained. They're battery wires half a mile long. But we don't attach the battery until the final moment, as you saw last night. There might be an accident."

He bent his tall body and entered the mouth of the cavern, leading his wife by the hand. Observing that Joanne had seen this attention on the contractor's part, Aldous held out his own hand, and Joanne accepted it. For perhaps twenty feet they followed the Blacktons with lowered heads. They seemed to have entered a black cold pit, sloping slightly downward, and only faintly could they see Blackton when he straightened.

His voice came strange and sepulchral:

"You can stand up now. We're in the chamber. Don't move, or you might stumble over something. There ought to be a lantern here."

He struck a match, and as he moved slowly toward a wall of blackness, searching for the lantern, he called back encouragingly through the gloom:

"You folks are now standing right over ten tons of dynamite, and there's another five tons of black powder—"

A little shriek from Peggy Blackton stopped him, and his match went out.

"What in heaven's name is the matter?" he asked anxiously. "Peggy—"

"Why in heaven's name do you light a match then, with us standing over all those tons of dynamite?" demanded Peggy. "Paul Blackton, you're—"

The engineer's laughter was like a giant's roar in the cavern, and Joanne gave a gasp, while Peggy shiveringly caught Aldous by the arm.

(Continued April 14th Issue)

DAIRYMEN WIN TWO VICTORIES

The dairy interests of the United States succeeded in securing at the hands of the 67th Congress, two pieces of legislation which mark real progress. The Voight Anti-Filled Milk Bill prohibiting filled milk in interstate commerce was passed on March 1. The Haugen Butter Standards Bill was passed two days later.

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"The Farm Paper of Service"

The following news note has been going the rounds of the newspapers:

WHO GOT THE 96 CENTS?

NOTE IN A POTATO SHOWS PRICE ROSE 400 PER CENT.

Lynchburg, Va., March 8.—Mrs. W. J. Crowder of this city, while peeling a potato found a note in it reading:

"I got 24 cents per bushel. What did you give?"

It was signed "G. F. Beardsley, Stanton, Michigan."

Mrs. Crowder said she paid 30 cents a peck, or at the rate of \$1.20 a bushel.

"FARMERS GETTING DISCOURAGED AND QUITTING!"

"Farmers all around here are getting discouraged and quitting. There have been more Auction Sales around here this past winter than ever before. Within the last two or three weeks there have from one to four sales every week, within a radius of ten to fifteen miles and in most cases the heading of the bill says, 'having decided to quit farming I will sell at Auction', and nearly all of them go to town or city to work. I wonder how much longer it will be before the towns are filled up."

FROM Rockford comes this letter from an earnest business farmer who thus bewails the fact that farmers, in his locality, are "getting discouraged and quitting!"

Let's take out our pencils a minute and do a simple problem in economics—you never learned economics?—well, sit in close and get a lesson in what Dr. Friday calls economics, but what perhaps you have always called "putting-two-and-two together" or practicing "common-horse-sense!" As near as we can figure out, they amount to the same thing—basing predictions on experience, we all do that!

"Farmers getting discouraged and quitting" to move to town!

Don't sigh, neighbor, throw your hat in the air! Here's your neighbor, his wife and three children; five mouths to feed. Five producers, all working hard to grow more crops to feed themselves and other mouths somewhere in the cities.

They move to town! He has a "good" job in a factory, going to work before sun-up every morning and working in a spray of paint, painting wheels all day, until it is nearly dark again and he can stand in line to get on a crowded street car and become another of the human sardines, but that is another part of the story!

Five pairs of hands that were producers, move to the city and become five mouths which are consumers! Supply less—Consumption greater! What happens? Prices for farm products higher.

So there really is nothing to be glum about, unless you miss the social life of your neighbors and we might suggest, that more money from your crops will buy you a better automobile, that will bring you near all the social life that will be good for you.

Didn't know you could do a problem in simple economics, did you?

But it is mighty comforting, if a lot of misguided farmers and farmers' sons and daughters

don't discover how simple it is, figure it out for themselves and decide to stay right where they are and continue to be producers!

AND HIS WORK ONLY BEGUN!

IT seems but yesterday and in reality it was only a few weeks back that we wished Milo Campbell good luck and God-speed on his departure to take up his work as a member of the Federal reserve board, to which President Harding had so wisely called him.

Milo Campbell dropped dead from heart failure in Washington on March twenty-second, less than ten days after he had left his home in Coldwater to take up his work and residence in the capital.

Every earnest business farmer in Michigan will regret the passing of a man who contributed so much to the agricultural welfare of this state. Mr. Campbell was 72 years of age when he laid down his work, having been born in New York state, of English parents, he came to Michigan in 1848 and settled at Quincy. He graduated from the Coldwater High School in 1871 and from the state normal at Ypsilanti in 1875. In 1877 he was admitted to the bar, practicing in Coldwater, with the Honorable Clayton C. Johnson, now circuit judge, as his law partner.

Mr. Campbell held several political appointments during his busy life-time, and ran for governor of the state of Michigan, with the general support of the rural districts because of his years of work in their interests.

Probably the position which brought him the widest acquaintance nationally, was his election to presidency of the National Milk Producers Association where he was instrumental in suggesting and pushing to a successful issue several important innovations in the milk situation for the benefit of the producer.

There is a genuine loss to Michigan and to the farmers of this entire country in the passing of Milo Campbell, but the record of his life and his achievements should shine forth as a beacon to those of us who are left behind to humbly pattern the course of our footsteps after his.

EAT MORE WHEAT!

A FEW years ago and it was "Save Wheat for the Fighters—It will Win the War!", now from the north-west in particular comes the appeal—"Eat-more-Wheat!"—and it is justified, because every year American wheat producers meet a curtailed export market because of millions of acres of new wheat lands under cultivation in other parts of the world and during the past few years a money-value condition which has taken white bread off the tables of millions of people in central Europe.

The time was when we were wont to smile at such appeals as "Buy-a-Bale-of-Cotton" or when we figured that the National Raisin Day, was only a half-baked scheme of a promoter, who really had little faith in its effect. To-day, however after years of experience with this open propaganda, we have come to know exactly what may be expected from a campaign to educate the great mass of people to an idea.

Two weeks ago there was a "bread-war" in Chicago between two lines of so-called chain-stores, each operating several hundred retail stores in all parts of that city. When the war opened a small loaf of bread was retailing at nine cents, one chain of stores cut the price to eight, down went the other and so until it was two-loaves-for-a-cent, whereupon the last chain offered "Bread Free!" with every purchase and within a few days had forced a truce upon their rivals.

The price of bread and the price of flour will have a lot to do with the success of a "Eat-more-Wheat!" campaign and if the miller will allow the farmer a fair price for his wheat, add a fair margin for his milling and pass it on to the baker or home with the least possible over-head we believe this, coupled with a popular appeal to the more than a hundred millions in America will have its effect.

THE SUGAR MARKET

JUST now the sugar market is turning hand-springs and getting ready so it appears, for some high and lofty tumbling. No one seems to know from just what direction the manipulating is being done, but several gentlemen in Washington, including Secretary of Commerce Hoover, are very anxious to find out and they seem to have an inkling that it may come from a certain well known street in lower New York, altho it is carefully wrapped and labeled "made in Havana!"

It is such a long time before the 1923 beet sugar crop from Michigan will be on the market, that we would scarcely advise beet growers to become panicky and plant more acreage than

they had originally planned, altho we would not hesitate to advise the signing of the "50-50" contract, because we still hold that over a period of three seasons the grower cannot help but profit from this contract that gives him an equal share of the possible profits—providing, of course, he is given a square-deal and The Business Farmer has promised that it will help, at least, to see that the beet-growers of Michigan get that.

THE PORTS OF MICHIGAN

IN a very few years, fewer than many realize, the Great Lakes-St. Lawrence Waterway will be a completed project. Its future value, however, as a commercial factor will largely depend upon the aggressiveness of the ports along the Great Lakes. Ships are going to bring their cargoes and receive the same where proper facilities are provided to load goods at a fair charge.

Modern ports are far different from the old type ports of the early shipping days. Future requirements will mean still more changes which will demand very careful planning and a point of view that can see a long ways ahead. Even more essential than a clear vision on the matter, however, is the necessity for a public control of such port facilities which will assure to all who desire to use them that they shall have the fairest of treatments.

The tonnage of our lakes this past summer exceeded 200,000,000 tons. Two or three times the tonnage of both the Panama and Suez canals goes through the Soo locks every year. With the coming of ocean ships to our Great Lakes, this great highway of commerce is bound to grow to unprecedented importance if only our port cities will make it possible for this commerce to develop.

The present session of the legislature has recently passed a Port Development Amendment which is to be placed on the April 2nd ballot. This amendment to the constitution if adopted will be,

"To authorize the Legislature to provide for the incorporation of port districts and confer power and authority upon them to engage in work of internal improvements in connection therewith."

This Amendment is a question on which it does not seem possible that negative votes can be cast with any sound reason. The future needs of every Michigan Port can best be gauged by the experience of every American port which indicates the necessity for immediately giving the legislature the power to create these port districts and make a start in the development of the water transportation of the State.

BRING THE CREDIT BILL HOME

IF you want to borrow money and have wondered just what all this talk about "extended credits" was going to mean to John Henry You—turn back to page three in this very issue of The Business Farmer and you will see the rural credits bill, analyzed, boiled-down and explained from the best authorities we could locate.

In a nutshell the value of the relief measure as adopted is going to be the extension of time allowed the producer of grains or live-stock in which he can market his product sanely and orderly. The oldest trick in history, has probably been the loaning of money to farmers on short time paper that came due just at the time the crop was being harvested, so that it was forced on the market, thus creating unnaturally low prices and consequent loss.

Of course, as with any innovation it would be easy to pick out the probable flaws in this piece of legislation. It has been roundly cussed by both those it is aimed to help and those it has promised to ruin. Republican and Democrat have united in defending and defaming this measure and yet it has won out and we are going to have a look at it in operation.

If you need money now for legitimate purposes in the conduct of your farming business, go to your local banker, sit down and talk over the situation with him frankly. State all of the facts regarding the loan you want. Do not try to cover or apologize for your actual needs. The legislation which has been enacted is avowedly for the benefit of you, the farmers of Michigan and every other state. If your local banker will not cooperate or cannot, in meeting your needs, let The Business Farmer hear from you and we will do our utmost to help get all the benefit possible from the new legislation for our readers in particular and for the whole farming business in general.

The Business Farmer is most anxious to see the credit machinery in actual operation and we are willing to lend our utmost support to that end.

PUBLISHER'S DESK

THE Publisher's Desk has been fairly swamped this past month with letters from hundreds of our readers who are in one kind of trouble or another, and we have attempted to the best of our ability to answer each promptly or to take any necessary action to secure the information which our readers have requested.

In a good many of these letters our readers tell us that they are willing to pay for our services, and I want you to know that the Business Farmer makes no charge of any kind to a paid-up subscriber, unless we find it necessary to supply legal assistance or expend money in some other manner, in which case, we will, in every instance, secure the written authority of our reader before we make any such expenditure.

You can always write the Publisher's Desk, knowing that there will be no charge for our services unless it is fully understood in advance, but I do wish that you would look at your subscription label before you write us, because we must confine this service to readers who are paid-up in advance, otherwise, naturally we would be taken advantage of by those who are not subscribers to the Business Farmer, or those who have not paid up. I think you will agree with us that this is no more than fair.

THE "COME-ON"

Dear Mr. Slocum—Will you please inform me through the columns of your valuable paper, to which I am a subscriber of the financial standing and reliability of the "Corporation" whose literature I herewith inclose. A lady friend of mine bought shares of their stock to the amount of about \$1000.00 a couple of years ago, on which she has received cash dividends as high as five per cent, every three months. Last Oct. a representative of this "Corporation" informed my friend that all parties who had bought stock in the corporation were required to buy an additional number of shares of stock, the number of share being in proportion to the amount which they already held, and which in her case amounted to a cash payment of about \$290.00, the additional call being made on stockholders for the purpose of creating a fund to enable the corporation to place its stock on the "curb" market. My friend paid her \$290.00, signed some papers, the wording of which she did not understand, but which later proves to be a contract whereby she promises to buy 72 shares of stock at \$16 per share, a total of \$1,152.00 and that the \$290.00 which she had paid was but the initial cash payment the balance of the \$1,152.00, which is \$862.00, being payable within six months or failing to do so she forfeits the \$290.00 which she has paid.

My friend was given a written agreement which states that after thirty days or more, should she become dissatisfied with her investment, her money would be refunded upon request.

I am willing to pay you any reasonable amount which you may request for information which you will give or obtain for me regarding this corporation's financial standing, reliability, etc. Please do not publish my name."

I am reprinting the above letter in this column only because it illustrates the manner in which the "Oil

The Collection Box

The purpose of this department is to protect our subscribers from fraudulent dealings or unfair treatment by persons or concerns at a distance.

In every case we will do our best to make a satisfactory settlement or force action, for which no charge for our services will ever be made, providing:

- 1.—The claim is made by a paid-up subscriber to The Business Farmer.
- 2.—The claim is not more than 6 mos. old.
- 3.—The claim is not local or between people within easy distance of one another. These should be settled at first hand and not attempted by mail.

Address all letters, giving full particulars, amounts, dates, etc., enclosing also your address label from the front cover of any issue to prove that you are a paid-up subscriber.

THE BUSINESS FARMER, Collection Box
M. L. Clemens, Mich.

Report Ending March 27, 1923
Total number claims filed 1182
Amount involved \$21,214.29
Number of claims settled 723
Amount secured \$11,698.64

Shark" operates, once he has a victim in his clutches he has many oily schemes with which to extract more money than the purchaser originally intended.

We wonder sometimes why a person will go so far afield to find an investment, or when the speculation is so wide as it is in the case of oil wells, or mining stock. They do say however, that most men and women at some time or other in their lives, take a fling at these two kinds of speculative investments; like the child who will not believe that the stove is hot until it has burned it's tiny fingers! Although continually warned, there seems to be no end to the game, and it goes merrily along from generation to generation.

By-the-way, the most appropriately named oil well proposition that I have seen in some time, was sent in by a reader who asked what I thought of the "Rainbow's End Company, Unincorporated, Oklahoma City, Okla."

I don't know anything in particular about this company, anymore than that their advertising is very sensational, and I don't believe I would care to invest in their proposition which is to lease at the rate of \$1 per acre, with the understanding that "should oil not be produced on or before January 16th, 1929, the lease dies a natural death."

They must be getting hard up for names out in the Texas and Oklahoma district, when they call an oil company "Rainbow's End." I wonder if any company has grabbed the title "Will-O-the-Wisp?" That would in my opinion be equally appropriate.

A SORRY PLIGHT

Last summer an agent who gave his name and address as, Geo. McCanna, 416 East Water St., Milwaukee, Wis., called at our house and said he was selling an automobile polish receipt for twenty dollars. As I am a cripple, and I have a hard time getting any money, he said he would give it to me for ten dollars. I did not have ten dollars, so he said he would give it to me for five dollars. I bought the receipt from him. He said I could make the polish for fifty cents a gallon and sell it for four dollars a gallon. I gave the receipt to our druggist, he told me it would cost about \$2.75 per gallon, for the ingredients, besides the bottles and labels. I hope you can get my five spot back through the collection box.

What do you think about those hand knitting machines, put out by the "Auto Knitter Hosiery" concerns.

Are these reliable companies? Are their machines all right, so that anybody can knitt socks on them. I mean people who are able to understand the machines—bright minded people? As I am a cripple and can not go away from home to work all day, I would like to buy one of these machines but some people say you cannot make the complete sock on the machine, so I am afraid to buy one.

—I am sorry I cannot help this unfortunate reader collect the amount he paid the agent over a year ago. We cannot handle claims over six months old. We have found there is little possibility of making collections of that age.

I can, however, save the reader money on buying a knitting machine, if he is determined to have one, altho I have yet to find anyone making a success of this scheme. I am sorry because I realize how much this reader would like to procure home work.

There are several cripples in Michigan who have built up a business taking subscriptions for papers and magazines, sending out circulars to their friends or to mailing lists in their counties. Perhaps this might be a suggestion for our friend who certainly has my sympathy and whom I would like to help in some way. Has any reader a suggestion to offer this ambitious, tho unfortunate neighbor.

Your warning about the land agent just in time as I was about to send \$4.50 to have my place listed.—
H. J. H., Sanilac county, Mich.

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4 TIMES Around the World with ONE OILING 100,000 Miles Without Stopping for Oil



An inventor who could develop an automobile, a railroad car or any other conveyance on wheels which would perform such a feat would be considered a wonder. But such is the record of regular accomplishment by the Auto-oiled Aermotor during the past eight years in pumping water.

Did you ever stop to think how many revolutions the wheel of a windmill makes? If the wheel of an Aermotor should roll along the surface of the ground at the same speed that it makes when pumping water it would encircle the world in 90 days, or would go four times around in a year. It would travel on an average 275 miles per day or about 30 miles per hour for 9 hours each day. An automobile which keeps up that pace day after day needs a thorough oiling at least once a week. Isn't it marvelous, then, that a windmill has been made which will go 50 times as long as the best automobile with one oiling?

The Auto-oiled Aermotor after 8 full years of service in every part of the world has proven its ability to run and give the most reliable service with one oiling a year. The double gears, and all moving parts, are entirely enclosed and flooded with oil all the time. It gives more service with less attention than any other piece of machinery on the farm. To get everlasting wind-mill satisfaction buy the Auto-oiled Aermotor, the most efficient windmill that has ever been made.

For full information write **AERMOTOR CO.** Chicago Dallas Des Moines
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AN IDEAL DAIRY FARM HAVING:

- A distance of only 1/4 mile to R. R. depot.
- A creek originating from a spring right on the farm.
- The largest barn in community.
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WILL BE SOLD AT AUCTION!
on easy terms by widow of late owner

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THERE WILL ALSO BE SOLD

- 1 Clastrac Model M. Tractor,
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- and the complete equipment of farm implements and household goods on the farm.

All in first class condition at

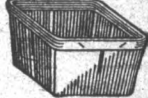
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KENTUCKY TOBACCO—BEST OBTAINABLE 3-year-old leaf. Free flavoring and directions. Pay for tobacco and postage when received. Chewing 10 lbs. \$3.25; smoking 10 lbs. \$2.75. **OLD HOMESPUN CO.,** Hawesville, Ky.

HOMESPUN TOBACCO. CHEWING 5 pounds \$1.75; 10 pounds \$3.00; 20 pounds \$5.25. Smoking 5 pounds \$1.25; 10 pounds \$2.00; 20 pounds \$3.50. Send no money, pay when received. **CO-OPERATIVE TOBACCO GROWERS, Paducah, Kentucky.**

NATURAL LEAF TOBACCO. CHEWING 5 pounds \$1.75; 10 pounds \$3.00; 20 pounds \$5.25. Smoking 5 pounds \$1.25; 10 pounds \$2.00; 20 pounds \$3.50. Send no money, pay when received. **TOBACCO GROWERS' UNION, Paducah, Ky.**

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BUZZ SAW FRAMES, BLADES, MANDRELS, belting, pulleys, wood-working machinery, etc., of every description. Low prices, prompt shipments. Catalogue free. Write **GEO. M. WETTSCHUR-ACK, La Fayette, Indiana.**

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The Finest Tomato Grown
In size—often from 2½ to 3½ lbs.; in flavor—sweet, mild, unsurpassed; in quality—solid meat, almost free from seeds; in yield—only produces larger fruit but more per plant.

For table use, canning or marketing, Isbell's Colossal surpasses all others. It's a money maker. Order now—find out for yourself how fine and productive a tomato can be.

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Packet 20c; plants 50c per dozen—true strain—either red or golden. Complete catalog of garden and field seeds free on request.

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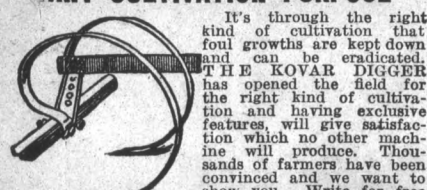
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ALL AROUND SATISFACTION FOR ANY CULTIVATION PURPOSE



It's through the right kind of cultivation that fowl growths are kept down and can be eradicated. THE KOVAR DIGGER has opened the field for the right kind of cultivation and having exclusive features, will give satisfaction which no other machine will produce. Thousands of farmers have been convinced and we want to show you. Write for free booklet on land cultivation and how to work fowl growths. KOVAR has the most successful Spring Tooth Corn Cultivator, also Harrow Cart. Write for further information and prices.

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The Ford-A-Tractor makes your Ford car or any old Ford chassis into a powerful tractor. Plows, discs, harrows and all tractor jobs. Dependable and guaranteed. More powerful than three horses. Write today.

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5 butternut trees, \$1.00. 5 beautiful Virginia Cedars \$1.00. 100 Gibson or Dunlap and 100 Everbearing strawberry plants for \$2.00. 1,000 choice strawberry plants for \$3.50. 25 choice mixed Gladioli bulbs for \$1.00. One Spirea or two Concord grape vines free with every order of \$4.00 or over. 5 Spirea V. H. for \$1.00. 1,000 fine Concord grape vines for \$40.00, \$30.00 or \$20.00. 20 or 12 Concord grape vines for \$1.00. 12 gooseberry bushes for \$1.00. 100 asparagus roots for \$1.00. Not the cheapest but the best. Live and let live prices. All above small bargains post paid catalogue.

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What the Neighbors Say



TOO MANY OFFICIALS WITH HIGH SALARIES

SINCE the beginning of the World War there has been a mad scramble to supplant the old order of simpler American affairs with every sort and kind of Imperialism, and every sort of economic device imaginable. The concentric rings of this giant contest for survival of the fittest is now centered upon the farmer and his possessions.

An inventory of conditions shows the politicians have waxed fat on increased salaries for official jobs, the jobs have multiplied innumerable and every job is a planetary with a cluster of satellites of various little and functionary obligations. Equipment of the job that once consisted of a plain salary, an office, desk-room and modest clerical assistance, now involves all these in palatial and princely display and retinue. Auto conveyance and its operatives, electric fans and uniformed artists of the cuspidore. In the old saying, "the farmer feeds them all." It is not the feeding them that challenges his resentment but the little that most of them return for their services. We go out in the morning to feed the cows, presto—over night there has been a meeting of the Spook City Women's Club and an administrator of stables informs us our cows are facing the wrong point of the compass because they are nonresistant to T. B.

We stoke the furnace, and low—a fuel administrator has ordered chaos out of consistency.

A farmer was asked "what is a fuel administration for?" Answer—"I don't know." A merchant was asked. Answer—"I don't know." A manufacturer was asked. Answer—"I don't know." A coal dealer was asked. He pondered a moment and answered, "He's a damn nuisance to himself and a damage to the coal business." Then related how recently in the city of Greenville, Mich., a man seeking to engage in the coal business ordered a car of coal and a dealer's license. The coal came. The fuel administrator stated there were several dealers already doing business in Greenville and no need of more. The license was refused. Did I err when I said Imperialistic forces have been involved? Were I to ask a politician why have a fuel administrator he would lay his finger beside his nose and wink, I think. I have been in politics a bit and can answer the question this way.

The fuel administrator, like scores of other jobs, chiefly constitutes one more spoke in political machinery, that depends on its appointive creations for its chief support and maintenance. Everywhere, the propelling votes of economic industry are overloaded with idler wheels represented by political jobs.

If our Legislation wants to do a good job that would considerably reduce taxes, let them get out their broad ax and decapitate one half the political jobs in the state. Then cut back the salaries of the rest of officialdom to a "state of normalcy" beginning with the Governor and passing down to the members of the town ship board. There would be plenty of staunch, capable men willing to accept place for the prestige in it and there would be much less incentive to attract idlers and gamblers in affairs of public welfare to public trust.—J. E. Taylor, Ionia County, Mich.

A REMEDY SUGGESTED

IN your issue of February seventeenth is an article by S. H. Slagle of Herrietta, endorsing an article by me published in your issue of December 9, 1922. The editor's comment on Mr. Slagle's article is of a nature to lead one to believe that the editor is opposed to any plea that would give the farmer the full value of the product of his toil; and the reason for his opposition is based on the fact that Russia has attempted something of that nature and as a result of the attempt a great many people have lost their lives.

This is not the time or place to denounce or commend the Russians for what they have so far accomplished. To my mind the great lesson for us to learn from Russia is to see that our own country does not become

like old Russia to a degree that will cause the farmers and wage workers to attempt violence as a remedy for their economic ills.

Conditions always determine our actions. Hence, the blame for any loss of life must rest on those having the power to prevent injustice falling to do so, and not on those who, because of their suffering apply the only remedy apparent to them in their desperation caused by starvation.

The trouble with most of those who suggest remedies for the difficulties of the farmer and wage worker is that they have not studied the nature of the economic system under which we now operate.

The nature of the competitive system must have been very well mastered by the late Bishop Williams, otherwise he would not have been able to utter the following words of wisdom:

"If the Lord in desperation—pardon the phrase—should say, I will feed these downtrodden starving children of mine, and rain brown bread and molasses upon the earth, it would do nothing to help the poverty of the world under our present system. It would merely raise the value of the land where the fall was heaviest."

Henry Ford is another of the few who understand our present economic system, as witness the following taken from "The Intimate Life of Henry Ford," written by Allen L. Benson:

"Our men work eight hours a day for a living because it takes all they can earn in that time to maintain themselves and pay their share of the general wastefulness and inefficiency of the world. Our workmen do not get full value for the wages they spend. Nobody does. Every time anybody pays more for a thing than it is should cost to produce and sell it, he is helping to support those who are not producers and also paying his part of the penalty for not organizing the world on a scientific basis. Earning a living will be the smallest part of our troubles once we have learned to do without parasites and without waste. Too many activities are now non-productive. That is partly because of our faulty industrial organization and partly because of parasitism."

President Harding in his message to Congress December eighth, 1922, among other suggestions gave us the following:

"The widespread gap between production costs and prices which consumers pay concerns every citizen of the Republic. It contributes very largely to the unrest in agriculture and must stand sponsor for the familiar term—the high cost of living. No one doubts the excesses traceable to the levy of the middleman; but it would be unfair to charge him with all responsibility before we appraise what is exacted of him by our modern complex life. We have attacked the problem on one side by the promotion of co-operative marketing and we might well inquire into the benefits of co-operative buying."

Considering the opinions of the eminent gentlemen above quoted, are we not justified in looking upon the criticisms of the article by Mr. Slagle as being somewhat unwarranted.

In an effort to right their wrongs the people of a country will adopt methods of a violent nature against their economic masters. Ability to co-operate for the general welfare is our only proof of intelligence. The higher the state of civilization, the greater the co-operation for the elimination of waste of every nature. In my article in your issue of December 9th I stated that I was working on a program for the industrial emancipation of all wealth producers and useful workers.

I herewith submit it for the criticism of the editors and readers of The Business Farmer. As a test of the soundness of the idea, organize from fifty to one hundred retail stores in an equal number of the most promising communities, have one purchasing organization for the chain. The saying will be as follows:

Retailers average gross profit 25 per cent, wholesalers average gross profit 15 per cent, manufacturers selling cost 10 per cent. Total

amount saved, 50 per cent, less cost of co-operative retailing 10 per cent. Net saving 40 per cent.

To enlarge upon this in this article would require too much space; but I will endeavor to answer all criticisms that appear in The Business Farmer as a result of the suggested method.—Joseph Warnock, Presque Isle County, Mich.

A PIONEER

I HAVE lived in Tuscola county ever since 1861. I know the Cass river country from Sanilac county to Huron county both sides for miles each way. When it was a wilderness I was where Cass City now stands, before there was a tree cut down and at Caro when there was only one board house and pine stumps and logs.

I could turn a hand at any kind of labor; I could fill the place of a lumber jack or a village cop but was no drunkard and always associated with all kinds of company. I took the first Caro paper that was printed in Caro by Grant Slocum. I took that paper as long as it lived, so I want the Business Farmer. I could write a pioneer life for weeks to come. I also know something about Macomb county, also Detroit.—L. H. D., Vassar, Mich.

ISLE ROYALE

I AM enclosing to you Isle Royale, in verse. I know this represents the sentiment of this my Huron County Oh, beautiful island of splendor, Ringing back to those manors of old The tale of the ages recording Word pictures so weirdly told.

'Tis a church, in our heart, forever enshrined,
For 'tis in league with mountains of snow,
And the prowess of leviathans are ever inclined
To do homage in passing, so proudly in tow.

Great inland seas pass by in review,
And mutely enquire the way,
Their passport, the smiles of citizens true,
Who have in those beauties forever portrayed.

The serried cedars in array,
Their sombre beauty makes appeal,
That woodman may their fate delay,
God knows their plaint is ever real.

The noble beech whose bosom bland,
Is scarred by names of many lands,
Yet, trite, and dignified she stands,
Her drooping boughs are angel Wands.

The pensive pine whose towering spire
Had beckoned pilgrims to the shrine,
She gave her all, that homestead fires
Might kindle love, supreme, divine.
—George J. Barrie, Huron County.

PUBLIC FUNDS

THE article of C. H. A., page 15, Michigan Business Farmer February 3d, is right to the point. I heartily indorse his views. Farmers must plan better laws and methods and see that they are enforced if they ever get out from under the present unjust taxes.

The public gives liberally for support of public schools, state and national government, etc., and by so doing the people are in reality furnishing the population the machinery of government, and the capital which makes great accumulations of wealth possible. No person ever earned a million dollars. It was accumulated from the public, and the major part should, by law and justice, be returned in taxes to the public to whom it rightfully belongs. It is said there are three ways of getting rich—by labor, by gift and by stealing. Now labor is honorable, gift will not stand law, and if any man has millions and has not justly compensated the public for it, he should hang his head in shame and his photo should be in the rogues' gallery along with the lesser rogues that try to follow his example.

Appointment to the federal bench of attorneys of the Pierce Butler type who have long served great corporations, is viewed with distrust and alarm. The initiative and recall, with election by direct vote of the people is the remedy.—V. P. S., Alamo, Mich.

MICHIGAN CROPS

SWEET CLOVER PASTURE

DURING the summer of 1921 the Dairy Department in cooperation with the Farm Crops Department conducted a feeding trial of biennial sweet clover as a pasture crop. The lot pastured was a portion of a field of sweet clover used by the Farm Crops Department in a series of investigations.

The test was started on June 4 when three cows were turned into the lot. The clover had made a good growth and was an excellent stand, being from 37 to 42 inches in height in different parts of the field. Over 40 per cent of the plants were in bud, and nearly 15 per cent were in bloom. Another portion of this same seeding was harvested as hay at the same date and produced two and three-fourths tons per acre.

The cows used in this experiment had previously been on a mixed grass pasture and fed silage and grain in the barn. During the experiment were given no silage or other roughage than the sweet clover pasture. The cows were given approximately one pound of grain to four pounds of milk produced, and were on pasture continuously except while they were being milked or weighed. The average weights taken for three consecutive days at ten day intervals were taken as the true weights of the cows.

A total of 177 cow days of pasturage was obtained from this plot containing 1.46 acres. The cows produced 6,088.6 pounds of milk and 201.0 pounds of butterfat. At this rate one acre furnished roughage for 4, 170.3 pounds of milk and 137.67 pounds of fat. During this time the average production per cow per day was 34.4 pounds of milk containing 1.135 pounds of fat. During the 177 cow days there were consumed 1,452.5 pounds of grain or approximately one pound of grain for every 4.2 pounds of milk produced. Figuring the grain at \$40.00 per ton and milk at 20 cents a gallon, \$69.07 worth of milk was produced from an acre of sweet clover. With grain at \$40.00 per ton and butterfat worth 40 cents per pound the cows produced \$26.02 worth of fat per acre of sweet clover.

The cows neither gained nor lost an appreciable amount, weighing in the total practically the same when taken from the clover plot as they did when they were started on the experiment.

When the cows were first turned on the sweet clover pasture they did not eat it readily. There was a very limited amount of orchard grass and June grass along one fence and this was cleaned up entirely before the cows would eat the sweet clover to any extent. It was three or four days before the cows evidently acquired a taste and ate the clover with relish. One cow in the experiment, however, was not turned into the pasture field until after the small amount of orchard grass had been entirely eaten and she ate the sweet clover readily the first day.

The cows were allowed to eat the sweet clover every day and at all times of the day, regardless of whether or not the clover was wet with dew or had been rained upon. In fact there were several heavy

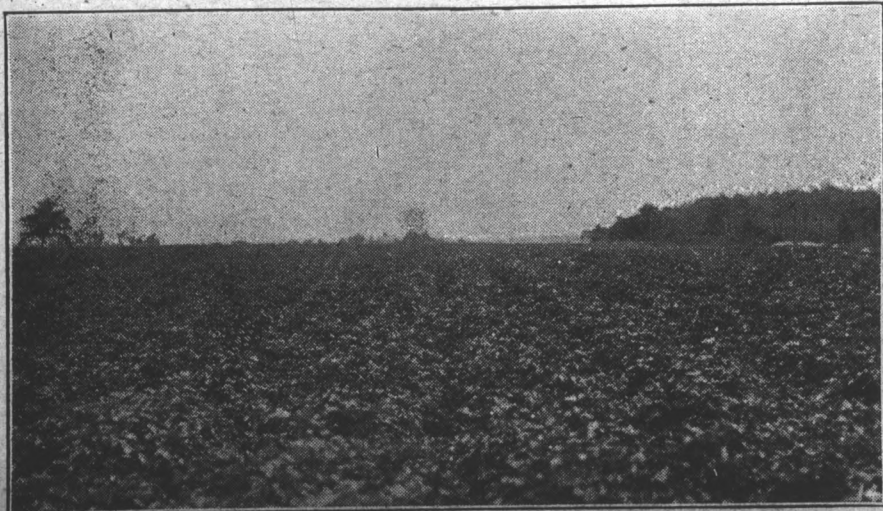
storms during which the cows received no shelter and were allowed to eat freely of the clover afterwards. During the time of the experiment no animal showed signs of bloating.

A considerable portion of the clover was destroyed, due to the trampling of the cattle and to their lying on it. Some of the main stems, after being trampled down, sent out new shoots. Without question, however, a considerable portion of the possible feed was lost in this way.

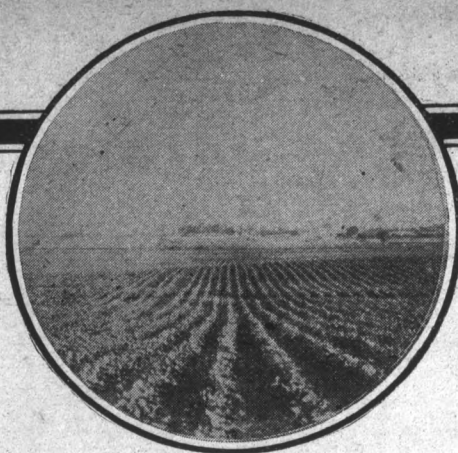
It is the belief of the authors that much greater value would have been obtained had it been possible to have turned the cattle on it three weeks earlier or before the sweet clover had obtained so much of a start. It is expected that this work will be carried on another year.—O. E. Reed, J. E. Burnett, Dairy Section.

POTATOES BOON TO MANKIND

THE lowly potato will now take on a new lease of life. Its position in the everyday standard of things must surely rise with the publication in Germany of a treatise on its many and varied uses, just received by the Department of Commerce from Vice Consul J. H. Wetmore at Breslau. Divers are the uses outlined. The first use of the potato is for the nourishing of man—in a raw or cooked state one cwt. is sufficient for one person for ninety days, with additional and usual food. In the form of potato flakes, 1 cwt. of raw potatoes gives 28 pounds of dry potatoes; the dried potatoes give 20.3 pounds of potato flour, 4.4 pounds of groats, and 3.3 pounds of waste. The second big use of potatoes is for the nourishing of animals—1 cwt. with other food feeding a hundred pound breeding hog 12 days. In the form of dried potatoes, calculated in starch values, 1 cwt. is equal to 1.15 cwt. of oats; therefore they are sufficient for a working horse for nine days. Compared with corn as a stock feed, 1 cwt. of potatoes produces 4.8 pounds of pork fat, 1 cwt. of dried potatoes 18.2 pounds and 1 cwt. of corn 20.2 pounds. The third possibility for potatoes is for technical purposes. In the manufacture of starch 1 cwt. of potatoes with 20 per cent starch gives 32 to 34 pounds wet, or 20 to 21 pounds dry starch, with a negligible residue of pulp. The pulp is used for stock feed; in the distillery 1 cwt. of pulp gives 1 liter of pure alcohol; for the manufacturing of paper, buttons, broaches, and as fuel. On the other hand the dry starch is used as a foodstuff in bakeries, confectioneries, kitchens, and as potato grain for the manufacture of macaroni, noodles, chocolate, and for sausages. It also goes into vulnerary powders, paste bandages, pills, salves, and other pharmaceutical remedies. In other industries, potato starch is used as an addition in the manufacturing of ferments, washing powders and soaps, and as thickening filling for corrosives and colors. In a distillery, a hundredweight of raw potatoes produces 5 to 6 liters of pure alcohol and 80 to 90 liters of residuary liquors. The spirits are used for beverage purposes and for generating light. In the manufacture of dry yeast, 1 cwt. of raw potatoes gives 6 pounds of the product.



A field of potatoes that any man would be proud to own



Michigan Farm Bureau Brands include the Best varieties of alfalfa, clover, seed grains and other field and grass seeds. Their Vitality, Description and Purity is guaranteed to be as represented to the full amount of the Purchase Price.

Certified Seed Corn · Beans · Soy Beans

Never before has it been possible to purchase in quantities at low prices such high yielding varieties of seed corn and beans in Michigan.

Farm Bureau Brands of Seed Corn are high yielding varieties most of which were developed through careful breeding at the Michigan Agricultural College and certified by the Michigan Crop Improvement Association.

They include certified M. A. C. Yellow Dent, Golden Glow, Duncan's Yellow Dent, Silver King, Pickett's Yellow Dent, also limited quantities of Illinois and Iowa grown fodder varieties.

We have seed corn adapted to all sections of Michigan of varieties that will give big returns for the slight increase cost of seed.

Farm Bureau Brand certified Robust Beans are the highest yielding white beans in Michigan and Highly resistant to disease.

Farm Bureau Brand Soy Beans, Black Eyebrow, Ito San and Mid West are excellent for an emergency crop, for ensilage, hogging-off with corn, and for green manure.

This spring purchase seed certified as to origin, purity and adaptability and you know your money time and labor will be invested not spent.

Buy Farm Bureau Brand Seeds of known value through your LOCAL CO-OPERATIVE. If they cannot supply you write direct to the



Seed Department

MICHIGAN STATE FARM BUREAU
LANSING, MICHIGAN

MR. FARMER!

Mr. Dealer

Mr. Jobber

IT
Is
THE
BEST



THE
PRICE
IS
RIGHT

Are you remembering in purchasing your binder twine that you have a factory of your own at Jackson?

It is making the best twine that can be placed on the market and has a mixture of fiber this year. Manila is added to the sisal to give extra strength.

The State Farm Bureau and other organizations and dealers of the state are in position to handle your twine. If they do not, write direct for prices as we want you to use your own twine as we make 14,000,000 lbs. more than Michigan can use.

Michigan State Prison

HARRY L. HULBERT, Warden
JACKSON, MICH.



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This pair of Hirth-Krause shoes is guaranteed to give more wear and comfort than any other shoe sold at the same price, as the leather is scientifically prepared and they are made to preserve the proper shape of the 26 bones of the foot.

100% WEAR COMFORT STYLE

On the better farms you always find implements of the highest type—because they assure the modern agriculturist long and efficient service and the greatest crop return.

Then why not assure yourself of the greatest possible use of your feet by protecting them, your health, and pocket-book by always demanding—Grief Defying **ROUGE REX SHOES** For Wear and Comfort for Dad and Son!

HIRTH-KRAUSE CO.

FROM HIDE TO YOU

Shoe Manufacturers and Tanners

GRAND RAPIDS, MICHIGAN

—don't drive an automobile or truck without Collision Coverage

NEARLY two-thirds of the entire number of claims paid in 1922 were collision claims, yet a great many members, either through oversight of misunderstanding, are still driving their cars without this protection.

Collision insurance is written in two forms, collision with moving traffic objects, including street cars and railroad trains, and accidental collisions with all objects either moving or stationary.

Compare our rates with the old line rates where the collision rate on a Buick car in the country district is \$132.00 per year and in cities of the size of Bay City and Battle Creek it is \$151.00 per year. Our collision rate is reasonable and yet affords good protection. Talk with your local agent about your collision insurance.

**CITIZENS' MUTUAL
AUTOMOBILE INSURANCE
COMPANY of HOWELL, MICHIGAN**

The Children's Hour

DEAR Nieces and Nephews: So many of you have written to me asking that I hold another contest, that I have decided to do so. This contest is to be different than any we have held so far and I hope all of you find it very interesting.

I wish to know which is the most interesting article or department in this issue of the Business Farmer, so here is an opportunity to help me decide and at the same time compete for a prize. Read this issue very carefully, pick out the article or department that you believe will prove of greatest interest to our readers and then write me a letter telling which article or department is your choice and why you think readers will like it the best. You can have your father or mother help you. Make your choice and you can discuss with them why it is most interesting if you desire, but you must compose your own letter. It would not be fair for you to have someone help compose your letter because then it would not be your own letter and even though it was the best of all received you would not be entitled to the prize. The contest closes Saturday, April 14th, and all letters received between the time you receive this paper and noon, Saturday, April 14, will be eligible for the prize providing they are of your own composition.

The prize—well, it is another "mystery prize" and even the winner will not know what it is until he or she receives it. If a girl wins she will receive something she will prize highly and if a boy is the lucky one he will win something he will enjoy very much. Don't you think it is more fun to work for a prize when you do not know what it is? I do. There are two things you wish to learn then—whether you won and what there was to be won. The prize I am offering is well worth working for and I hope you will all try and make this contest the best we have held. If you do we will have some more contests soon.—**UNCLE NED.**

OUR BOYS AND GIRLS

Dear Uncle Ned: May I join your merry circle? I am ten years old and in the fifth grade at school. I have three sisters and two brothers. One of my sisters was taken sick in school Monday and came home. There are twenty-one scholars in our school. I have seven studies. My birthday is the 18th of June. We have no woods. I have been learning to skate this winter. I wish some of the girls would write to me. Your niece, Lila E. Baker, Osseo, Mich.

Dear Uncle Ned and Cousins: Hello everybody. May I write to your merry circle? I wrote about a year ago. I live on an 80 acre farm. We raise mostly fruit, such as peaches, cherries, apples, a few plums and pears and we also have a little raspberry patch. I am in the 8th grade, and I am 13 years old. My birthday is the 1st day of January. I have two brothers and one sister. I weight 98 lbs. I was reading the letters in the Business Farmer last night and I happened to see that riddle by L. D. Biddle: a three cornered square, black as a bear,

guess this riddle or I will pull out your hair. Answer: an old fashioned flat iron. I will close with a riddle and the one that guesses it right I will send a card to. Twelve pairs hanging high. Twelve knights came riding by. Each took a pair, yet it left 11 hanging there. I wish some of my cousins would write to me. I will answer all letters I receive. Bernice Mauer, Beulah, Mich., Box 156, K. & W. Orchards.

Dear Uncle Ned: This is the first time I have written. We have 250 pure bred Barred Rock hens. We live on a 50-acre farm. I have two brothers. The oldest is 12 years old and the other is 3 years old. I have no sisters. I am in the fifth grade at school and I have to walk one mile and a quarter. My father takes the Business Farmer and I like to read the Children's Hour. I will close with some riddles: Why is a airplane like a policeman? Ans.: Because he takes people up. Why is Sunday the strongest day? Ans.: Because all the others are week (weak) days. To what island should hungry people go? Ans.: The Sandwich Island. What tree is nearest to the sea? Ans.: The beach. I think I have written enough and will close.—Frances Marten, St. Louis, Michigan, Route 1, Box 6.

Dear Uncle Ned: I have been a silent reader of the Business Farmer and I thought I would write. I am a girl fifteen years old, March ninth. Have I a twin? I am five feet tall and weigh 100 pounds. I have long brown hair, I live one-half mile west of town on a one hundred and sixty acre farm. Do you like the farm? Well I do. Of course, I like to have a change once in a while but back to the farm I go. The grammar room and high entertain each other. The grammar room gave it last Friday and it was good. It was composed of two dialogues and a piece and songs. The junior class entertains this coming Friday. How many cousins like to skate? I like to skate, I think it is fun. I can roller skate too. The best ice we have had this winter was a week ago, but it has disappeared. Will some of the boys and girls write, I will try and answer all letters. I like to write them and receive them. Your niece. —Mable V. Roberts, Owendale, Mich., Box 6.

Dear Uncle Ned: May I join your merry circle? I am in the eighth grade at school and thirteen years old. I am in the calf club. I have a Jersey calf. We have seven head of Jerseys. I won first in the judging contest in Hillsdale County. I have four sisters and one brother. We had two or three days of summer last week and today is a regular blizzard. We take the Business Farmer and I like to read the Children's Hour. I like to ride down hill and skate on a large pond and play pomp-pomp-pullway. I go to the east Maple Grove school just across the road from our place. The answer to the riddle that L. D. Biddle wrote, three corners square, black as a bear, guess this riddle or I'll pull your hair, is a flatiron. My sister is going to write too.—Frank Baker, Osseo, Mich.

WINNERS IN "B" CONTEST FINALLY ANNOUNCED!

REGULATIONS which required that the master list be selected from contestants findings in the picture itself and the winning lists be based on the average, made a much longer job of correcting and auditing the lists of objects than was required in the "S" contest last year.

The Business Farmer appreciated how anxious were the contestants to know the final outcome and we take this opportunity of thanking all those who participated for their patience.

STAND- ING	CONTESTANT	ADDRESS	CORRECT WORDS	INCORRECT WORDS	PERCENT- AGE
1.	Frances A. Smith	Memphis, Mich.	198	51	.7928
2.	Mrs. Della Gibson	Houghton Lake, Mich.	184	34	.7479
3.	Mrs. C. D. Curren	Elmira, N. Y. R. 1	198	56	.7388
4.	Mrs. H. A. Anderson	Horton, Mich.	196	55	.7374
5.	Grace G. Sanders	Tacoma Pk, Md.	193	50	.7366
6.	Mrs. B. A. Lehman	Coldwater, Mich.	212	31	.7235
7.	G. H. McBain	Lake City, Mich.	197	40	.6984
8.	R. E. Fletcher	Belfirston, Mich.	182	50	.6946
9.	Catherine Holt	Birmingham, Ala.	182	53	.6867
10.	Solomon Kellogg	Lake City, Mich.	178	52	.6742
11.	Grace D. Shimm	Novi, Mich.	182	59	.6715
12.	Mattie Teeter	Middleville, Mich.	172	45	.6692
13.	Mrs. Henry Bowman	Jamestown, Mich.	173	47	.6679
14.	Ralph A. Bonnell	Sumner, Iowa	174	49	.6663
15.	Emma House	Frederick, Mich.	167	39	.6653

The master list of objects in the "B" Contest, will be mailed to anyone interested on request addressed to The Business Farmer.

What Co-operative Associations Are Planning to Do to Prevent Potato Landslide

(Continued from Page 4)

and disastrous year in the potato marketing business. Our freights have gone up, and the indications are that they will go still higher. That restricts our market when seven states are competing, one with the other."

It was suggested that if 15 per cent of the crop could have been kept out of the market the balance could have been handled profitably. The meeting was asked to consider whether it is possible to get together on a regional basis and work out some method of co-operatively handling the crop, and marketing on the basis of quality and guaranteed contracts between the grower and the sales organization.

North Dakota Having Its Troubles

Mr. Gordon Randlett stated that the potato industry has grown during the past few years in North Dakota because of the educational campaign put on by the Agricultural College, Farmers' Institute forces, Farm Bureau and other organized effort with the effect that the potato acreage has increased from year to year with the consequence that North Dakota took its share of the grief.

This grief was brought about, not only by the glutted market, but partly by car shortage, improperly fitted product and also because of a system of buyers and commission agencies that haven't always done the square thing by the people with whom they deal. He suggested an educational campaign among growers to the effect that in case of over-production, 15 or 20 per cent of the crop should be held back on the farm and fed to stock and only the best 80 or 85 per cent shipped to market.

Minnesota's Experiences

Mr. Dunton, manager of the Minnesota Potato Exchange said: "I think we are all agreed that the big trouble this year is the result of over-production." He stated that one of the factors that seriously effects the problem is lack of quality. There is not only poor production quality, but inefficient local grading brings about results as shown in the following table:

Report from State Inspection, Minneapolis office.		
1922	Cars Inspected	Cars U. S. No. 1
Aug.	85	1
Sept.	123	56
Oct.	461	190
Nov.	247	125
Dec.	45	27
1923		
Jan.	23	17

"One of the great faults of the present system is consigning cars unsold. The presence of 50 or more cars of potatoes in Chicago unsold and bidding for a market is one of the strongest factors in reducing the price.

"The unreliability of the dealers is another factor that must be overcome. We haven't developed in this territory a satisfactory marketing system. I believe that the solution lies in creating large supplies of standard potatoes in the hands of a few strong organizations. The solution of the problem for any one state is impossible. Mr. Wells, the manager of the Michigan Exchange, stated that Michigan had gone as far as it was possible until the other states were organized. Michigan has a very strong organization; they have facilities for storage that will enable them to hold back their entire crop

until conditions are favorable, and yet, last season 1,000 cars moved from Minnesota, South Dakota and nearby territory into the markets and broke the market, not only for Michigan, but for the entire west."

Mr. Dunton stated that Minnesota's largest problem right now is proper warehousing. To this end he favors the organizing of two associations, a marketing association and a warehouse corporation. The associations for purely marketing purposes; where warehouses are needed they are organizing warehouse corporations. These are financed by the issuance of common stock to the growers and preferred stock to others, the common stock to eventually retire the preferred stock as business increases so that the warehouses will, in time, become the property of the growers.

South Dakota has also been seeing her share of woe. When she organized her association two years ago her great idea was to get all the growers possible to market thru the association. She sent out live men to organize the growers and they signed up about 60 per cent of the acreage in a little over a month's time. Result, that potatoes poured into the market and the first six days saw the association with 600 cars on track, unsold. This year the association has learned a few things. It

handled fewer cars of better stuff and consigned no cars unsold.

The conference lasted all day; the committees on production, grading and transportation reported and their findings were turned over to the committee on organization, which becomes the permanent interstate committee. It consists of A. M. Dunton, manager of Minnesota Potato Exchange; Gordon Randlett, Director North Dakota Agricultural College; Mr. Foster, Wisconsin Potato Growers' Association; J. J. Martin, manager South Dakota Potato Exchange; Mr. Wilson, Potato Association, Montana and Mr. Wells, manager Michigan Potato Exchange.

Meetings will be called in each state to discuss the reports of this meeting with the view of forming plans for state organizations along the same lines and that may be federated if so desired at some future time.

FUR DEPARTMENT

EDITED BY A. R. HARDING

America's Foremost Author and Trapper

QUESTIONS ANSWERED

TANNING DEER SKINS

Will you kindly send me a receipt for tanning deer hides into soft buck skin leather.—E. J. S., Winegar.

—The skins should first be unhaired. This may be done in various ways, the simplest, however, is to soak in clear water until the hair slips. A

tub of lukewarm water kept in a warm room will help this along.

When the hair and "grain" or epidermis can be readily scraped off, put the skin on the beam hair down and flesh it well, then turn it over and scrape off all hair and epidermis (loose outer hide). A steel tool, with a square edge, is best for this. A skate blade answers very well. If you prefer, the graining may be done before the fleshing.

Next dissolve a half bar of laundry soap in two gallons of warm water. While still warm put the skin in and work the suds well into it. Let it stand about twenty-four hours, take it out, wring and pull it dry. Keep working—pulling and wringing while drying—for the working has much to do with making the tanned pelt SOFT. Give it a coat of oil dressing of some kind, butter or grease will do, warm the water, add another half bar of soap and put in again. After twenty-four hours more take it out and pull and stretch as it dries. The more you pull and work with the pelt while drying the SOFTER it will be. A very thick skin may require a third soaking in the warm suds (and a third pulling and wringing) but twice should answer for does and young bucks.

When dry and soft, skins should be smoked with a punky or dozy hardwood fire; this should give them a nice yellow tinge, much better than can be done rubbing ochre into the buckskin, as is sometimes done.

QUICK! SNAP THESE UP!

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ARMY CAMPAIGN HATS

97c

This hat is made of pure wool felt. They were manufactured under government supervision. Very practical for farmers, campers and boy scouts. Easily worth \$2.50; sizes 6 1/2 to 7 1/4. Special 97c plus postage



O. D. WOOL OVER-SEA CAPS 11c plus postage

GOOD QUALITY COTTON HOSE 9c plus postage



MEN, YOU CAN'T AFFORD TO PASS THIS UP



Rubberlined Raincoat

\$3.39

We defy competition on this remarkable value.

Men's raincoats, made of strong waterproof drill cloth. Pure gum rubber lining with two slash pockets; belt all around. A dressy and serviceable garment. Cloth is very closely woven. Is about 45 inches long. Sizes 36 to 46; at

\$3.39 plus postage

Khaki Breeches \$1.79

Khaki lace leg breeches, made from closely woven durable khaki cloth, double seat. Double sewed throughout. Regular \$2.50 value.

\$1.79 plus postage

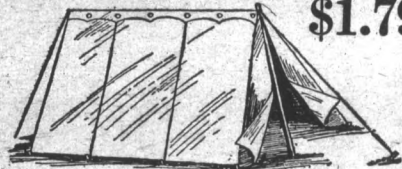
Moleskin Breeches \$2.49

These breeches are made like the above only they are made of extra fine quality moleskin cloth.

\$2.49 plus postage

ARMY PUP TENTS

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U. S. Army, Class B, Pup Tents, cannot be distinguished from new, made with two halves that button together; will accommodate two persons and are absolutely waterproof. Folds up into a small bundle and only weighs 6 lbs. Just the thing for the camper or for a children's play tent. They can also be used as waterproof covers. Regular \$6.00 value \$1.79 plus postage Complete with poles, 25c extra.

U. S. Government Auto Tow Lines



89c

Made of extra fine quality Russian hemp, 3/4 inch, waxed and oiled, making it extra durable and waterproof. About 27 feet long and equipped with steel loops and snaps on each end. A wonderful auto tow line. Hitch rein for animals, pulley rope, etc. Can be used for 100 purposes. Cost the government \$2.50 a piece. Has six times the strength of ordinary rope, as proven by tests. Put one in your car. Special 89c plus postage

Guaranteed Six Months' Wear

\$2.97



You cannot really appreciate this shoe until you actually see it. Soft pliable uppers, full vamp, two full oak soles, sewed and nailed, leather inner soles. Regular \$5.00 value.

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Write for our 1923 catalog—it's free

ARMY WOOL WRAP LEGGINS 79c plus postage

TURKISH TOWELS, small size 10c plus postage

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WRITE FOR OUR FREE 1923 SPRING AND SUMMER CATALOG

The Lewis Co.
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(FORMERLY THE NEW ARMY AND NAVY STORE)

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Guaranteed SATISFACTION or Money Back

Pay the postmaster on arrival. If after examining the goods you find that any part or all of the shipment is unsatisfactory, return the merchandise and we will gladly refund you in full. No questions asked.

Khaki Blouse Coats

39c

U. S. Army Khaki cotton blouse, made of closely woven cotton material, 4 flap pockets. Slightly used, but they look like new; \$3.00 value; sizes 32 to 38

39c plus postage

Army blouses, brand new plus postage 89c



U. S. Army Style Khaki Shirt

97c

Do not confuse this shirt with inferior grades. Double sewed throughout, with 1 pocket, heavy roll collar, slip-over style.

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SCOUT SHOE

We are proud to offer you this marvelous value in a scout shoe. Strong muleskin upper, durable chrome outer soles, barnyard proof.

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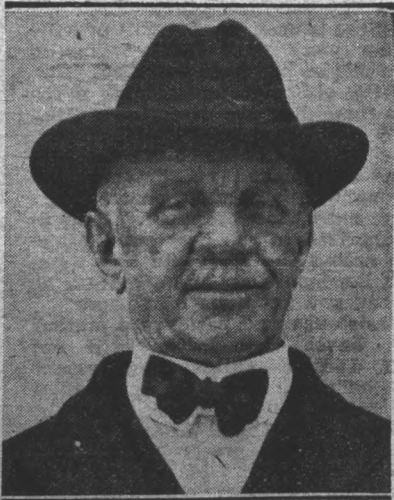
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MUNSON LAST WORK SHOES \$2.49 plus postage

ARMY FIELD OR HOB NAIL SHOES \$2.99 plus postage

Do Not Send a Penny

Do not send a penny—pay the postmaster for the goods, plus postage on arrival. If after examining the merchandise you feel dissatisfied, return the goods and we will gladly refund your money.



MIL0 D. CAMPBELL

Born 1851—Died 1923. See Editorial Page

AN EASTER HYMN

By Thomas Blackburn

AWAKE, thou wintry earth,
Fling off thy sadness,
Fair, vernal flowers, laugh forth
Your ancient gladness,
Christ is risen.

Wave, woods, your blossoms all,
Grim Death is dead,
Ye weeping, funeral trees,
Lift up your head,
Christ is risen.

Come, see, the graves are green;
It is light; let us go
Where our loved ones rest
In hope below,
Christ is risen.

All is fresh and new,
Full of Spring and light;
Wintry heart, why wear'st the hue
Of sleep and night?
Christ is risen.

Leave thy cares beneath,
Leave thy worldly love,
Begin the better life
With God above,
Christ is risen.

SPRINGTIME

DEAR Folks:—Springtime brings with it all the feeling of wanting to stretch ourselves and embrace the big outdoors, to see all the wonderful things coming into life and hear our birds busying themselves with building their new homes.

Our animal friends teach us a great lesson in the spring of cleaning house and freshening up their abode. All the things about us take on new life and seem to tell us to get busy. A new season is here and we must be up and to our task.

So let us take an inventory of our own and start this week with our own house-cleaning and fixing things up, both inside and out. I know it will bring with it a great deal of satisfaction and happiness in our minds. One of woman's chief problems is house-cleaning and all the wonders of going thru drawers and boxes getting out last summer's clothes and putting away the winter ones so that the moths and other pests will not destroy them before they are needed again.

Some feel house-cleaning a chore, but after one gets into the work and sees the wonderful results gained, not only in having the house in order, but that wonderful peace of mind that comes to us all when a job is well done.

Why not let us try this spring and have the outside of the house made attractive. You do not have to look with envy upon the town woman and think she is the only one that can have an attractive front-yard. Why not let us have John fix a fence or an enclosed place to let the chickens run in, instead of letting them roost on our front porches, and decorate our front yards. Why not have the children take an interest in keeping the animals in the back of the house.

Let us try this spring to see how attractive we can make the front of our houses, with a few shrubs and flowers. If you cannot afford to buy seed or special shrubs and flowers, I might suggest the woods flowers. They have a lovely charm all their own and will make very attractive rows or beds. The little labor put on these few things pays for itself in the happiness that almost amounts to pride. You will enjoy sitting there to do your sewing and rest when the day is done.

SUMMARY OF WHAT SHOULD BE DONE CLEAN-UP WEEK

CLEAN-UP week should be preceded by a health sermon in all the churches and the Monday following should be given as a school holiday in order that the children may help in the home and community clean-up work.

Following is a general summary of what should be done:

1. Move out all rubbish, salvage what may be useful and burn the remainder; move, dust and clean well all pictures, furniture, drapery, carpeting, bedding, clothing, cooking utensils, and all the furnishings of the house into the open air and sun them all day. If the day set aside for cleaning is cloudy or rainy, use the next bright day.

2. Brush down walls and ceiling of all rooms; scrub and clean thoroughly all floors and woodwork.

The Farm Home
A Department for the Women

Edited by MRS. ANNIE TAYLOR

A NEW service department for women will be made possible thru these columns. Any questions will be answered to the best of my ability. I will gladly advise you on any problems regarding your home or personal affairs. I will gladly purchase for you any articles you might find if difficult to obtain in your own vicinity. Detroit has most everything and it could be sent to you C. O. D. Maybe you would like to match up something either in thread or material. I want you to feel free to write me anything you might have on your mind and know that it will be taken care of at once. We will call it "Personal Shopping Service Bureau."

CASH PRIZES FOR SIMPLE GARDEN LETTERS

In our next issue I am planning to devote this page to the garden and making our front yard more beautiful. Prizes will be given for the best suggestions which incur little or no expense. \$2.00 for the best letter, and \$1.00 for the next best letter. The next three best letters will receive a year's subscription to the Business Farmer.

Address letters: Mrs. Annie Taylor, care The Business Farmer, Mt. Clemens

*Your Friend,
Mrs. Annie Taylor*

Strong lye and hot water may be used on rough floors, but only hot water and good soap should be applied to painted or finished floors and furniture. Do not use lye water on anything that is painted. Now is the time also to paint, paper or whitewash such inside walls, ceilings and woodwork as need attention.

3. Clean front and back yards, scrape off surface dirt, level and mend walkways, and attend to hedges, flowers and shrubs. Clean barns, hen houses and pig pens, and remove all accumulations of manure.

4. The water supply should be carefully inspected to see that surface filth cannot get into it.

5. Sanitary privies and water closets should be installed or repaired and made fly-proof.

6. Make all needed repairs to house, out-buildings and fences. See that screens are tight, and free from holes. Be sure to use plenty of paint or whitewash. In whitewashing use plenty of good lime, and, to keep the whitewash from rubbing off add one quart of salt to each five gallons of whitewash.

EASTER DINNER IN YOUR HOME

EASTER is here and with it all the glory of happiness that comes to us on this particular Sunday. Why not help celebrate it with a suggestion of the day in our menu and have our table take on a different look. If it is possible have some flowers or even a little green of some kind in the center with a touch of yellow or purple ribbon. Let us have a meal in keeping with the day. The following is a very simple one and if not heavy enough any good meat will balance it. I have planned a menu with this in mind:

Oranges
Purple Jelly
Creamed Eggs on Toast
French Fried Potatoes
Buttered Asparagus in Lemon Rings
Twin Mountain Muffins Grape Ice
Washington Pie

Serve halves of large oranges with a little whipped cream colored purple in the center of each. Put a rather thick white sauce on buttered toast and on this place halves or quarters of hard cooked eggs. The yellower the yolks the prettier the effect.

Draw asparagus stalks or string beans which have been heated and seasoned through rings of lemon skins.

The twin mountain muffins are yellow. Cornmeal muffins are also.

Grape Ice: 4 c water, 2 c sugar, 2 c grape juice, juice 2 lemons, 1-2 oz. citron cut very fine (if desired).

Make a syrup of the water and sugar and boil for 10 minutes. Cool. Add the other ingredients and freeze.

If grape jelly is used instead of grape juice melt the jelly, add to the syrup and use less sugar. Determine this by the taste.

Washington Pie: 1-2 c fat, 1 c sugar, 2 eggs, 1-2 c milk, 1 3-4 c flour, 1-2 tps. salt, 2 1-2 tps. baking powder, 1-2 tps. vanilla or 1-4 tps. lemon extract.

Cream the fat, add the sugar gradually, then the eggs well beaten. Add the milk alternately with the mixed

SLIP-ONS REVIVE OLD FURNITURE

TO get a change or an appearance of newness to your furniture, try the slip-on scheme. There is no limit to what these slip-ons will do for a room and you will also come to love your furniture.

New fashioned, sprightly slip-ons for furniture are made from crinkly chintz.

Very often the furniture becomes worn or shabby and the owner doesn't wish to invest in a complete new set. Here the slip-ons serve their purpose.

Just lay the material on the piece of furniture and cut exactly the same size. Cut the back length six inches longer and three inches wider than the back of the chair, if you wish to make your own slip-ons. In the same way cut the seat pieces. Keep the cretonne straight and let any large figure design come squarely in the middle of the back or seat. Extra pieces can be cut for the arm pieces and up over the back, giving the appearance or effect of an applied banding. The bottom may be

and sifted dry ingredients, then the flavoring. Bake in two layers in round tins.

Spread cream filling between the layers and over the top.

Cream Filling: 7-8 c (14 tbs.) sugar, 1-3 c flour, 1-8 tps. salt, 2 eggs, 1 tps. vanilla, 1-2 tps. lemon extract.

Mix the dry ingredients, add the eggs slightly beaten and pour on gradually the scalded milk. Cook 15 minutes in a double boiler, stirring constantly until thick, then occasionally. Cool and add the flavoring.

In the filling on the top arrange a circle or other design of purple cherries.

Hot Cross Buns

Hot cross buns, of course, are especially for Good Friday. In olden times, if eaten before any other feed on Good Friday morning, they were supposed to ward off witches, cure internal diseases and to protect dwellings from fire. They now have lost much of this legendary significance, yet they are still considered a delicacy of the Good Friday menu. Although properly belonging to Good Friday there is no reason why they may not be served on Easter if one wishes to do so. I give the recipe:

Hot Cross Buns: 1-4 c sugar, 2 tbs. fat, 1-2 tps. salt, 1 c scalded milk, 1-2 yeast cake dissolved in 1-4 c lukewarm water, 3-4 tps. cinnamon, 3 c flour, 1 egg, 1-4 c raisins or currants.

Add the fat, sugar and salt to the milk. When lukewarm add the softened yeast cake, the flour and cinnamon gradually and the egg well beaten. When thoroughly mixed add the fruit. If raisins are used cut them in pieces. Cover and let raise over night.

In the morning shape in round biscuits, place in a pan, let rise, brush over with beaten egg. Bake twenty minutes, cool and with ornamental frosting make a cross on top of each bun.

straight or plaited. If cretonne is not available or used, awning or crash will do, but are not adaptable for plaiting.

WALLS AND COVERING

IT IS best to remove any old paper and if one does not want to paper with regular wall paper, butchers' or building paper can be put on with narrow strips, making a clean, nice wall. Where there has been no paper and the house is not lathed and plastered, beaverboard can be put on by some home folks. If you have good plaster foundation, the cold water colored mixture can be easily applied and stenciled. I rather like this finish as it is easy to apply and by getting a good quality it will not rub off and can be obtained in soft tones. Below are a few suggestions in color and design.

North exposure and rooms that seem cold and dark need warm colors—Yellow, orange and red.

If the room is small, light color makes it appear larger.

Dark colors are advancing colors, making large rooms look smaller.

Southern or western exposures require cool colors—Blue, violet, green.

Stripes make room appear higher. Bright colors make one restless.

Red paper often causes headaches.

If one has several good pictures and wants them to stand out, it is best not to use patterned paper unless indistinct in design.

Be sure to choose colors that harmonize with rugs and furniture.

PUTTING WINTER CLOTHES AWAY

The winter clothes will look better and be worth more for wear next winter if they are cleaned, brushed and mended before being put away for the summer. Moths thrive best in soiled clothes, and it is most embarrassing to take out the winter suit or overcoat some frosty day in November and find it full of lacy little holes where the moths have been living in comfort all summer.

Mothers Problems

THE CHILD AT THE PENCIL-MARKING STAGE

A FRIEND made the remark to me when my first little boy, was approaching two years: "He's just getting to the pencil-marking stage, isn't he? I suppose soon your books and your pictures, your paint and your wallpaper will bear his first scrawls." I was horrified at the thought. I saw no reason why they should be, and now, though the home has four little children, the paper, the paint, the books and the pictures remain undecorated by pencil-markings.

Whether pencil-markings shall be everywhere in evidence rests entirely with you. Every normal little child finds pleasure in using a pencil. It is to him a delightful sensation when he finds that there is a result from merely moving the slender object in his hand on paper. Naturally he desires to make those funny lines, once he has discovered how. If, at that stage, he is not taken in hand and his efforts guided, pencil-markings will appear all over the house.

The mother who understands will not take the pencil away from the child, and forbid him to have one again. Instead she will provide him with a piece of paper "like Mama writes on" for his scribbles. When that piece is used up, she will provide another piece until the cravings to make marks has been satisfied.

Little children understand much more than they are oftentimes given credit for. If a mother will repeat when the baby wants to use the pencil he has picked up, "Mama give baby paper; baby make pencil go on paper; baby write on paper," she will be surprised to see how quickly the child grasps the idea, and how soon, when he desires to make marks, he will run and get a piece of paper.

Persistence and patience a mother must have. One lesson will not teach a little child. The lessons must be continued over a considerable period. The mother must be continually on the lookout. "Mama doesn't write on pretty books. See, book is all clean. Mama write on paper; baby write on paper, too." And Baby will understand.

There really is no excuse for books and walls to be spoiled by the child and his pencil.—Margaret Bartlett.

Personal Column

Pomace stone to rub the rust off from needles and the sharpen needles is fine just rub them on a piece of stone.—J. D.

One way to save washing and ironing, make the best parts of old tablecloths into towel shaped strips and place across the ends and sides of the table. They can be changed often and are a good deal easier to wash and iron than a table cloth.—J. D.

We hear a lot of talk sometimes about women not having the meals on time, but very little is said about the men not being on time for their meals. The last is just as much of a nuisance as the first.—J. D.

We have the poem, "Briar-Rose" and find it too long to print in the paper, but will be glad to send it by mail if the reader who asked for it will send me her name and address.

Keep Away Moths

Apply gasoline with a sponge or brush to your carpets to keep the moths away.

Makes Furniture Shine

Old pieces of velvet or velveteen should be saved and used for polishing furniture.

What Will Remove Liniment Stain?

I have a large yellow stain on one of my best pillow slips, caused by a bottle of Turkish liniment tipping over on it and it seeped out through

the cork. I have tried several things such as lemon juice, butter, sweet cream, etc., but nothing seems to do any good. I do not know anything about what the liniment contains as it does not tell on the bottle. It is oily and is or was put up at Portland, Mich. The label was dated 1906. Can anyone tell me something that will remove it?—Mrs. A. D.

—Has anyone ever had this trouble? Write me and let us help Mrs. A. D.

For Mrs. C. C.

We are indebted to Mrs. E. S. for the following information on cleaning feather pillows, requested by Mrs. C. C. a few days ago. Mrs. E. S. says to take a large clear pillow slip, open one end and pour the feathers into this bag. Then to make a suds of soap flakes using three parts flakes to one of borax. Wash in three waters and then rinse in clean warm water. When rinsed thoroughly hang bag on the line on a bright sunny day; fluff it often with the hands then take into the house to dry.

Mrs. S. H. S. sends in directions for cleaning as follows: Remove from cases to cheese cloth bag and allow feathers to hang in sunlight for two days or more. Wash ticking, then return feathers, she says.

—if you are well bred!

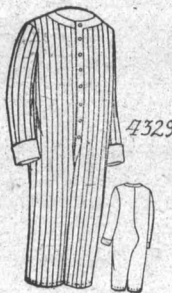
—You will never open another's letters.

—you will not enter the room of any member of the family without first knocking.

AIDS TO GOOD DRESSING

EFFECT OF LINES IN DRESS

1. Perpendicular lines seem to increase the height of an individual and may be introduced into the costume by panels, plaits, rows of buttons, tucks or braid, etc.
2. Horizontal lines seem to increase the width of an individual and may be introduced into the costume by ruffles, tucks, braid, etc.
3. The more nearly a curved line approaches a straight line the more beautiful it becomes. An individual with very ample curves may straighten her curves by not drawing her dress in too tightly at the waist line.



A Stylish Dress in One Piece Style

4303. Taffeta, satin, serge or linen could be used for this model. The vest portions are crossed in double breasted style. The collar may be rolled high, or turned low. The Pattern is cut in 3 Sizes: 16, 18 and 20 years. An 18 year size requires 5 1/4 yards of 40 inch material. The width at the foot is 2 1/4 yards, with plaits extended.

Simplicity and Good Taste Combined

4305. Here is a model that has attractive features, and is withal comfortable. Figured and plain crepe, or the same combination in voile or foulard, or linen and gingham could be used for this style. The Pattern is cut in 3 Sizes: 16, 18 and 20 years. To make this style for an 18 year size will require 4 1/2 yards of 32 inch material. The width at the foot is 2 1/4 yards. To make the waist and sleeves of contrasting material requires 2 1/4 yards of 32 inches wide.

A Simple Pretty School Frock

4319. Plaid or checked Gingham could be combined with chambray or lining for this style. The collar may be omitted. The sleeve may be finished in wrist length with a band cuff, or in elbow length, with the shaped cuff illustrated. This Pattern is cut in 4 Sizes: 6, 8, 10 and 12 years. A 10 year size requires 1 1/4 yard of 36 inch material for the waist and 1 1/4 yard contrasting material for the skirt. To make of one material will require 3 yards of 36 inch material.

A Comfortable Sleeping Garment

4329. Madras, cambrie, silk or flannellette, could be used for this style. It is finished with centre back and leg seams. The cuff may be omitted. The Pattern is cut in 4 Sizes for Boys: 10, 12, 14 and 16 years, and in 3 Sizes for Men: Medium, 38-40, Large, 42-44; Extra Large, 46-48 inches breast measure. To make the garment for a Medium size requires 4 1/4 yards of 36 inch material.

A Very Attractive House Frock

4302. Blue or black sateen with white dots, and with trimming of white lining, would be pleasing for this style. It is also nice for percale and gingham. The Pattern is cut in 7 Sizes: 34, 36, 38, 40, 42, 44, and 46 inches bust measure. A 38 inch size requires 5 yards of 40 inch material. To trim as illustrated will require 1/2 yard of 32 inch material. The width at the foot is 2 1/2 yards.

A Comfortable Apron Model

4308. This style should appeal especially to women of mature figure. The apron may be finished to close at the shoulders, or sides or to be slipped over the head. It is easy to make and easy to launder. The style is good for percale or gingham, also for other apron fabrics. The Pattern is cut in 4 Sizes: Small, 34-36; Medium, 38-40; Large, 42-44; Extra Large, 46-48 inches bust measure. A Medium size requires 3 1/2 yards of 36 inch material.

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CLAIM YOUR SALE DATE

To avoid conflicting dates we will without cost, list the date of any live stock sale in Michigan. If you are considering a sale advise us at once and we will claim the date for you. Address, Live Stock Editor, M. B. F., Mt. Clemens.

Oct. 18—Holsteins, Howell Sales Company of Livingston County, Wm. Griffin, Sec'y, Howell, Mich.

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SWINE

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DAIRY and LIVESTOCK

ALEXANDER & BODIMER SALE WONDERFUL SUCCESS

ONE of the most successful livestock sales of the season was that of Alexander & Bodimer, at Vassar, on March 8th, where they sold 40 head of registered Chester White swine consisting of 36 bred gilts and one open gilt, two tried sows and one yearling boar.

The sale was held in a heated sale barn on the Alexander farm and the day was a fine one and there was a large crowd of buyers gathered from all parts of the state and other states as well, bidders being present from Illinois, Indiana, Ohio and Pennsylvania. The sale went with a bang right from the start and brought an average of nearly \$62.00 per head.

No. 33 topped the scale going to Wilbur Jones of Reese, Mich., at \$177.50. She was an open gilt sired by Alexander & Bodimer's great herd boar "The Monster" and from their champion sow "Long Beauty." She is certainly a splendid animal with great size for her age and as smooth as a ribbon. Besides Mr. Jones, Thomas Hile of Caro and the Detroit Creamery Co. Farms of Mt. Clemens were the opposing bidder. Detroit Creamery Co. Farms bought the tops of the bred gilts, Nos. 1 & 8, at \$105 and \$110 respectively. The whole offering was in splendid condition and at the prices paid should prove profitable investments for the buyers. Col. H. T. Walker of Montpelier, Ind., assisted by Coles. MacEl-downey of Caro and Atkins of Vassar sold the offering in a very able and pleasing manner. List of buyers follows:

No. 1, Otto Neu, \$50.00; No. 2, Wm. Hall, Vassar, \$62.50; No. 3, Albert Hall, Fairgrove, \$50.00; No. 4, M. Culbert, Fairgrove, \$47.50; No. 5, Claude Cole, Caro, \$65.00; No. 6, Henry Lane, Fairgrove, \$65.00; No. 7, Detroit Creamery Co., Mt. Clemens, \$105.00; No. 8, Detroit Creamery Co., Mt. Clemens, \$110.00; No. 9, Thomas Hile, Caro, \$70.00; No. 10, Knox Youngs, Reese, 65.00; No. 11, Clara V. Dorman, Snover, \$50.00; No. 12, (boar) Thomas Hile, \$75.00; No. 13, Crapo Farm, Swartz Creek, \$45.00; No. 14, Roy Gardner, Fairgrove, \$45.00; No. 15, C. Sodolski, Bay City, \$55.00; No. 16, Claude Cole, Caro, \$47.50; No. 17, E. Hodges, Coleman, \$52.50; No. 18, Roy Jackson, Caro, \$55.00; No. 19, Norris Miller, Fairgrove, \$50.00; No. 20, Robert Aherns, Fairgrove, \$50.00; No. 21, L. H. Ald, Reese, \$62.50; No. 22, O. Wrighlsworth, Howell, \$65.00; No. 23, Mr. Vanderlip, Lapeer, \$52.50; No. 24, Wiley Kirk, Fairgrove, \$62.50; No. 25, J. C. Kirk, Fairgrove, \$57.50; No. 26, R. Hamnet, \$50.00; No. 27, Henry Rogner, Reese, \$45.00; No. 28, Bruce Brown, Mayville, \$55.00; No. 29, Lute Jones, Lapeer, \$52.50; No. 30, Thomas Hile, Caro, \$70.00; No. 31, John Howell, Ovid, \$52.50; No. 32, Irvin Cross, Colling, \$67.50; No. 33, Wilbur Jones, Reese, \$177.50; No. 34, Findlay Bros., Vassar, \$65.00; No. 35, S. E. Lawrence, Britton, \$62.50; No. 36, A. Gremmel, Sebewaing, \$40.00; No. 37, A. Davis, Lapeer, \$47.50; No. 38, J. Richards, Reese, \$47.50; No. 39, N. J. Neal, Bay City, \$52.50; No. 40, Crapo Farm, Swartz Creek, \$50.00.

SPRINGTIME FOR HOLSTEIN BREEDERS

SPRING is a time of quickening life, and breeders of Holsteins in Michigan are acting springy. Five County Associations met within four days recently. The State Holstein field man, J. G. Hays, was called upon to attend these gatherings and to explain the extension program of the National Holstein Association, and to indicate how the county units should organize to get results from the Extension Service.

Monroe county started the fireworks with a meeting the 14th. The main interest in Monroe seems to lie along the lines of Cow Test Ass'n. work. Guy Doty, of Monroe, was elected as Cow Test Ass'n. deputy. E. L. Smith, of Adrian, president of the State Holstein Ass'n., was present and talked State Holstein policies to the breeders.

The second meeting took place the 15th in Lenawee county. Lenawee has been actively organized for several years, boosting different pro-

jects. At their gathering calf club work held the center of the stage. Earl Holmes of Clayton is the county calf club deputy.

The night of the 15th found the Wastenaw county breeders gathered for a banquet at the Huron Hotel at Ypsilanti. This was mainly a social affair—with a little fancy dancing by local talent to add to the good time. After the feed a short business session was held in which O. J. Feldkamp, of Saline, and Frank Geiger, of Rushton, were selected to assist Co. Agent Osler in pushing cow test work; and Jas. Sanderson was elected to work with Club Leader Watts in calf club work.

The following day the Livingston county ass'n. staged a meeting. The proportion of high class sires for the county held the main attraction here. J. E. Williams, dairy supt. for the Detroit Creamery Co. farms at Mt. Clemens, gave a talk regarding popular blood lines of the day, and told of his travels searching for an outstanding sire.

The week was ended with a meeting in Kent county. Advertising the breed and the Holsteins' milk occupied the breeders' attention. Members pledged their support to County Agent Vining in a project to locate several of the large "Bill-boards" in the county at strategic points.

Another sign of "Spring" in the Holstein business is the result of a couple of recent sales, on which prices showed a rising tendency.

Musolf Bros., of South Lyon held a sale March 10th, dispersing a herd of 54 head owned by the brothers on one of their farms. In this sale appeared many record animals, including four 30 lb. cows. Most of the offerings were either sired by or bred to King One Champion, King Peteh Segis Lyons, or Maplecrest Application Pontiac. These sires represent good seven day and yearly records. Two cows brought the figure \$610.00, one, Wabash Fanev 2nd, a showy five-year-old with 23.4 lbs. as a three year old and 689.25 from 16,601.9 milk in 10 months; the other a 28.66 lb. four year-old Johnna Korndyke Walker De Kol, her dam a 1,000-lb. cow.

The sale of H. T. Lewis at Elsie the 13th contained no large record stuff, except the herd sire, a two-year-old from a 1,000 lb. dam. He brought \$300.00. However, the cattle were of good individuality, and the herd was fully accredited. The milking cows averaged \$204.00 the young stuff, \$137.00, and the calves \$90.00.

The sale was topped by Inka Canary De Kol Aoggie, a 6 year old cow of great capacity and quality. She had no official record, but had milked over 100 lbs. a day on private test. She went to Colonel Shubel of Lansing for \$540.00.

With cattle moving more freely, and at better prices in private and public sales and with breeders showing interest in organization it is apparent that the Holstein business is looking up in our state.—J. G. Hays, State Holstein Fieldman.

SCHAFER BROTHERS' SALE

OUR first Annual Sale of Duroc Jerseys was held March 13th, and thirty-seven head were disposed of at an average of \$40.00. The top sale was \$100.00 and several fine Gilts sold at from \$60.00 to \$65.00 and nearly all were taken by neighborhood farmers from Oakland and Macomb Counties and we hope that next year we will be able to take in a larger territory.

"Sensation Marsi," our herd boar is coming along fine and his two litters are real pigs, and we are now fitting him for County and State shows. We also have some very fine Sows, that we expect to show.

Mr. Walter Rice, formerly of Victoria, Ill., is now in charge of our herd and his many friends will be glad to know of his new location where he will be glad to hear from them.—F. J. Schaffer.

PRODUCING MILK TO SELL IN THE CITY

What are the state requirements in regard to the barns in which cattle are housed from which the milk is sold to people in a village? How much light must be allowed for each cow also is a plank floor with a drop sufficient? Has the state any objec-

tion to horses being housed in the same barn? How far from the barn must the manure be carried? How must the milk be handled after it is milked, does there have to be a cement floor in the milk room where cooler is located? Do all milk utensils and bottles have to be steamed or can they be washed and kept clean with boiling water? What is the name of the state milk inspector?—W. H. Marcellus, Mich.

—This matter is not definitely covered by any regulations which we have. It is necessary under each individual case, to determine whether the milk is being produced properly or not. Definite requirements are, however, insisted upon by City Departments. We do consider inspection work, especially in places where city inspection is not carried out.

Barns in which cattle are kept should be reasonably tight so that dust, cobwebs, etc., are not prevalent in the stable. For a perfect score four square feet of light per cow is required. However, two square feet per cow is about the average. Objection is made to the keeping of horses with cattle when the horse stable is immediately adjacent to the cow stable. Many cities require a separate compartment for the cows. Manure should be carried at least 25 feet if possible from the cow stable, but no definite distance has been established.

A cement floor in milk rooms is practically required and if a cooler is used it should be located in a milk room free from dust, etc. Utensils may be either steamed or scalded. The inspector who does most of this work for us is Mr. E. J. Friar.—H. H. Broughton, State Bureau of Dairying.

FEEDING VALUE OF SUDAN GRASS

I would like to ask what you think of Sudan grass for feed for horses and cattle? When should I put it in and what kind of ground does it grow best on?—R. C. A., Harbor Springs.

—Sudan grass has practically the same feeding value as timothy hay. It makes a fairly good emergency crop because the yield is good and the hay is secured the same season that the seed is sown.

Sudan grass is best adapted to good corn soil. It should be sown about the middle of May at the rate of from twenty to twenty-five pounds of seed per acre. An ordinary grain drill set to sow two pecks of wheat will sow approximately twenty-five pounds of Sudan grass seed. In the southern tier of counties two crops may sometimes be secured in one season, while in the central part of the state it is not likely that more than one crop will be secured.—C. R. McGee, Farm Crops Dept., M. A. C.

WRONG RATION

I am writing you in regard to my pigs. These pigs are about three months old. They look good, their hair is slick and in good growing condition. One day last week when I fed them two of them came up to get their meal and just touching the trough they would squeal and fall over on their sides and back and they would lie there for a while before they could get up, lingered along for two or three days and died. After these pigs died we opened them but could not find anything that looked wrong. These pigs have ground rye and corn together but mostly rye. The seven pigs weigh about fifty pounds each.—O. M., Mancelonia, Michigan.

—The trouble you are having with your pigs may possibly be due to worms, although from the symptoms which you describe, I would sooner think that it is due to the ration which you are feeding.

An excellent remedy for worms is the following: 2.5 grains of san-tonin, 1 dram Areca nut, .5 grains of calomel and 1 dram of sodium bicarbonate, for a 50 pound pig, given after the pig has been off feed 24 hours.

When purchased from a local druggist, this preparation is rather costly, but capsules or tablets containing any of these ingredients can be purchased from any reliable drug house and from most mail order houses.

Rations consisting of rye and corn are decidedly unsatisfactory for young growing pigs. These pigs

are not getting nearly a sufficient amount of mineral matter, nor are they getting a sufficient amount of protein or muscle growing material. Furthermore, when rye is fed, pains should be taken to see that it does not contain much ergot, which may be easily recognized as kernels affected with this disease are black in color, elongated and crescent shaped.

Apparently rye is the cheapest feed which you have judging from the fact that you are feeding it in large quantities. I would advise that for these young pigs one-half of the ration in connection with rye should consist of wheat middlings and that for each 100 pounds of rye and middlings, you feed about 6 pounds of digester tankage. If skim milk was available, the tankage would not be necessary. In addition, these pigs should have access to some good mineral matter. We are using the following with our hogs this winter: 30 pounds finely ground lime stone, 30 pounds precipitated bone meal, 30 pounds salt, 10 pounds sulphur. They should also be given access to clover or alfalfa hay.—George A. Brown, Professor of Animal Husbandry, M. A. C.

VETERINARY DEPARTMENT

REMOVING CORNS

I have a horse that has corns on his front feet. What can be done to eradicate the corns?—T. F. K., Germfast, Michigan.

—The causes of corns are bad leg direction, poor quality of hoofs, injudicious dressing of the hoof such as leaving the toe too long, excessive weakening of the sole, bars, frog and the quarter are common causes. Hollowing the sole and unnecessary thinning of the branches of the sole in the search for corns is also a cause. Shortening one quarter too much in relation to the other so that the foot is unbalanced and the lower side is overloaded is a common cause. Shoes not level on the hoof surface, too short in the branches, and shoes whose bearing surface does not completely cover the hoof commonly causes corns. Allowing shoes to become loose and shifted in position is also a cause. Dryness is very injurious to hoofs and very favorable to the production of corns. Treatment consists in first removing the cause by restoring the proper form to the hoof by cutting down quarters that are too high, shortening a toe which is too long. Deeply digging out an area of blood stained horn is injurious. It is much better to thin the entire branch of the sole uniformly. The proper shoe is the bar shoe with some frog pressure unless the horse is suffering from side bone. The pressure should not be taken from the quarter walls unless they are sore. The care of the hoof consists in keeping it moderately moist and clean.—John P. Hutton, Asso. Prof. of Surg. and Medicine, M. A. C.

SECURE SERVICE OF VETERINARIAN

I have several cows I cannot get with calf, is there anything I can do?—A. V., Crosswell, Mich.

—Failure to breed in most animals is due to disease of some part of the reproductive tract and is most effectively treated by local applications to the diseased part by one who has had some experience in treating diseases of the reproductive organs. The nature of this treatment is such that it cannot be applied by the layman. Some have recommended the oral administration of potassium iodide. This can act only as a tonic and is of questionable value. If a local veterinarian is available the best thing for you would be to have him make an examination of these cows and to determine if possible the exact nature of the trouble.—E. T. Hallman, Assoc. Prof. of Animal Path., M. A. C.

Farmers of the country buy 40 per cent of their food supplies, according to a survey of the United States Department of Agriculture. It is shown that about 9 per cent of the food consumed on farms can economically be produced locally, rather than being brought in from distant producing areas.



Potash for Swamp Land

DOES the corn grown on your swamp or muck land look like the large ear or like the small one? The small one shows the kind of corn produced on potash hungry muck land. When 100 to 200 lbs. per acre of German Muriate of Potash, or 400 to 800 lbs. of German Kainit, are broadcasted on potash hungry muck, full yields of sound corn are produced.

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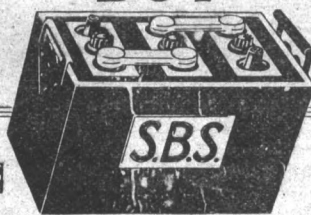
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REGISTERED O. I. C. BRED GILTS FOR sale. Weighing 250 lbs. A few fall pigs. J. R. VAN ETTEN, Clifton, Mich.

CHESTER WHITES

CHESTER WHITES All sold out of bred sows, but will sell herd bear No. 107095 far. Nov 1, 1921. Assure breeder with large litters. Price \$50. Also booking orders for Mar. 1st. Boar pigs for Apr. delivery. Will ship C. O. D.

WILBUR JONES, Reese, Michigan

HAMPSHIRE

HAMPSHIRE—SPRING BOARS AND BRED gilts from 25 sows to select from. Place your order now or you may be to late. 10th year. JOHN W. SNYDER, R. 4, St. Johns, Mich.

REGISTERED HAMPSHIRE, BRED SOWS and Gilts, fall pigs both sex. Leading blood lines. Priced to sell. Inspection invited.

CLARENCE L. CAMPBELL, Parma, Michigan

HORSES

FOR SALE AT A BARGAIN: A BLACK Percheron Mare and her coming 3 year-old filly. Will make a well matched pair. Both registered. A. L. SCHMIDT & SON, R. 5, Reed City, Mich.

FOR SALE: OUR ENTIRE STABLE EQUIPMENT. Six horses, harness, wagons, feed grinder, etc., etc. We are motorizing all our routes and have no further need for horses. Look our stable over and make us an offer for anything you may need. FEDERAL LAUNDRY COMPANY, Third and Elizabeth Sts., Detroit.

FOR SALE, BY WM. MANKEY, ST. JOHN, MI. 1 Belgian stallion, 5 years old, wt. 1900; 5 heavy young work horses, wt. 15-1700.

SHEEP

ALL SOLD OUT FOR THIS WINTER. Booking orders for next August. DAN BOOHER, Evart, Michigan.

WANTED TO BUY 100 BREEDING EWES. Write description, price and area. Williams & Williams, Williamston, Michigan.

FARM MECHANICS

AMOUNT OF POWER AVAILABLE FROM STREAM

I have a small stream dammed and have it fixed so I could shut it off until I would have water enough that I think would give me lots of power. I want to put in an electric light plant which would supply me with twenty-five or thirty lights. Also want to have it fixed so I could get power that would equal a six or eight horse power gasoline engine. I would like to have all the information I could get along this line.—A. F. L., Curran, Mich.

—I may say that before the amount of power which is available from the stream can be determined it is necessary to know something of the flow.

If the stream is now flowing it is possible to measure its flow approximately by taking the average cross section of the stream and multiply this by the distance which it flows in a minute and the result by 8-10. For example, a stream 2 feet deep 6 feet wide flowing 100 feet per minute will discharge 1200x.8 or 960 cubic feet of water the volume of water multiplied by the fall which can be secured, say 5 feet, given in the example would be equal to 4800 cubic feet or since water weighs 62.5 lbs. per cubic foot the result would be 300,000 foot pounds per minute. Divide this by one horse power or 33,000 foot lbs., which would give a trifle more than 9 horse power. This amount of power would be the total or the theoretical amount in the stream. There would be, of course, considerable loss in any kind of wheel or turbin developing this power, and also there would be some loss in storage batteries, if these were used, so in a rough way it would not be safe to figure more than 50% of this amount or 4½ h. p. for available use.

If the flow of the stream was not sufficient to produce power continually it might be dammed and the flow used for a part of the day or during the time that lights or power is wanted. With this arrangement the storage of power consists in storing it in the stream rather than storage batteries, this scheme would not be very advantageous if the power was located at a great distance from the house or source wanted. Perhaps if the head of water did not exceed 6 or 7 feet the turbin would be the most satisfactory and efficient unit for developing power. The smallest turbin requires about 350 cubic feet of water per minute and a minimum fall of not less than about 4 or 5 feet. If the fall is more than 6 or 7 feet perhaps the water wheel would be satisfactory and less expensive to install.—J. H. Musselman, Prof. of Farm Mechanics, M. A. C.

TINNING SOLDERING IRON

Can you tell me exactly through your valuable paper how to tin a soldering iron?—J. W., Walkerville, Mich.

—The following instruction should be closely observed.

General Soldering Instructions

A flux is any cleansing material which will remove grease from and prevent the formation of oxides on materials to be soldered.

For bright tin or lead, rosin or tallow may be used as a flux. For rusty materials, iron, brass or copper, a zinc chloride flux is best. This can be prepared by putting a few chips of zinc into hydrochloric acid, gradually adding more until the bubbling has stopped allowing an excess of zinc to remain. The hydrogen gas coming off is explosive and should be kept away from flames. Galvan-

ized iron or sheet zinc should be cleaned with dilute pure hydrochloric acid before being soldered.

Salamoniac is a white crystalline substance which is used for tinning soldering bits.

A lap or flat seam is one in which the plates simply lap over each other for about one-quarter inch and are soldered in place in this manner. This is not a very strong joint and should be used only with very thin material and for light work.

A lock seam is made by doubling over an edge of each sheet hooking the two together and pounding them shut. This makes a strong joint after it is soldered.

A bead seam is only used for joining very thick pieces of metal and is made by beveling the edges down to about an angle of 60 degrees each thus leaving a space of about 60 degrees to be filled with solder when the two edges are butted together.

A cup joint is used for soldering together lead pipes or light tubing. It is made by spreading the end of one pipe into a cup or funnel shape and shaving down the other to fit into it.

An overcast joint is used for soldering lead pipe to short nipples or couplings. It is made by spreading the pipe to fit over the nipple and then soldering a sort of a lump right over the joint.

Soft Soldering and Tinning

All the common metals become oxidized when exposed to the air especially when they are slightly heated. As solder will not adhere to a surface that is ever so slightly oxidized it is necessary to apply something to the surfaces to be soldered which will guard against this oxidation.

The object in tinning is to coat the metals to be soldered with tin or solder to prevent this oxidation. In order to transmit the heat rapidly from the soldering bit to the work

it is necessary to have the solder in close contact with the bit with no intervening film of copper oxide or carbon. This is why soldering bits are tinned before putting them into use.

Tinning copper bit

The bit should be placed squarely into the flame or fire so that it becomes evenly heated. When it is hot enough to melt solder rapidly, (not red hot) file the bit bright on two adjacent sides to a distance of about 1½ inches from the point. Do this rapidly so that the bit does not become too cold. Next rub these sides on a bar of salamoniac to reduce the oxide which has already formed. Then pick up your solder and melt a few drops of it on to the salamoniac, rubbing the bit on the two together at the same time. You will now notice that the two filed sides have a bright coating of solder on them which enables the bit to pick up globules of solder. If at any time the bit becomes red hot the tinning will burn off and it will be necessary to retin it. Care should be taken therefore not to overheat the bit.

Tinning Materials to be Soldered

Bright tin, copper, brass, zinc and lead need not be tinned before soldering, but sheet iron and rusted metal should be carefully tinned so as to insure a strong joint. All paint, rust or soot should be removed by scraping, filing or sandpapering. Now apply zinc chloride flux freely, after which rub the brightened surface well with the hot bit at the same time applying the solder. It may be necessary to apply flux and solder several times before the article is properly tinned. The article is now ready to be soldered, just like bright tin, which is as follows: If the pieces which are to be joined are liable to be shifted or pulled apart it will first be necessary to "tack" them together. This is done by applying a few drops of solder at several places on the work. It will now be necessary to know only a few general principles to do good soldering.

(1) First of all have your work well fluxed but do not flux too large an area at a time.

(2) Have your bit well tinned and hot. If you solder with a bit that is not much hotter than the fusing point of solder you will not be able to get the solder to flow into the joint but will simply cover it with a thin film. This is called skin soldering and should be avoided because it makes a weak joint.

(3) Do not try to solder with the point of the bit, but use as much of the flat tinned surface as possible.

(4) If possible hold your work in such a position that the solder will flow in place by gravity, it only being necessary to follow with the bit so as to keep the work hot.

(5) Do not run the bit over a place that has once been soldered as this only tends to make rough appearing work.

(6) Never put your bit down on iron or stone as this rapidly withdraws the heat and wastes time. Put it back into the fire at every opportunity.

(7) When soldering heavy or thick articles, (say a pipe to an iron tank) it will be necessary to heat the work to nearly the melting point of solder.

(8) To solder a flat or lap seam it is best to first tin one of the edges to be joined and then lay the other edge on top of it. Solder should then be run right over the outside of the lap.

(9) In a lock seam care must be taken to have the solder run well into the seam.

(10) When using a bit to pick up solder do not take it directly from the bar of solder because this tends to heat up the entire bar and leaves the bit cold. Instead of this melt a few globules from the bar and pick these up as they are needed.

(11) Leaks in washboilers and pails, etc., should be soldered from the inside.—E. C. Sauve, Ass't Prof. of Farm Mechanics.

A thousand pounds of hens need 8,278 cubic feet of air a day, while a thousand pounds of horse uses up only 3,401 cu. ft. of air a day. Hens have to breathe at a furious pace to keep up their high body temperature. Give them air.

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Poultry for Profit

EXPENSE IN REARING YOUNG CHICKS

THE embryo chick finds all its parts in the white of the egg; the yolk is only its starting place and the last thing it does before breaking the shell is to surround the yolk, which becomes its food for the next three days, or longer if needs be. That is one of the reasons why the best time to ship away young chicks is within 24 hours after they are hatched. The chick's first great need is to be kept warm. In a state of nature the hen remains on her stolen nest unless driven off by hunger long after all the chicks have been hatched, and when one after another the chicks have come out from under her, picking at bright little pebbles and swallowing them for the mill-stones which are to grind their food, the hen calls them back under her, but the next time they stray further away, and then she goes with them to scratch and hunt for their food. From which we can learn that it is not necessary to feed little chicks the first 24 hours, and also that they should have fine grit to pick at when they are first fed food that needs any grinding; and there is not much fed to a chick that does not need grinding. If we, when eating, get a piece of stone between our teeth it sends a thrill of repulsion through us; but that sensation which is so unpleasant to us is delightful to a chick. Using clean sharp sand in a brooder, I have had chicks fill themselves full, crop and intestines, with the sand, probably because it felt good going down their little throats.

Careful Feeding

It is very unwise to overfeed young chicks; a little and often should be the rule. About three-hour intervals are considered right for a human baby, and like intervals during the first week would not be far wrong for young chicks. It is far better for them to be a little underfed than to be cloyed. After they are a week old a dry mash can be kept where they can help themselves. They will not overeat of that, for the reason that they cannot furnish saliva enough to moisten more than two or three mouthfuls, and dry they cannot swallow it. They also need some cracked grain, for that little grist mill, the gizzard, needs to work—wants a job. Water they must have, but so arranged that the chick cannot get in it. A very cheap drinking fountain is made by taking a quart tomato can, denting in the sides at the top, filling with water putting on the cover, then turning it bottom up. The chick can stick its beak into the cover where the indentations are, but cannot get in itself. The same thing answers for milk, if it is in liquid form. When it thickens a shallow tin pan with wire netting fastened over it answers very well.

Moisture needed

Chicks will thrive very well apparently for the first two or three weeks on a floor, whether covered with dry earth or not, but soon after that there will be trouble. They need moisture, dampness—they must wet their feet. But they must have dry quarters to sleep in at night. I have seen little chicks with their legs just skin and bone dried down for lack of moisture. I had to learn that by experience. My chicks had grown very well in the brooder house, but they gradually stopped growing, feathers stuck out rough, did not lie smooth and close to the body, some of them died; there was an outside run they could go outdoors when they pleased, but they did not go out much. It was in April, rainy, the top of the ground an inch of mud. I took one of the brooders and the chicks and put them out in that mud. In a week no one would have thought them the same chicks; not another chick died, their feathers smoothed down, they began to grow again, and I had learned something. Contact with Mother Earth is what they must have. President Smith, of the Massachusetts Poultry Association, used to raise "soft roasters" on the south shore below Boston. Hatching out thousands of chicks in the

fall, as soon as large enough to do without artificial heat they were put out in little colony houses, and the snow swept away, day by day, to let them on the bare ground, even though it was frozen.

Experience With Turkeys

That subject of moisture needs investigation. We have always heard that young turkeys must be kept in until the dew was off the grass; they must not get wet. My neighbor, Mr. George V. Smith, editor of New England Farms, raised, or hatched some turkeys. For an experiment he let them run with the mother turkey wherever they pleased. I think there were nine of the young poults. Out in the dewy morning grass, out in thunder-storms, their umbrella the mother's wings, every night the nine came home. They found nearly all their food; a little was fed at night to induce them to come home. Week after week the nine were all there. Then a fox came into the game, and one by one they disappeared. I think he managed to save three of them.

Living Food

While chicks were still in the brooder house I have carried in a painful of damp earth and dumped it in the little yard by the brooder, then mixed their cracked grain with dirt, so they would have to scratch for it, and if they found an occasional worm in the dirt then there was "racing and chasing o'er Canoby lea." That matter of taste. I have thrown a piece of worm down in front of a chick, and the chick would stand and look at the squirming thing, but if it ventured to take it in its beak then hesitation vanished instantly and it ran to make sure of having that delicious morsel all to itself, and never again would there be any hesitation when a worm was offered. It's a living food, and no kind of dead food equals it. I have not mentioned green food for chicks, but sprouted oats, lettuce or any tender green stuff it very good for them; almost essential to thrifty growth.

Brooding

During my last few years on the farm I did not use artificial brooders, using hens only for that purpose. I had 40 little A houses, 20 in a row, with 20 chicks to a hen. As they were all white chicks there was never any difficulty about hens refusing the chicks. I kept White Wyandottes and White Leghorns. Occasionally a Leghorn would sit long enough to hatch chicks, and when they do they make fine mothers; far less likely to tramp on their chicks than the larger breeds. I made a long pen in front of the row of 20 coops, dividing it into little pens, one for each coop, the pens being about six by five feet. This prevented the chicks from getting out of the mother's sight, or too to run for cover when the mother's skyward-looking eye descried a hawk.

Sprouted Oats

The green food problem was solved by covering the ground in these little pens with oats and spading them in about a week before the chicks were due to hatch. The hen soon taught the chicks what those green sprouts were for. They would dig up an' eat the whole thing, the green sprout, the oat and the long white rootlets, and when they were getting scarce more oats were spaded. When the chicks got large enough to fly over the 14-inch boards forming the pens, the pens were taken away and the chicks left to run wherever they pleased.

The Row of Coops

Those rows of 20 coops were set facing the east. Why? Because it's cool early in the morning. The chick is out with the first streak of dawn, and the morning sun, rising far to the north of east, soon strikes directly into his little house, and he gets the sun's heat when he needs it. Take a row of coops facing the south; the morning sun strikes the back of those coops, the chick is in the shade, and not until 10 o'clock or after does the sun strike the front of these houses and in the midday heat the panting hen has no shade or

(Continued on Page 26)

High Producing Vigorous Purebred Baby Chicks

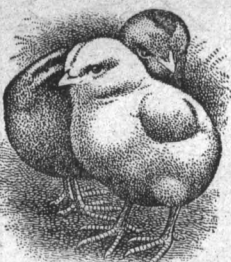
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Fully guaranteed, direct from Trapnested, Pedigreed Tom Barron and Hollywood Imported White Leghorns. World's champion layers. Not just a few 300-egg birds, but a high flock average egg production—that's where you make your profit. Hatched in the largest and finest Hatchery in Michigan, by those who know how. **Bargain prices if you order now.** We can also save you money on Brown Leghorns, Anconas, Barred Rocks, Rhode Island Reds and White Wyandottes. **Satisfaction guaranteed or your money back.**

Handsome, complete catalog free for the asking. Write for it today.

SUPERIOR POULTRY FARMS, Dept. 104 Zeeland, Mich., U.S.A.



Attractive Chick Investments

FROM SELECT PURE-BRED FLOCKS

WHITE and BROWN LEGHORNS, ANCONAS, 50, \$7.50; 100, \$14; 500, \$65. BARRED ROCKS, REDS and MINORCAS, 50, \$8.50; 100, \$16.50; 500, \$75. Discount on orders of 1,000 or more. From extra select flocks \$2 per 100 higher. Postpaid to your door. Full live count guaranteed. Bank reference. Free Catalog. We know it will be to your advantage to get our catalog and full price list before making a final decision regarding your investment in Chicks this season. Send for it **TODAY.**

COLONIAL POULTRY FARMS Box B, Zeeland, Michigan

BABY CHICKS Postpaid to \$11 per 100 and Up

FROM HOGAN TESTED, FREE RANGE HEAVY LAYING FLOCKS. ALL VARIETIES.
WHITE, BROWN and BUFF LEGHORNS and ANCONAS, \$13.00
BARRED ROCKS and R. I. REDS, \$14.00
WHITE WYANDOTTES, WHITE ROCKS, BUFF ROCKS \$15.00
BLACK MINORCAS, BUFF ORPINGTONS, \$16.00
 All lots of 500 or more discounted.

EXTRA SELECTED FLOCKS, \$2.00 per 100 higher.

Large Price List for return mail. Postpaid full live delivery guaranteed. Hatched by the most modern method of incubation from good, vigorous, pure-bred varieties carefully selected and safely packed. No catalogue. Order right from this ad and save time and disappointment. Reference Chesaning State Bank or any business in Chesaning. Address **BABION'S FRUIT AND POULTRY FARM, Guy L. Babion, Prop., Chesaning, Mich.**



BABY CHICKS \$10 per 100 and UP

From selected, heavy laying, vigorous hens. White and Brown Leghorns, Anconas, 50, \$6.75; 100, \$13; 500, \$62.50. Barred Rocks, 50, \$8.50; 100, \$16; 500, \$75. Extra Select, \$2 per 100 higher. Mixed Chicks, 50, \$5.50; 100, \$10; 500, \$50. Well hatched in modern machines. Carefully and correctly packed and shipped. Postpaid, full live arrival guaranteed. Bank reference and this guarantee makes you perfectly safe in ordering direct from this ad NOW. Get them when you want them. All orders have our careful personal attention. **WE WANT YOUR BUSINESS.** Catalog Free. **WINSTROM FARM & HATCHERIES, Box H 5, Zeeland, Michigan**

STOP! LOOK! READ!

GUARANTEED BABY CHICKS

From **WORLD'S GREATEST LAYERS** and **LAYING CONTEST WINNERS, TOM BARRON ENGLISH S. C. WHITE LEGHORNS.** Imported stock. **SHEPPARD'S FAMOUS ANCONAS.** Direct. We could show you our flocks and have you talk with our customers who would order immediately. Our flocks are all **CULLED BY EXPERTS** and headed with **VIGOROUS PEDIGREED MALES** of from 250 to 280 Egg strain. Our chicks become wonderful **LAYERS** You want EGGS? **GET OUR CHICKS.** Write to-day for our free illustrated CATALOG. **SILVER WARD HATCHERY, Box 420, Zeeland, Michigan.**



Egg-Bred Baby Chicks

ENGLISH WHITE LEGHORNS, BROWN LEGHORNS, 11 years of breeding for egg production. Highest quality chicks from tested layers. Satisfaction guaranteed. 100 chicks \$12.50; 500, \$60.00. From Extra selected matings \$2.00 per 100 higher. Postpaid, 100% delivery guaranteed. Order now. Bank reference. Catalog free.

ROYAL HATCHERY & FARMS, R. 2, Zeeland, Mich. S. P. Wiersma, Prop.

HILLVIEW HATCHERY

GUARANTEED TO ARRIVE



Strong and Healthy. Chicks from selected heavy laying, Hogan tested flocks. **ENGLISH WHITE LEGHORNS and BROWN LEGHORNS.** Heavy Laying **EXTRA GOOD BARRED ROCKS.** Postpaid to your door and full live delivery guaranteed. Our flocks are kept on free range, properly fed and cared for insuring the vigor necessary in the Chicks to live and **MAKE A PROFIT.** Give us a trial and you will come again.

HILLVIEW HATCHERY, Route 12 E, Holland, Michigan.

BABY CHICKS

SEX GUARANTEED

The most Progressive Hatchery in the country

A 60% guarantee of sex, giving a majority of either cockerel or pullet chicks, as ordered, plus unsurpassed quality in high egg bred chicks, bespeaks Utility Hatchery & Farms success, and the satisfaction of its customers. Grade AAA flocks are sired by pedigreed males, sworn records from 250-287. Grade AA and Grade A from tested and selected flocks of exceptional merit.

Delivery date guaranteed—100% live delivery guaranteed—60% sex guaranteed—Satisfaction guaranteed. The Utility Hatchery & Farms is giving away \$5,000 worth of Stock in Amazing Special Contest. Information on contest sent upon receipt of each S. C. White Leghorn order. Don't delay. Get started now. Order tonight.

Terms cash, except on advance orders, 25% down, remainder one week before shipped.

UTILITY HATCHERIES AND FARMS
 Dept. 62
ZEELAND, MICH.

ORDER FROM THESE PRICES
 S. C. WHITE LEGHORNS
 Grade A 14c
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 S. C. Anconas 17c
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 S. C. Barred Rocks 20c
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HIGHEST QUALITY CHICKS

Michigan's Old Reliable Hatchery

(The most modern and best equipped Hatchery in the state)

PURE BRED English and American S. C. W. Leghorns; S. C. Anconas; Barred Plymouth Rocks and R. I. Reds. Strong, well hatched chicks from tested Hoganized Free range stock that make wonderful winter layers.

Chicks sent by Insured Parcel Post Prepaid to your door. 100% live delivery guaranteed. Fifteen years of experience in producing and shipping chicks has given absolute satisfaction to thousands. Write for illustrated free catalog and price list. Get lowest price on best quality chicks before you buy.

Holland Hatchery, R. 7, Holland, Mich.

CHICKS

BARRON'S S. C. W. LEGHORNS, SHEPPARD ANCONAS and BARRED ROCKS, EGGS and CHICKS FROM SELECTED STOCK Our Leghorn flocks are headed by large vigorous males from M. A. C.; Anconas from Sheppard's 285 hens. Buy from an old reliable poultry farm and you will be proud to own a flock of high producing hens that will bring you a big profit. We guarantee safe delivery and prepay shipments. Write for catalogue.

BYRON CENTER POULTRY FARM AND HATCHERY Box R, Byron Center, Mich.

QUALITY CHICKS White Leghorns, Barred Rocks, Anconas, 5,000 culled breeders, 12 years experience. New Smith 40,000 egg hatcher. Member Baby Chick Assoc. Send for Folder B and prices. **BIG BEAVER, BIRMINGHAM, MICH.**

KNIGHT STRAIN WHITE PLYMOUTH ROCK cockerels \$5.00 each. Baby chicks \$20.00 per 100. **ROBERT E. KNIGHT, New Baltimore, Mich.**

HARDY, HEALTHY CHICKS



From northern bred, heavy laying, closely selected parent stock in **ENGLISH WHITE LEGHORNS, BROWN LEGHORNS AND SHEPARD ANCONAS**. Our breeding birds are well-fed and housed to insure vigorous breeding condition and vigorous chicks for our customers. **POSTPAID, FULL DELIVERY GUARANTEED, LOWEST PRICES, CATALOG FREE.** Write your exact wants and let us quote you prices before you buy chicks elsewhere. **YOU NEED** these vigorous, northern bred chicks to make profits.

CITY LIMITS HATCHERY, Box M, Holland, Mich.
Reference, Holland City State Bank.

CHICKS WITH PEP, \$11 per 100 and up



Selected Hogan Tested Flocks. Postpaid, full live delivery guaranteed. **BUFF ORPINGTONS, WH. and SIL. WYANDOTTES, 50, \$9.25; 100, \$18; BARRED and WH. ROCKS, S. and C. REDS, MINORCAS, 50, \$8.25; 100, \$16. ANCONAS and HEAVY BROILERS, 50, \$7.25; 100, \$14. WH. BR. and BUFF LEGHORNS, 50, \$7; 100, \$13. MIXED, ALL VARIETIES, \$11 per 100 straight. On 500, 5% off; 1,000 10% off. Ready February 26th. Free Catalog. Member I. B. C. A.**

HOLGATE HATCHERY, Box B, Holgate, Ohio.

MEADOW BROOK FARM



CHICKS—**ENGLISH WHITE LEGHORNS, BROWN LEGHORNS** (Holland Importation Strain), 50, \$7; 100, \$13; 500, \$62.50; 1,000, \$120. **BARRED ROCKS, REDS, BUFF LEGHORNS, 50, \$8; 100, \$15; 500, \$72.50; 1,000, \$140. WHITE WYANDOTTES** (Heavy Laying Flocks), 50, \$9; 100, \$17. Postpaid, full live delivery guaranteed. All flocks composed of Selected Heavy Layers. Order now from this advertisement and get them when you want them. I have been producing good chicks successfully for the past 20 years and **KNOW HOW**. I want your business and will try hard to please you. Free Catalog. Bank Reference. **MEADOW BROOK FARM, Henry De Pree, Proprietor, Route 1 H, Holland, Mich. Member Michigan B. C. A.**

BABY CHICKS

\$10.50 PER 100 AND UP

From Hogan tested, well-kept and housed heavy laying flocks. **Barred and White Rocks, Reds, Anconas, Minorcas: 50, \$8.50; 100, \$16; 500, \$77.50. Buff Orpingtons, White Wyandottes: 50, \$9; 100, \$17.50; 500, \$85. White, Brown and Buff Leghorns: 50, \$7.50; 100, \$14; 500, \$67.50. Mixed: 50, \$11; 100, \$21.50; 500, \$107.50; 1,000, \$215. Postpaid, full live delivery guaranteed. Order NOW from this ad and get them when you want them. Catalog free. ALSO EGGS FOR HATCHING. Reference, 4 Banks. **TRI-STATE HATCHERIES, Box 511, Archbold, Ohio.****

CHICKS THAT MAKE PROFIT



\$10 PER 100 AND UP. From vigorous, pure-bred flocks on free range, selected for heavy-laying qualities and well-cared for. Low prices considering exceptional quality. **WHITE, BROWN and BUFF LEGHORNS, 50, \$7; 100, \$13; 500, \$62.50; 1,000, \$120. WHITE and BARRED ROCKS, WHITE WYANDOTTES, BUFF ORPINGTONS, 50, \$8; 100, \$15; 500, \$72.50; 1,000, \$140. ANCONAS, 50, \$8; 100, \$15; 500, \$72.50; 1,000, \$140. Mixed, all varieties for broilers, \$10 per 100 straight. Postpaid to your door and full live count guaranteed. You can order now direct from this ad and get them when you want them. Bank reference. Free catalog.**

BLUFFTON HATCHERY, Box L, Bluffton, Ohio

SUNBEAM HATCHERY

The Chicks that I sell are produced under my personal supervision in a good, modernly equipped hatchery which is kept in best possible condition. The parent stock is carefully selected and of best heavy laying strains, kept on free range, well-housed and handled. Free from disease and properly fed. This enables me to produce strong, healthy chicks which will profit to my customers. **PRICES: WHITE, BROWN and BUFF LEGHORNS, 50, \$7; 100, \$13; 500, \$62.50. BARRED ROCKS, R. and S. C. REDS and ANCONAS, 50, \$8; 100, \$15; 500, \$72.50. WHITE and BUFF ROCKS, WHITE WYANDOTTES, and B. MINORCAS, 50, \$8.50; 100, \$16; 500, \$77.50. WHITE and BUFF ORPINGTONS, 50, \$9; 100, \$18; 500, \$87.50. I guarantee full live delivery by prepaid post. Get your order in now and I will ship when you want them. Bank Reference. Catalog Free. **H. B. Tiffin, Box E, Findlay, Ohio. Member I. B. C. A.****



Rosewood Farm Healthy, Hardy Chicks

Well-hatched, carefully packed, and shipped. Select, heavy laying **WHITE LEGHORNS, 50, \$7; 100, \$13; 500, \$62.50; 1,000, \$120. Select ANCONAS, 50, \$7.50; 100, \$14; 500, \$67.50. Select BARRED ROCKS, 50, \$8; 100, \$16; 500, \$80. Postpaid, full live delivery guaranteed. Our chicks will render you the best of satisfaction and you will **COME BACK TO US**. We have had long experience in producing good chicks and our flocks are second to none. Circular free. **ROSEWOOD FARM, R 12 A, Holland, Mich.****



Day Old Chicks



From Select, Hogan Tested, Flocks on Free Range. Well-fed and handled to insure strong, vigorous chicks. Heavy Layers. **PRICES: WHITE and BROWN LEGHORNS and ANCONAS, 50, \$7.50; 100, \$14; 500, \$67.50. BARRED ROCKS, 50, \$8.50; 100, \$16; 500, \$75. Hatched right and shipped right. Postpaid, 100% live delivery guaranteed. Bank Reference. Order direct from this ad. Circular free. **BORST & ROEK, Box P, Zeeland, Mich.****

QUALITY CHICKS AT LIVE AND LET LIVE PRICES.

\$10.00 PER 100 AND UP. FROM EXCELLENT PAYING, HEAVY LAYING flocks on unlimited range. Well-hatched, sturdy, healthy chicks in the following varieties: **TOM BARRON ENGLISH WHITE LEGHORNS, 50, \$7; 100, \$13; 500, \$62.50. PARK'S BARRED ROCKS and RHODE ISLAND REDS, 50, \$8; 100, \$16; 500, \$72.50. From EXTRA SELECT flocks headed by Michigan Agricultural College cockerels. (Dams records from 230 to 270.) **WHITE LEGHORNS, 50, \$8; 100, \$15; 500, \$72.50. ROCKS and REDS, 50, \$8; 100, \$17; 500, \$82.50. DELIVERED RIGHT TO YOUR DOOR BY INSURED PARCEL POST. 100% delivery guaranteed. Order NOW and from this ad as many were disappointed last year. Profitable Catalog FREE. Bank Reference. **LAKEVIEW POULTRY FARM, Route 8, Box 3, Holland, Michigan.******

Good Chicks, Low Prices

BARRON TYPE W. LEGHORNS, BARRED ROCKS, S. C. REDS. Pedigreed Chicks from flocks mated with M. A. C. cockerels bred from 200 to 300 egg hens. Our Utility grade Chicks produced by pullets laying at 4 months, 20 days. Get our instructive catalog, low prices, and special discount before you order.

MICHIGAN HATCHERY & POULTRY FARMS, Box A, Holland, Michigan.

QUALITY BABY CHICKS S. C. Brown strain White Leghorn Baby Chicks. Write for catalogue. Cooks Poultry Farm, Holland, Mich.

CHICKS—**SINGLE COMB BUFF LEGHORNS** only. Strong healthy chicks from good laying stock. **J. W. WEBSTER, Bath, Mich.**

400,000 Chicks



Big, strong, Well-hatched Chicks from selected to lay stock on free range properly fed and housed to insure health and vigor. **WHITE, BROWN and BUFF LEGHORNS, 50, \$7; 100, \$13; 500, \$62.50. BARRED and WHITE ROCKS, S. C. & R. C. REDS, ANCONAS, 50, \$8; 100, \$15; 500, \$72.50. WHITE WYANDOTTES, 50, \$8.50; 100, \$16; 500, \$77.50. BUFF ORPINGTONS, SILVER WYANDOTTES, 50, \$9.50; 100, \$18; 500, \$87.50. POSTPAID. We guarantee full 100% live arrival. Reference, Citizen's Bank. Order direct from this ad and save time. Free circular. **MODERN HATCHERY, Box F, Mt. Blanchard, Ohio****

289 EGGS



289 Eggs in one year, actual trap-nest record. "LADY MICHIGAN" also made record of 283 eggs in one year. She laid 294 eggs in 381 consecutive days. Sons and daughters of "LADY MICHIGAN" are now in use in our matings for 1923. If you want **Real Barron Leghorns** Single Comb Whites, get our 1923 catalog and learn full particulars. In regard to our flock which we have carefully bred for high-egg records for the past 21 years. Our best matings are made up of mature females with actual trap-nest records from 200 to 289 eggs.

Chicks and Eggs for Hatching that will put the PROFIT into your Leghorn flocks. Write postcard for catalog today and before ordering. Chicks or Eggs elsewhere. **STRIK POULTRY FARM, Route 4 O, Hudsonville, Mich.**

WASHTENAW



HATCHERY CHICK PRICES: March 26th and following hatches: **Barred Rocks and Reds, 50, \$8.50; 100, \$16; 500, \$75. White Rocks, Wyandottes, 50, \$9.50; 100, \$18; 500, \$85. White, Brown, and Buff Leghorns, 50, \$7.50; 100, \$14; 500, \$67.50. From hatches due March 12th and 19th add \$2 per 100 to these prices. Postpaid, full live delivery guaranteed. Our flocks are carefully selected and bred for high egg production. Order from this ad. Reference, Farmers and Mechanics Bank.**

WASHTENAW HATCHERY, Ann Arbor, Mich.

BABY CHICKS White English Leghorns, Tom Barron Strain. White and barred Plymouth Rocks, S. C. R. I. Reds, Buff Orpingtons. All pure bred from selected stock. Live arrival guaranteed. Postage paid. We do custom hatching. **Durand Hatchery, Fenton, Mich.**

BABY CHICKS—**REMARKABLE FOR SIZE** and strength. Reasonable prices. Leghorns, Anconas, Rocks, Reds, Wyandottes, Orpingtons, Minorcas, Spanish, Brahmas. **TYRONE POULTRY FARM, Fenton, Mich.**

relief from the direct rays of the hot sun, while with the coops facing east the hen is comfortable in the shade.

After most of the hens had weaned the chicks and begun to lay the chicks were moved into the corn lot, 300 ft. long by 180 feet wide. A strip 30 ft. wide by 300 long was sown thickly with oats and cultivated in; on the rest of the lot corn was growing. Having been educated in oats, the chicks did not bother the young corn to any extent. A row of houses 3x4 ft., were along the north side of that 30-ft. strip, and the chicks ran in the corn all summer, the corn forming both shade and shelter from hawks. In four years the chicks had practically denuded the ground of weeds. There were about 400 chicks in that lot, remaining there until time to be put into winter quarters.

Yes they do some damage to the corn, stripping the under part of the husk off and eating two or three rows of the under part of the ear. But the fifth year I raised 165 bushels of ears, 133 of shelled corn, on that lot, and all the cultivation it had was the cultivator run through it both ways twice. No hoeing whatever on the main part of the lot; on the south side furthest from the chicks, I had a strip of potatoes the previous year and that had to be hoed. I think 10 bushels would cover all the damage the fowls did to the corn. Foxes bothered, so I plowed a deep furrow around the lot, set posts at the edge of the furrow and put up a six-foot poultry-wire fence around it, letting the wire down into the furrow, and filling it so they could not dig under.

CAPONIZING

EVERYBODY is fond of chicken, but many do not know that capons have the same delicious meat, only more of it. Birds for broiling must be killed while they are still comparatively light in weight, in order to have them at their best, but cockerels when caponized can be brought to a weight four or five times that of the broiler, according to the breed, and still retain the tender, sweet flavored flesh of broilers.

It is difficult to state the exact size or age at which a cockerel may be most successfully operated upon, as different birds develop differently.

As a starting point, however the beginner will be safe in using birds weighing between 7-10 and 9-10 kilo if they are of the Plymouth, Rhode Island Red, Wyandotte, or Orpington breeds. Later as one becomes more familiar with the matter, the birds will be selected by their "look" rather than by weight or age. The proper time is just before the Cockerel begins to make comb, when the generative organs are about the size of a small navy bean. The organs are oval in shape, and at the time most favorable for caponizing are the size of a small pea.

The Operation

Previous to the operation the only preparation necessary is to keep the bird from food and water for thirty-six hours. This will allow the intestines to empty and subside, making the operation much easier and less dangerous.

The present mode of operating is to make a small cut between the last two ribs on either side. This is preferable to one large opening on one side, being easier on the bird and the wounds heal more quickly.

Lay the bird on its side on the operating table. Wrap a cord twice around its legs. Wrap another cord around both wings close to the body. Attach the other ends of these cords to weights like a small stone, letting them hang over the table side, holding the bird safely. A few feathers should be plucked just in front of the thigh, thus laying bare a small space just over the last rib. The surrounding feathers should be moistened to make them lie down and not interfere during the operation. The last two ribs should now be located by the forefinger of the left hand. Having located the ribs pull the skin as far toward the thigh or hip as possible, so that after the operation is completed it will go back to its place and entirely cover the cut between the ribs. With the knife in the right hand, insert it between the last two ribs, cutting through skin and flesh, being careful not to touch the intestines. Make the cut about 25 millimeters long. Insert the spreader, between the ribs,

through the incision, which will spread the ribs apart. Then with the hook pick the thin membrane covering the intestines. When this has been done and the intestines pushed aside the organ (testicle) will be in plain sight. In a bird of the proper age it will be a rich creamy yellow and about the size and shape of a small bean.

The care with which the operator grasps the organs without grasping the blood vessel, or the tissues surrounding it constitutes the whole trick of the operation. Having grasped the testicle with the forceps, twist them around a couple of times and pull them out and cut the twisted cords with a knife. Remove the spreaders and allow the skin to cover the opening between the ribs. In ten days there will be nothing but a shiny scar.

After the testicle is removed the bird is laid on its other side and the other testicle removed.

After the operation, the birds should be placed in a yard by themselves and fed on soft food for three or four days. It is well to examine the birds several days after the operation, to see if there is and swelling (wind puff). If there is, a slight puncture of the skin will correct it. —Progressive Agriculture.

STANDARD REQUIREMENTS OF GOLDEN POLISH FOWL

Will you please publish the standard requirements for Golden Polish fowls?—A. R. V., Crosswell, Mich.

—We are giving the standard requirements for the Golden Polish fowl as stated in the American Standard of Perfection.

Disqualifications: Shanks other than blue or slaty-blue.

Male

Head: Face, red.
Beak: Dark horn.
Eyes: Reddish-bay.
Comb and Crest: Comb, red. Crest, golden-bay, laced with black.

Neck: Golden-bay. Each feather laced with black; coverts, golden-bay each feather laced with black, lacing widest at end, forming two well defined wing bars; primaries, golden-bay, each feather ending with black, the black tapering to a point at lower edge; secondaries, golden-bay with well defined black lacings.

Back: Golden-bay, each feather laced with black; saddle feathers abundant, each feather laced with black, the texture of feathers giving a rayed appearance.

Tail: Golden-bay, each feather laced with black; lacing widest at ends; sickles and coverts, golden-bay each feather laced with black, lacing widest at end.

Breast: Golden-bay, free from mossiness, each feather laced with black, the lacing being proportionate to size of feather.

Body and Fluff: Body, golden-bay, each feather laced with black; fluff, bay, tinged with black.

Legs and Toes: Thighs, bay, each feather laced with black; shanks, and toes, slaty blue.

Under color of all sections: Slate.

Female

Head: Face, red.
Beak: Dark horn.
Eyes: Reddish-bay.
Comb and Crest: Comb, red; Crest in pullets black laced with bay, which after first moult should be golden-bay laced with black.

Wattles & Ear lobes: Wattles, red. Ear lobes, white.

Neck: Golden-bay, each feather laced with black; feather in front of neck same as breast.

Wings: Bows, golden-bay, each feather laced with black; coverts, golden-bay, each feather laced with black and black growing wider at the extremity; primaries, golden-bay each feather ending with black and black tapering to a point on lower edge; secondaries, golden-bay with well defined lacings.

Back: Golden-bay, each feather laced with black.

Tail: Golden-bay, each feather laced with black, the black being wider at outer end of feather.

Breast: Golden-bay each feather laced with black.

Body & Fluff: Body, golden-bay, each feather laced with black; fluff, a lighter shade of bay tinged with black.

Legs and Toes: Thighs, bay, each feather laced with black; shanks and toes, slaty blue.

Under color of all sections: Slate. —E. C. Foreman, Associate Professor of Poultry Husbandry, M. A. C.

PARALYZED CHICKS

My white Leghorn chicks act as if they were poisoned. They seem to be paralyzed in both legs, fall down, stretch out, quit eating and finally die. They are three weeks old. When they were taken sick I was feeding cracked wheat, cracked corn, chick feed, green grass and chicken grit, before them all the time. I cut out the corn, wheat and chick feed and have been feeding rolled oats, bran, grass and sour milk; have also put permanganate of potash in the drinking water.—Subscriber.

—The trouble is digestive unquestionably. I have seen such troubles developed by feeding moldy bran, and it might come from any kind of spoiled or dirty feed. If you have kept all these different feeds before them they have overfed unless they are on range and pick up so much that they do not care much for what is before them in the run. And that green grass—do you mean that you feed it long just as it comes from the mower, or do you run it through a cutter? If they are trying to eat it without cutting up their little crops may be full of long pieces of grass which they cannot manage. Rolled oats, bran and sour milk make a good ration if you add some hard grain. They need grain to keep their digestive organs strong. The potassium permanganate is an antiseptic but not a remedy for indigestion. As they are a month old by this time they should have a good growing mash. Keep this before them only half a day at first. After a month you can lengthen the time gradually till at the end of the third month it is before them all day. Feed mixed grain morning and evening, either in litter or spaded into the ground if you have not litter. They should by this time be through with chick feed and eating whole wheat and Egyptian corn or cracked corn. Keep the sour milk before them, and feed cut greens at least once a day. It is better to put the green before them about 9 o'clock and let them pick at it all day. Alfalfa and lettuce are the best greens for young chicks, but lettuce is not practicable for a large flock.

SOFT SHELLS

What shall I do for a Light Brahma pullet six months old that lays soft shelled eggs? Her first egg was double yoked and since then she has laid two perfect eggs and several soft shelled. Last night she dropped two at roosting time and I found another under the roost this morning.—Subscriber, Calhoun County.

—Your ration must be to forcing. If you are feeding a laying hen, mash change to bran for a week or so and be sure to give plenty of green and keep oyster shell before her. Brahmas mature slowly and should not be pushed for eggs till they are eight or nine months old.

SMALL EGGS

One of my Anconas laid a tiny egg with just a speck of yolk. I have been told this is the last egg off a clutch and that after a rest the hen will begin laying again.—Subscriber, Clayton, Mich.

—Pearl, Surface and Curtis in "Poultry Diseases and Their Treatment," say that these little eggs do not mark the end of a laying period but may be produced at any time. They are usually laid when the bird is in a very active laying condition, and the white seems to form about some foreign body, such as a piece of hardened albumen, a bit of coagulated blood or a small piece of yolk which has escaped from a ruptured yolk. The egg you found was probably formed about a piece of ruptured yolk.

CULLING REDS

I am hatching from a dozen R. I. Red hens mated to a rooster that is the son of a prize winner. What points shall I take into consideration when I come to cull my spring chicks? When should I begin to cull?—R. B., Clayton, Mich.

—You should have a late Standard of Perfection if you think of raising show stock and you should also look at birds that have won prizes. In general, exhibition Reds should have dark, brilliant red plumage, free from white, but with black in wing and tail feathers. They should have long, straight backs and the male should have a five point comb.

Weight is very important. No bird that is much below standard weight should be considered as an exhibition possibility. Do not begin to cull, except to remove sickly or backward birds, till the males weigh 2½ to 3 pounds. You can tell then whether they will be even in color and blocky in build. All but the best should be sent to market as fryers for there is no market for breeding cockerels that are not fairly up to standard. Pullets should not be so readily discarded for they may make good layers in spite of white feathers of other disqualifications. If you really want a good standard bred flock, however, it is best to get rid of all that are not good color and size.

FINE MEAT SCRAPS MAKE BEST MASH

MEAT scraps in the home-mixed mash for poultry should be ground fine to prevent waste and to insure uniform distribution to all individuals of the flock, say poultrymen at the Ohio Experiment Station.

The coarser meat scraps do not mix uniformly with the other ground feeds, so the birds pick over the mash for the particles of meat, causing much waste and what is worse permitting a few birds to get more than is good for them while others are unable to get what they need. After the fresh supply of mash is picked over it is difficult to get the mash consumption required for profitable egg production.

If the other mash ingredients are of proper texture the final mixture will be a uniform product and palatable. To make a mash of this kind standard wheat middlings is preferable to coarse bran and coarsely ground oats or alfalfa.

Many dealers do not carry the fine meat scraps in stock, but it can be obtained from them by special order at the same price as the coarse. When the feed dealer orders meat scraps the coarse product is sent unless the fine meat scraps is specified.

A SENSIBLE EGG CARRIER

A CHOCOLATE or broken candy pail that can be had for a song at any grocery store, makes an excellent egg carrier when treated in the following manner: Take a sheet of the corrugated brown paper board used in wrapping for breakable articles and line the sides and bottom of the pail, as shown in the cut. Then cut circles from other pieces of the same material to use between each layer of eggs, smaller circles for the bottom, increasing in size as the top is approached. Eggs can be gathered from the nests in such a pail and carried to market, with reasonable assurance that few, if any, breakages will occur. The cost of the whole will be but a trifle, and your own grocer may give you all that is needed for the carrier. The corrugated paper can be obtained in large sheets from grocers, to whom it has come packed about breakable goods.

GOOD BROODER ESSENTIAL TO SUCCESS WITH CHICKS

THERE is many a good brood of chicks ruined by worthless brooding arrangements. Some persons can take care of a few chicks in any kind of basket or soapbox arrangement behind the kitchen stove, while others taking hold of the same outfits would fail every time. All such things are but veritable makeshifts at best. If you care to make a real success of raising what chicks you hatch, better put aside all recommendations for fireless brooders, and invest in a good roomy reliable brooder. One that has some reputation behind it, and can produce results which are claimed.

There are various kinds of brooders. In the first place, there is the old-fashioned kerosene lamp heated brooder, which is pretty good, but we think a much better one is the so-called blue flame kerosene heater, which produces a flame very similar to the blue flame cook stove. These are the best of that kind of brooder. Then where a good many chicks are to be brooded in a right cold climate, the hard coal or soft nut coal stove heater for heating a brooding house is good. They are, of course, not calculated to use where a hundred or two chicks are to be warmed. The gist of the whole matter is that no matter what number of chicks you are to take care of from 50 up, do not try to economize by not investing in some kind of a brooder.

BRED TO LAY CHICKS

DIRECT from large Modern 65 acre Poultry Farm. Result of ten years of careful breeding for heavy egg production. Winners at leading shows. M. A. C. Inspected and Approved. 100% live arrival guaranteed. Shipped Postpaid. Bank reference. Order at once at these prices or write for Catalog. BARRON ENGLISH WHITE LEGHORNS, BROWN LEGHORNS and S. C. ANCONAS. EXTRA SELECT, 50, \$7.50; 100, \$14.00; 500, \$65.00; 1,000, \$125.00. SELECT, 50, \$6.50; 100, \$12.50; 500, \$60.00; 1,000, \$115.00. TOWNLINE POULTRY FARM, Box 27, Zeeland, Michigan



GUARANTEED CHICKS RURAL

EXCEPTIONAL VALUES IN HIGHEST QUALITY, proven layers. Pure-bred S. C. Barron White Leghorns, Heavy Laying Brown Leghorns, Select Anconas, Heavy Winter Layers. Result of constant breeding for high flock averages. Buy direct from large modern hatching and breeding institution. All stock scientifically culled and approved and headed by large vigorous males. New low prices. Sent postpaid. 100% live delivery guaranteed. Write for fine 1923 catalogue. Its free. Reference: Two Banks. RURAL POULTRY FARM, DEPT. B. R. 1, ZEELAND, MICH.



CHICKS, \$10 per 100 and up

Postpaid to your door and full live count guaranteed. Varieties: WHITE, BROWN and BUFF LEGHORNS, \$7.00; 100, \$13.00; 500, \$62.00; 1,000, \$120.00. BARRED ROCKS, BLACK MINORCAS and ANCONAS, \$8.00; 100, \$15.00; 500, \$72.00; 1,000, \$140.00. WHITE ROCKS, WHITE WYANDOTTES and REDS, \$8.50; 100, \$16.00; 500, \$75.00; 1,000, \$145.00. BUFF MINORCAS, 50, \$13; 100, \$25. MIXED CHICKS FOR BROILERS, 50, \$6; 100, \$11; 500, \$50. Postpaid. Full live delivery guaranteed. Hatched in the best possible manner from good, vigorous, pure-bred, heavy laying flocks on free range. Carefully selected and packed to go safely. No catalog. Order right from this ad. and save time. Reference, Citizen's Saving Bank. You take no chances.

THE EAGLE NEST HATCHERY, Box K, Upper Sandusky, Ohio. Only 7 hours from Grand Rapids. Can reach any point in Michigan in 24 hours.



4½ Months Old and Laying

DON'T BUY CHICKS

until you get our prices as we can save you money on English Leghorns, Barred Rocks and Anconas, that will lay when egg prices are highest. Mr. M. W. Sellers, Route 1, Saginaw, Mich., writes: "I made better than \$1200.00 last year from 425 pullets in 5 months." Write today for free catalog and our contest offer and our ironclad guarantee. We are breeders and practically about the only so advertised poultry farm in this vicinity.

RIVERVIEW POULTRY FARM, Route 2, Zeeland, Michigan

CHICKS \$12.00 per 100 and Up

100% SAFE ARRIVAL GUARANTEED. PRICES—WHITE, BROWN and BUFF LEGHORNS, 50, \$7; 100, \$13; 500, \$60. BARRED ROCKS, S. C. and R. C. REDS, ANCONAS, B. MINORCAS, 50, \$8; 100, \$15; 500, \$70. WHITE WYANDOTTES, WHITE ROCKS and BUFF ORPINGTONS, SHEPARD'S 331 EGG STRAIN ANCONAS, WHITE MINORCAS, 50, \$8.50; 100, \$16; 500, \$75. MIXED, 50, \$6; 100, \$11; 500, \$50. Hatched from selected heavy laying flocks that are well fed and cared for, insuring strong, lively chicks that will make a profit for you. POSTPAID TO YOUR DOOR. ORDER DIRECT FROM THIS AD AND SAVE TIME. Catalog free. Reference, Geneva Bank. THE GENEVA HATCHERY, Box 505, Geneva, Ind.



GUARANTEED CHICKS

Hatched from High Laying Quality Fowls on free range, properly fed and housed to insure strong Chicks. BARRED ROCKS, S. C. REDS, MINORCAS, ANCONAS, 50, \$8; 100, \$15; 500, \$74. WHITE WYANDOTTES, BUFF ROCKS, 50, \$8.50; 100, \$16; 500, \$78. WHITE, BROWN and BUFF LEGHORNS, 50, \$7.50; 100, \$14; 500, \$65. Postpaid to your door. 100% live delivery guaranteed. Catalog free. Bank Reference. MORENCI HATCHERIES, Box B, Morenci, Mich. Member I. B. C. A.



Karsten's Farm ---Quality Chicks---

that will lay and pay. The famous BARRON STRAIN ENGLISH WHITE LEGHORNS, ANCONAS and BROWN LEGHORNS. QUALITY BABY CHICKS CAN NOW BE PURCHASED AT PRICES UNHEARD OF BEFORE. SEND FOR CATALOG IT TELLS HOW AND WHAT TO FEED YOUR POULTRY FOR PROFIT. REMEMBER WE SHIP DIRECT FROM THE KARSTEN'S FARM, Zeeland, Michigan, Box 102.

300,000 Chicks

Guaranteed Michigan Bred and Hatched

ENGLISH WHITE and BROWN LEGHORNS, SHEPARD'S Famous Strain ANCONAS, 50, \$7; 100, \$13; 500, \$60. BARRED ROCKS, R. and S. C. REDS, 50, \$8.50; 100, \$16; 500, \$75. 1,000 orders at 500 rate. RHODE ISLAND WHITES, 100, \$18; 200, \$35. Postpaid, full live delivery guaranteed. Strong, vigorous Chicks from heavy laying flocks. Order right from this ad. WE SATISFY OUR CUSTOMERS. Catalog free. Reference, Holland City State Bank. KNOLL'S HATCHERY, Box L, Holland, Michigan



TIMMER'S HATCHERY

Hardy, healthy Chicks from selected heavy laying flocks. W. H. and B. R. LEGHORNS, 50, \$7; 100, \$13; 500, \$62.50. ANCONAS, 50, \$7.50; 100, \$14; 500, \$67.50. BARRED ROCKS and REDS, 50, \$8.50; 100, \$16.50; 500, \$80. Postpaid, full live delivery. Bank reference. Free Catalog. TIMMER'S HATCHERY, Route 3 A, Holland, Mich.



Pine Bay Poultry Farm, Box 56, Holland, Mich.

Hardy Northern Bred Chicks

Barron S. C. W. LEGHORNS Parks Strain BARRED ROCKS The greatest egg producers known. Heavy winter layers. See record of our pen 16 now at the Michigan International Egg Laying Contest. Get Quality chicks at Reasonable prices from Holland's pioneer poultry farm. Catalogue free.

Pure Bred Chicks Buy 'Em Near

Broiler Chix.....11c W. Wyandottes 13c
W. or B. Leghorns.....13c Buff Orpingtons.....17c
B. Rocks or Reds 15½c Light Brahmas.....22c
W. or Buff Rocks.....17c Black Minorcas.....16c

Add 35c if less than 100 lots wanted. Circular. LAWRENCE POULTRY FARM, Dept. 9 Good Reference R. 7, Grand Rapids, Mich.

Rhode Island Reds, Tompkins strain, hatching eggs and baby chicks. Eggs per hundred \$12.00; chicks per hundred \$25.00. On all orders for either stock, eggs or chicks of \$15.00 or more, I will give the Rhode Island Journal free for one year. A few good cockerels left. Quality Breeder of Rhode Island Reds, both combs. WM. H. FROHM, New Baltimore, Mich., R. 1.

BABY CHICKS—PUREBRED BARRED ROCKS, Buff Wyandottes, Black Minorcas, R. I. Reds, Brown and White Leghorns 12c and up shipped postpaid. THOS. G. CALLAGHAN, Fenton, Mich.

Keep The Business Farmer Coming—See Page 13.

SOLD OUT!



"WE wish to say that the Business Farmer did us more good than any other paper we ever put our ad in. We sold over fifty cockerels and could have sold more if we had had them."

A. J. Brewbaker, Elsie, Mich.

The Business Farmer will do as much for you if you have poultry, hatching eggs or baby chicks for sale.

WRITE TODAY FOR OUR SPECIAL RATES.

Advertising Dept., The Business Farmer, Mt. Clemens, Mich.

CHICKS

THAT GROW, LAY AND PAY
Barron English White Leg-
horns, Brown Leghorns and
Anconas.

PURCHASE THIS YEAR'S CROP
OF CHICKS from tested layers, headed
by large vigorous 260 to 288 Pedigreed
Males.
CUSTOMERS REPORT BIG PROFITS
with these wonderful layers. Write today
for our large illustrated catalogue. It
tells all about them, it's free.

WYNGARDEN HATCHERY
Box B, Zeeland, Mich.

Star Hatchery

BABY
CHICKS

From Select, Vigorous, Heavy
Laying Breeding Stock



WHITE and BROWN LEG-
HORNS and ANCONAS
50—\$7.10—\$14.50—\$65
SINGLE COMB REDS
50—\$8.10—\$15.50—\$75

Hatched by modern methods
in best machines under our
personal supervision. Carefully
packed and sent postpaid and
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You take no chances in ordering STAR BABY
CHICKS. Place your order now and get them
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STRAIN BARRED ROCKS. THE
WORLD FAMOUS PRIZE WIN-
NING AND HEAVY LAYING
STRAIN.

Barron White Leghorns
Splendid, big, heavy weight, heavy
laying hens.

Everlay Brown Leghorns
Beautiful business hen. Wonderful
winter layers. Second to none.
Sheppard's Famous Strain

331 egg strain.
From all these great strains. Postpaid
and full live delivery guaranteed. Also
EGGS FOR HATCHING and Breeding Stock.
Reference 2 Banks. Member M. B. C. A.
Fairview Poultry Farm, Route 2 K, Zeeland, Mich.

WOLVERINE BABY CHICKS are Chicks That Satisfy

Bred for egg production
13 years. We hatched
and shipped chicks for
12 years. This assures
you success. **ENGLISH
TYPE WHITE AND
BROWN LEGHORNS.**

100% safe arrival guaranteed. Write for
catalogue. It's free. **WOLVERINE
HATCHERY, R. 2, Zeeland, Mich.**

chicks

From select vigorous, heavy
laying breeding stock. White,
Brown Leghorns, Anconas, Bar-
red Rocks. Our price is 12 cents and up.
Guarantee 100% live delivery by pre-
paid post. Get your order in now—
will ship when you want. Customers re-
port "Big Profits" with these wonderful
layers. Write today for Illustrated Cata-
logue. It's free. Reference: State Com-
mercial Savings Bank, Member M. B. C. A.
Queen Hatchery & Poultry Farm,
Zeeland, Michigan

BABY CHICKS

You can now order Chicks in 11 breeds of the
Pure Breed Practical Poultry that is making egg
Barred Rocks
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Orpingtons
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Wh., Br., Buff
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Pedigreed
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S. C. W. LEGHORNS CHIX
AMERICAN-ENGLISH STRAIN

Are you going to buy them from a hatchery or
from a BREEDER. Buy from Michigan's Largest
Leghorn Farm and insure success. We hatch our
own eggs only. Supply limited. Prices reasonable.
Satisfaction guaranteed.

Descriptive Circular tells
all about them. It's free.
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FROM SPECIAL MATINGS
A specialist breeder can furnish better
baby chicks. Our ANCONAS are Michi-
gan's leading strain today—both in ex-
hibition and in egg production. **WHITE
LEGHORNS** from a select special egg
flock having blood lines of world's
greatest layers. We specialize in quality
—not quantity. Lowest prices. Write for illustrated
catalogue.

PROGRESSIVE POULTRY FARM
Box 1 Holland, Mich.

CHICKS Barron Strain Selected
White Leghorns. Produced
under my personal care. Strong, vig-
orous chicks carefully packed to go
safely. Postpaid, full live delivery
guaranteed. 50 chicks, \$6.50; 100,
\$12.50; 500, \$60. Get your order in
early. Elgin Hatchery, Box 317A, Zeeland, Mich.

BABY CHICKS SELECTED CHICKS FROM
the heart of the baby-chick
industry. Leading pure breeds from heavy egg-pro-
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CHICKS—WE HAVE SHIPPED THOUSANDS
each season since 1904. Different
breeds, free booklet with guarantee and delivered
price. Freeport Hatchery, Box 10, Freeport, Mich.

Some Factors in Poultry Success

IMPROVEMENT is the constant aim
of those who would achieve the
highest type of success. With-
out this desire agriculture would still
be in the thatched stable stage of de-
velopment in this country. And any
sort of improvement which is not
honestly won, which is not perman-
ent in character, is deceitful. By
that we mean that we cannot adopt a
type of progress which merely defers
the day of reckoning; if we are going
to secure high crop yields at the ex-
pense of soil fertility, or high egg
yields at the expense of the constitu-
tional vigor of our stock, then it
would be better not to hazard it at
all.

Success with poultry, especially in
improving the flock records, must be
built upon the solid rock of honest
methods or the structure is certain to
come tumbling down about our ears.
That is why so many people who seek
to beg the question through the feed-
ing of nostrums and stimulants fail
to achieve any real success. They
have not taken stock of all the fac-
tors influencing success. By crowding
the hens, by forcing an unnatural
production upon them, they have se-
cured temporary results at the ex-
pense of the future. And the future
has invariably cost them more than
the temporary increase made pos-
sible.

The very first thing to do, in seek-
ing to improve the home flock, is to
take stock of the situation and get
an accurate record of what the flock
is doing—something upon which an
intelligent analysis of future efforts
may be based. There is nothing
quite so important in any business as
a "set of books." The merchant
finds them indispensable as to his
business success, for they are the
barometer which accurately gauges
the state of health of that business.
No man can do business these days
without records of what he is doing
and records over a long period of
years—comparative statements. Rec-
ords must be had of the poultry flock
before one can attempt improvement.

We do not mean that trapnets
should be installed on every farm,
or that they need be installed on any
farm—although that would be worth
while, if it were done—but we do
mean that every person keeping pou-
ltry ought to know in round numbers
at least what his or her flock is doing
by days, weeks or months. Too many
people imagine that their hens are
laying a good deal of eggs merely be-
cause they lay at a good clip at cer-
tain seasons. Then, too often, no
stock is taken of the eggs consumed
on the home table, and since they are
not checked off, there is a tendency
to overestimate them, thereby caus-
ing one to deceive himself as to the
real productiveness of the hens.

Keep an egg record, and while you
are keeping that record keep in mind
the fact that commercial poultrymen
feel they cannot do business with
layers which produce less than 12
dozen eggs per year. How many
hens have you producing less than
that number of eggs? You can es-
timate, if you have a total egg record
for the year, and it will bring home
some astonishing things to almost
anyone with a flock which has not
been systematically checked.

If you are getting eggs practically
the entire year, it will indicate that
not all the hens are loafers. The
problem, if your egg record is not
what it should be, will be to elimi-
nate the loafers and get more of the
producers into the flock. And this
will be a problem of culling and
breeding, other factors in the poul-
tryman's route to success. Culling
is no longer much of a problem. Prac-
tically every community now has its
qualified poultry cullers, usually
working through the county agent or
the state agricultural college or both.
If one cannot command the services
of such experts, then the art of cul-
ling can soon be mastered by a study
of modern poultry text-books and a
little practice. Culling is essential
because it prevents the propagation
of undesirable individuals in the
flock, and because it cuts down feed
bills and provides room for more pro-
ducers, thereby giving them a better
chance.

Breeding is, of course, important.
While every poultry raiser cannot be
expected to master the art of breed-
ing, the rudiments of the science can
at least be learned. And it means a
great deal more than simply selecting

a good looking male and turning him
loose with the hens and pullets. The
more one gets into the subject of
breeding, the more important and
vital it seems to be. But it is worthy
the effort and the study because, in
the final analysis, all substantial pro-
gress depends upon it. If more peo-
ple were aware of this truth there
would be less of the disposition to fly
in the face of nature and do some
of the things they continually prac-
tice. More people would come to
realize that the poultry flock is like a
piece of delicate machinery which
must be given in proper amount all
the elements, the fuel, the lubricant,
and the like, necessary to make good
performance possible. To attempt
to secure results from a motor by
placing water in the crankshaft for
lubricant, for instance, would be
fool-hardy, but many poultry raisers
are trying to do just such a thing
when they feed them something other
than a balanced ration and give
good, systematic care and housing.
Such a procedure would ruin a good
motor and it will ruin a good layer
and the rest of her will
not save the day, either.

Good feed, as well as care, are as nec-
essary as good breeding, whatever
the respective purpose you may have
in mind. And good feeding means,
a balanced ration—a ration which
supplies in proper proportion all of
the respective elements necessary to
achieve the purpose which you have
in mind. If it means market eggs,
then you must feed a ration which
will produce eggs, giving all the ele-
ments necessary for egg production
and leaving nothing to be supplied
by chance. Leaving some one ele-
ment to chance is one of the reasons
why more farm hens do not develop
into the producers they should, for
it is singularly true, that the average
farm hen today is as well bred as the
average hen found in any other place.
The trouble lies in other directions.

It is in recognizing all of the fac-
tors which are necessary for success,
in giving them their proper place and
in seeing that they are discharged
that the greatest chance of success
comes. Details, we have said before,
are the bricks which make success
possible, if they are mastered. And
they must be overcome or there will
be no success in anything we may
undertake. They will not be denied.—
Wisconsin Farmer.

ROOSTING PLACES FOR THE POULTRY

THE arrangement of roosts in the
hen-house is a matter of consid-
erable importance. Not only
should these be so placed that they
may be easily kept clean by the at-
tendants, but the health and con-
tentment of the fowls should be con-
sidered as well. The usual method
of the farmer in putting up the
perches is to nail them to the wall
of the house, beginning near the
floor and placing them at intervals
ladderwise, even up to the roof.
Take a look at one of these houses
after the fowls have gone to roost
and you will find all the birds crowd-
ed on the higher perches. This in-
stinct of self-preservation prompts
them to get as far away from the
ground as possible, a trait inherited
from their wild ancestors. Often in
striving for the highest perch the
heavy fowls are crowded off and re-
ceive severe injuries, or in flying
down from the roosts they are apt
to be injured. Injury in the last
mentioned way is a common cause
of the so-called bumble-foot, preva-
lent among heavy fowls. Where
perches are arranged in this way the
highest is cold and unsanitary.
Snow and frost upon the roof may
chill the combs and backs of the
birds, resulting in sickness and
death in the flock.

All perches should be upon the
same level and never more than four
feet from the floor. Many contend
that two feet is the ideal height.
The Asiatic breeds should not be
expected to roost far from the
ground, while the Mediterranean
varieties may be given higher
perches. It seems to add consider-
ably to the contentment of the small-
er and more active birds if they are
allowed to roost farther from the
ground. They should never be al-
lowed too near the roof, however,
for reasons already stated.

An excellent arrangement is a
square platform with a perch some

BABY CHICKS

Best Payer, Heavy Lay-
ing, Pure Bred, Tom
Barron English White
Leghorns, St. C. Rhode
Island, Reds, Park's
Island, Reds, Strong
Healthy Chicks hatched
from greatest and best
incubator known. Chicks
are given full twenty-one
days and hatched under
proper temperature.



Mr. Frank Fuleron, Niles, Mich., writes as fol-
lows: "From the 66 pullets we raised from your
stock last year along with the thirty which we had,
we got 1,610 eggs in December. Can you beat it?"
We are the first and oldest importers of White
Leghorns in this state.

Watch our pen number 17 in the Michigan Egg
Laying Contest. It's coming strong! All flocks
thoroughly culled and properly mated to pure bred
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breeding stock of real quality helps
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25,000 Thrifty Chicks Weekly
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GET THE PROFITABLE AND LAYING KIND

They will pay you big. Free
range. Selected. Hogan test. Or-
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50, \$9.25; 100, \$18. Rocks,
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Strong, sturdy, S. C. White Leghorns (English
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Tom Barron strain White Leghorns. Also Barred
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Peerless Chicks

HATCHED FROM BRED-TO-LAY S. C. WHITE LEGHORNS

They are selected long deep-bodied, with
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Strong, vigorous Chicks from se-
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STRAIN WHITE LEGHORNS** and
BROWN LEGHORNS and
\$12.50; 500, \$60. THOMPSON &
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\$18; 500, \$87.50. Postpaid, full
live delivery guaranteed. Catalog
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Hatched from strong and
vigorous flocks of **ENGLISH
WHITE LEGHORNS** and
ANCONAS. BRED FOR
HIGH EGG-PRODUCTION.
No guarantee 100 per cent
live delivery on arrival. Postage PAID.
Prices reasonable. Instructive Catalog and
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White Leghorn CHICKS

Write Quick. Free feed—Liberal Discount
on early orders: World-Famous 255-270 and 280-
325 egg strain trapnetted, pedigreed Eng-
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Best Payers. Strong healthy chicks, 100% live de-
livery guaranteed, p.p. Big valuable catalog free.
KERLIN'S GRAND VIEW POULTRY FARM, Box 43 Center Hall, Pa.

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Heavy Laying, pure bred, English strain. Flocks
culled and tested for laying ability. Strong,
healthy chicks, 100 per cent live delivery guar-
anteed. Postage paid. Catalog, low price list
free. Write quick.
Catalpa Grove Hatchery, Box 4, R. 2, Holland, Mich.

BABY CHICKS and HATCHING EGGS

Direct from our farm at greatly reduced prices,
only 9c up. Barred Rocks, White Leghorns and
Anconas. Write quick for particulars and special
introductory offer. **MODEL POULTRY FARM &
HATCHERY, Zeeland, R. 4, Michigan.**

WHITTAKER'S R. I. REDS—Michigan's
Greatest
Color and Egg Strain. Bred from winter layers
for 13 years. Chicks and eggs. Write for free cat-
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COMB RHODE
ISLAND WHITES. Write for Catalogue. Fischer's
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BABY CHICKS—FROM SELECTED FLOCKS
Six leading varieties. Popular prices and guaranteed
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Advertisements inserted under this heading at 30c per agate line, per issue. Commercial Baby Chick advertisements 45c per agate line. Write out what you have to offer and send it in. We will put it in type, send proof and quote rates by return mail. Address The Michigan Business Farmer, Advertising Department, Mt. Clemens, Michigan.

PULLETS, HENS AND COCKERELS

S. C. White Leghorns and S. C. and R. C. Black Minorcas. Must make room before cold weather. About ready to lay.

LAPHAM FARMS, Pinckney, Mich.

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EGGS FOR HATCHING: FROM THE FOLLOWING VARIETIES: Barred, Buff and White Rocks; Silver Laced, and White Wyandottes; S. C. White Orpingtons, and S. C. Black Minorcas. Eggs, \$1.25 for 15, \$2.25 for 30, prepaid. From pure bred Good Laying Stock. Booking orders for eggs. Order early. **BENJAMIN SCOTT, Bannister, Mich.**

EGGS FOR HATCHING—UTILITY STOCK. Grand White Wyandottes—M. A. C. Champions. Good, square deal. Reasonable prices. Send for price list.
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HATCHING EGGS

S. C. White Leghorns, Tom Barron Strain, 250 egg utility line. November to April, average 65 per cent. Pure white plumage. Range grown, healthy, vigorous stock. Eggs \$1.50 per 15; \$4.00 per 50; \$7.00 per 100. Prepaid. Limited supply. Order from this ad now.

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C. W. Bovee, Prop., North Star, Michigan.

YOUNG AND WYCKOFF WHITE LEGHORNS Selected hatching eggs \$2.00 a setting. Prepaid circular. **F. Arthur Martin, Indian River, Mich.**

WHITE WYANDOTTES Eggs for hatching. **WAYNE CHIPMAN, R. 2, Washington, Mich.**

SILVER LACED AND WHITE WYANDOTTES Four large, beautiful roosters. Eggs \$2.50 per 15. **C. W. BROWNING, Portland, Michigan.**

BUFF ROCK EGGS BY 10 LB. MALES O. winners. Hogan tested hens, heavy layers. **J. C. CLIPP & SONS, Box M, Safford, Ind.**

THOROUGHbred BUFF ROCK EGGS Thers, \$1.50 per 15; \$9.00 per 100. **BALDWIN & NOWLIN, R. 4, Laingsburg, Mich.**

THOMPSON HEAVY LAYING BARRED ROCK eggs. \$1.75-15; \$3.30. Dark matings. **MRS. FRED KLOMP, St. Charles, Michigan.**

BARRED AND WHITE ROCK HATCHING eggs for sale from exhibition utility stock. Farmers' prices. **Dawson's Farm, R. 4, Muskegon, Mich.**

PURE BRED BUFF ORPINGTON EGGS AT \$2.15; \$5.50-50. Prepaid. **MRS. ANNA LA NOUE, Fostoria, Michigan.**

S. C. REDS, GOOD LAYING STOCK, FINE color. Hatching eggs, \$6.00 per 100. Limited number of chicks, \$16.00 per 100. **EDWARD CRUYER, Alamo, Mich.**

FOR SALE: ANCONAS EGGS FOR HATCHING, good utility stock. Shepards strain. \$1.00 for 15. **Mrs. William O. Johnson, Twin Lake, Mich.**

EGGS FOR HATCHING—FROM CHOICE productive stock. Big Type White Pekin Ducks, also Buff Orpington Ducks, 12 eggs, \$1.00; 24, \$1.75, prepaid. **Benjamin Scott, Bannister, Mich.**

MAMMOTH PEKIN DUCK EGGS FOR SETTING \$2.00 or two settings \$3.00. Also Wild Mallard Duck eggs same price. Very choicest stock. All orders prepaid. **Cedar Bend Farm, Okemos, Mich.**

CHOICE MAMMOTH PEKIN DUCK EGGS. \$1.50 per setting. **MRS. HAROLD SIMMS, Holly, Mich.**

LEGHORNS

LEGHORNS

S. C. Buff Leghorn Hens, Pullets and Cockerels. Hens and pullets \$2.50 each; cockerels \$3.00 to \$5.00 each. Show birds a matter of correspondence. **LAPHAM FARMS, Pinckney, Mich.**

PLYMOUTH ROCK

BARRED ROCK COCKERELS AND PULLETS from America's best prize-winning laying strains. Winners of 18 first prizes at Detroit and M. A. C. the last two seasons. Low prices.

TOLLES BROS., R. 10, St. Johns, Mich.

JOHN'S BIG BEAUTIFUL BARRED ROCK Cockerels, light and dark color. Sold on approval. \$3.00 to \$6.00 each. Circulars.

JOHN NORTON, Clare, Michigan.

BARRED ROCK COCKERELS, NORMAN Strain, shipped on approval, express paid. **MRS. JESSIE C. DEAN, R. 1, Mason, Mich.**

RHODE ISLAND REDS

FOR SALE—S. C. RHODE ISLAND RED COCKERELS. Pure bred, Mankood strain. Vigorous, dark, large red birds. Price \$3 apiece or 2 for \$5.00.

ALFRED DEICHMANN, R. 3, Pigeon, Michigan.

TURKEYS—DUCKS—GEESSE

BOURBON RED TURKEYS UNRELATED STOCK Eggs in season. **THOS. G. CALLAGHAN, Fenton, Mich.**

BIG BRONZE TOMS BY 45 LB. YEARLING 1st Cincinnati, O. Winner. **J. C. CLIPP & SONS, Box M, Safford, Ind.**

FOR SALE—WHITE HOLLAND TURKEYS. Write for prices. **MRS. DON ROSS, R. 6, Marlette, Michigan.**

TOULOUSE GEESSE ARE MONEY MAKERS. Two pounds cost less to raise than one of pork. Water not necessary. Every farmer should raise a few. **ALDEN WITCOMB, Byron Center, Mich.** Breeder Giant Toulouse Geese, White Holland Turkeys.

10 inches higher, arranged on the top, which follows for the removal of droppings and thorough cleanliness. This should be the main idea in the poultry house. There should be no cracks and crevices for filth to gather. Such spots are breeding places for red mites, the most destructive parasite that infests our fowls during the day but hide away in the dark corners, where a single female in a few days will furnish the family tree for countless thousands. The aim of the poultrymen should be to allow no harboring places for these insects. The roosting platform described may easily be kept clean. Perches should be so placed as to be readily removed for sweeping off the dropping platforms. One may if desired, arrange the perches with dropping platforms 18 or 20 inches wide, in tiers across one end of the room or house. They should be separate and in no way attached to the walls of the building. Then if all filth is carefully swept away each day, it is always possible to keep the quarters neat and clean. The roosts and platforms should receive frequent treatment with coal-oil or liquid lice-killer. In this way no vermin will be able to gain a foothold.

Ample roosting room should be provided for all fowls. None should be allowed to sleep on the ground. Chicks should have shelves arranged for their comfort. They should not be allowed to perch on the regular roosts until three or four months old. By this time their bones will have become firm and solid and the danger of crooked breast bones will have passed. The roosts should be of material about two and one-half inches wide and rounded on the upper edges. This will avoid injury to the fowls' feet. All material used in the house should be dry and as light as possible. The droppings platform should be of smooth matched material to allow for clean sweepings and afford no hiding for mites. Droppings should be swept off daily and the litter in the pens changed frequently.

FERTILITY OF TURKEY EGGS

Please tell me how long before laying turkeys must be mated to insure good hatching? Also how long kept together?—Mrs. C. P., Onaway, Mich.

—The best information available on the subject of turkey raising would indicate that the Toms should run with the hens from seven to ten days prior to saving the eggs for hatching. Fertility usually appears on the third day but the highest fertility is not usually secured at least of seven days after the introduction of the Tom.—E. C. Foreman, Associate Professor of Poultry Husbandry, M. A. C.

TURKEYS HAVE ENLARGED KNEE JOINTS

What shall I do for my turkeys? They are late turkeys and would like to know what is the matter with them. They eat good and are in good condition, only their legs are weak and they lay around a good deal. Their knee joints are enlarged.—Mrs. W. H., Elmira, Mich.

—As to the first one, dealing with an ailment in turkeys, I might say that it is difficult to give a diagnosis from the description given. It may be that the addition of precipitated calcium phosphate (sprinkle lightly over the feed) or the giving of lime water in quantities of two teaspoonfuls a day per bird giving in the drinking water, and also the addition of bone meal would be of assistance in relieving this trouble provided it is of a nutritional origin. If it should be contagious it is necessary that a diagnosis be made before a y intelligent advice could be given. If you care to do so you may send us a bird for diagnosis.—H. J. Stafseth, Dept. of Bacteriology and Hygiene, Mich. Agricultural College.

BREED BETTER FLOCKS

TWO points to keep in mind: The cockerel is half the flock and he cannot be too good, and only your best layers should be permitted to rear cockerels to use in your main breeding pens. There seems to be no question any more that the high-producing hen sends her laying character down to future generations thru her sons. I have noticed several times that where a flock of badly colored hens were mated to a

fine cockerel the pullets have been much better colored than the cockerels.

Your cockerel breeding hen should be as nearly perfect in form, color, and laying qualities as you can select, and if you have only one such she will provide you with your cockerels. Select your cockerels, sons of your best laying hens, especially for their form and color.

In this way you will soon bring your flock up in all desirable characteristics. To do this to the very best advantage you will need two breeding pens, one to produce cockerels and the other to produce pullets for your main flock, the two flocks to be unrelated as much as can be conveniently arranged. Follow this by strict fall culling and the results will soon be noticeable.

POULTRY NOTES

It is a harmful costly practice to permit little chickens to get wet and cold. Clean, warm, dry quarters are indispensable.

It is a mistake to feed sour or tainted food. All mash or soft food that is not eaten up an hour after feeding should be gathered up and thrown away.

The best method of combating contagious diseases is to dispose of the sick fowls and disinfect the premises thoroughly.

Let the fowls have all the exercise possible to keep their digestive organs working.

The slightest ailment should be treated as promptly as a contagious disease.

A mixture of white and brown-shelled eggs in the incubator will give an unsatisfactory hatch.

Never over feed the your chicks; feed little and often; keep them satisfied, but not overfed.

Good, thick buttermilk is about as good as green bone to make the chicks grow and the hens lay.

Foul air and filth will furnish shelter for contagion.

When the fowls are restless and constantly picking their feathers, it is usually a sign that they are infected with vermin.

No matter how fine the strain, it is careful and intelligent management that counts most in the long run.

Parched corn, wheat and oats offer possibilities for varying the grain ration of the hens. Almost any change of diet will prove good for the hens if they relish the new feed.

Weight and fat conditions count when the hen is wanted for the market but don't sell her as long as she is producing eggs in profitable quality.

The chick does not come from the shell with gravel in its crop. Sharp sand or fine grit should be furnished along with the first meal.

The market demands uniform products. If your eggs are alike, shape and color, you can sell to a fancy market and get a price much higher than you can get at the local grocery store.

Your flock is easier to tend if it is uniform. Leghorns are more active than Brahmas. Plymouth Rocks set well and make good mothers. Leghorns do not. It is hard to provide the best conditions for all of your chickens unless they are alike in rate of growth, size, temperament, and habits.

TRAP FOR WOLVES

I HAVE read a good deal about wolves in the north woods and the havoc they make on deer and oftentimes humanity. Now I would like to suggest a trap I heard of from an old hunter many years ago. It is to make a square den on the ground, say twelve or sixteen feet square, five or six feet high, taper it as it is built up, the opening at the top, say three feet square. The logs of course, are notched close enough so they could not get through. Put an old sheep, cull of the flock, in it and feed him there. The object of the sheep is the scent and a wolf chooses to kill its own game. Drag bloody meat for miles to this trap is a good call. I have heard it said if a pack is attracted the trapper generally gets a good haul. I am an old reader of Michigan Business Farmer and it is complete.—Jas. O. Colburn, Jackson County, Mich.

George Washington owned America's first mule. The mule was a present to Washington from the King of Spain, and was named Royal Gift.

White Diarrhea

Remarkable Experience of Mrs. C. M. Bradshaw in Preventing White Diarrhea

The following letter will no doubt be of utmost interest to poultry raisers who have had serious losses from White Diarrhea. We will let Mrs. Bradshaw tell of her experience in her own words:

"Gentlemen: I see reports of so many losing their little chicks with White Diarrhea, so thought I would tell my experience. I used to lose a great many from this cause, tried many remedies and was about discouraged. As a last resort I sent to the Walker Remedy Co., Dept. 680, Waterloo, Iowa, for their Walko White Diarrhea Remedy. I used two 50c packages, raised 300 White Wyandottes and never lost one or had one sick after giving the medicine and my chickens are larger and healthier than ever before. I have found this company thoroughly reliable and always get the remedy by return mail.—Mrs. C. M. Bradshaw, Beaconsfield, Iowa."

Cause of White Diarrhea

White Diarrhea is caused by the Bacillus Bacterium Pullorum. This germ is transmitted to the baby chick through the yolk of the newly hatched egg. Readers are warned to be aware of White Diarrhea. Don't wait until it kills half your chicks. Take the "stitch in time that saves nine." Remember, there is scarcely a hatch without some infected chicks. Don't let these few infect your entire flock. Prevent it. Give Walko in all drinking water for the first two weeks and you won't lose one chick where you lost hundreds before. These letters prove it:

Never Lost a Single Chick

Mrs. L. L. Tam, Burnetts Creek, Ind., writes: "I have lost my share of chicks from White Diarrhea. Finally I sent for two packages of Walko. I raised over 500 chicks and I never lost a single chick from White Diarrhea. Walko not only prevents White Diarrhea, but it gives the chicks strength and vigor; they develop quicker and feather earlier."

Never Lost One After First Dose

Mrs. Ethel Rhoades, Shennandoah, Iowa, writes: "My first incubator chicks, when but a few days old, began to die by the dozens with White Diarrhea. I tried different remedies and was about discouraged with the chicken business. Finally I sent to the Walker Remedy Co., Waterloo, Iowa, for a box of their Walko White Diarrhea Remedy. It's just the only thing for this terrible disease. We raised 700 thrifty, healthy chicks and never lost a single chick after the first dose."

You Run No Risk

We will send Walko White Diarrhea Remedy entirely at our risk—postage prepaid—so you can see for yourself what a wonder-working remedy it is for White Diarrhea in baby chicks. So you can prove—as thousands have proven—that it will stop your losses and double, treble, even quadruple your profits. Send 50c for a box of Walko, or \$1.00 for extra large box—give it in all drinking water for the first two weeks and watch results. You'll find you won't lose one chick where you lost hundreds before. It's a positive fact. We guarantee it. The Leavitt & Johnson National Bank, the oldest and strongest bank in Waterloo, Iowa, stands back of this guarantee. You run no risk. If you don't find it the greatest little chick saver you ever used, your money will be instantly refunded.

Walker Remedy Co., Dept. 680, Waterloo, Iowa

\$24.95 Upward **American CREAM SEPARATOR**

On trial, Easy running, easily cleaned, Skins warm or cold milk. Different from picture which shows larger capacity machines. Get our plan of easy **MONTHLY PAYMENTS** and handsome free catalog. Whether dairy is large or small, write today. **AMERICAN SEPARATOR CO.** Box 7087 Bainbridge, N. Y.

Detroit Incubator \$12.45

140-Egg Size—Guaranteed—has double walls, copper tank, full-size nursery, automatic regulation thermometer held so that chicks cannot break it when hatching. Detroit Brooders, too. Double walled, hot water heated. Write for special low price on both machines. **Detroit Incubator Co.** PRE-PAID Dept. 10 Merritt St., Detroit, Mich.

HIGHEST PRICES PAID FOR LIVE AND Dressed Poultry, Veal, Eggs. A square deal always. **C. E. McNEILL & CO.,** 825 W. So. Water St., Chicago, Ill.



MARKET FLASHES



FOOTE'S MARKET LETTER

By W. W. Foote

GENERAL farm conditions in Michigan are better than a year ago, and the outlook is encouraging, especially for sheepmen, those who own fair sized flocks being extremely fortunate. Not many farms in this state are changing ownership, and as Michigan farms generally failed to undergo the boom in prices so common during the war in other states of the middle west, they have not suffered a similar decline. Farmers looking for farms can make purchases in Ohio around \$85 to \$150 an acre, whereas a few years ago numerous sales were made at \$200 to \$250, and even as high as \$300 in some instances. Farms in Ohio are largely rented for \$6 an acre. There has been a marked reduction in the rate of interest paid on farm mortgages throughout the country, and sales are made in Chicago of high-class ones netting from 5 to 6 per cent to buyers. The several grains, with the exceptions of wheat and rye, are selling above prices of a year ago, corn being especially higher, and unusually large quantities of corn were fed to live stock during the past winter. The domestic trade of the country is active, being far ahead of last year, and manufacturers are complaining that it is difficult to hire enough workers, even at the unprecedentedly high wages offered. Farmers in many districts report that it is impossible to hire helpers, with carpenters, painters and other workers in the cities getting as high as \$1.25 an hour, while miners in the Pennsylvania coal mines have been paid as high as \$400 a month. The foreign trade of the United States is growing in volume, the exports for the eight months ending on February 28 aggregating in value \$2,657,064,000, comparing with \$2,480,021,000 for the corresponding period a year earlier. Meanwhile our imports of gold have fallen off materially, as Europe is paying largely for its imports with various commodities. Of late large quantities of provisions have been exported from our shores to European countries. Rates of interest are unchanged, Chicago banks making loans at 5 to 5½ per cent.

Wheat Sells Higher

The long predicted fall in wheat prices fail to materialize, and, on the contrary, recent sales were made on the Chicago Board of Trade at the highest figures recorded in several weeks. Speculative operations in wheat have increased in volume recently, and when the "shorts" entered the market to settle their trades they were compelled to pay higher prices. It is estimated that 15,000,000 bushels of "short" wheat were bought in the course of a fortnight. Of course, the marked falling off in our wheat exports is a drawback, but stocks are not in the least burdensome. Rye continues to loom up as an important article. In our export trade, it being much cheaper than wheat. Not much corn or oats are being shipped out of the country, yet supplies of both in sight are much less than a year ago. The prevailing belief is that feeding livestock with grain will continue a paying policy, provided farmers have the grain. Late sales were made in the Chicago market of May wheat at \$1.22½, comparing with \$1.33 a year ago; while May corn sold at 74½ cents, comparing with 59½ cents last year; May oats at 45½ cents, comparing with 37 cents last year; and May rye at 84½ cents, comparing with \$1.02 a year ago.

The Bean Market

In a late issue The Bean and Pea Journal points out that about the only beans in any large amounts are to be found in Michigan and California, and even in those states there are no overstocks. With the admitted large increase in acreage, more beans will be needed for seed purposes than for many years. The Journal hears reports that beans will be grown in many new sections where they have never been raised.

MARKET SUMMARY

Wheat gains strength and price advances slightly. Improved export demand causes corn prices to go up. Oats follows trend of wheat and corn. Rye and beans show no change. Potatoes firm and prices are expected to go higher. Receipts of poultry exceed demand at Detroit. Cattle slow to lower. Hogs and sheep active and prices advance. Provisions following the trend of hogs.

(Note: The above summarized information was received AFTER the balance of the market page was set in type. It contains last minute information up to within one-half hour of going to press.—Editor.)

in a commercial way. The Robust bean is in high favor, and Michigan farmers testify to an increase in yield of fully ten bushels per acre over common beans. Michigan is a large consumer of beans, and heavy shipments are made to other states.

Restricted Demand For Beef

Many families got into the habit during the war of cutting down in their use of beef, and it appears that in many cases they are still much smaller consumers than in former years. This explains why any marked improvement in beef cattle prices brought about by smaller offerings is quickly lost as soon as normal supplies are received. Last week, for instance, there was a big advance in prices on Monday, because of the eager offerings shipped to Chicago on account of the severe storm, while it disappeared later on normal receipts. Early week sales of prime fat Hereford steers were made at \$10.10 to \$10.35, and some prime 647-pound Hereford heifers brought \$10, an unusual price. Other sales of heifers of superior quality were made at \$8 to \$9.50, commoner lots selling at \$5.50 to \$6.50, while butcher cows went at \$4.50 to \$7.75. Calves were wanted for the Easter trade, and sold much higher, common to prime lots going at \$6 to \$13 per 100 pounds. Limited offerings checked the trade in stockers and feeders, county buyers paying \$5.50 to \$8.50, chiefly \$6.50 to \$7.75. Late in the week cattle sold much lower under larger offerings. A year ago beef steers sold at \$6.25 to \$9.30 for common to prime. Recent sales of beef steers were made at \$6.75 to \$9.90, largely at \$8 to \$9.75.

The Hog Market

The country supply of hogs is understood to be unusually large, and when prices are up the receipts are almost certain to be of liberal proportions. Prices all along have been much lower than a year earlier, but they have for many weeks shown marked rallying power, with a large demand from Chicago packers, as well as eastern shippers. Hogs moving to market grade well on the whole, and the bulk sell within a range of 35 cents, light bacon going highest and 30 cents above the best heavy butchers. Recent Chicago receipts averaged 240 pounds. There is an extremely large domestic consumption of fresh products and provisions, while exports of lard and cured hog meats are running far ahead of a year ago, despite the higher prices. Last week's hog receipts were far larger than a year ago, but active local and shipping buying kept prices almost as high as a week earlier, late sales ranging at \$7.25 to \$8.50. A year ago hogs brought \$8.75 to \$10.40.

The Lamb Crop

The first shipments of California spring lambs to eastern markets were started a short time ago. Lack of moisture and high winds have affected adversely the growth of feed in the California spring lamb region. The first shipment of spring lambs for the season reached Chicago the other day, comprising 53 Illinois bred lambs averaging 45 pounds, which brought \$18 per 100 pounds. It looks promising for the lamb market, but owners should make their flocks prime and not too heavy. Late lamb sales were made at \$13.25 to \$15.35, feeding and shearing lambs going at \$13.75 to \$14.85.

WHEAT

Wheat is slightly lower in price than it was at our last writing and the tone of the market is from easy

to weak. During last week trading was quiet and prices showed little change. There was some business reported for export but not enough to change the trend and the best the market could do was hold steady most of the time the early part of the week at prices established the week before. But before the close of the week weakness appeared and a decline in prices followed. There was no news and the dope from day to day was a reiteration of previous facts and views. There is a fight between faith and the old idea of supply and demand. The faith people believe the future will bring crop damage news and active foreign buying. The supply and demand people say stock are heavy and subjecting the market to heavy pressure, while foreigners neglect American wheat in favor of grain from Canada and Argentine. Domestic demand is not active and the bears say these conditions have always brought lower prices in the past and will do so again.

Crop damage reports have not been sensational; in fact, much of the news from the southwest has been favorable. Weather has been just what the plant was in need of over a great deal of the winter wheat territory and in some places the crop appears more promising than it did at the corresponding date last year.

Flour is not active and the mills have been rather slow in taking wheat, but a scarcity of soft winter wheat has developed in the past few days and the Michigan mills are looking for wheat. Mills that had received all the wheat they needed from their own neighborhood from day to day, report that farmers are not liberal sellers now and there is a feeling that the supply of good milling wheat back in the hands of Michigan farmers is not large.

Prices

Detroit—Cash No. 2 red, \$1.32½; No. 2 white, \$1.32½; No. 2 mixed, \$1.32½.
Chicago—Cash No. 2 red, \$1.30-@1.32; No. 2 hard, \$1.19½-@1.21.
New York—Cash No. 2 hard, \$1.32; No. 2 red, \$1.45½.
Prices one year ago—Detroit, No. 2 red, \$1.42; No. 2 white, \$1.39; No. 2 mixed, \$1.39.

CORN

The corn market is easy after a small decline on the closing day of last week. The Detroit market declined ½c bringing the price down to the level quoted in our last issue at Detroit.

Prices

Detroit—Cash No. 2 yellow, 79c; No. 3, 77c; No. 4, 75c; No. 5, 73c.
Chicago—Cash No. 2 yellow, 73½-@74½; No. 2 mixed, 73½.
New York—Cash No. 2 yellow, 92¼c; No. 2 white, 92¼; No. 2 mixed, 91¼c.
Prices one year ago—Detroit, No. 2, yellow, 63½c; No. 3, 62c.

OATS

Prices in the oat market are slightly lower than they have been at any time for over a month. The tone of the market in general is steady while dealers report they are finding it difficult to dispose of their supplies, demand seeming to be nearly at a standstill.

Prices

Detroit—Cash No. 2 white, 49c; No. 3, 47½c; No. 4, 46c.
Chicago—Cash No. 2 white, 45-@46c; No. 3, 43½-@44½c.
New York—Cash No. 2 white, 56-@56½c.

Prices one year ago—Detroit, Cash No. 2 white, 41½c; No. 3, 39½c.

BEANS

During the week before last the Detroit bean market declined sharply and last week it started out to regain what it lost and had advanced 15c but dropped 5c on Saturday which left the price 25c per cwt. under the price of two weeks ago. Trading is quiet. State bean jobbers estimate that bean surpluses in Michigan to be between 1,400 and 2,000 cars. This includes beans in the hands of the farmers other than those retained for seed, and also stocks in elevators. Using the smallest estimate, at 40,000 lbs. or 400 cwt. per car this would bring the total holdings in Michigan to well over 6,500 bushels which jobbers say they are confident will take care of all demand unless conditions change and business becomes brisk. Elevators throughout the state are reported to be offering from \$7 to \$7.25 per cwt. with the lower figure leading.

Prices

Detroit—C. H. P., \$7.40 per cwt.
Prices one year ago—Detroit, C. H. P., \$6.95 per cwt.

RYE

Rye seems to be without friends, nobody wanting it, and prices were on the down grade last week.

Prices

Detroit—Cash No. 2, 81½c.
Chicago—Cash No. 2, 81½-@82½c.
Prices one year ago—Detroit, Cash No. 2, \$1.04.

POTATOES

The potato market has been steady the greater part of the time during the past fortnight and changes in prices have been only slight. The price at Detroit is higher than it was two weeks ago. Supplies are small on Michigan markets as storms held up shipping, farmers were unable to get their potatoes to town because of the bad condition of the roads. Larger receipts are expected from now on.

Stocks of white potatoes in the hands of growers and dealers in the United States March 1 are reported at 171,555,000 bushels to the United States Department of Agriculture. Comparative figures with other years are not available. Of the total stocks 23,968,000 bushels are reported as unfit for food or seed, 60,514,000 bushels will be needed for food and seed on farms where grown, 27,278,000 bushels are held for consumption in local markets, and 59,795,000 bushels are available for movement by rail and other means out of the counties where produced. More than one-half the quantity of potatoes available for shipment are in Michigan, Wisconsin, Minnesota and North Dakota.

Stocks in hands of growers and dealers March 1 to 21 Northern States which usually produce about four-fifths the total crop are reported at 152,117,000 bushels, which is approximately 42 per cent of the estimated crop in these States. Stocks on hand March 1, 1922, were 102,764,000 bushels, or 35 per cent of the estimated crop in these States last year.

A good market is said to be awaiting in the northern shippers since the East is running short of old stock, there being reported scarcely more than 50 cars for shipment from New York state and not more than 15 to 20 per cent of the entire crop left in Maine. Michigan potatoes are reported to be reaching a market in New York city even now, indicating a continued strong market in this commodity it is said.

Prices

Detroit—Michigan, \$2.00-@1.50.
Chicago—Wisconsin round whites, \$1.25-@1.30 per cwt; Idaho rurals, \$1.40 per cwt.
Prices one year ago—Detroit, Michigan, \$1.97.

HAY

Hay markets generally remain fairly firm, but the warmer weather is causing some slacking in the recent urgent demand. Eastern markets show some irregularity and val-



Week of April 1

THE greater share of this week will be unsettled with light rain or snow flurries occurring in Michigan. This general storminess will increase to a full fledged storm of high winds, rain and snow beginning about the middle of this week and lasting through Thursday and probably Friday of this week.

Previous to the arrival of this severe storm to Michigan the temperatures will rise unseasonably high but at the end of the week the temperatures will have fallen and the sky become mostly clear. However, there is a probability that some unsettled weather conditions will affect parts of the state at tail end of the week.

Week of April 8

Unsettled and stormy conditions are to be expected in Michigan during first part of this week. The winds will be moderately strong during this time and the temperatures moderate to cool.

During the middle days of the week and until near the close the weather is expected to be fair in Michigan. As Friday and Saturday approach the temperatures will be rising and some unsettled, showery weather may be expected in the state.

Potato Outlook Poor

The probability of a potato yield above the normal in Michigan this season will range from 25 to 75 per cent with the later plantings getting the best chance, those who plant spuds about middle of June, believing they will dodge the hot, dry weather of late summer, will find this year very different.

This year we believe the weather before June 15th will average cold and wet while the latter part of June will average warm and wet. However, the entire summer season we figure will average cool and with about normal rainfall. Except for severe frosts the harvest season will be favorable for potatoes.

Judging by the general characteristics of the Rurals, there will be less tendency for this variety to become hollow this year. In as much as we are expecting droughty conditions during latter part of August, this variety will stand the conditions better than most kinds. The Green Mountain and Gold Coin are also well adapted to the 1923 season but should be planted early.—L. N. PRITCHARD.

WEATHER FOR SUMMER

As I am a raiser of pure bred chickens, turkeys and geese, and also reader of the M. B. F. paper, would like your advice on what kind of a season I might look for this coming summer. The weather makes a big difference in my poultry business. Do you expect it to be cold and dry, cold and wet, hot and dry or hot and wet? Which do you think it will be?—H. S., Rapid City, Mich.

—We are expecting the spring and summer of 1923 as a whole to average cooler than usual in Michigan judging by what we believe will be the average eastward track of the storm centers for the period in question.

The exception to this general statement will apply during latter part of May, most of June and about first two weeks of July, when temperatures will be warmer and thus help bring up the general deficiency.

We are also of the opinion the summer months will average only normally wet in this state but that there will be an over amount of cloudiness.

The lack of sunshine together with the average low temperature will not, of course, be the best condition for your flocks. As a consequence, we suggest you house your young broods of turkeys, especially, in warm quarters, particularly during early summer which we believe will be damp.

The grown turkey will range farther than the average from his home this year, we believe and with a fairly good crop of grasshoppers expected, feeding should be easy picking for them.

ues are not steady. Bad roads are still restricting country loading and there are no accumulations of hay reported at any market. The reserves on Michigan farms March 1st are estimated at 38 per cent of the crop, which is considerably more than usual at this time, the reason given being that last year's crop was unusually large, that it has been difficult to obtain cars and that the prices have been satisfactory to farmers who could hold their stock.

Prices

Detroit—No. 1 timothy, \$16@16.50; standard, \$15.50@16; light mixed, \$15.50@16; No. 2, timothy, \$14@15; No. 1 clover mixed, \$13@14; No. 1 clover, \$13@14.

Chicago—No. 1 timothy, \$21@23; light mixed, \$19@21; No. 2 timothy, \$18@20; No. 1 clover, \$15@16; No. 2, \$13@14.

New York—No. 1 timothy, \$24@25; light mixed, \$22@24; No. 2 timothy, \$20@23.

Prices one year ago—Detroit, No. 1 timothy, \$19@20; standard, \$18@19; No. 2 timothy, \$17@18; No. 1 light mixed, \$18@19; No. 1 clover mixed, \$15@16; No. 1 clover, \$14@15.

Alfalfa—Chicago, No. 1 and choice, \$22@23; No. 2 and standard, \$16@19.

MISCELLANEOUS MARKET QUOTATIONS

Detroit, Tuesday, March 27th

BUTTER—Best creamery, in tubs, 50@51c per lb.

EGGS—Fresh, 24½@25c per doz.

APPLES—Greenings, \$1.75@2; Baldwins, \$1.65@1.90; Spys, \$2@2.50; other varieties, \$1.50@1.75 per bu.; western boxes, \$2@3; in barrels, Greenings, \$5.50@6; Baldwins, \$5.50@6.

HONEY—Comb, 23@25c per lb.

CABBAGES—Home-grown, \$2@2.25 per bu.; Louisiana sugar loaf, \$5@5.50 per crate; round heads, \$5@5.50 per crate; Mobile, \$5@5.50 per crate.

POPCORN—4@4½c; Little Buster, 7½@8c per lb.

DRESSED CALVES—Best 17@18c; medium, 15@16c per lb.

ONIONS—\$4@4.25 per sack of 100 lbs.; Spanish, \$2@2.25 per crate.

DRESSED HOGS—90 to 130 lbs., 10c; 130 to 169 lbs., 9c; heavy, 5@6c per lb.

LIVE POULTRY—Best chickens, 29@30c; leghorns, 24@25c; stags, 24c; medium and large hens, 29@30c; small hens, 25@26c; roosters, 17c; geese, 20c; ducks, 30c for large and 27@28c for small per lb.

WEEKLY MARKETGRAM

U. S. Bureau of Agricultural Economics

Washington D. C.—For the week ending March 24, 1923.

FEED—Markets dull and prices lower. Linseed meal and wheat feeds continued downward trend and May bran is quoted at \$5 below prevailing prices. Stock most feeds in excess of demand. Fair demand for nearby wheat feeds. Cornfeeds in ample supply. Gluten feed prices steady, hominy feed prices easier. Cottonseed meal in liberal supply by resellers and a few large offers are made by mixed feed manufacturers. Fair export demand from Texas. Production most feeds good. Movement fair. Quoted March 23—Bran \$27.75; middlings \$27.50; flour middlings \$29.25; Minneapolis; gluten feed \$42.65 Chicago; white hominy feed \$28 St. Louis; \$28.50 Chicago; 31 per cent linseed meal \$40 Buffalo; 36 per cent cottonseed meal \$38 Memphis; \$40 Atlanta; 34 per cent linseed meal \$43.75 Minneapolis.

DAIRY PRODUCTS—Butter markets unsettled during week. Uncertainty as to production and supplies during the immediate future has added to the uncertainty of the market. Some California butter on Eastern markets at selling prices is slightly under corresponding grades of regular receipts. New Zealand, Danish & Argentine butter also selling in a limited way. Tone of the market firm at close today. Closing prices 92 score butter; New York 50½c; Chicago 51½c; Philadelphia 50½c; Boston 50c.

REVIEW OF BUTTER MARKET

POWERFUL conflicting factors placed the butter market, during the week ending March 24 in so nervous and sensitive a position

that only a slight disturbance would have been necessary to have caused either a sharp advance or a rapid decline. On the one side was sentiment which resisted every advance and greatly favored declines. In view of the rapidly approaching season of flush production, the trade generally felt that prices were too high. All trading was featured with the greatest caution. Speculative demand was almost entirely lacking. Receivers pressed goods for sale almost on arrival and buyers purchased only for orders on hand. Each operator was nervous until he had passed his purchases or receipts on to the next fellow in his line. Those conditions were conducive to weakness and confidence could only be restored by a decline in prices.

On the side of strength were light

receipts, due to delayed shipments and possibly to a decrease in the make. Stocks on all markets were generally so closely cleaned up that a decline was almost impossible. The small supplies which appeared in some quarters at times would no more than seem to give the market a weaker tone when they would melt away again under an urgent demand from jobbers. The market showed some declines and some advances, depending on whether sentiment or light supplies was the stronger in its influence but by the close of the week under review no indications of a definite trend appeared.

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SEE PAGE 13

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BARRED ROCKS, EGGS AND BABY Chicks from Silver Cup winners and Champion Winter Layers. Eggs \$2 per 15 and Chicks from 18c up delivered. Circular free. FRED ASTLING, Constantine, Michigan.

READ THE MASTER KEY AND BECOME Successful. \$2.50. PHIPPS, 1014 Belmont, Chicago.

PLANTS AND SEEDS

STRAWBERRY PLANTS FOR SALE—SENATOR Dunes, Gibson and Dr. Burdell, 60 cts. per hundred, \$4.00 per thousand. Postpaid. Progressive Everbearers, \$1.00 per hundred. Postpaid. Cuthbert Red Raspberries, \$1.00 per hundred, \$9.00 per thousand. Postpaid. ROBERT J. DeGURSE, Ovid, Mich.

STRAWBERRY PLANTS FOR SALE—SEN. Dunlap \$3.50 per 1000. Gibson's \$4.50 per M. Five other varieties. Also Raspberry plants. Price list free. FRED STANLEY, 124 Main St., Bangor, Michigan.

CERTIFIED COLLEGE WONDER OATS. Purity 99.7%, germination 92, test weight 37 pounds. Write for prices. HOMER GOULETT, Kawkawlin, Michigan.

FANCY MIXED COLOR GLADIOLUS BULBS Produces large flowers. 1½ to 2 inches 25c doz.; 5 doz. \$1.00. ¾ to 1½ half price. Postage paid. MARTHA OSMOND, Vernon, Michigan.

SEED POTATOES—CERTIFIED PETOSKEYS Northern grown. L. D. DUNLAP, Lupton, Mich.

FROSTPROOF CABBAGE PLANTS. Michigan gardeners and truckers are finding it pays big in earlier and better crops to use our open field grown plants from the South. Early Jersey, Charleston, Wakefield, Succession, Flat Dutch Cabbage, Bermuda Onion plants, Big Boston and Iceberg lettuce. Prepaid mail 200, 60c; 400, \$1.00; 1000, \$2.00. By express 2000, \$2.50; 5000, \$5.00. Get price list Sweet potato, tomato and other open field grown plants. PARKER FARMS, Atlanta, Georgia.

GRAPEVINE SPECIAL WEEK: 20 VINES \$1 postpaid. 15 good Medium Blue Concord, 3 No. 1 White, 2 Red. GOBLES MICH. NURSERY.

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MAMMOTH BRONZE TURKEY EGGS FOR Hatching. Best stock. Farmers prices. DAWSON'S FARM, R. 4, Muskegon, Michigan.

EGGS FOR HATCHING, BIG TYPE PEKIN Ducks, 12, \$1.00; 24, \$1.75. Buff Orpington Ducks, 12, 85c; 24, \$1.50, prepaid. BENJAMIN SCOTT, Bannister, Michigan.

RUNNER DUCK EGGS, FAWN AND WHITE, Good laying strain. \$1.50 for 15; \$7.00 for 100. Order from ad. H. A. HERSHISER, West Unity, Ohio.

BARRED ROCK HATCHING EGGS. PARKS 200-egg strain. \$2 per 15; \$5 per 50; \$10 per 100 by prepaid parcel post. R. G. KIRBY, R. 1, East Lansing, Michigan.

ROSE COMB RHODE ISLAND REDS. Hatching eggs \$1.25 per setting. Postpaid. Mrs. Albert Harwood, R. 4, Charlevoix, Mich.

S. C. RHODE ISLAND WHITES THAT HAVE the laying habit. Eggs \$2.00 per 15. Also cockerels and pullets. Jno. Hartgerink, Box W. Zeeland, Michigan.

WANTED—TO BUY BLACK PERCHERON Stallion or dark Belgian. What have you? C. M. GULBERT, D. V. S., Cheesaning, Michigan.

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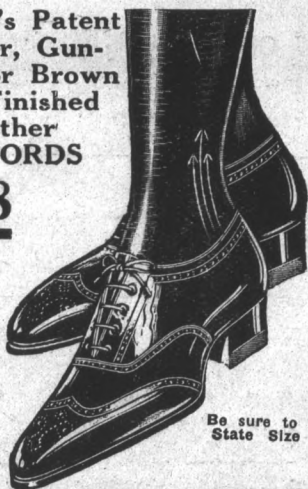
Very attractive voile dress with organdy trimming. Beautiful figured voile with new side panels. Youthful organdy collars and cuffs. Also pretty vestee insert of organdy and a neat organdy sash. Misses' sizes 14 to 20. Women's sizes 34 to 46. Be sure to state size. Order Navy by No. 96E6712. Order Copen by No. 96E6713. Order Rose by No. 96E6714. Order Lavender by No. 96E6715. Send no money. Pay \$1.98 and postage on arrival.



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