

MICHIGAN FARMER

AND
LIVE STOCK
PUBLISHED WEEKLY.

JOURNAL.
ESTABLISHED 1843.

VOL. CLIX, No. 4
Whole Number 4210

DETROIT, MICH., SATURDAY, JULY 22, 1922

ONE YEAR \$1.00
FIVE YEARS \$3.00





Published Weekly Established 1843 Copyright 1921

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TERMS OF SUBSCRIPTION

One Year, 52 issues \$1.00
Three Years, 156 issues \$2.00
Five Years, 260 issues \$3.00
All sent postpaid
Canadian subscription 50c a year extra for postage

RATES OF ADVERTISING

55 cents per line agate type measurement, or \$7.70 per inch (14 agate lines per inch) per insertion. No advertisements inserted for less than \$1.65 each insertion. No objectionable advertisements inserted at any time.

Member Standard Farm Papers Association and Audit Bureau of Circulation.

Entered as Second Class Matter at the Post Office at Detroit, Michigan Under the Act of March 3, 1879

VOLUME CLVIX NUMBER FOUR

DETROIT, JULY 22, 1922

CURRENT COMMENT

THE MICHIGAN FARMER SAYS:

Merely knowing things is not doing them.

Excessive physical exertion makes ordinary thinking harder and increases the difficulty of trying to be decent.

We should insure against handicaps by adding to our lives as many useful habits as we can.

There is a whole bundle of happiness to be found in the vigorous doing of our work.

Too many folks like to hear of their own praise or of the evil that has overtaken others.

Reducing Crop Acreages

YOU cannot depend upon human nature working always according to some set program. Not infrequently does it seem to work in the very opposite way from that which it is supposed to operate.

A few years ago southern farmers hoped to benefit the cotton industry by planting less of that crop. Their leaders put on a big campaign and everybody was positive that a material reduction had been made in the acreage. But when the final figures were in, to the surprise and chagrin of these leaders it was found that a larger instead of a smaller crop had been planted.

A similar effort was made two years ago to reduce the sugar beet acreage in Michigan. But the totals on the final day of reckoning were found to exceed the acreage of the previous season.

This year farmers of the central western states are trying out the reduction plan on corn. Government crop estimates do show a slight reduction in the acreage figures. But there are prominent crop statisticians who believe that these districts will, in the final counting, discover little or no decrease in the amount of corn planted.

It would appear that we farmers, like other people, simply cannot resist the temptation to take advantage of what looks to us like a "sure thing."

Where, then, shall we look for relief in controlling the production of agricultural products? The answer in all probability must be to the old test of supply and demand. This law has been working for centuries and we fear must operate for some years longer.

A little more data on production costs would aid farmers in applying

the law more effectively. A more general cooperation, therefore, of producers in gathering data on the cost of growing various crops is desired for the very good reason of keeping production near the level of consumption.

Are You Going?

ONE of the healthy things to be observed in rural places here in Michigan is the desire folks are developing for seeing things. All types of outings are not only being planned but patronized by our farmers and their families. This contact with fellow farmers and the world in general will have its reaction in a broader, more intelligent and more sympathetic nature, and above all it is going to pave the way for better relations between the rural and urban classes.

Well, here are a few things on the list for the next few weeks. There will be a tour of the fruit growers, starting from the Graham Experiment Station near Grand Rapids on August 1. On the fourth, farmers and their families from every section of the state will gather at the Agricultural College Campus for a day's outing to see the hundreds of exhibits and crops and animals that will interest and inform. On the same day farm bureau enthusiasts will gather at Allegan to start the big second membership campaign for the state. On the fifth the Michigan Farmer Auto Tourists, under the leadership of Mr. Brown, congregate at the farmstead of the late George B. Horton at Fruit Ridge, for their Niagara trip, and on the seventeenth of the same month will leave Battle Creek for a tour of the west shore to Mackinac and back down the east side of the state, arriving at the State Fair at Detroit about the first of September. On the 17th also President Howard of the American Farm Bureau will be at Coldwater at a big celebration of farmers from over southern Michigan.

Now comes the potato growers. We have just received from our representative the announcement that the growers will start from Lake City on August 17, just after the annual meeting of the Potato Growers' Exchange at Cadillac. They will visit farms in Missaukee, Wexford, Grand Traverse, Antrim, Charlevoix, Emmet, perhaps Cheboygan, and wind up for a big round-up picnic at Maplewood Farms, owned by Thomas Buell, president of the Michigan Potato Growers' Association.

There are others, but this will give every farmer in the state an opportunity to take a day or more off from his work to see something or hear something that will be worth while.

A Time of Rest- lessness

AGAIN we are in a time of strikes, when agitation threatens a blow at the necessities of life. This agitation is the fruit of discontent and restlessness of the surging crowd.

This surging crowd can be likened to the storm-tossed sea. The angry waves and the agitation present a dangerous spectacle that seems to threaten life and peace.

But there is one redeeming feature, and that is that only the surface is ruffled while the great sea below is as calm and serene as ever. It truly would be a catastrophe if this nation and its people were not like the sea, but agitated to its very depths by these disturbances.

It is a happy thought that in all these uprisings the great body of people move on in their daily duties and thoughts as calmly as ever. It is this stability which means safety and gives the assurance that we can constructively work for the future.

To get even a greater stability we

must attach the unattached. The agitators are usually agitators because they have no ties. If we can encourage them to become home-owners and savers instead of destroyers we will accomplish much. There is a need for this, for tenancy is on the increase in both rural and urban sections.

We can feel sure that as we gain in stability we will face quietly the great problems of this country and solve them in a more calm and constructive manner.

Over Production Remedy

IF normal weather conditions prevail for the next two months a bumper potato crop will be harvested in this country the coming fall. Present estimates puts the prospective crop at over 400,000,000 bushels. The consumptive demand stops short of this figure. What are we to do?

Perhaps the most constructive suggestion along this line appeared in a recent issue of the Michigan Potato Growers' Exchange. Here Editor Wells interprets the modern attitude toward over-production as only a relative matter between supply and demand. When there is a surplus the sensible thing to do is to simply find new avenues of consumption. The citrus and raisin growers of California did this and have not only absorbed their heavy surplus of former years, but have found it necessary to plant extensively to keep up with the demand which they have stimulated.

Normally the appetite of our people stops short of the 400,000,000 bushel mark. It would not be impossible or improbable that a sane campaign would increase this consumption fifty per cent. If the food value of the potato was a little better known such an increase would be within the realm of reason. Before the war Germany with two-thirds our population considered 1,600,000,000 bushels under-production.

Topping the Market

BUT a short distance from the old home was a neighbor who was very conservative about spending, and unusually strong on saving. Among other things he would save all the berry baskets he could get hold of for nothing during the year in order to use them for selling his berry crop in season. He usually grew good berries, but the products did not take well with consumers because of the condition of the containers. This act of what he called economy, kept this man from topping the local market on many sale days, even though his berries were good enough to do so quite regularly.

During the strawberry season just closed the growers around the Grand Rapids market who got the top price for their goods took pains in sorting and packing. While other growers were getting from \$1.25 to \$1.50 per case, those who put their berries up neatly in clean baskets got from \$1.90 to \$2.00 and up to \$2.25. These figures seem to confirm that if it is worth growing berries, it is worth spending time to put them up in attractive form, and that the extra time spent in doing so brings unusually good returns.

Wayland Heads the List

TAKE off your hats to the members of the Wayland Cow-testing Association. This organization is, according to our best information, the first in the state to get on a one hundred per cent pure-bred sire basis. The herd of every member is now headed by a pure-bred.

This is certainly a matter worthy of congratulations and we wish to compliment both the members and the

tester, J. R. Livermore, upon this distinctive accomplishment. It was the writer's pleasure to be in Allegan last year when the dairy and alfalfa campaign under the direction of County Agent Bentall was in swing and it is not difficult to imagine how these members caught the enthusiasm of that great campaign and decided to put their community in the forefront by eliminating the scrub sire.

Who will be the next, and the next, to get in this one hundred per cent class? It is a fine thing to be a follower in a program of this kind. In our travels we have noted a most favorable sentiment among farmers everywhere for the cow-testing work. We feel that these organizations are going to be very numerous in Michigan in the not distant future. With a good tester they are economically sound. If they increase rapidly and the scrub-sire-weeding spirit becomes common, there is a real chance that some day every dairy sire in Michigan may have a pedigree that is worth recording.

Cultivatin'

CULTIVATIN' is a big word, 'cause it means so much. For inst., Jasper Johnson has been tryin' to cultivate the acquaintance of Widow Morrison, but with the implemunts he is usin' he ain't been able to conquer the weeds of disdain. I say to Jasper, he should use a Tellu spike-tooth drag, well-weighted down instead of one of the Askme cultivators. The latter ain't no good in hard clay soil.

Then there is Jimmie Smith what is tryin' to cultivate a moustach but he ain't learned that his ansisters come from the bald-headed monkeys instead of the hairy kind.



Ezra Samson says his wife says he's got to cultivate a taste for litterature but

with all the chawin' of book covers and wads from the pages of up-to-date love stories, he says there ain't nothin' sweet about love litterature what his taste kin find.

Now, seems like regular farm cultivatin' is takin' sides. You don't give the respectable weeds no chance. I kinda like to take sides with the under dog, so what you call my sympathies and inclinashuns is with the weeds. But, Sophie says I ain't right and she likes to see me cultivatin', 'cause maybe I kin cultivate a taste for work which I ain't got. Now, work is the kinda thing you gotta do 'cause everybody else is doin' it. So maybe it is all right. Anyhow, it helps to buy gasoline for my Oughto.

But, you know, cultivatin' ain't so bad. There's a lot of walkin' and they say walkin's good exercise. And it seems like there's some satisfacshun in walkin' with your horse in front of you, growin' corn or potatoes on each side of you and nice clean ground behind you. It kinda feels like you're in good company and that you're walkin' with accomplishmunt.

There's lots of fun thinkin' when you're cultivatin', sorta cultivatin' your thoughts, too, with nobody around to interrupt your train of thoughts, like they say. You can think all the way from the engine to the caboose without Sophie or anyone else tellin' you to stop. There sure is nothin' like havin' good thoughts for company. The nicest part of cultivatin' is restin' at the end of the rows in the shade where the water jug is. And the hardest part is stoppin' the rest.

Sophie says the weeds is just poppin' outa the ground in the corn field, so I guess I'll have to give the rest a rest and get old Ned and pop them in again.

HY SYCKLE.

What Next In the Poultry Business?

How a Practical Poultryman Views the Future

By R. G. Kirby

THE poultry business has generally been considered one of the most profitable lines of farm work during the last year and I often have inquiries from prospective beginners as to the future of the business. Farmers and poultry specialists are in doubt as to whether they should increase the size of their poultry flocks. Many have increased blindly without proper experience and equipment and their losses of young stock have already been very discouraging.

It has been my observation right along that the poultry business requires close attention and continual study. All of us can learn something new nearly every day. Breeders who do not try to advance soon lose interest in the business. Soon they are ready to sell out. They may have had no financial loss of a serious nature. They have just lost interest in poultry, possibly because they were looking only at the chances for easy money.

So it is evident to me that the future does not hold many chances of success for poultry keepers without perseverance. The business is not going to be easy, even if there is a good demand for eggs and poultry meat. During the past year the price of grains has been discouraging to grain farmers and encouraging to poultrymen. We have no guarantee that such

will be the case another year. Conditions change quite rapidly from year to year. There is a chance that grain will be higher next year and that egg production will be heavier and prices lower.

It will doubtless pay poultrymen to raise as much feed as possible without neglecting the birds. A good collection of mangels and cabbages will help keep the birds healthy next winter and save the use of sprouted oats.

Where corn and sunflowers can be used for shade they will not only help with the feed bills but the growing stock will enjoy their protection all summer.

The Hatchery Business.

I believe that the great increase in the flocks of poultry is largely due to the day-old-chick hatcheries. Breeders who formerly started with a couple of settings of eggs often make a flying start with two or three hundred day-

old chicks. The coal-burning brooder stoves and a stock of common sense will frequently enable a beginner to have very good luck.

I believe that some hatcheries will have to sell a better grade of chicks in the future if they do a heavy business at a profit. However, it is not their fault that there is such a demand for low-priced chicks. Too many breeders judge a purchase by the price. There have been several instances where a dishonest advertiser has advertised chicks at several cents below lowest market quotations of reliable breeders. In such cases the money orders have been cashed and no chicks shipped. But the fact remains, almost an ocean of farmers' money started immediately for the office of the banker. I do not believe a hatchery can do careful breeding work and sell chicks at a very low price. Customers must be willing to pay a fair price per chick in order to pay for the cost of careful breeding.

Our Present Advantages.

One of the bright spots in the poultry future is the fact that it is possible to keep better birds than were owned twenty years ago. I remember as a boy often visiting with a poultryman of our section who was considered a very skilled breeder and exhibitor.

(Continued on page 86).



Forking Over Ground is a Good Way to Help Chicks in their Worm Hunt.

Farm Bureau Celebrates Birthday

Great Pageant is Big Feature of Unusual Program

THE tenth anniversary of the founding of the first County Farm Bureau was celebrated at DeKalb, Illinois, on June 30. Seven thousand automobiles were parked on the grounds of the Northern Illinois State Teachers' College where the event was held and the throng of farmers and farmers' families was estimated at 25,000 or more, making it a record attendance at a farm bureau gathering. Farm bureau members and

ers more prosperous so that educational and social ideals can be realized; spiritual in that it is the product of an aspiration for better agriculture and rural life.

Governor Preus recounted the work of the cooperative creameries, live stock shipping associations, potato exchanges and wool pools which now market forty-four per cent of the farm products of Minnesota.

The big feature was the pageant in

stitutes followed as a means of disseminating it.

The scene changes. The neighbors gather back of Henry Parke's barn, at Genoa, Illinois, at threshing time and the idea of organization as a means of obtaining every day the help which the institute brought for only two or three days out of the year, took shape. The DeKalb County Soil Improvement Association was formed. The idea spread until today 1,600 counties in forty-six states are organized with a total membership of 1,500,000 farmers. All this was symbolized in the pageant.

Later episodes showed the service of the farm bureau by aiding in introducing improved seed, better live stock, soil treatment and disease control. Then subsidiary organizations, cooperative live stock and seed marketing associations, farm loan associations, eventually the home bureaus for the farmers' wives, and the pig clubs and canning clubs for the boys and girls were formed.

Closing scenes pictured the formation of the state associations and the American Farm Bureau Federation, the process being likened to "a mighty river, first the small rivulets, then the larger streams and finally the combined waters of all."

All episodes were given an artistic

touch by dances with the characters in symbolic costume representing the forests and prairies, spring, wild flowers, south winds, raindrops, the rainbow, birds, the clover and wheat fields.

In the background of the field on which the pageant was staged was a miniature farmstead. As the farm bureau history was unfolded the farm was gradually transformed. At first it was unattractive and the farmer's son was about to leave home. Ultimately he sees possibilities in farm life, becomes a rural leader, seeks to become a better farmer and improve the farm home and the community. As the pageant portrayed the development of farm bureau work, this farmer typified the growth in rural leadership. Likewise his methods of farming changed and the home life was improved. Limestone came into use, pure-bred sires replaced the scrubs, fields were rearranged, trees sprayed, a silo erected, the farm house was beautified, a telephone, electric light and power, a water system, bathtub, and eventually a radio outfit were installed.

The day closed with a spectacular parade of over sixty floats representing county, state, and national farm bureau achievements, all ingeniously gotten up by the Illinois County Farm Bureaus.



A Scene Depicting Early Farm Days When Every Farmer Walked Alone and Had No Working Arrangement with His Neighbor.

officials from sixteen different states were present.

Addresses were made by Dean Eugene Davenport, of the Illinois College of Agriculture, J. R. Howard, president of the American Farm Bureau Federation, and J. A. O. Preus, governor of Minnesota.

Dean Davenport reminded his audience that taxes for organized agriculture are for the good of all the people by insuring an ample supply of food for this and future generations.

"Jim" Howard eulogized the farm advisor as hired man, school teacher, choir leader, community organizer, servant, counsellor, in short, "all things to all men." He characterized the farm bureau as educational, bringing new methods to the farmer; social through promoting community life; economic endeavoring to make farm-

the cast of which were nearly 4,000 persons, practically all farm folk. The University of Illinois, the American Farm Bureau Federation, the Illinois Agricultural Association, and the ninety-five County Farm Bureaus in Illinois collaborated in preparing it.

Groups of characters enacted in pantomime the birth, growth, development and probable future of the farm bureau idea, while prologue readers interpreted the symbolism of the pageant.

The first scenes portrayed the farmer in the early days using primitive implements, beset by sour soils, poor seed, scrub live stock, grasshoppers and Hessian fly, and problems involving legislation, taxation, marketing and finance. The agricultural experiment stations came, providing new information for farmers, and the farmers' in-



Girls Making the Letters A F B F, Signifying the Formation of the National Organization of the Various State Farm Bureaus.

LATE AGRICULTURAL NEWS

FORD OFFER MAKES HEADWAY.

THE introduction by Senator E. F. Ladd, of North Dakota, of a bill authorizing without qualification the acceptance of the proposal of Henry Ford for the completion and leasing of the dams and hydroelectric plants at Muscle Shoals, Alabama, and for the purchase of the nitrate plants, has added much to the strength of the Muscle Shoals proposition.

In introducing the bill, which was referred to the committee on agriculture of the senate, Senator Ladd presented communications from Mr. J. R. Howard, president of the American Farm Bureau Federation; Dr. T. C. Atkeson, Washington representative of the National Grange; the National Farmers' Union, and American Federation of Labor, endorsing the Henry Ford Muscle Shoals project.

THE AGRICULTURAL TARIFF SCHEDULES.

THE senate is making some progress in its discussion and action on the agricultural tariff schedules. In most instances the farmers have got what they asked for in tariff increases on farm products. They lost out, however, on vegetable oils. By a vote of thirty-three to twenty-four a motion to make dutiable imported vegetable oils used in the manufacture of non-edible products was digested. It approved rates of three cents a pound on cottonseed oil and soya bean oil, and four cents a pound on coconut oil and peanut oil, where such oils enter into the manufacture of edible commodities.

Representatives of the poultry industry made a hard fight for a prohibitive tariff on Chinese frozen and dried eggs. These are the products that are most seriously injuring the American poultry industry. The poultrymen wanted twenty-four cents a pound on dried and frozen eggs. They received six cents a pound on frozen eggs and eighteen cents on dried eggs.

The hay rate is \$4 a ton; fifty-eight cents per 100 pounds on potatoes; onions, ten cents per pound; beans, green or dried, two cents per pound; peas, green or dried, one cent a pound.

EASTERN FRUIT PROSPECTS.

AT a meeting called by the Pennsylvania State Department of Markets, held in Washington on July 11, for the purpose of making a mid-season survey of the fruit crops, reports from several states were received and discussed.

Maryland and Delaware reports indicated a much better fruit prospect at the close of June than a month ago, notwithstanding the "June drop" was heavy in some of the best-producing counties of both states. Pears are short in both Delaware and Maryland. Apples are forty-five per cent of a full crop in Maryland. Peaches are reported to be forty-five per cent of a normal crop. Delaware reports a seventy-nine per cent normal apple crop. The Delaware peach crop is estimated at seventy-seven per cent of normal.

Representatives of Virginia fruit growers reported twenty-eight per cent of a full apple crop. Peaches are sixty per cent of normal.

Pennsylvania reported fifty-six per cent of a full apple crop. Peaches are forty-six per cent of a crop, and pears fifty-six per cent.

New York's figures were incompletely reported. The statement was made that there will be a large crop of apples, as many as in 1920, and probably one-third more. Sherman J. Lowell, in

making a report of the New York state apple crop, reported a short Baldwin crop.

New Jersey reported a seventy-five per cent apple yield; West Virginia, thirty-six per cent of a crop.

Representatives of the railroads were in attendance and discussed the matter of cars and distribution of the apple crop.

TOPS THE LIST.

OF the total receipts of live stock at Indianapolis for the month of June, the Producers' Commission Association handled 15.5 per cent. They easily top the list of buyers with a to-

News From Cloverland

By L. A. Chase

BEAVERS INCREASING.

THE closing of the beaver season is reported to have resulted in a large increase of these animals in northern territory. A complaint was recently laid with the local game warden by a farmer who found that his field of marsh hay was being inundated as a result of a dam recently erected by beavers on an adjoining creek. The dam was dynamited.

LAND-CLEARING PROGRESS.

THE Northwestern National Bank Review, of Minneapolis, for the month of June, deals fully and interestingly with the land-clearing activities in the northern lake states, including the Upper Peninsula of Michigan, which lies in the bank's territory. It seems that the work of land-clearing, this summer, is going forward all the way from the Red River Valley of western Minnesota to Sault Ste. Marie in northeastern Michigan. Much of this work is being done with salvaged government TNT and picric acid. It appears that, although there was to be a general distribution of salvaged explosive in all the cut-over states of the country, the southern and western states did not see fit to make use of this material, leaving it to Minnesota, Wisconsin and Michigan to get the greater portion of it. Four million pounds of government picric acid have been placed at the disposal of these three lake states, it is stated, for use this year. It costs, laid down in the northern counties, about four cents per cartridge, says the bank. Wisconsin expects to clear 60,000 acres. Demonstration trains are being used in all three lake states, this year.

FARMERS GET SEED ASSISTANCE.

CHIPPEWA county farmers who were in need of financial assistance, have received seed distributed by the county to the value of \$2,500, this season. Farmers gave their notes to the county for the seed and will take them up when the crops are harvested.

SPORTSMEN PLEASED.

THE Upper Peninsula sportsmen who attended the all-state meeting of sportsmen at Petoskey recently, have expressed themselves as well pleased with the result. It is seen on both sides of the Straits that the conservation of our game and fish is necessary if there is to be any game and fish for any of us. It is this idea apparently that underlay the formation

of 555 cars, 398 carlots coming by rail and 157 cars of hogs being trucked in. A feature of the month was the growth in trucked-in receipts, there being 11,031 head of hogs handled in this way. Trucked-in calves for the month amounted to 503 head.

During the final week of the month the receipts totalled 123 cars, evenly distributed over the week.

"CO-OP" MOVEMENT FINDS ALASKA.

RECENT news dispatches tell of the establishment of an Alaskan cooperative farmers' association, known as the Tanana Valley Agricultural As-

sociation, which has been formed to aid in the development of agriculture in the region near Fairbanks. This district is about five hundred miles from the coast and is the northern terminus of the government railroad. One of the five Alaskan experiment stations of the United States Department of Agriculture is located at Fairbanks.

TO COMBAT RETURN OF CONVENTION SYSTEM.

THE National Farmers' Union is making a campaign to combat the movement to abolish the direct primaries and return to the old convention system, which means the loss to the farmers of the political power which they have acquired after a half century of struggle.

"To abolish the direct primary," says President Charles Barrett of the Union, "would be to take a backward step which could not be recovered in the next half century. It would put the special interests in charge of the government. It would threaten with destruction the influence of agriculture in the national congress and would enfeeble if not destroy the progressive forces of the country."

"Nobody claims that the primary system is faultless. But it is ten thousand times better than the old convention system, where a few men met behind closed doors, selected the candidates and informed the convention that they must take the slate made for them. The farmer under such a system had nothing to say about who would represent him in any office. I would extend the system rather than get rid of it."

FEDERAL CROP REPORT.

FOLLOWING is a summary of the federal crop report for July, showing the estimated total production of staple crops for 1922 and comparing same with the average production for the years 1916 to 1920 inclusive:

Crop.	Total Production in Millions Bushels.	
	July 1 Forecast.	1916-1920 Average.
Wheat	817,000,000	799,000,000
Corn	2,860,000,000	2,831,000,000
Oats	1,187,000,000	1,413,000,000
Barley	182,000,000	197,000,000
Rye	82,000,000	67,800,000
Potatoes ...	429,000,000	373,000,000
Hay, tons ...	107,000,000	102,000,000
Apples, bbls:		
Total	190,000,000	179,000,000
Com'rcial	31,400,000	26,800,000
Peaches ...	54,300,000	43,600,000

ON THE WAITING LIST.

MR. S. P. SEXTON, cow-tester in Kalamazoo county, reports eight men on a waiting list, desirous of getting into the association. This is good business and such interest aroused by the cow-tester will actively keep the Cow-testing Association work going and growing in Michigan. Percy Parkyn, in Calhoun county, reports the board of supervisors has appropriated \$9,000 for a county-wide tuberculin test.

ASSOCIATIONS GROW.

THE eighteen active cow-testing associations now operating in Michigan is the largest group of cow-testing associations ever active during any year. The county agricultural agents, with members of the Dairy Department of the Michigan Agricultural College, have been instrumental in these organizations. A substantial growth and demand for this work is arising in many other Michigan counties.

of a state Congress of Sportsmen, which will place its policies before the 1923 legislature. It is reported that the sportsmen from the two sections of the state agreed on the maintenance of the present buck law, in favoring an angler's license for residents of the state, the establishment of fish hatcheries and of public hunting grounds. Another Upper Peninsula idea favored by the meeting is the restricting the partridge season to October. Upper Peninsula sportsmen are pleased with the treatment they and their policies receive at the hands of the lower state men.

DEVELOPMENT BUREAU WELL SUPPORTED.

THE recent meeting of the directors of the Upper Peninsula Development Bureau held at Iron Mountain, brought out the fact that in addition to the contributions to the work of the bureau made by the state of Michigan and the counties of the Upper Peninsula, which amounts to approximately \$20,000 in the aggregate, private subscriptions have been received amounting to \$15,000. Several Upper Peninsula townships have voted to make an annual appropriation in support of the bureau.

GRAND ISLAND.

THE land holdings of the Cleveland-Cliffs Iron Company include Grand Island—a large island of fourteen thousand acres off the harbor of Munising of Lake Superior. The island is well stocked with game, including elk and deer. Among the deer are some white animals which are said to breed true to that color in the main. On a recent trip to the island I learned that, during the past year, there had been a brisk demand for deer for park purposes and that seventy-two animals had been disposed of for prices ranging from \$30 to \$75. The deer on the islands are well protected, unlawful hunting and predatory animals being carefully guarded against. A considerable amount of reforestation has been effected, and, along the lake shore, I saw some excellent stands of Scotch pine. There are also plantings of white pine in the interior of the island. During the summer months there is a considerable tourist traffic to the island, the Cleveland-Cliffs Company operating a summer hotel and cottages. The taxation of standing timber has encouraged an over-production of logs and I saw enormous piles of them, some of which had been cut seven years ago.

Better Clover Seed for Farmers

And Better Returns to the Producers of a High-Grade Product

By J. F. Cox,
Farm Crops Dept., M. A. C.

THESE are few Michigan farmers who could stay in the business of farming without seeding clover or alfalfa. Clover is the key crop in most Michigan rotations and its planting is necessary, not only for the hay secured, but in order to put the soil in condition for the production of grain crops, potatoes, beans, etc. Valuable as the crop is, the seeding of clover has not been an unmixed blessing, for fields have often been heavily seeded to troublesome weeds through carelessness in planting impure clover seed.

The great majority of our weeds were imported from Europe in clover or other small seeds. Had proper care been exercised in early days, we would not have these weeds to contend with at present. Careful attention to the securing of good seed will prevent a great deal of expensive and back-breaking work in clearing up weedy fields. Improved seed-cleaning machinery, used by the leading seed companies, can take out most of the weed seeds and make good seed from low-grade shipments. This costs money, however, and a lot of good clover seed must be taken out with the weed seed, and all the weed seeds cannot always be removed. The best prices go to the producer of clean seed and the seed trade can furnish the best seed for the market from clean seed furnished by the farmer.

The time to get the weeds out of clover seed is before the crop is harvested. Very few farmers in the clover seed producing sections have in the past paid sufficient attention to getting rid of weeds in the seed fields. Very few thought that it would pay to go to the trouble of pulling weeds. At

present the practice of roguing out weeds is quite general throughout Michigan's leading alsike and red clover districts.

The writer recently returned from a trip through Presque Isle, Alpena and Alcona counties in company with Mr. Renwick of the Farm Bureau Seed Department. Mr. Bingham, of a local

seed company, accompanied the party to Alpena county. County Agent McCrary of Presque Isle and County Agricultural Agent Scheetz covered their territory thoroughly and showed the party a great number of alsike fields and occasional red and mammoth clover seed fields. It was a common sight to see men, women and children pulling night flowering catch fly or "sticky

cockle," as it is locally called, and other weeds from seed fields. The clover seed prospects are excellent in northeastern Michigan this season. There is a very heavy set of bloom and should favorable weather prevail during mid-July, a heavy set of seed will result. Special effort is being made to secure the cleaning up of

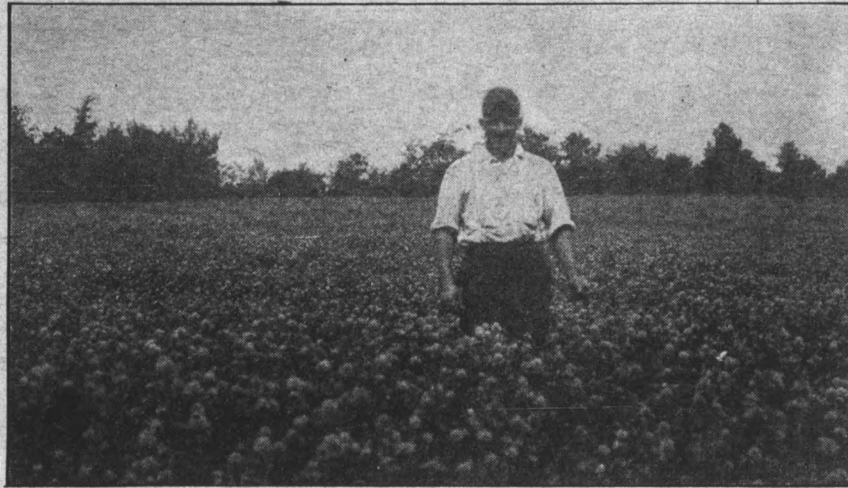
at present and will increase. The clover test plats at M. A. C. show home-grown seed to be much hardier than imported seed from Italy or seed from regions of mild climate. Professor Megee, in charge of these plats states that plants secured from the Italian seed not only winter-killed to a much greater degree, but suffered greatly from anthracnose, both factors which greatly reduced the hay yield.

The territory in northeastern Michigan was gone over last year by Dr. Bessey, M. A. C. botanist, Mr. Bibbins, then a member of the Farm Crops Department, and Mr. Mock, of the Farm Bureau Seed Department. Very evidently their work in calling attention to the weeds which lessen the value of clover seed, has had good results.

The night flowering catch fly is particularly plentiful in this region. It produces a great quantity of small grayish seeds very similar in size to alsike seed. To the unobservant, badly infested alsike will pass as clean seed. The practice of getting seed from neighboring farms, which has not been cleaned over a good mill, has greatly accelerated the spread of the sticky cockle, pepper grass and white campion, a relative of sticky cockle, and the Canada thistle—weeds which must be watched in the alsike region. Timothy lessens the value of alsike seed. There is a market for alsike seed mixed with timothy but at less price than pure alsike.

There seems to be a general misunderstanding in regard to the difference between mammoth clover and red. The mammoth clover is simply a giant strain of the common red clover. It is later in maturing, sometimes as much

(Continued on page 76)



An Excellent Field of Red Clover in Presque Isle County.

seed company, accompanied the party to Alpena county. County Agent McCrary of Presque Isle and County Agricultural Agent Scheetz covered their territory thoroughly and showed the party a great number of alsike fields and occasional red and mammoth clover seed fields. It was a common sight to see men, women and children pulling night flowering catch fly or "sticky

seed fields by cutting out weed patches, trimming up roads, lanes and fence rows, hand-pulling where practical. Weedy fields should be cut for hay. While no great increase in the clover seed market can apparently be expected, it is nevertheless certain that clean alsike, red and mammoth clover seed will be in strong demand. The demand for clean, home-grown seed is strong

Farmers Fight to Retain Road

Their Labor and Investments Threatened by Move of Railroad Company

THESE farmers have reason to be discouraged. You, or anyone situated as they are, would protest, and that strongly, against the deal which is being "stacked" against them.

There are nearly a thousand in number. They live in the area served by the towns and stations of Weidman and Barryton, respectively, located in the counties of Isabella and Mecosta.

They own some of the finest farms in the state. Around seventy per cent of the soil of this general district is desirable agricultural land, about sixty per cent of which is now developed into good producing farms.

General farming is practiced, with wheat, potatoes and beans as the chief cash crops. Yields here are well up to, and often above the average for the state. Over two hundred cars of potatoes were shipped out of the Barryton area last year, while Weidman is also the center of a heavy producing district. Beans are grown in profusion by these industrious farmers and bring in a handsome part of their income. Nearly one hundred carloads of cattle were shipped from Barryton in 1921. Some good herds and flocks of pure-breds are being developed in both communities.

These men have brought their families into this section, taken up land, cleared, fenced and developed it, erected good substantial buildings and stimulated among themselves a community spirit which has resulted in social growth. Now they enjoy good schools,

opportunity for religious worship, farmers' organizations and other institutions which bring to these pioneers and their families some of the desirable things of life.

They felt safe, secure, and reasoned that their farming program was economically sound. Then out of this clear sky came a thunderbolt. Every phase of their business was set awry and now they do not know where they are at by reason of an application to the Interstate Commerce Commission by the Pere Marquette Railroad for permission to discontinue the branch railroad lines running from Mecosta to Barryton and from Remus to Weidman. The removal of this transportation service will rob these farms of considerable of their value and place the whole agricultural program on an

entirely different economic basis.

It is understood that the management has in mind the discontinuing of all branch lines of the Pere Marquette in order to reduce overhead and thereby increase dividends. The discontinuance of service on these two branches, it is understood, is the first step in this bold program by which it is apparently planned to do away with service to people to render service to capital.

If the railroad men succeed in their effort on these two branch lines they, without doubt, will proceed to impose the same injustice upon other communities.

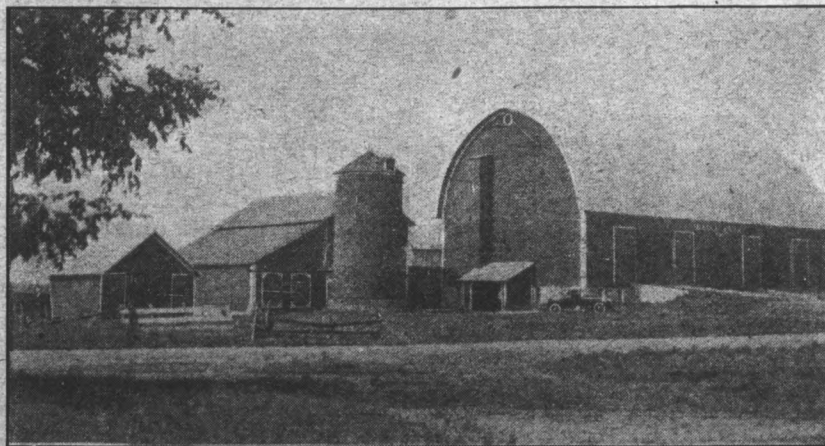
Their claim is that these branches do not pay. President Friday, of the Michigan Agricultural College, is reported to have taken the position that

these two branches should be credited with twenty-five per cent of the revenue from through freight originating on these lines after it leaves the junction station and on all inbound shipments. The railroad men refuse to allow this credit, and so the losses sustained during the past three years are, according to the railroad's method of accounting, very heavy.

If the branches are removed the railway company hopes to move from three-fifths to three-quarters of the crops and merchandise of the territory after the farmers have hauled their products from ten to fifteen miles to the main line at Remus, Mecosta and other stations. This, while very expensive and inconvenient for the farmers, will naturally effect a substantial saving to the railroad company.

In all probability the economic conditions will have a very great bearing upon the attitude taken by the Interstate Commerce Commission or whatever body may have the matter for decision. It would seem, however, that in a developing country the potential business should be a big, if not a dominating, factor in arriving at a just conclusion.

In order to know better what the agricultural possibilities of the district affected are we suggest that a decision in the matter be reserved until the state and federal soil men can be brought to these counties to make a survey of the territory in question. This would furnish concrete data with which it would be possible to arrive at a more just and equitable decision.



Mr. Hauck's Splendid Farm Buildings are Typical of Many Around Weidman.

OUR SERVICE DEPARTMENT

NULL AND VOID FOR NON-PAYMENT.

A sells a house to B on a contract for which B pays \$500 down and agrees to pay \$25 a month and interest. It states in the contract that if B fails to make payments the contract is null and void. Now B realizes he has paid too much and is willing to lose the \$500 and throws up the contract and refuses to make any more payments. Can A make him keep up the contract? In case A can force B to keep it up, what good is the clause in the contract, "null and void for non-payment?"—C. H.

The seller can collect the balance. The privilege to avoid the contract belongs to him and not to the buyer.—Rood.

NEGLIGENT INJURY.

A contractor who has a road job is working about 800 feet away from my house. He is shooting stumps, using heavy charges of dynamite. He doesn't come to the house to say, or call, when a charge is to explode. Yesterday I was near to the firing line, not knowing they were to shoot. My horses got frightened of an explosion, tore themselves loose and ran away, doing very much damage. Can I sue the contractor?—A. H.

Blasting stumps is dangerous to persons within a short distance and liable to frighten horses not accustomed to it. Wherefore the person doing the blasting is under duty to give notice to those in the vicinity if he has reason to suspect that anybody would be in the vicinity and his failure to do so renders him liable for any consequent damage. It would, therefore, appear that the contractor is liable.

MEALY BUGS.

What can I do for my plants? They are covered with little white lice. I have tried to kill them but have been unsuccessful.—Mrs. A. H. S.

The small white lice on your house plants are mealy bugs.

Ferns, cortons, colens, ivy, peonies, geraniums, palms and many other house plants are apt to be infested with these insects. The dorsal surfaces of these bugs are covered with a white powder-like dust or wax and for this reason they are commonly known as the mealy bug.

The cheapest and most effective way of control is to give the plants a bath several times a week. Place the plant out of doors where the water can be applied freely, or where this is impossible hold the plant under the tap in the kitchen sink.

Where one does not have water pressure it is always possible to give a plant a good bath in soapsuds, after which it should be rinsed with clear water.

There is a proprietary preparation on the market, sold by all big dealers in seeds and greenhouse supplies, known as lemon oil. It is put out by a firm in Baltimore and should not be in any way confused with the ordinary oil of lemon sold over drug counters.

Lemon oil should be diluted, using one part of lemon oil to sixteen of water and applying either as a spray or as a dip. Dipping should be avoided when plants are in bloom or are well budded, since dipped buds sometimes blight.

GRAIN RATION ON PASTURE.

What is a good grain ration for a Jersey cow on pasture, that is giving forty pounds of four per cent milk? For grain I have corn and oats. I could buy some grain or feeds.—J. Y.

Speaking from a scientific standpoint entirely, a grain ration on pasture grass would differ somewhat from a grain ration on ordinary dry foods

in the winter time. Pasture grass is richer in protein than the hay and silage which we feed in winter and therefore we do not need to feed cottonseed meal or oil meal, or even wheat bran, to have a scientifically balanced ration. You couldn't get anything better than corn and oats ground, mixed half-and-half. This would balance up a good pasture ration almost perfectly.

Some contend that it does not pay to feed cows grain when they are on good pasture and there is some data to show that cows will give practically as much milk when out at pasture without grain as they will with grain. But there is also data to show that grain fed on pasture has an accumulative effect and the cows the following winter will do better and yield more milk if they are fed grain while at pasture.

The question is how much grain to feed. Ordinarily we would say for a cow giving four per cent milk to feed one pound of grain for every four pounds of milk she produces. Since your cow produces forty pounds of milk per day then she should get ten pounds of grain per day. You might economize and cut this ration down while the pasture is luxuriant and then as soon as the grass begins to fail later on in the summer increase to the full grain ration.

MEASURE OF DAMAGES.

Can a person or firm advertise thorough-bred stock or poultry and then send out inferior stock without making it right? We bought eggs guaranteed to be White Leghorns of the 230 to 264-egg strain. Now two of the chickens are developing a very different strain than Leghorn.—E. E. L.

The seller is liable to the purchaser for the difference between the value of the goods promised and the goods furnished.—Rood.

LAND PLASTER VS. LIME.

What is the difference between land plaster and lime? We have put several sacks of land plaster on an acre of ground and our neighbor claims it is not lime, containing only a small per cent of lime.—M. C.

Your neighbor is correct. Land plaster, while a form of lime, will not correct soil acidity.

Land plaster is the sulphate of calcium while lime is the oxide of calcium, a caustic substance. When an acid comes in contact with oxide of

calcium, a chemical action takes place and the substances are neutralized, destroying the acid in the soil. Land plaster has already been neutralized. Lime and sulphuric acid unite, forming the sulphate of calcium or land plaster. Therefore, it will do no good to apply land plaster to the soil for the purpose of overcoming its acidity.

While there are large deposits of limestone at Petoskey, there are other deposits in various parts of the state that are utilized for agricultural purposes. Down south of Detroit large deposits of limestone are to be found, also at Grand Rapids, while south of the city we find the land plaster.

Any of this lime rock finely ground will overcome soil acidity, or if the lime rock is burned and made into caustic lime, this will also destroy soil acidity and is more effective pound for pound than the ground limestone.

PATENTS.

I have in mind an idea for an invention. Would you please tell me what to do to further the invention, and have same patented, etc.?—R. D.

Patent practice is principally conducted by attorneys at Washington who make a specialty of it. The first step would be a search of the records to learn whether the invention has been anticipated by some other; and if not, and considered by the attorneys patentable, application for a patent would be made. The expense would be \$150 or over.—Rood.

LINE FENCE.

What is the law in regard to line fences in Michigan? I have my half of line fence up. Can I compel my neighbor to put up his half?—H. C.

If the fence has been divided and the fence viewers have ordered the fence built, or repaired, and his part is not done by one party the other may do it, and on proper report and proof the assessor of the town is bound to levy a tax on the land benefited, spread it on the assessment roll, and it is collected with the other taxes, and paid to the party entitled to it.—Rood.

COWPEAS AS GREEN MANURE.

We have a fifteen-acre field of cowpeas (whip-poor-wills) planted early in rows with a corn planter. We have a good stand, have cultivated them twice

and they are doing fine. The soil ranges from black prairie to rather sandy opening. These peas were planted to go back on the land. Would it be better to plow them under as soon as they get their growth and are green yet, about August 1, or cut them with a mower, let dry, and disk them in, or would you let them stand and sow the wheat with a one-horse drill? We wish to put this field to wheat this fall and any suggestions as to the handling of the peas will be appreciated.—H. B.

If you could plow the cowpeas down as soon as August 1, there would be time to make a good seed-bed for wheat by September 15. But if the plowing, from any cause, must be delayed then you injure your prospect for the best crop of wheat as wheat does not do its best when sown on loosely prepared soil.

It is better that any green manuring crop should be allowed to mature fairly well before being incorporated with the soil. You get more organic matter to incorporate, which is usually the great object of green manuring and in case of legume crops you get a much larger per cent of nitrogen.

I think your second idea is best. You get all the benefit and eliminate all the risk. It might not be necessary to cut them with the mower, simply disk them as they stand. You could determine the better way by trying.

PAYMENT OF INSURANCE.

We bought a farm, paying the man his equity and leaving a mortgage of \$1,000. We asked if it were mortgaged and he said it was. The man that held the mortgage had the policy, and it was due in October. When the assessment came due the man came to us, but we had no policy, neither did he. Who should have paid the assessment?—Mrs. B.

A purchaser of property on which the seller holds insurance has no rights under the insurance policy in the absence of assignment or recognition by the insurance company and owes no liabilities.—Rood.

MUTILATING ROADSIDE TREES.

Please let me know in regard to shade trees along highways. Has any one, or a telephone company, any right to disfigure trees set along my farm?—J. T. L.

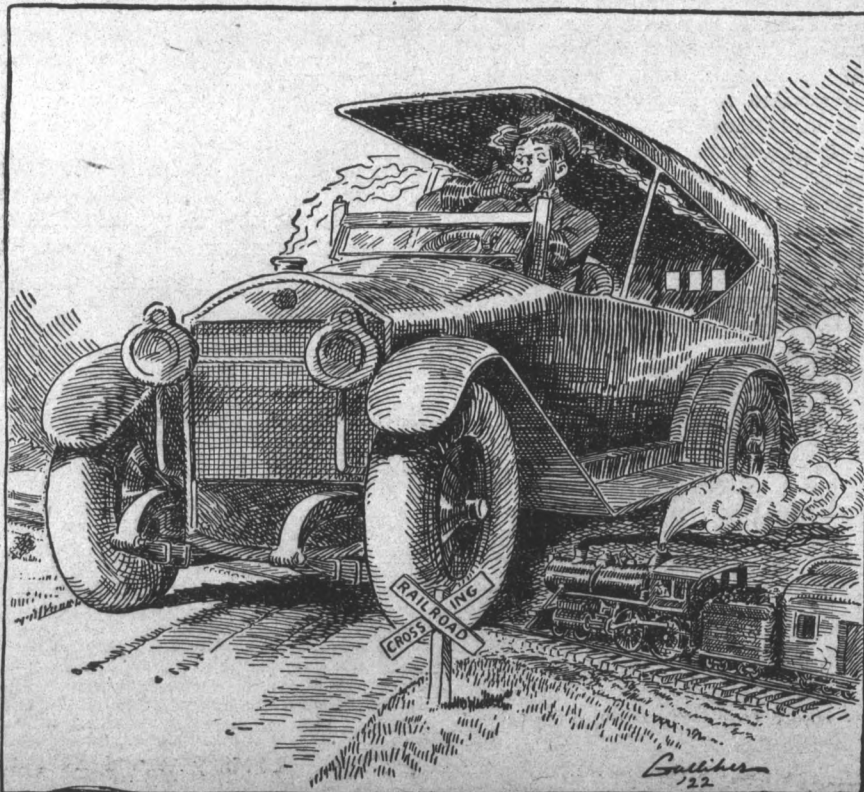
Replying to your inquiry concerning the cutting or mutilating of shade trees within the limits of highways, please be advised that Act 2 of the extra session of the legislature for the year 1921, provides for the placing of the jurisdiction of cutting or trimming of shade trees in the hands of the highway officers having jurisdiction over the highways in which the trees are standing, and the telephone companies nor anyone else has no right to trim or mutilate such trees without first having obtained permission from the proper authorities having jurisdiction over the highways.

MOLD ON CLOVER.

Am writing you in regard to a mold on clover, also the cause.—G. A. W.

You do not give sufficient information in your inquiry so that it can be answered intelligently.

It is presumed that you mean by the mold on clover, the mold on clover hay. Very often in a clover hay mow, we find mold comes from the heat of hay that was stored containing an excess of moisture. This mold does not seem to be injurious in any way to live stock. Usually people pay no attention to it whatever, and live stock eat the hay with this white mold on it practically as readily as hay without any mold.



Francisco Farm Notes

By P. P. Pope

A Northern Trip

WE wrote a short time ago about our drive down through the lower half of our good state, quoting to the reader the motto of the great state of Michigan, viz: "If thou seekest a beautiful peninsula look around." And strange as it may seem, we have again been taking some of our own advice. Rebecca of Sunny Brook Farm says, "When joy and duty clash then 'tis joy must go to smash." The little girl of Francisco Farm parodies it thus: "When joy and duty clash let duty go to smash." But when joy and duty go hand in hand then the satisfaction is complete. Such has been the case with us the past few days when it has been necessary to



make the trip by truck well up into the northern part of the lower peninsula to deliver a couple of Short-horn bulls.

The ten per cent drop in the freight rates is noticeable and that is about all, when live stock

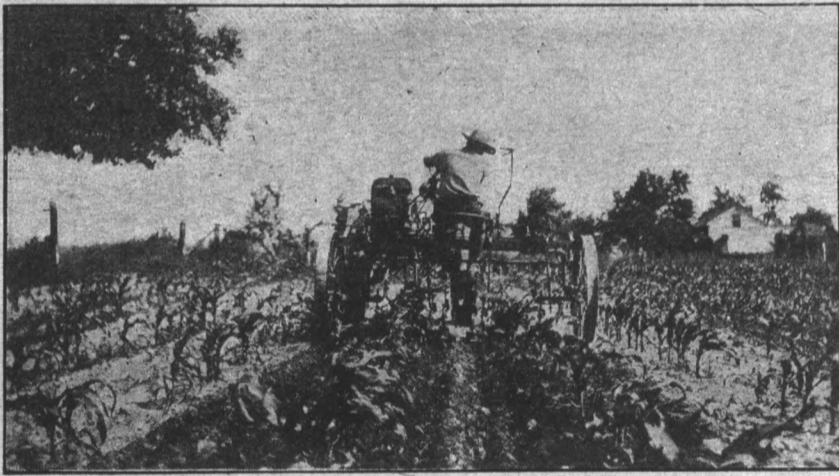
can be transported by truck through new country for the same money and in one-third the time of the railroads it is time for another drop in freight rates and improvement in service, or more trucks.

We found roads fairly easy to travel for the most of the way. Long straight

always moving noisily and always in a hurry, just like the people on the streets of Detroit. For the rest, all is peace and quietude and chimes ring always. Chimes up in this country? Yes, and the cows out on the commons do the ringing. All grades and variations, tones and pitches, sharps and flats, but no rests. If the old bell leaders would practice team work a little more they might play "Nearer My God To Thee" on Sunday morning, and "Yankee Doodle" on the Fourth of July. I think it was "It's Nice to Get Up in the Morning" that one old nuisance was trying to play right under my window about daylight.

We followed a road like a snake trail away out over the plains country among the jack pines, and unloaded the first bull. Level as a floor and for miles out of sight of everything save pony grass and scattering pines. And farther back on the trail the sweet fern and the bracken had brushed the hubs on either side. And farther up among the hills and the hardwood, grew better grass and clover. There is food for many more cattle up in this big country and a big field of usefulness for good bulls.

Among the herds along the countryside one often sees evidence of good blood, but in many herds the mixture is hopeless. In one herd the sire was the scrubbiest beast of the lot. We delivered the second bull at the foot of the steepest hill on the route, where he follows another pure-bred sire of



Farmer Pope Likes to Use His Tractor Cultivator.

stretches of hard gravel roads, many miles of them with sod-bound borders, other miles of them where it was necessary to follow the straight and narrow way to keep from the sinking sands. A couple of detours we had to make where the state highway department was busy with men and trucks and teams, making straight the way and hard the road that leads northward. These detours were crooked, with variations. Right, left, up, down, wet, dry, sand, clay, corduroy and repeat, changing, ever changing, and many a street was paved with cedar bark and sawdust.

The patrol was ever watching the bad places to keep the traffic moving for this is the vacation season and tourists from many states abound. The heavy truck kept steadily rolling over the miles, sometimes fast, sometimes slow, but ever going forward, and the bulls rode easy. We gave them a good feed of hay and stopped for the night at the little town of Lovells, away up on the north branch of the AuSable. A paradise for fishermen and a great place to rest. I wanted to stay. The waters of the little rived flow swiftly,

the same breed in what is now a neat little herd of uniform color and conformation. Coming back through the great Grayling Forest we gained still deeper impressions of the wonder and magnitude of this beautiful peninsula of ours, as well as of the havoc wrought when forest fires run through the young timber. Long will we remember the plains, the campers, the fish and the huckleberries, as well as the streets that are paved with cedar bark and sawdust.

SHOULDN'T LET HIM BE A HOG.

WHEN a pig in Northern Ireland reaches a weight of from 170 to 195 pounds he had better be marketed, reports Vice-Consul Barringer, Belfast, because to fatten him up any more would require more feed than the extra pork is worth. The smaller the pig the greater the gain in live weight from the consumption of a given quantity of food. Farmers are being urged, therefore, to market their pigs when they weigh from 170 to 195 pounds and not to continue feeding them until they have reached heavier weights.



What's the Answer to "How do you do?"

THINK it over carefully—and then answer frankly. Face the facts. Do your nerves and digestion stand the jolting of the coffee drug? Can they go on standing it.

There's charm and complete satisfaction in Postum—and freedom from any harm to health.

Thousands of sensible people who have seriously looked for the answer to "How do you do?" have turned from coffee to Postum, and are doing so well, in satisfaction and health, that they wouldn't think of turning back.

You can begin today, with an order to your grocer.

Postum comes in two forms: Instant Postum (in tins) made instantly in the cup by the addition of boiling water. Postum Cereal (in packages of larger bulk, for those who prefer to make the drink while the meal is being prepared) made by boiling for fully 20 minutes.

Postum for Health

"There's a Reason"

Made by Postum Cereal Co., Inc., Battle Creek, Mich.

Wheat and Clover



Some farmers continue to raise wheat at little or no profit, because a stand of clover can be secured in it if it is rightly fertilized. No crop responds better to POTASH FERTILIZATION than clover. For wheat to be seeded to clover insist on having a fertilizer containing

6 to 8% POTASH

and you will have a profitable clover crop, as well as a better wheat crop. In this as well as in other ways

Potash Pays

SOIL AND CROP SERVICE, POTASH SYNDICATE, H. A. HUSTON, Mgr. 42 Broadway New York

THE AUTO-OILED AERMOTOR

A Real Self-Oiling Windmill

Oil an Aermotor once a year and it is always oiled. Every moving part is completely and fully oiled. A constant stream of oil flows on every bearing. The shafts run in oil. The double gears run in oil in a tightly enclosed gear case. Friction and wear are practically eliminated.

Any windmill which does not have the gears running in oil is only half oiled. A modern windmill, like a modern automobile, must have its gears enclosed and run in oil. Dry gears, exposed to dust, wear rapidly. Dry bearings and dry gears cause friction and loss of power. The Aermotor pumps in the lightest breeze because it is correctly designed and well oiled. To get everlasting windmill satisfaction, buy the Aermotor.

Write today for Circular.

AERMOTOR CO. Chicago Des Moines Kansas City Minneapolis Oakland



IMPROVED FARMS In Michigan's Best Counties

We have a few farms, placed with us for sale by some of our stockholders, that offer unusually attractive bargains.

These are not run-down properties, but well stocked, fully cultivated farms, offering pleasant homes and profitable investments.

If you are interested in this kind of property, let us send you details. Among them may be just what you want.

We can help you finance the purchase of any of these farms.

STANDARD MORTGAGE & INVESTMENT COMPANY

Penobscot Building - Detroit, Michigan

Investments of Standard Value

SPECIAL OFFER



MADE IN 4 SIZES

SHIPPED ON APPROVAL

Subject to your inspection when it arrives, subject to comparison in construction, improvements and exclusive features with any cutter made. If it is not exactly as claimed, the best you ever saw, the best in your neighborhood ship it back and you owe us nothing. How is that for a fair and square proposition? How is that for proof of quality?

ROSS Ensilage Cutters

ARE REAL BARGAINS

They are the lowest priced cutters on the market, bar none. Cut cleaner, operate 25 per cent easier, save 25 per cent in fuel, have 25 per cent larger capacity, proven by actual tests and by experience of thousands of owners. You get all this in ROSS cutters, plus all modern improvements and construction details such as 6 fan distribution blower, angle steel blower fans, angle steel frame, ball bearing end thrust knife adjustment, reversible steel cutting bar and many other features not found on any other, and still ROSS prices are lowest. The biggest cutter value your dollar will buy. Let us show you.

No Cash--No--Deposit--No Interest

Order your ROSS cutter today, tomorrow, or whenever you are ready. No need of waiting to harvest crops and get cash. No need of depending on some neighbor's cutter or paying fancy prices to have your silo filled. Our terms make it easy to own a ROSS. No cash, no interest, no deposit. We trust you. Pay this fall or Jan. later in the spring, whichever suits you best. It means the best cutter made on easiest terms ever offered. Write today for literature.

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NOW BUYS ROSS NO. 30 MOUNTED ON LEGS

Ross Ensilage Cutters are made in four sizes. A cutter for every need—to match any power.

No. 30 is also made with four wheel mounting as shown in illustration, with 3 to 5 tons per hour capacity, requires 4 to 6 horsepower.

No. 40 with four wheel mounting has 6 to 8 ton per hour capacity, requires 8 to 10 horsepower to operate.

No. 50 with four wheel mounting has 8 to 10 ton per hour capacity, requires 10 to 12 horsepower.

No. 60 with four wheel mounting has 12 to 15 ton per hour capacity, requires 12 to 15 horsepower.

All the above machines at our special bargain prices. The lowest priced cutters of all are fully equipped, with blower traveling feed table—also 30 ft. of blow-er pipe and top elbow, length of cut one-fourth, one-half and 1 inch for all sizes, and don't forget these cutters have 75 years manufacturing experience built into them—not an experiment or make shift—look anywhere, everywhere, and you won't find a cheaper cutter or a better cutter than the famous Ross.

SPENCER'S HAY PRESS

The Speediest, Most Durable Press Built

Full Line of Box and Power Presses. Write for Catalogue and Prices.

J. A. SPENCER FOUNDRY AND MACHINE WORKS,
Established 1881. DWIGHT, ILLINOIS Not Incorporated.

Better Clover Seed

(Continued from page 73).

as two or three weeks later, makes a larger growth and gives a coarser, more viney hay. There is no difference in the type of flower, leaf or other botanical characteristics. Some so-called mammoth is identical to June or very little later in maturing, while here and there are fields of real mammoth two weeks or more later than the red clover or "June clover" as it is commonly called. There is a strong demand at present for typical mammoth of this large type and several excellent fields were seen in Alpena county; notably, one fifty-acre field on the farm of Rogers Brothers.

Without doubt the work of the farmers in northeastern Michigan seed-growing sections and in other seed regions of Michigan in pulling weeds from their seed fields and in cutting out weedy areas will pay a good profit to the workers. Even greater benefits will come to the farmer who buys and plants seed from cleaned up fields. Certainly the work of the Farm Bureau Seed Department and of seed companies in attempting to secure seed from the best seed fields and in encouraging farmers in cleaning up their fields is to be highly commended. The day is past when the grower of weedy clover seed can expect to secure as much per bushel as the producer of clean seed. The old system of a flat local rate for clover seed penalized the producer of seed of high purity.

The yields of seed from alsike, red, and mammoth clover in northeastern Michigan are much larger than are usual in corn belt states or in lower Michigan. This region is largely un-

usual, there is no evidence to lead to the belief that live stock will be injured in feeding well-cured hay. Care should be taken to cure thoroughly.

It looks as though the day of extensive alsike seed fields, many allowed to run too long, is passed in north-eastern Michigan. Alfalfa and sweet clover are coming in remarkably fast and are held in high esteem by live stock feeders and potato growers. Four years ago the writer traveled over the same region and saw comparatively little alfalfa and only a few fields of sweet clover. Today these crops are common, and in several cases alfalfa was handled successfully for seed last year. Most of the sweet clover growers are rapidly becoming alfalfa men.

In the future, smaller, cleaner, higher yielding fields of alsike and red clover will be grown in rotation and not allowed to stand for several years as has been the custom. This will mean cleaner and better seed, a greater profit per acre to the farmer, and a more satisfactory grade for the seed handler. Certainly it will be a great day for the average farmer when he can secure ample native grown seed for planting in his meadows and pastures of such purity that he is certain not to bring in new and troublesome, noxious weeds, or old and equally bothersome pests which require great expense in eradicating. The careful few, who willingly pay the extra cost for high-grade seed, can get excellent native grown seed from proper sources at the present time.

CONTROLLING THE CUCUMBER BEETLE.

AN easy and effective way to control cucumber beetle is to dust with a mixture of arsenate of lead and land plaster. A very effective formula, as shown by tests, is one part by weight of powdered arsenate of lead to twenty parts of land plaster.

Land plaster itself has little effect in the beetle control but its fineness of texture and its adhering qualities make it an ideal carrier for the arsenate of lead. It is also very effective in that it is a fertilizer and has a stimulating effect on the plants, causing them to mature and fruit early.

It is necessary to keep the beetle from attacking the cucumbers as this insect also causes the cucumber wilt and produces a grub which feed on or in the stems under the ground.

APPLE SCAB PREVALENT.

REPORTS come that apple scab is quite prevalent in New York orchards. This is due to the period of wet weather which prevailed during late June and early July.

In Michigan the earliest varieties, especially the Duchess, have a lot of scab but where proper spraying has been done the later varieties are fairly clean.

Our vote goes to the leader who believes so thoroughly in the cause for which he fights that he forgets himself.

MELON CARE AND CULTURE.

FEW farmers are successful in growing melons in clay soil, and for this reason George R. Brown has published a sixty-seven-page illustrated booklet on melon care and culture on clay soil. Mr. Brown has been successful in the field and his book gives good practical directions for melon culture. Soils and preparation, planting, cultivation and spraying of water-melons and muskmelons are given special attention. Other subjects discussed are: Insects, diseases and treatment, seeds and varieties, harvesting and marketing; melon culture on sandy soil and a large list of important, helpful items and formulas. The price of this booklet is \$1.10, and may be purchased through the Michigan Farmer, or, directly from Mr. Brown at Morrow, Ohio.

Farmers' Day

Michigan Agricultural College
August 4th
Plan Now

derlaid by limestone and limestone rocks are frequent over much of the country. It is a natural clover country. Yields of eight and ten bushels per acre of alsike clover, and six and eight bushels of mammoth clover seed are not unusual. An average of from four to five bushels is expected from good fields. One young Alpena county farmer spoke of making a profit of over \$500 on four and one-half acres of mammoth clover three years ago. He was considerably interested in the present prospects and while walking through a field of like size, most of which he planned to take for seed, stated that he had always cut his crop for hay and was just beginning to cut the hay crop three years ago when County Agent Scheetz came along and asked him why he did not take it for seed. They got to figuring together and agreed that \$100 would represent the hay value of that particular field, while if reserved for seed it might bring very much more. It actually did make \$650 when harvested for seed and sold on the strong market of that year. This young farmer thinks the county agent is a pretty good fellow to have around.

Clover mildew is prevalent throughout the clover seed regions; in fact, throughout Michigan the clover mildew is frequently noted this year. The leaves of the plants have a whitish appearance as though they had been dipped in thin whitewash. This mildew is a fungous disease, its prevalent appearance being due to the ample rainfall and the warm weather of spring and early summer. It disappears largely during the curing process, and while more dusty hay will result than is



MICHIGAN-BRED SEED STOCK SHOWS SUPERIORITY.

PARENTS are always interested in the way their children behave when away from home, and farmers in Michigan will be interested in the behavior of the seed stocks that have originated in Michigan, then have been taken to other localities with different conditions. In northwestern Indiana, Purdue University Experiment Station is conducting an experiment field near Wanatah. It is on black acid sand, a type of soil that is similar to some southern Michigan soil and some of the results on this will interest Michigan farmers.

In the year that the variety test work has been running, Red Rock wheat has yielded the best of five varieties while Rosen rye did the best of four varieties and Michigan two-row barley outyielded the other three barleys that were planted alongside of it.

The results from the Huntington experiment field, a brown soil in northeastern Indiana that does not show much response to lime, show that out of seven wheat varieties tested, Red Rock wheat yielded 29.9 bushels per acre in 1921, while the closest contender was Michigan Amber with 20.9 bushels per acre. The two-year average on this field shows Red Rock with 25.3 bushels per acre and Michigan Amber with 19.6 bushels per acre. On this field Rosen rye yielded the poorest of the four ryes tested out.

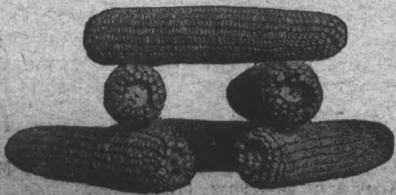
This brings up the question as to what extremes of winter weather the hardy varieties can stand. It might naturally be supposed that varieties originating in Michigan and there having proven winter-hardy would also be hardy when moved farther south. Indications are, however, that it takes a more vigorous plant to stand the alternate freezing and thawing of most southern winters than to stand the Michigan winters where snow is on the ground continuously. As one gets farther south in Indiana than the two experimental fields mentioned, Michigan-bred crops do not show the superiority they do in northern Indiana. Rosen rye is nowhere near so hardy in the southern part of the state as common rye and here in Pulaski county I have observed that when grown on sand, Rosen rye is a much better yielder than the other ryes, but when put upon clay soil, it shows no superiority and frequently is somewhat inferior.

With crops that grow entirely in the summer, those originated in Michigan seem to be exceptionally prolific. As mentioned once before in these columns, the Petoskey potatoes which were imported from Michigan last year and were distributed among eleven different growers yielded on the average sixty-eight bushels to the acre better than the native stock. The writer has observed some superiority in Robust beans but just how much he is unable to say at this time.—I. J. Mathews.

Of all farm machinery, windmills come close to needing the most oil, and they get the least.

Isn't it often true that what we do not possess we want, but that which we have we do not appreciate?

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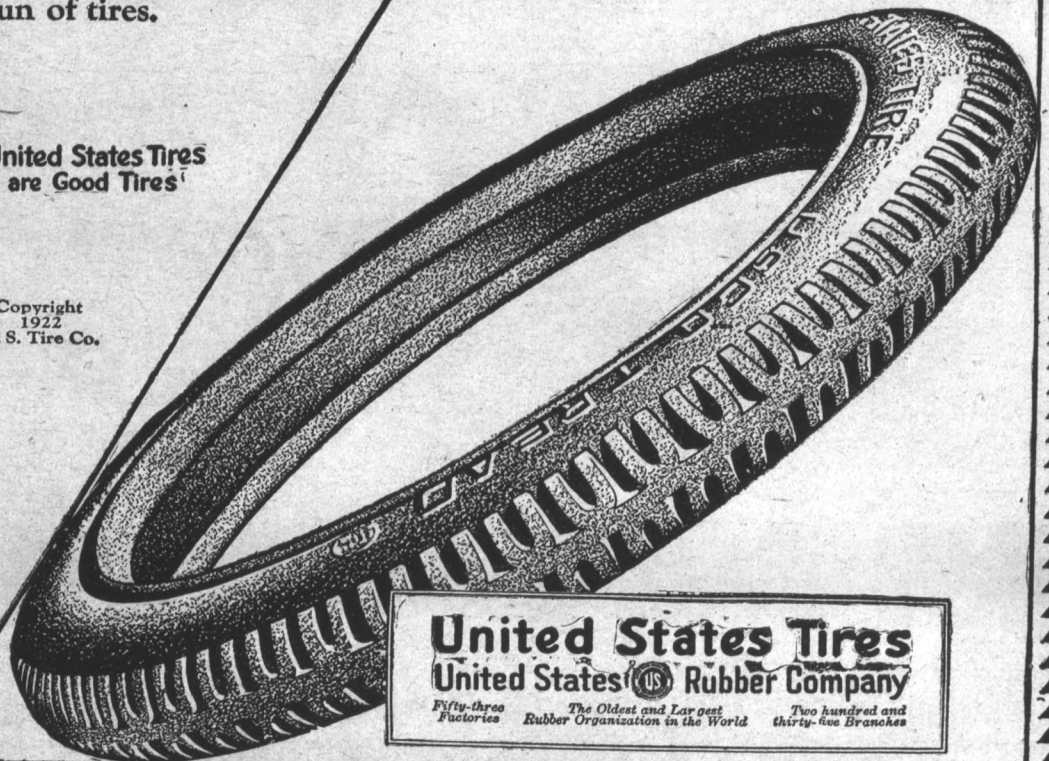
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RURAL HEALTH

By Dr. C. H. Lerrigo

HOT WEATHER DIET.

MIDSUMMER days add greatly to the problems of the housekeeper. The men must be fed as usual, and they must have food upon which they can do a day's work, but there are many finicky appetites. What shall be the menu on these hot days? How shall the children be fed? What can we give to tempt grandma's appetite? What is there that will really taste good?

Fortunately the seasonable things of the garden help greatly in answering these questions. Tomatoes are not only priceless as appetite ticklers, but they do stellar work in supplying the necessary features of a meal, and are therefore very valuable, even though their actual nutritive value is small. Lettuce, cabbage, spinach, cauliflower, are all good vegetables to consider. They are as helpful in their line as the more solid articles of diet, though they will not wholly replace them. New potatoes make a good dish and may be served in a variety of appetizing ways. Milk gravies may often be served with these vegetables and this addition will go far to supplying the needed protein element. Milk is always an important food, but especially so in hot weather. It should be used in gravies, soups, stews, puddings, custards, sauces, and in every way in which it can be worked in, because it is a food that will supply in readily digestible form the very elements that the appetite is prone to reject in other foods under stress of hot weather. As a beverage, when suitably cooled it is as tasty as any drink that can be served.

Eggs are often more appetizing than meat in hot weather and make an excellent substitute; in fact, the meat portion of the hot weather diet may be kept very low indeed, if eggs are served, and also used in custards, puddings and drinks.

Make a special effort to get ice whenever it can be secured. Then start the ice cream freezer and serve up dishes that will be suited to the taste of every member of the family and at the same time supply positive food value.

TONSILS.

My daughter has throat trouble and the doctor said she should have her tonsils removed when she gets out of high school this spring. Now, she has a good voice for singing and some people say that removing the tonsils will ruin the voice. Is there any truth in that? Is there danger of cold going into the lungs any quicker after having the tonsils removed?—G. O. C.

At your daughter's age the tonsils have completed their function and if not diseased are beginning to atrophy. They would therefore play no part in the tones of her voice. If they do not undergo normal atrophy it is because they are diseased and their removal will be more likely to improve than to injure the voice. In such a case the danger of "taking cold" or of a cold "going to the lungs," would be less rather than greater.

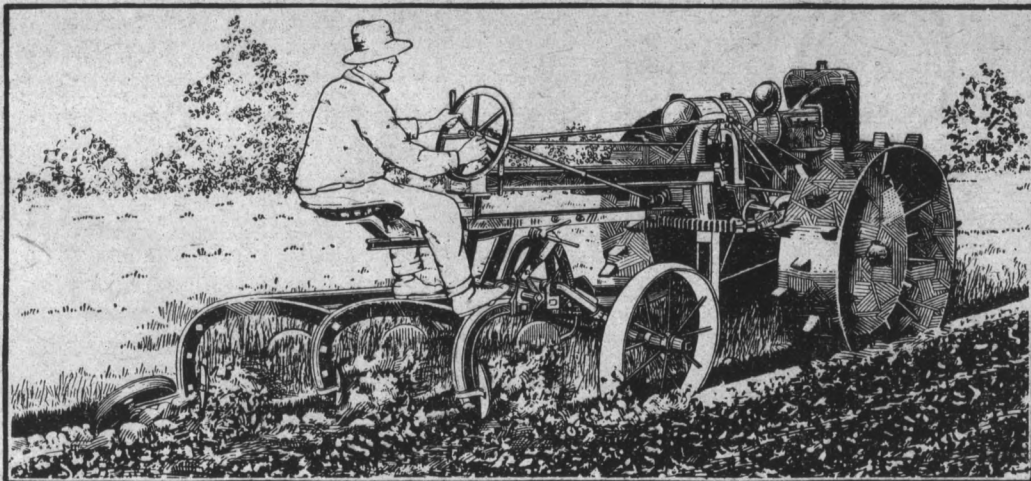
ENLARGED VEINS.

Please tell me the best and quickest relief from big veins. They give me a lot of pain and distress but I must keep on with my work.—G. F. C.

You will get most immediate relief from wearing elastic supporting bandages or stockings. It is well to find the cause. If you are too heavy, reduce your weight. If your heart action is poor, build it up. If you have flat-foot get the fault corrected. There are many different reasons for broken veins.

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Poultry, brood sow, vehicles, machinery tools included if taken soon; 80 acres close RR and high school town; 50 acres loamy tillage for heavy general crops; big spring-watered pasture; 24 apple trees, pears, cherries; good 7-room house, cool maple-shaded yard, neighbors across road; 40-ft. barn; outbuildings. Other business pressing, \$3900 takes all, less than half cash. Fred W. Hamlin, Chelsea, Mich.

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of rolling loam land suitable for farming or grazing, watered by fine spring trout stream, located one mile East of Loranger on M. C. R. R. and trunk line highway, and about six miles from City of West Branch, the county seat of Ogemaw County, one of the finest counties in Michigan, at \$12.00 per acre if sold in block, on terms to suit purchasers. Owner WILLIAM T. YEO, West Branch, Michigan

For Sale 80 acres on State Road 2 1/2 mile from Wixom 4 miles from Milford. Fine new house, fine location, springs, timber, some fruit, wells, all tools with farm. \$15,000 terms. CHAS. G. WEDOW, Walled Lake Village, Oakland Co., Mich.

Stelling on account of sickness. Beautiful dairy farm fully equipped with Jerseys, with or without stock, right price, easy terms. Write at once. Geo. E. Walker, Burton Heights, Grand Rapids, Mich.

If You Want To Sell or exchange farm or city property write, JEROME PROBST, Ann Arbor, Mich

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For Sale Registered Rufus Red Rabbits, prize winners, \$5.00 each. Good healthy stock. Chas. C. Wedow, Walled Lake Village, Oakland Co., Mich.

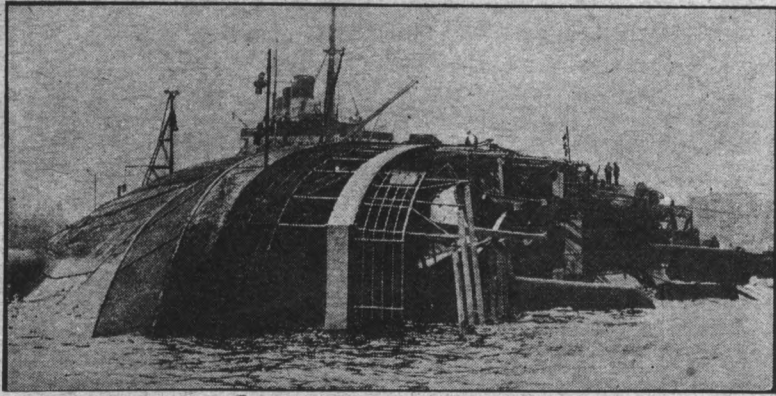
SHETLAND PONIES for sale at a bargain. B. B. REAVEY, Akron, Mich.

Farms and Farm Lands

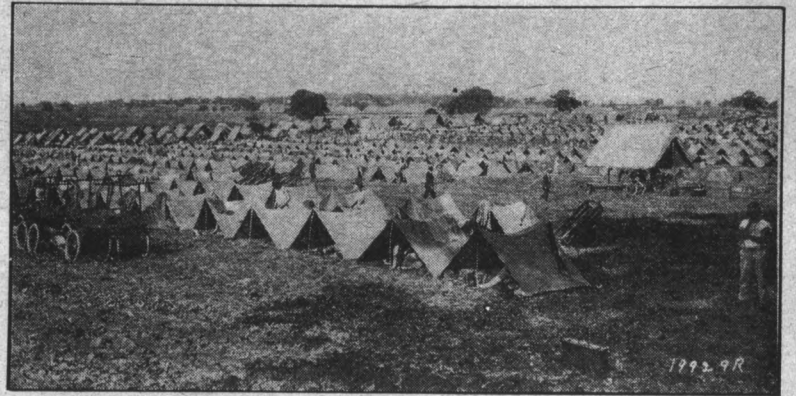
Water Front Farm, 196 acres near Salisbury, Maryland, price \$13,000. Full particulars address S. FRANKLYN WOODCOCK, Salisbury, Md

WANTED To hear from owner of land for sale. O. K. HAWLEY, Baldwin, Wisconsin

WORLD EVENTS IN PICTURES



The Brazilian steamship "Avare" which tipped over without warning, in the Hamburg harbor. Several people were killed.



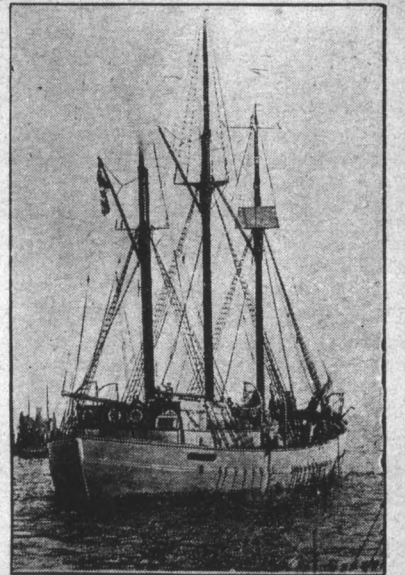
Encampment of Marines who will stage mimic battle on the historic Gettysburg battlefield.



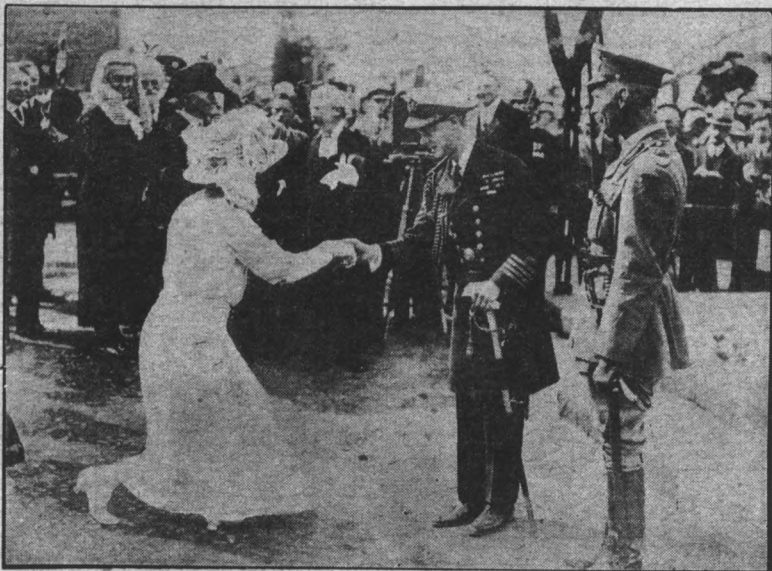
General Pershing and sister are vacationing at Atlantic City.



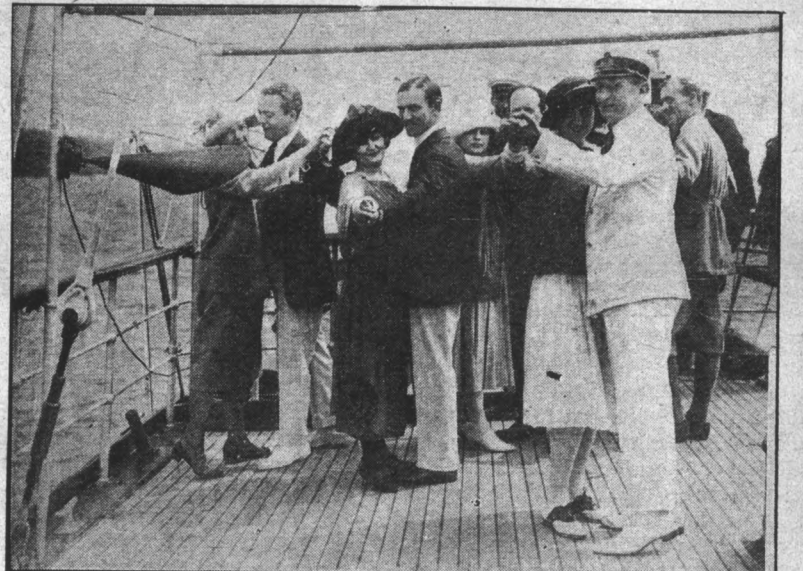
What is left of the mine supply house at Herrin, Illinois, after the recent miners' riot.



Roald Amundsen's ship "Maud," which will make a polar trip.



Prince of Wales greets Lady Astor, the first American-born lady member of Parliament.



Marconi, famous radio inventor, dances to radio music on his yacht, Ellettra. Marconi is in white uniform.



A Washington botanist finds the largest mushroom, which weighs fifteen pounds.



Miss Anne Harwick to participate in Olympic games in Paris.



Steinmetz, famous electrical wizard, and Marconi, the famous radio inventor.

THE CROSS-CUT *—By Courtney Ryley Cooper*

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The ascent was almost sheer in places, for in Kentucky gulch the hills huddled close to the little town and rose in precipitous inclines almost before the city limits had been reached. Beside the road a small stream chattered, milk-white from the silica deposits of the mines, like the waters of Clear Creek, which it was hastening to join. Along the gullies were the scars of the prospect holes, staring like dark, blind eyes out upon the gorge—reminders of the lost hopes of a day gone by. Here and there lay some discarded piece of mining machinery, rust-eaten and battered now, washed down inch by inch from the higher hill where it had been abandoned when the demonization of silver struck, like a rapier, into the hearts of grubbing men, years before. It was a canon of decay, yet of life, for as he trudged along, the roar of great motors came to Fairchild's ears; and a moment later he stepped aside to allow the passage of ore-laden automobile trucks, loaded until the springs had flattened and until the engines howled with their compression as they sought to hold back their burdens on the steep grade. And it was as he stood there, watching the big vehicles travel down the mountain side, that Fairchild caught a glimpse of a human figure which suddenly darted behind a clump of scrub pine and skirted far to one side, taking advantage of every covering. A new beat came into Fairchild's heart. He took to the road again, plodding upward apparently without a thought of his pursuer, stopping to stare at the bleak prospect holes, or to admire the pink-white beauties of the snowy range in the far distance, seemingly a man entirely bereft of suspicion. A quarter of a mile he went, a half. Once, as the road turned beside a great rock, he sought its shelter and looked back. The figure still was following, running carefully now along the bank of the stream in an effort to gain as much ground as possible before the return of the road to open territory should bring the necessity of caution again.

A mile more, then, again in the shelter of rocks, he swerved and sought a hiding place, watching anxiously from his concealment for evidences of discovery. There were none. The shadower came on, displaying more and more caution as he approached the rocks, glancing hurriedly about him as he moved swiftly from cover to cover. Closer—closer—then Fairchild repressed a gasp. The man was old, almost white-haired, with hard, knotted hands which seemed to stand out

from his wrists; thin and wiry with the resiliency that outdoor, hardened muscles often give to age, and with a face that held Fairchild almost hypnotized. It was like a hawk's; hook-beaked, colorless, toneless in all expressions save that of a malicious tenacity; the eyes were slanted until they resembled those of some fantastic Chinese image, while just above the curving nose a blue-white scar ran

trace of footprints, and finding none, turned slowly and looked intently all about him. Carefully he approached the mouth of the tunnel and stared within. Then he straightened, and with another glance about him, hurried off up a gulch leading away from the road, into the hills. Fairchild lay and watched him until he was out of sight, and he knew instinctively that a surveyor would only cover beaten ter-

Quickly he made the return trip, crossing the little bridge over the turbulent Clear Creek and heading toward the boarding house. Half a block away he halted, as a woman on the veranda of the big, squarely built "hotel" pointed him out, and the great figure of a man shot through the gate, shouting, and hurried toward him.

A tremendous creature he was, with red face and black hair which seemed to scramble in all directions at once, and with a mustache which appeared to scamper in even more directions than his hair. Fairchild was a large man; suddenly he felt himself puny and inconsequential as the mastodonic thing before him swooped forward, spread wide the big arms and then caught him tight in them, causing the breath to puff over his lips like exhaust of a bellows.

A release, then Fairchild felt himself lifted and set down again. He pulled hard at his breath.

"What's the matter with you?" he exclaimed testily. "You've made a mistake!"

"I'm blimed if I 'ave!" bellowed a tornado-like voice. "Blime! You look just like 'im!"

"But you're mistaken, old man!"

Fairchild was vaguely aware that the spray-like mustache was working like a dust-broom, that snappy blue eyes were beaming upon him, that the big red nose was growing redder, while a tremendous paw had seized his own hand and was doing its best to crush it.

"Blimed if I 'ave!" came again. "You your Dad's own boy! You look just like 'im! Don't you know me?"

He stepped back then and stood grinning, his long, heavily muscled arms hanging low at his sides, his mustache trying vainly to stick out in more directions than ever. Fairchild rubbed a hand across his eyes.

"You've got me!" came at last. "I—"

"You don't know me? 'Onest now, don't you? I'm 'Arry! Don't you know now? 'Arry from Cornwall!"

A True Friend Arrives.

IT came to Fairchild then—the sentence in his father's letter regarding some one who would hurry to his aid when he needed him, the references of Beamish, and the allusion of Mother Howard to a faithful friend. He forgot the pain as the tremendous Cornishman banged him on the back, he forgot the surprise of it all; he only knew that he was laughing and welcoming a big man old enough in age to be his father, yet young enough in spirit to want to come back and finish a fight he had seen begun, and strong enough

When the Pigs Destroyed the Corn

By Geraldine Reynolds Smith

The cows were in the clover
The pigs were in the corn
And Mary sat a-talkin'
With a handsome foreign-born.

The light within the parlor
Was growing very dim.
Of oil there was but little
But what was that to him?

'Twas near two in the morning
And Pa was long asleep.
When Mary sat a feedin'
Her guest with taffy sweet.

The cows were in the clover,
The pigs were in the corn,
Still Mary sat a spoonin'
At ten past two at morn'.

But daddy was a dreamin'
That ghosts were in the house.
That cats were chewing pasture
That Brindle ate a mouse.

He tried to call to Mary
And started with a groan.
Asleep, walked toward the meadow
Was tripped there by a stone.

He woke up in an instant
Right near the pasture gate
He looked about the pasture
But where were Bess and Kate?

He heard a kind of rustling
Within the fodder field.
He saw the pigs destroying
The corn field's mighty yield.

He called to good old Rover
But Mary had him chained.
He called to faithful Fido
But Heinrich had him maimed.

His temper Dad was losing
Already he had sworn,
For cows were in the clover
And pigs were in the corn.

Poor Mary was most frightened
When Pa drove Heinrich out.
And Ma was up a-cryin'
While Rover stood in doubt.

Some time ago this happened
When Dad turned out the light
And called the family all pet names
And scared poor Heinrich white.

No more does Mary wonder
Why Heinrich doesn't come.
Why Daddy's always grouchy
And scares her almost dumb.

For now she knows that Papa
Blames Heinrich for the morn
When cows ate up the pasture
And pigs destroyed the corn.

straight up the forehead—Squint Rodaine!

So he was on the trail already! Fairchild watched him pass, sneak around the corner of the rocks, and stand a moment in apparent bewilderment as he surveyed the ground before him. A mumbling curse and he went on, his cautious gait discarded, walking briskly along the ruddy, boulder-strewn road toward a gaping hole in the hill, hardly a furlong away. There he surveyed the ground carefully, bent and stared hard at the earth, apparently for a

ritory now. Squint Rodaine, he felt sure, had pointed out to him the Blue Poppy mine.

But he did not follow the direction given by his pursuer. Squint Rodaine was in the hills. Squint Rodaine might return, and the consciousness of caution bade that Fairchild not be there when he came back. Hurriedly he descended the rocks once more to turn toward town and toward Mother Howard's boarding house. He wanted to tell her what he had seen and to obtain her help and counsel.

AL ACRES—They All Go In and Find the Water Fine.

—By Frank R. Leet



in physique to stand it. Again the heavy voice boomed:

"You know me now, eh?"
 "You bet! You're Harry Harkins!"
 "'Arkins it is! I came just as soon as I got the cablegram!"

"The cablegram?"
 "Yeh." Harry pawed at his wonderful mustache. "From Mr. Beamish, you know. 'E sent it. Said you'd started out 'ere all alone. And I couldn't stand by and let you do that. So 'ere I am!"
 "But the expense, the long trip across the ocean, the—"

"'Ere I am!" said Harry again. "Ain't that enough?"

They had reached the veranda now, to stand talking for a moment, then to go within, where Mother Howard awaited, eyes glowing, in the parlor. Harry flung out both arms.

studiously at the young man. "E didn't write of'en."

"He didn't need to write you. You were here with him—when it happened."

"No—" Harry shook his head. "I was in town."

"But you knew—"

"What's Mother Howard told you?"

"A lot—and nothing."

"I don't know any more than she does."

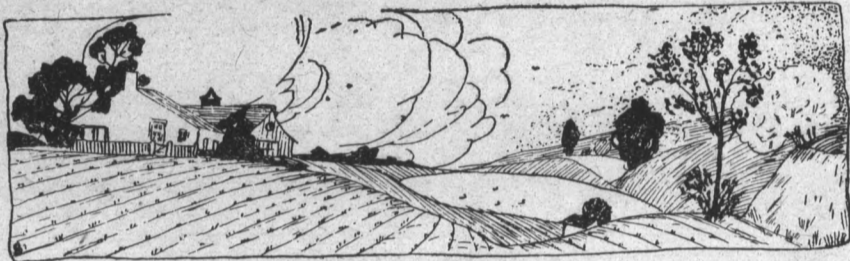
"But—"

"Friends didn't ask questions in those days," came quietly. "I might 'ave guessed if I'd wanted to—but I didn't want to."

"But if you had?"

Harry looked at him with quiet, blue eyes.

"What would you guess?"



"And I still love you!" he boomed, as he caught the gray-haired, laughing woman in his arms. "Even if you did run me off and wouldn't go back to Cornwall!"

Red-faced, she pushed him away and slapped his cheek playfully; it was like the tap of a light breeze against granite. Then Harry turned.

"'Ave you looked at the mine?"

The question brought back to Fairchild the happenings of the morning and the memory of the man who had trailed him. He told his story, while Mother Howard listened, her arms crossed, her head bobbing, and while Harry, his big grin still on his lips, took in the details with avidity. Then for a moment a monstrous hand scrambled vaguely about in the region of the Cornishman's face, grasping a hair of that radiating mustache now and then and pulling hard at it, at last to drop—and the grin faded.

"Le's go up there," he said quietly.

This time the trip to Kentucky gulch was made by skirting the town; soon they were on the rough, narrow roadway leading into the mountains. Both were silent for the most part, and the expression on Harry's face told that he was living again the days of the past, days when men were making those pock-marks in the hills, when the prospector and his pack jack could be seen on every trail, and when float ore in a gully meant riches waiting somewhere above. A long time they walked, at last to stop in the shelter of the rocks where Fairchild had shadowed his pursuer, and to glance carefully ahead. No one was in sight. Harry jabbed out a big finger.

"That's it," he announced, "straight ahead!"

They went on, Fairchild with a gripping at his throat that would not down. This had been the hope of his father—and here his father had met—what? He swerved quickly and stopped, facing the bigger man.

"Harry," came sharply, "I know that I may be violating an unspoken promise to my father. But I simply can't stand it any longer. What happened here?"

"We were mining—for silver."

"I don't mean that—there was some sort of tragedy."

Harry chuckled—in concealment, Fairchild thought, of something he did not want to tell him.

"I should think so! The timbers gave way and the mine caved in!"

"Not that! My father ran away from this town. You and Mother Howard helped him. You didn't come back. Neither did my father. Eventually it killed him."

"So?" Harry looked seriously and

Slowly Robert Fairchild's gaze went to the ground. There was only one possible conjecture: Sissie Larsen had been impersonated by a woman. Sissie Larsen had never been seen again in Ohadi.

"I—I would hate to put it into words," came finally. Harry slapped him on the shoulder.

"Then don't. It was nearly thirty years ago. Let sleeping dogs lie. Take a look around before we go into the tunnel."

They reconnoitered, first on one side then on the other. No one was in sight. Harry bent to the ground, and finding a pitchy pine knot, lighted it. They started cautiously within, blinking against the darkness.

A detour and they avoided an ore car, rusty and half filled, standing on the little track, now sagging on moldy ties. A moment more of walking and Harry took the lead.

"It's only a step to the shaft now," he cautioned. "Easy—easy—look out for that 'anging wall—" he held the pitch torch against the roof of the tunnel and displayed a loose, jagged section of rock, dripping with seepage from the hills above. "Just a step now—'ere it is."

The outlines of a rusty "hoist," with its cable leading down into a slanting hole in the rock, showed dimly before them—a massive, chunky, deserted thing in the shadows. About it were clustered drills that were eaten by age and the dampness of the seepage; farther on a "skip," or shaft-car, lay on its side, half buried in mud and muck from the walls of the tunnel. Here, too, the timbers were rotting; one after another, they had cracked and caved beneath the weight of the earth above, giving the tunnel an eerie aspect, uninviting, dangerous. Harry peered ahead.

"It ain't as bad as it looks," came after a moment's survey. "It's only right 'ere at the beginning that it's caved. But that doesn't do us much good."

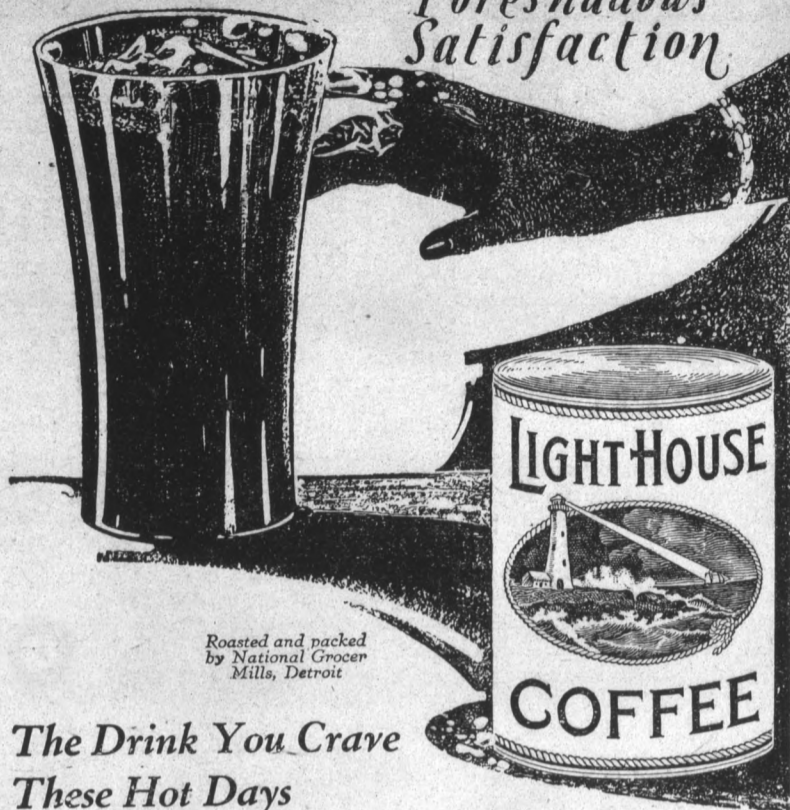
"Why not?" Fairchild was staring with him, on toward the darkness of the farther recesses. "If it isn't caved in farther back, we ought to be able to repair this spot."

But Harry shook his head.

"We didn't go into the vein 'ere," he explained. "We figured we 'ad to 'ave a shaft anyway, sooner or later. You can't do under'and stoping in a mine—go 'down on a vein, you know. You've always got to go up—you can't get the metal out if you don't. That's why we dug this shaft—and now look at it!"

(Continued next week).

Foreshadows Satisfaction



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No other drink can take the place of coffee—Lighthouse Coffee.

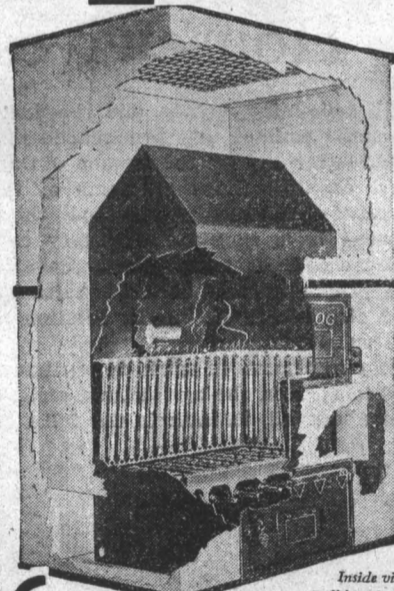
Clears your sleep-dulled brain at breakfast—gives you a new grip on the day at lunch—rests and refreshes you at dinner.

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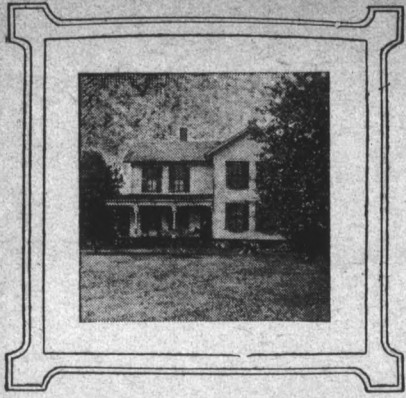
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Q He who aims only at the lowest is sure never to attain to the highest, but is not unlikely to miss even the lowest.—Brownson.

Woman's Interests



The Newest Petticoat Decorations

By Helen Combes

PETTICOATS and underskirts with hemmed bottoms are now as much out of style as petticoats with ruffles. Fashion decrees that these garments, shorn of all which would make them bulky to wear under the short narrow dresses of today, must have some finish which will look well should they by any chance become exposed to view.

The new petticoat bottoms, some of them at least, are embroidered. But more are finished in a geometrical design with a narrow crocheted border. The favorites have been scallops, points and squares. Quite the newest is the open-work point here shown for the first time.

While these designs have been used largely on white petticoats, done with white threads, some beautiful effects are obtained on silks and pongees with colored threads or silks. A pongee petticoat cut out in scallops, the scallops finished in a good shade of green, blue or lavender, is as stylish as well as a good washing, and excellent wearing garment. It specially recommends itself for hot weather wear. Taffeta, or any other silk for dressy occasions, crocheted in colors, is very effective. A black taffeta with green finished scallops, is very rich in appearance.

The designs here shown are very easy to cut and work. These same designs may be found very practical, as well as effective on pillow slips, sheets, centerpieces, runners, and the kiddies' clothes. The directions for the cro-

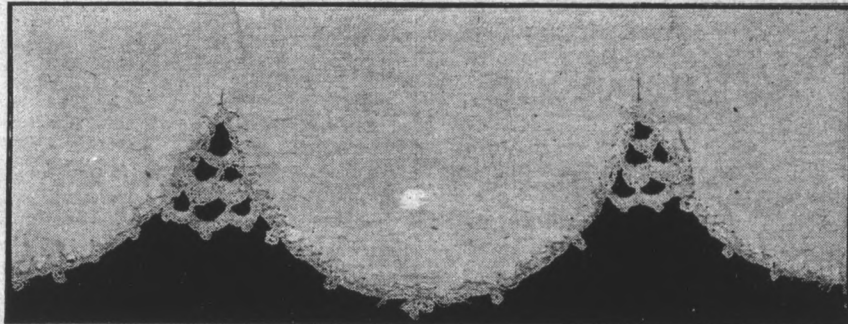
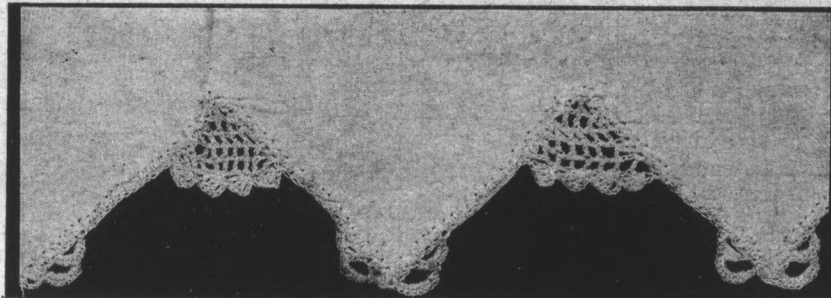
cheting follows. The crocheting is done into the raw edge of the goods after cutting and protects it from raveling.

Pointed Border:—Width of point 3½ inches; depth of point 2 inches. Work 23 s c close together along edge of point, beginning at the top (where

the point joins the material) turn; 4 ch, join into 3rd s c from beginning of ch, turn; 8 sc into ch; 3 sc into point, turn; 5 ch sl st, into center of 8 s c, turn; 9 s c into 5 ch; s c in same hole in point as last s c, 4 ch, 2 sc into same hole; 6 s c into edge of point,

turn 4 ch, sl st into 3rd s c from top of point, turn; 4 s c into 4 ch, 5 ch, sl st into s c next to top, turn; 9 s c into 5 ch, 4 s c into 4 ch; 19 s c along edge, 1 s c into bottom, 2 s c up side of next point, turn 1 ch, 1 d c into s c at bottom, 1 ch sl st, into 2nd s c of first point turn. Make four more rows of meshes between point, of 4, 6, 8, 10 holes respectively. Finish with scallop; 3 ch, 3 d c into bottom of ch, 1 d c into 2nd d c of top row of mesh; 3 more scallops joined into 4th, 6th and 8th d c of mesh. Continue the pattern as before around next point.

Scalloped Pattern.—Cut edge to be worked into scallops, a coffee cup makes a good measure, making scallop 3¼ inches wide and 1¼ inches deep. Beginning at bottom (nearest goods) work 10 s c with 2 ch between each into scallop. Picot (p) of 4 ch; 4 s c with 2 ch between each, p. Repeat, making triple p at center of 4, 5, 4, ch, repeat s c and p, 10 s c last one in point between scallops; 2 s c in next scallop, turn; 4 ch, join in 2nd s c of opposite scallop turn; 8 s c into ch; 2 s c into scallop, turn; 4 ch, sl st into 8 s c (4 ch sl st into 4th s c of 1st scallop, turn; 1 s c, 4 d c, 1 s c into 8 s c, 4 ch sl st into 4th s c of turn, * 4 ch sl st into middle of 4 d c, repeat from *, 4 ch, 1 s c into scallop, turn; 3 s c m p, 3 s c into each group of chain; s c into scallop. Repeat, as in first scallop, not forgetting the 2 ch between each s c. Pull each scallop into shape as it is finished.



Put a Pointed or Scalloped Edging on Your Petticoat.

FOR two years the women of Oakland county have been thinking in terms of a better day for the farm and home. They see in the new farm movement the possibilities of a new day for the farm and home that will not only revolutionize agriculture but will make country life as attractive as we choose to make it. The result of this type of thinking and working for better organization of rural people was shown at a County Housewives' Conference held at Scott Lake. Even though at a busy season, approximately 250 women gathered to spend the day in conference and recreation. Mrs. L. J. Walters, of Clarkston, chairman of the county women's committee, was mistress of ceremonies for the day. Committees on program, grounds, reception, refreshment and recreation did their share toward making the day a successful one.

After a cafeteria dinner which was furnished by each woman bringing her sandwiches and one other dish, the program took place. The main speaker was Mrs. Louise Campbell, State Leader of Home Demonstration Agents. She told of work being done by women in other parts of the state and how home demonstration work is progressing. The women were urged to appreciate more fully the part they must play if rural organization is to be the factor in the economic, social, and educational world it is possible for it to be. There must be a strong organization of all rural forces to make the farm and home yield a satisfying life.

The day's program was concluded

Housewives' Conference

with swimming, games, and the finest personal contact that pronounced this a red-letter day for the women of Oakland county. Since all parts of the county were well represented, these women have acquired a county consciousness that must greatly develop the possibilities of rural organization and also contribute to the solution of the rural problem.

In enthusiasm, in spirit, in sentiment and in faith in the agricultural calling, and above all, in faith in the folks on

the land to play their part, these women stood solidly for the building of a rural organization and a constructive program for country life that promises much to the country life movement.

ENAMEL YOUR RUSTY BREAD BOX.

NEARLY every farmer's wife owns a japanned bread box and cake box. There was a time when this tinware didn't cost much money. If a

box rusted out it was carelessly tossed on the rubbish pile and a new one purchased. But price one of these boxes now! You will think twice before you chuck it. And really, it isn't at all necessary to let it get into a condition that will suggest discarding it. If the japanning shows signs of wear go to the store and buy a small can of colored enamel. Clean the surface of the box and apply a thin coat of the enamel with an ordinary varnish brush. The rust will immediately be checked.

TESTED RECIPES.

Fruit Conserve.—One quart of strawberries hulled, one quart of cherries stoned, one quart of gooseberries and currants stemmed; two oranges and one medium pineapple put through the food grinder; one dozen apricots and one dozen peaches peeled and sliced. Allow as many pounds of sugar as you have fruit, and cook slowly until mixture thickens.

Iced Currants.—Boil one cup of sugar and two of water five minutes. Stem and wash one quart of currants, and crush. Stir in the syrup, put in any aluminum or granite dish which can be covered so that water can not get in, and pack in ice and salt an hour and a half.

Steamed Huckleberry Pudding.—Make a rich biscuit dough, mixing in a generous cup of berries when you do the milk. Turn into a buttered pudding dish and steam one and a half hours. Serve with a tart sauce.



A Never-to-be-forgotten Day at Scott Lake.

New, Sure Process That Makes Perfect Jam and Jelly

One Minute's Boiling Gives One-Half More Product

By Ann Proctor

Increasing thousands of housewives all over the country are making perfect jams and jellies by the new Certo Process and passing on the good news to their friends. Certo (Surejell) is what you have always needed—a concentrated, pure fruit pectin, put up in 8 oz. bottles for home use. Certo never fails; it is economical, not alone because it saves your time and anxiety, but because the short boiling period (one minute) saves your fruit juice and gives you at least one-half more product from the same amount of fruit.

With Certo you can make perfect jam and jelly from all fruits, even from those we have always supposed "would not jell." Please use the fully ripened fruits and take advantage of their superior color and rich flavor. There is no long boiling time to boil this away. With Certo the ripe fruits "jell" perfectly. No matter what fruit you use—blackberries, gooseberries, pears, peaches, grapes, rhubarb, or oranges—you will get better and more economical results with Certo than by the uncertain, long boiling, old-time way. Certo-made jams and jellies have perfect keeping qualities.

Certo has been on the market only a little more than a year, yet it has been endorsed by such authorities as Good Housekeeping Institute, Boston Cooking School, Today's Housewife's Testing Laboratory, American Cookery, and by Domestic Science writers, teachers, and lecturers all over the country. You can now get Certo with the Book of Recipes containing nearly 100 recipes for jams, jellies and marmalades from most grocers or druggists. Or we will send it parcel post prepaid for 35c. Be sure to include grocer's name and address and we will see that he carries it for convenience of yourself and friends. Just try one bottle of Certo; find out for yourself the value and usefulness of this highly endorsed, easy, sure, better method of making jam and jelly. You will never go back to the old way.

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No better paint made. Compare our formula with any other.

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- 10% Cooked Oil and Shelac Drier.

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- 70% Pure White Lead
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- 90% Pure Raw Linseed Oil
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Heroes Forever

Our Weekly Sermon—By N. A. McCune

WHAT is the most famous story in the Bible? If you could read only one story in the Bible, what story would it be? Joseph, Samson, or Daniel? At any rate, whether you prefer it or some other, the story of Daniel is great. Any child that does not know it has lost part of his heritage. It will be remembered that the book of Daniel was written as a means of holding the Jews true to their beliefs, during the terrific persecution of the Greek king, Antiochus Epiphanes. Daniel, the author seems to be saying, was absolutely true to his God, when he seemed to have no friend on earth. Go thou, O forlorn and persecuted Jew, and do likewise. Thy God will not forsake thee. Be thou faithful unto death.

Now, there are many people who read this and who love the story of Daniel, but will say, that God does not always work this way. They will point out that many a man who has been faithful as Daniel was, was not protected from death when the fateful hour came. The history of the Christian church is full of such instances. To take only one or two: There is John Huss. Huss was a man of mighty abilities, a scholar, an orator, an educator, a prophet, and his whole being was devoted to the cause of truth. Entrusting himself to God's care, and armed with a safe-conduct from the emperor, he journeyed to the Council of Constance, only to have his credentials from the emperor ignored, and to suffer a martyr's death at the stake. There was William Tyndale, one of the first translators of the New Testament into English, caught by treachery, condemned to lie in a prison cell and finally to meet death as a common felon. The writer has stood in the prison chamber in the Tower of London, where Lady Jane Grey, the "nine days queen" was immured, one of the sweetest, purest little women who ever lived, as true to the God she worshiped as Daniel. From this chamber she went to her death. Listen to the New Testament: "And others had trial of cruel mockings and scourgings, yea, moreover, of bonds and imprisonment: They were stoned, they were sawn asunder, were tempted, were slain with the sword: they wandered about in sheep skins and goatskins, being destitute, afflicted, tormented; (of whom the world was not worthy:) they wandered in deserts and in mountains, and in dens and caves of the earth." Then take this quotation: "And he went forward a little, and fell on the ground, and prayed that, if it were possible, the hour might pass for him. And he said, 'Abba, Father, all things are possible, with thee; take away this cup from me: nevertheless not what I will, but what thou wilt.'" God does not always choose the Daniel method of delivering His children from their tormentors. Life is a bigger thing than that. The faith to which the Christian is committed is a faith that does not need to be delivered every time a man meets with lions. It is mightier faith than that. It can go on and meet death with the lions, and still be supreme. And, it is not the wisest thing in the world to teach the young that if they will join the church and be good that they will achieve success and be prosperous. That is putting a price on religion that often leads to unfortunate results. Religion, the religion of Christ, is of value for its own sake, not for what it may bring one in



the way of prosperity. That does not change the fact that the life of honesty, industry and cheerfulness does have all the greater chances of success.

The fact is, there seems to be no other way of developing character than by the test method. We have to be tested out, by opposition, conflict, the hurly-burly of life. We grow by resisting. We develop by exposure to the hard things, by toil, by responsibility, by meeting with crises and conquering them. A young man is said to have asked James A. Garfield, when Garfield was president of Hiram College, if there were not a shorter course he could take. He did not like the idea of four years of studying. "Young man," said the hero of the tow-path, "it takes a hundred years to grow an oak, but you can grow a summer squash in three months."

The willingness to devote oneself to a worthy cause is one of the lessons of Daniel—to go with that cause to all lengths, no matter at what cost. There lies before me a sketch of the life of Christina Forsyth, called the "Lone-liest Woman in Africa." The record of her life seems highly improbable, yet we know it is true. "Mrs. Forsyth lived alone for thirty years in an isolated mission station in Fingoland, East Africa, among a wild and dissolute tribe of heathen." The superintendent of missions under whom Mrs. Forsyth worked said that not one woman in five hundred could have lived the life she lived. At the age of seventy-two this remarkable woman who had lived among the blacks so long that white faces looked strange to her, retired. At the age of forty-one she asked that she might go to the most hopeless place in Africa's missions, and there devote her life. She chose Xolobe, a wild region of unbroken heathenism with a population of liars and thieves. "I will go at once," she said. Old and young were steeped in sensualism, but she set herself to stem the current of wickedness. Her great weapon was prayer. Time and again she would write home asking for prayer for this or that drunken chief. She lived in a dark kaffir hut, which was washed by the rains during the rainy season. No flowers grew about her door, there was only the glare of the tropic sun on the baked earth. She feasted her eyes on the distant mountains. She was never afraid, we are told. She said she was never alone. Nothing could swerve her from the work she had chosen. There were remarkable conversions from time to time. She was happy in the possession of a strong sense of humor, which helped her much. She walked from house to house visiting her people, "the most apostolic figure amongst us, carrying on a more apostolic work," one of her fellow missionaries said. When the war broke out she did not know it until months later when the papers reached her. It well nigh broke her heart, but she bravely said, "The Lord God Omnipotent" reigneth." When at last she returned to England, her heart went out continually to the black people with whom she had labored all those years. Is not the spirit of this woman the same as that of Daniel?

SUNDAY SCHOOL LESSON FOR JULY 23.

SUBJECT:—Daniel and the Lions.
LESSON:—Dan. 6:1-28.
GOLDEN TEXT:—Who through faith subdued kingdoms, wrought righteousness, obtained promises, stopped the mouths of lions.—Heb. 11:33.

Two good ways to work alfalfa into the rotation: Corn, oats, alfalfa, alfalfa. Potatoes, wheat, alfalfa.

EASY NOW TO RID YOUR PLACE OF FLIES

Widely Known Scientist Discovers Wonderful Chemical That Is Fatal to Flies. Not a Poison—Harmless to Stock.

Flies are one of the most dangerous and annoying things with which the farmer has to contend. Now, through the discovery of E. R. Alexander, widely known scientist, you can rid your house and barns and livestock of these pests almost instantly, and with no trouble at all. This discovery is in the form of an organic chemical that is fatal to flies, and similar pests, such as chiggers, mosquitoes and moths.



This new discovery which is called Alexander's Rid-O-Fly, is not a poison. Though it kills flies like magic, farm animals and human beings are not affected by it at all. In addition to killing these insects, Rid-O-Fly is a strong repellent. Flies will not come near stock or buildings where Rid-O-Fly has been used. Rid-O-Fly is particularly valuable for cows and horses, as it is a known fact that flies do untold harm to these animals.

So confident is Dr. Alexander that his discovery will rid your house, barns and livestock of these pests that he offers to send a \$2.00 supply for only \$1.00 on the guarantee that if Rid-O-Fly does not solve your fly problems it will cost you nothing. Two big Kansas City banks guarantee the reliability of this offer.

SEND NO MONEY—just your name and address to the name below and this introductory offer will be mailed at once

ALEXANDER LABORATORIES,
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Our Boys' and Girls' Department

Some of the "Greatest Wishes"

What Some of My Pals Express as Their Great Desires and Some Comments

By Wyanda Sanborn, Morenci, Mich.

My ambition is to be able to play the piano so that my friends will be proud of me. Some people say I have talent and I want to use it.

You are right in wanting to develop and use your talents. It is everybody's duty to themselves and posterity to do so.

By Bernard Alfredson, Whitehall, Mich.

My greatest wish is to get a good education.

A short wish, but a good one. I would add to it, "and an opportunity to use it." An education is of little value unless it is put to use.

By Ada C. Cousineau, Herron, Mich.

That I had or could get a better education, and that I will live to see the country people have better educational advantages.

We, too, hope that better educational advantages will come to country folks and we feel sure that they are coming.

By Irene Jobin, Lincoln, Mich.

My greatest wish is that I might be as good and great as Abe Lincoln. If I could be, I might be president some day.

Your wish is good and it is possible in these days of woman suffrage. Who knows but what a woman may be president in the next generation or so.

By Uncle Frank

By Gustav Redmann, White Cloud, Mich.

My greatest wish is not wealth, but good health and God's blessing.

If you have good health and God's blessing, you will certainly get sufficient wealth for a happy life.

By Anna McCann, Hart, Mich.

If I were to have my "Greatest Wish," I would wish for good health, because without it money is no benefit.

You are right. Without health there is little enjoyment in anything. Many of us value our health too lightly.

By Grace Hanson, Powers, Mich. Age Ten Years.

My greatest wish is that I could be a boy and milk cows and do chores, instead of washing dishes and helping in the house.

Your wish is impossible, so I believe it would be best for you to make the girliest girl you can out of yourself. There is no reason why you cannot milk and do chores, even if you are a girl.

By Grace Timpson, Alto, Mich.

My greatest wish is to have wisdom,

for if I have wisdom I have everything—health, love, friends and money.

Your wish says a lot. Wisdom will bring you the other things if you use it in your endeavor to acquire them. Nothing comes without endeavor.

By Osmond L. Beckwith, Ovid, Mich.

I wish I could write stories as good as Shakespeare's and James O. Curwood's. I would write one about my Collie dog, whose name is Buck.

A big ambition that can be fulfilled partly at least by constant endeavor. You must like your dog, Buck.

By Ford Chapman, Leslie, Mich.

I wish to help humanity, even "to live in a house by the side of the road and be a friend to man."

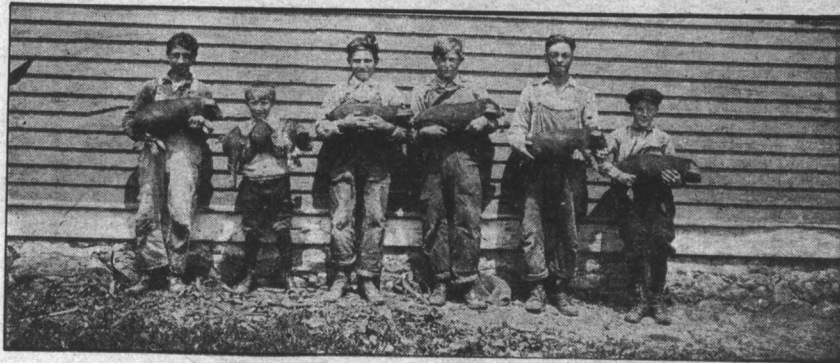
A good wish well put. I think it indicates a broad view of life.

By Earl Bowen, Lapeer Mich.

Age Eleven Years.

The greatest wish I ever had was for a little car or racer painted yellow and red. I never expect to get it, though.

The first part of your wish is all right, but you take all the "pep" out of it by your last sentence. It is the wanting of things for our own comfort and pleasure that is often the greatest stimulant to endeavor. If I were you I would expect to get it and then work to get it. Use your backbone more than you do your wishbone.



The Pine Creek Reds, of Vulcan, and their Pigs. Henry Guilani, Alton Stone, Louis Ziller, Fred LaVors, John Guilani and Wm. Stone.

Dear Uncle Frank:

I am a farmer girl, age fifteen. I live on a farm of eighty acres. We have fifteen head of cattle and eight little pigs. I have two old cats and a little kitten for pets. I named my kitten "Tip" because he is black with a white tip on his tail. I will be in my second year of high school next year. I go to high school at Charlevoix. I am going to take the following subjects next year: Geometry, Latin II, General Science and English II. We are busy picking and canning strawberries now. We have picked seven crates of strawberries off our little patch already, and the berries are still ripening. I have three sisters and two brothers, their names are Dora, Alice, Iola, Galo and Milo. Alice and Galo will teach school next year, Dora will be a junior in high school and Milo and Iola will be in the eighth grade.

I hope I haven't taken up too much room, because I don't want to be selfish. I will close for this time, with good wishes to all.—Edith E. Chew, Bay Shore, Michigan.

I hope you get some tips from Tip. Studying animals while playing with them is instructive entertainment.

Dear Uncle Frank:

I have been reading Our Letter Box, and thought I would like to join in with the other boys and girls and have some fun, also get some practice. I am thirteen years old and have a sister the same age.

Hoping I hear from you soon, I will close. Very sincerely yours, Richard Gerdes, Melvin, Michigan.

You have the right idea about this department when you say "Have some fun and get some practice." Lets hear from you again. It would be nice if your twin sister would write.

Dear Uncle Frank:

I have three little baby skunks that are eight days old. They are sure cute little fellows. They play like little kittens. I will take a picture of them and send you one. I have been spraying potatoes lately. I'll close for this time. Your nephew, Elmer Ullmer.

I am anticipating that picture of your baby skunks. Please tell us more about them later on.

Our Letter Box

THIS letter box will be where the boys and girls can express their views, tell of themselves and things about the farm, or ask advice. The most interesting letters each week will appear here. Address your letters to me.—Uncle Frank.

Dear Uncle Frank:

I have an Uncle Frank of my own. He is a jolly, comical fellow and I have good times with him.

I am a girl twelve years old, five feet tall, dark brown bobbed hair, and dark blue eyes.

I live on a farm of twenty acres. We have about 154 baby chicks, one pig, two horses, one Jersey cow and a little calf. We make our own butter; in summer we have strawberries and cream. Um! Um! They make your lips go smack, smack!

Well, I will have to close and not be selfish and take up all the room. With love to you, Uncle, and all my cousins, Margaret Kubik, Inkster, Michigan.

I second your Um! Um! motion about strawberries and cream. I am pleased to know you have an Uncle Frank you have so much fun with.

Dear Uncle Frank:

We moved to Michigan about a year ago from Minnesota. I am a boy twelve years old and next year I will be in the eighth grade.

I live on a farm of sixty acres and have quite a few pets. My favorite is a horse named Snip. She is eight years old and very pretty and I like to ride horseback on her. We also have a kitten, a pup and two calves for pets.

I will close, hoping this will find you well.—Your Pal, James Massie.

You are fortunate in having so many pets. You must have a lot of fun with Snip. Write again when you can, James.

Dear Uncle Frank:

I enjoy reading the nice letters from the boys and girls. I live on an eighty-acre farm and am the only child in our family. I am nine years old, have light brown hair and blue eyes and a fair complexion. I go to school, and

am in the fifth grade. Next year I have a half-mile to go. That isn't bad but it is far enough in the winter, as we have lots of snow to wade.

For pets I have two banty chickens. We have little twin calves. I claim them, too. Their names are Jerry and Mary. I like to help with housework. I wash dishes, sweep and make my bed and many other things.

My grandma and grandpa live in town and I go down and stay a few days with them and visit the girls in town. We live nine miles from town but we have a car so we soon get to town and back. I am afraid my letter is getting too long. So with best wishes to all the girls and boys, and to you, Uncle Frank, I will close for this time. From Miss Cecile Howard, Hart, Michigan.

A half-mile to school is just nice exercise. Many of the boys and girls have to go much farther. I bet you have a lot of fun with your pets.

Dear Uncle Frank:

I am a girl twelve years old. I am in the fifth grade at school.

I live on an eighty-acre farm and think that the farm is the best place to live, as boys and girls can learn so many useful things.

My father owns a team of mules and last fall he let me work them to get the rye ground ready to plant while he did other work.

I am going to tell my Michigan Farmer friends how I make money on the farm.

In the spring my father plants a patch of onions. I help to take care of them, and when the green onions are big enough to eat, I go along the rows where the onions are too thick and thin them out. Then I put them in bunches to sell, as they are always in great demand.

In 1919 I sold enough green onions to buy a \$5.00 War Savings Certificate. When I get my money from my War Savings Certificate I am either going

to buy a little pig or half interest in a little calf. Good-bye, your niece, Ernestine Frick, Coleman, Michigan.

You gave a very good money-making suggestion, Ernestine. It is nice that you can help your father in that way.

Dear Uncle Frank:

I have received several letters from boys and girls reading my letter, so will answer all in one.

I spent yesterday, July 4th, at Rocky Mountain Lake Park. There are no good swimming or bathing places here. I wish there were.

I do not live on a farm. Have not since I was real small, but I always enjoyed going there.

Last week our Sunday School class hiked up Clear Creek Canyon. We built a fire and roasted weenies. It surely was wonderful to be there. We had just the railroad track to walk on with the swift Clear Creek on one side and great rock walls all around you. Just above us was a natural stone face. I wish my Michigan friends could have been along.

Those reading the story in the Michigan Farmer, "Cross-Cut," will likely notice it takes place in Clear Creek Canyon, which is in the vicinity of Golden.

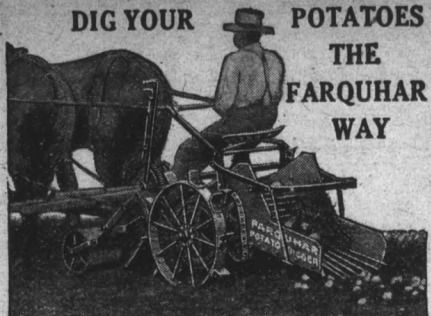
One girl spoke of horseback riding. There is a great deal of that here. Just now as I write, there are three cowboys riding past wearing their broad sombreros.

Some wrote they were very lonesome. I get very lonesome, too. But they have everything to be thankful for if they have their health. I have not been to school for a year but expect to start this fall.

I suggest that Uncle Frank print his picture in the paper, and I think all the readers will agree with me. Don't you?—Hazel Crowell.

I am glad that some of the boys and girls wrote you. I think it would please them if you could give them a personal reply. Several have asked that I print my picture but I think it would be a great waste of space to do so. Besides, it would not be right for me to display my likeness when the other editorial workers do not.

DIG YOUR POTATOES THE FARQUHAR WAY



We here show the "Farquhar No. 1," an Elevator Digger that gets the potatoes out of the ground clean and rows them convenient for picking. It is fully adjustable so as to suit different conditions, light of draft and long lived.

For small growers the "Success Junior" Walking Digger insures more potatoes with less labor. Also "Special Elevator," a large ball-bearing digger for either horse or engine drive.

Illustrated catalog of Farquhar Diggers tells how you can most economically harvest your potatoes. Write today for free copy.

A. B. FARQUHAR CO., Ltd., Box 212, York, Pa.

We also manufacture Engines and Boilers, Tractors, Sawmills, Threshers, Hydraulic Cider Presses, etc. Ask for literature.

Bee Hives, Section Boxes



Comb foundation. Smokers, etc. Complete outfits for beginners. Agents for the A. I. Root Company, in Michigan. Send for catalog. Beeswax wanted.

Berry Baskets and 16 quart crates. A grade wood quart baskets, and waxlined paper baskets. Special offer of 200 waxlined paper baskets postpaid for \$1.70, to towns within 150 miles of Lansing.



Send for Price List.

M. H. HUNT & SON,

Box 525, Lansing, Mich.

Why Not PUT THIS NEW MILL ON YOUR OLD TOWER

ALBION

Albion steel and wood mills are quiet and powerful. One-third the working parts of any other mill. Only main Patin bearings subject to wear. This is oilless, and easily replaceable. Governed by dependable weight without springs. Fits any 4-post steel tower. Why not shorten your chore hour now with a good Windmill? This is your chance—**F. O. B. Albion.** Erect it yourself. Ask your dealer, or write direct to **Union Steel Products Co. Ltd.**, No. 523 N. Berrien Street, ALBION, MICHIGAN, U. S. A.

DOGS

Ten Extra Fine fox hound pups three months old, none better. males \$15, females \$10. W. E. LECKY, Holmesville, Ohio.

POULTRY

Pure PULLETS Bred S. C. W. LEGHORNS OUR SPECIALTY

2000 April Hatched Pullets for July delivery. We sell our own stock only. Bred and raised on our own farm from our strain of American English Leghorns carefully bred for Egg Production. None Better any where at our price.

8 Weeks Old Pullets\$1.00
Choice Breeding Cockerels 1.50
Yearling Hens 1.00

SIMON HARKEMA & SONS, HOLLAND, MICHIGAN

CHICKS

Three Leading Breeds. Tom Barron English White Leghorns. Parks Barred Rocks. S. C. R. I. Reds.

White Leghorns\$2.50 50 100 500 1000
B. Rocks & S.C.R.I. Reds 3.00 6.00 12.00 57.50 115.00
Broiler Chicks 7.00 35.00
Selected Pens \$1.00 extra per hundred.

We can fill orders for Leghorns the same week received. Strong healthy chicks from tested heavy producing stock correct in plumage and color as well as being excellent layers. 100 per cent live delivery guaranteed. Interesting catalogue free. Importer. BRUMMERS POULTRY FARM, Box 30, Holland, Mich

July, Aug. and Sept. Chix

Order now. Barred on White Plymouth Rocks, R. I. Reds, Black Minorcas, White Leghorns or Anconas \$14.00 per 100 prepaid, 15¢ each in 25 or 50 lots. 100% live delivery guaranteed. Our 12 year producing chix that please. Order direct from this ad. Green Lawn Poultry Farm, R. 3, Fenton, Mich.

Wanted 300 Pure Barron White Leghorn yearling hens or pullets for breeding, also males. No (forced for eggs) stock wanted. Must be A-1 stock from free range; well fed, well bred. Give lowest cash price. Goret Bros., Corunna, Mich.

With Our Prize Poets

HERE are the five prize-winning poems in our poetry contest of July 8. There were so many good poems that ten were given honorable mention as below.

"THE MAN WHO CAN."

By FORD CHAPMAN, Leslie, Mich.
The man who can is the man who tries
To be the live wire of his day.
His imaginative soul never dies;
He leads a life that's sure to pay.

He takes an interest in himself;
Comes out of the sloth and the mire.
Puts evil habits up on the shelf,
He's looking for something higher.

He never gives up in lost despair,
With a long-drawn face and a sigh;
Nor sits on the job then and there,
Thinking there is no use to try.

The man who can always tries to rout
Life's hardships all along the way.
He won't admit he is down and out
No matter what people will say.

He has the "pep" for things worth
while,
He always gives an inspiration.
Into troubled faces he will smile,
These are the men for the American
nation.

KNITTING.

By MARY MASAKU, Ithaca, Mich.
Our Peggy was knitting a stocking,
Busy and blythe as a bee,
A dear little, pink little stocking
To fit her wee little sister of three.
For Grandma had taught her the
stitches,

Work Contest

THIS week the five one-dollar prizes will go to the boys or girls who send in the best original papers of 100 words or less on **The Work I Like the Best, and Why.** Address all papers as usual to Uncle Frank, Michigan Farmer, Detroit, Michigan.

Holding both small hands in her
own,
And guiding them gently till Peggy
Felt sure she could "go it alone."

Stitch followed stitch on the needles.
Row after row was arrayed,
As Peggy sat knitting like any
Long ago little Puritan maid.
Then, ere one could guess what had
happened,
Came a quick, sorry gasp of dismay,
For two of those mischievous stitches
Had skipped off and raveled away.

Discouraged, she brought the wee
stocking
And laid it on Grandmamma's knee,
Her eyes brimming over with tear-
drops:

"O, dear! it's all spoiled; don't you
see?"
But Grandma said, "No—we will mend
it."
A smile on her kind, loving face,
As she picked up those runaway
stitches
And brought them back into place.

I smiled as I listened; and pondered
How like to our knitting is life
Sometimes running smoothly and joy-
filled,
Anon marred by sorrow or strife.
Yet if we will take to the Father
Each trial and blunder and care,
He surely will pick up the stitches,
And help us make life's pattern fair.

SUMMER DAYS.

By ELMER J. SMITH, Battle Creek,
Summer days are here once more;
Old Winter's gone awhile,
Everyone has swapped their grouches,
For a sunny summer smile.

The busy bees are buzzing 'round,
To let you know that they
Are right on hand to do their part
In putting up the hay.

The sun shines in the window,
In the early summer morn,
And makes you realize the fact,
You must cultivate the corn.

Your beds' a dandy place to be,
But it never seems that you

Can lie there loafing time away
When the sun comes peeping thru.

You love to go a-fishing,
And you hunt up pole and line;
You've listened to the whip-poor-wills,
And you know it's getting time.

To make your summer happy,
You must furnish and demand,
One hundred per cent attention,
For the business you've at hand.

THE SNOW STORM.

By PAMELIA LOTT, Coldwater, Mich.
Softly, lightly, the snow comes down,
Each flake a fairy in milk-white gown.
The children say as they flutter by,
"They're plucking geese up in the
sky."

Perhaps they are, but it seems to me
That fairies the snowflakes ought to
be;
They dance like fairies with rainbow
wings,
And surely they move like living
things.

Lady Moon's children perhaps they
are,
Or the frozen tears of a lonesome star;
But why should they come to this cold
old world
To be caught by the wind and upward
whirled?

They come dancing merrily hand in
hand,
And all the winter they rove the land,
But in the spring they melt away
And are not seen for many a day.

They leave this earth with tears of
woe;
Who is not sad to see them go?
But all fair things must live to die,
All joys pass on: we know not why!

HIS REAL PICTURE.

By CLARA E. KOTZKE, Crosswell, Mich.
We've had his picture taken a dozen
times or more,
We've got him as a baby in the dress-
es that he wore;
We've got him with his mother, and
we've pictured him with me,
But the camera's only seen him in the
way he ought to be,
And I'd like to have his 'photo as he
really is today,
With the glorious dirt upon him that
he's gathered in his play.

We've had his pictures taken when his
garments all were trim,
And his face was fixed and solemn,
but they don't resemble him,
For they do not show the twinkle in
in those roguish eyes of his
And they don't portray the rascal as
he mostly always is.
He is slick and solemn sometimes in
his white and starched shirt
But his natural condition is to grin
through grime and dirt.

I wish I were a painter, I would canvas
him today
In those soiled and tattered garments,
Which he wears when he's at play,
I would paint in the knickers which
have sagged upon his shins,
And the shirtwaist clinging to them by
the grace of safety pins.
And I'd try to catch the glory of that
smile from ear to ear,
When the dirt is thick upon and his
his face is just a smear.

His mother says we mustn't but I still
insist and say
That we ought to have him pictured
as he really is today,
For I know no sight that's finer for a
man to look upon
Than a happy grinning youngster
-when his two front teeth are
gone,
And when I come home at evening and
he answers to my call,
I just grab him up and kiss him, for
I love him—dirt and all.

HONORABLE MENTION.

The following have received honor-
able mention in our poetry contest be-
cause of the good poems they sent in.
Charlotte Stables, Traverse City, M.
Anna McCann, Hart, Mich.
Robert A. Cook, Ithaca, Mich.
Ada Richard, Sterling, Mich.
Beatrice Sanderson, St. Charles, M.
Ethel Guldenstein, Armada, Mich.
Arthur Schrader, Ypsilanti, Mich.
Editha Engwall, Eastlake, Mich.
Dean Salmon, Pittsford, Mich.
Paul B. Herman, Coldwater, Mich.

POULTRY

Useful Anconas To install new blood in
your next years matings,
to improve their laying qualities, to increase their
beauty, your cockerels early, a grand lot of young-
sters from prize winning Hog an tes ed layers at bar-
gain prices, sent on approval. Utility breeding hens
at reduced prices to make room for pullets. Order
now before it is too late. My 18 page booklet "Useful
facts about Useful Anconas" furnishes real infor-
mation and tells you all about them.
College View Farm, R. 3, Hillsdale, Mich.

Buy Chicks Where Quality Counts.

All my flocks culled. You get chicks from nothing
but best layers. Safe arrival guaranteed by prepaid
parcel post. Ask about 8-week pullets. HERMAN J.
COOK, 133 W. Main St., Zeeland, Mich.

CHICKS—BRED—TO—LAY

S. C. W. Leghorns, S. C. Anconas and Barred Rocks,
Quality chicks that please, guaranteed full count, 100%
alive on arrival, parcels post paid. Circular.
SUNNYBROOK POULTRY FARM, Hillsdale, Mich

Baby Chicks \$12.00 per 100 and up

Hatching eggs, \$1.50 per setting to \$15.00 per 100.
We are listing 17 varieties of pure bred fowls; Chick-
ens, Geese, Ducks & Guinea, also breeding stock.
Send for prices and circular. Brooding now for early
delivery. CLINTON HATCHERY & POULTRY
FARMS, Wilmington, Ohio.

Barred Rock Cockerels

Parks' 200-egg strain. From stock from Parks' best
pedigreed pens. Vigorous, early hatch birds \$3
each. R. G. KIRBY, Route 1, East Lansing, Mich.

Barred Rocks egg contest winners, eggs from strain
raised on free range, with records to 290 a year. \$2.00
per setting prepaid by P. P. Circular free.
FRED ASTLING, Constantine, Mich

SINGLE COMB WHITE LEGHORN

Baby chicks from our flock of high producing hens,
raised on free range. Price \$9.00 per 100. Safe deliv-
ery guaranteed. Ralph S. Totten, Pittsford, Mich.

S. C. Anconas and S. C. White Leghorn

yearling hens at bargain prices.
Write your wants.

M. D. Wyngarden, Zeeland, Mich.

BABY CHICKS

Barron White Leghorns 100, \$10.00; 500, \$47.50;
1000, \$95.00.
Park's Strain Barred Rocks 100, \$12.00; 500, \$57.50;
1000, \$110.00.
Good healthy, chicks, odds and ends 7c each.
100% live delivery guaranteed. Parcel post paid.
PINE BAY POULTRY FARM, Holland, Mich

200,000

Baby Chicks

FOR 1922

Shepard's Anconas, English Type White Leghorns
and Brown Leghorns and Barred Rocks. Why pay
two prices when you can buy direct? Our chicks
are from strong, vigorous flocks of fine quality and
excellent layers. Chicks are shipped prepaid with
100% live arrival guaranteed. Order now, cata-
logue free. KNOLL HATCHERY,
R. 12, Holland, Mich.

DAY OLD CHICKS

White Leghorns \$12 per 100; \$6.50 for 50; and
\$3.75 for 25. Barred and White Rocks, White Wyand-
ottes and Rhode Island Reds \$17 for 100; \$9.00
for 50; and \$4.75 for 25. Order from this ad, terms
cash with order. Custom hatching 5c per egg,
hatchery capacity 9600. Hatchery 4 miles east of
Mt. Morris on Mt. Morris road one mile north and
one east. Valley Phone No. 14-5. ROSS WADE,
Prop. Meadow Brook Hatchery, Mt. Morris, Mich.

PULLETS & COCKERELS

Now Three Months Old

WHITE LEGHORNS AND MOTTLED ANCONAS
Also Black Leghorns, Brown Leghorns, Buff Leg-
horns, Black Minorcas, R. C. Rhode Island Reds,
Barred Plymouth Rocks, White Plymouth Rocks,
Silver Wyandottes, White Wyandottes. WE HATCH
eggs from Hoganized flocks on free range on separate
farms. Where our chicks are raised.
Send for Price List.

CRESCENT EGG COMPANY

Allegan Michigan

BABY CHICKS

We have just the chicks you have been looking
for, the large, strong, vigorous kind from free
range flocks that have been culled for heavy egg
production. Shipped prepaid parcel post. Safe
arrival guaranteed. Ask about 8 wk. pullets.
Catalog free.
Gilt Edge Poultry Farm, Zeeland, Mich

Barred Rocks S. C. Reds, W. Wyandottes,
Bred-to-lay stock, Baby chicks,
eggs, cockerels. Howard Grant, Marshall, Mich.

Bred-to-Lay White Wyandottes
59 hens laid 1170 eggs in Jan. Eggs \$2.00 per 15; \$10
per 100. EVERGREEN POULTRY FARM,
Blanding & Sons, Greenville, Mich.

ANCONA PULLETS

I have 300,3 months old, utility selected Ancona pullets
which I will sell at \$1.30 each. Order at once and avoid
disappointment. Thomas Beyer, R. 4, Zeeland, Mich.

NOW IS YOUR CHANCE

Put in your order for June chicks at 9¢ cents. And
April hatched pullets. Bred from Heavy English
Strain from our own free range poultry farm. 100%
live delivery guaranteed.
Village View Poultry Farm, R. 3, Zeeland, Mich.

RHODE ISLAND WHITES

win over all breeds at the egg laying contest. 30 eggs
\$5; 50 \$8; 100 \$15 order from this ad. Some chicks,
H. H. JUMP, R. 5, Jackson, Mich.

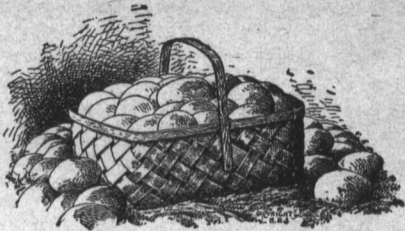
Pullets WANTED S. C. White Leghorns. Give
price, age, weight and lowest cash price in
reply. Address, Leghorn, Box 466, Sycamore, Ohio

W. Chinese goose eggs 40c each, Pekin duck \$1.50
for 8, R. C. Br. Leghorn \$1.50 for 15
\$8.00 per 100. Mrs. Claudia Betts, Hillsdale, Mich.

PULLETS

EGGS IN SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER

We have White and Brown Leghorn and Ancona Pullets; also Barred Rocks, White Wyandottes



White and Buff Orpingtons; and a limited number of Pullets in a few other breeds.

There is one lot of:

1000 Three Months White Leghorns

Ready to sell now and that should begin to lay in September and that will give you eggs all through this fall. Here is a chance to buy Money-Making Stock for the high egg price fall period.

If you want extra early fall layers send your order now for these three months old White Leghorn Pullets.

The price of eggs will be high, the same as every fall. Pullets are a safe investment.

"I ordered 50 chicks, English S. C. White Leghorns, and 50 husky chicks were sent to me. I believe as time went on about 6 died, and the remainder grew to be very large. I got 20 fine pullets and a rooster that's got them all beat. I think the pullets were laying at 5 months, and are greatly admired by the neighbors. These pullets have laid all through the cold weather, and during those very cold days some of them froze their combs but did not stop laying. Have been getting one dozen eggs a day. During January they paid me a profit of 200 per cent. My plan is to keep at least 100 this coming year"

Yearling Hens, especially in White and Brown Leghorns and Anconas; but also in the other breeds.

Cockerels, White Pekin Ducks, White Embden Geese and Bronze Turkeys.

Send for a copy of our quarterly publication Homestead Farms, and for other matter describing the Pure Breed Practical Poultry.

STATE FARMS ASSOCIATION,

201 Chase Block,

Kalamazoo, Michigan



Baby Chicks

Best Laying Breeds on Earth

25,000 large strong super-hatched chicks every week from Hogan tested flocks culled out annually by our Poultry Experts.

Prices For June and July

	Per 50	Per 100	Per 500	Per 1000
S. C. White Leghorns	\$5.25	\$10.00	\$47.50	\$95.00
English W. Leghorns				
S. C. Brown Leghorns				
S. C. Mottled Anconas				
Broilers (Odds & Ends)	\$4.00	\$7.50	\$35.00	
Extra Selected Stock at \$2.00 per 100 higher.				

Thousands of Satisfied Customers Make Big Money

Mr. F. L. Hess, Chicago, Ill., writes: "I averaged 112 eggs a day from 140 of your pullets and sold, \$158.00 worth of eggs in February."

Mrs. Wyttenbach, Amherst, Ohio, writes: "I sold \$357.30 of eggs in two months from 200 pullets of your stock."

Raise Good Stock and Reap a Golden Harvest

Intelligent chick buyers of today do not take chances with ordinary stock. Our enormous output enables us to sell these money makers at a price that positively cannot be equaled.

We Ship Thousands of Chicks Each Year

Every shipment is sent by PARCELS POST PREPAID, and we guarantee 100% live delivery. Order direct from ad. or send for illustrated catalogue.

Wingarden Hatchery, Box M, Zeeland, Mich.

Pullets Cockerels Pullets

Chicks—Eggs—Breeding Stock—From Proven Layers

BARRED ROCKS ENGLISH WHITE LEGHORNS

ROCKS. Official Records 213 to 257 at M.A.C. In Dec. at Nat'l Laying Contest No. 4 Pullets averaged 24.5. I have won 5 specials so far at this contest, some records. WHITE LEGHORNS. Won cup best utility pen Zeeland [22 pens]. Mr. Foreman Judging. 1st and 2nd pens Holland Fair. 1st Hen West Mich. State Fair. Why take chances when you can buy stock of this kind at bargain prices. Special prices on May, June, July chicks. Write for catalogue.

G. CABALL, Box M, Hudsonville, Mich.

JUST-RITE LOOK!

Baby Chicks
POSTAGE PAID, 95¢ live arrival guaranteed. MONTH'S FEED FREE with each order 40 Breeds chicks, 4 breeds ducklings, select and exhibition grades. Catalog free, stamps appreciated.
NABOB HATCHERY, Dept. 15, Gambier, O.

S. C. Black Minorea Hatching Eggs. Our choice strain settings \$1.50; for 50 \$3.00; 100 C. J. DEEDRICK, Vassar, Mich.

Single Comb Buff Leghorn
Early hatched okls. Willard Webster, Bath, Mich.

WHITE WYANDOTTES
207 egg average. Eggs all matings, \$2.00 per 15, \$10.00 per 100. Cockerels, hens and pullets \$5.00 each.
FRANK DELONG, R. 3, Three Rivers, Mich.

Bourbon Red Turkeys We have them. Order your Birds and Eggs now.
SMITH BROS., R. 3, Augusta, Mich.

WHITE LEGHORN BARGAINS
Get famous Ferris White Leghorns and increase your poultry profits. Pedigreed, trap-nested, egg bred for 22 years. Eggs—chicks—pullets—hens—males. Records to 313 eggs. Shipped C.O.D. prepaid and on approval. Large, vigorous Great winter layers. Send for FREE catalog and list of amazing bargains—FREE
GEORGE B. FERRIS
934B Union Ave. Grand Rapids, Mich.

WHITTAKER'S R. I. RED CHICKS
CUT PRICES FOR JULY
Grade "A" Both Combs, \$20 per 100. Grade "B" Rose Comb, Hatches of July 5th and 12th, \$15 per 100. July 19th, \$14 per 100. July 26th, last hatch, \$13 per 100. Single Comb one cent per chick less than Rose Comb. Add one cent per chick on all orders for only 25. Michigan's Greatest Color and Egg Strain. All breeding stock blood tested for white diarrhoea by Dr. H. J. Stafseth of M. A. O. Order from this adv. to secure prompt delivery, or write for free catalog and culling chart.
INTERLAKES FARM, Box 39, Lawrence, Mich.

Farm Poultry

DEVITALIZED CHICKS.

Our five-weeks-old chicks are dying off, don't know from what. Their feathers look as if they had lice (which they haven't), and slowly their heads and body get bare. The head turns a blue color. First the feathers kind of stand out from the body and look kind of rough. Yet they will eat until the last. We feed them ground corn, bran, and all the milk (sour and sweet) they want. Can you tell me what to do for them?—Mrs. G. K.

I think the chicks are probably devitalized due to digestive disorders and possibly overheating in the brooder or overcrowding may also be causes. It is best to feed the milk all sour as changing often from sweet to sour milk has been found unsatisfactory by many poultrymen. If you are using an oil heated brooder, be sure that the chicks are not getting the fumes from the burner. Install roosts in the brooder house as soon as possible. After chicks are old enough to roost it is easier to control disease.

USING BLUE OINTMENT.

I have read that one should not use blue ointment on young chicks for lice. Please tell me at what age it is safe to use it.—L. L. B.

We use blue ointment on chicks to prevent lice as soon as they are feathered out and weigh about a pound. At this age it has never caused any trouble. We have never had any losses from using blue ointment on a mother hen, when hovering the chicks. The ointment on the hen has seemed to protect both hen and chicks. A bit of lard rubbed on the head will destroy head lice on young chicks. Poultrymen generally feel that the blue ointment is a little strong to use on very young chicks.

MASH FOR DUCKLINGS.

Please tell me how to feed and care for young ducks from the time they are hatched until they are old enough to eat corn. I have no water in which they can swim.—E. K.

A good mash for young ducklings consists of two parts bran and one part cornmeal to which is added five per cent beef scrap and a sprinkling of grit. Green feed is essential, such as lawn clippings and chopped vegetables of all kinds. They need fresh water in dishes rather deep so they can rinse out their nostrils and eyes. Shade is important during the heat of the day as exposure to very hot sun soon injures ducklings.

TREATMENT FOR BLACKHEAD.

Some of my turkeys have died. I opened them and found the livers spotted with yellow and gray spots. The turkeys droop their wings in the morning and are dead at night. Will you please tell me what the trouble is?—J. P.

The turkeys probably died of blackhead. This has formerly been considered incurable but lately the ipecac treatment has given success in many cases. To prevent blackhead give a teaspoonful of powdered ipecac to each twenty turkeys twice a week. This is given in a moist mash. When a turkey is sick with blackhead give ten drops of fluid extract of ipecac three times per day for three days. Then

give it twice a day for two days and follow with a dose a day for three days. If you have any results with this treatment the writer would appreciate a postcard telling of your success or failure.

Where blackhead causes severe losses it has usually been considered best to discontinue raising turkeys until the soil becomes free from the disease.

FUTURE OF POULTRY BUSINESS.

(Continued from page 71).

itor. He kept many breeds of attractive fowls and was abundantly supplied with yards and houses. He liked the business and managed to make a small profit, but his egg yield was never very high.

He knew all about feathers and combs but nothing about egg type. I remember that many of his fine-looking birds were what we would term culls now. They were heavy with fat and some of the hens had dull masculine heads which indicate the beef type rather than the hen of heavy laying ability. That breeder knew nothing about culling and the fact that we can now avoid keeping culls helps to make the poultry business safer than it has ever been before. Some of us can cull better than others and lots of us may get tired of hearing the word culling, but just the same we all owe a great obligation to the experiment station workers who have gathered the facts that make successful culling possible on every poultry farm by the poultryman himself.

Another favorable fact is worth mentioning. There are now quite a large number of poultrymen who have been in the business for a long time. They have been trap-nesting and culling and developing fine flocks which readily transmit their good qualities to their progeny. For a few dollars it is possible for the beginner to purchase better foundation stock in our leading breeds of poultry than ever before. When results of the life work of a good poultryman can be purchased for the sum of a few settings of eggs there is no use in keeping scrub poultry.

The feeding proposition has been carefully worked out by the experiment stations and the practical poultrymen. That knowledge is available to all of us. We can feed for eggs when the pullets are ready, with assurance that we will get eggs. We can feed our growing stock so they will keep healthy and mature rapidly. The proper feeding methods can be used by every breeder and this adds a great element of safety to the business. Twenty or thirty years ago the farm flocks were fed in a more haphazard manner than today.

So, in conclusion, I would say that the poultry business is a fairly safe proposition. It must be handled with judgment by men who like it. And even then, they must build slowly to avoid errors. But with perseverance and careful management I see no reason to become alarmed over the future of the poultry business. Our rapidly growing cities seem to develop faster than the ranks of the poultry breeders who will serve those cities with quality eggs and poultry meat.



Radio Department

Conducted by Stuart Seeley

QUESTIONS AND ANSWERS.

I have a radio receiving set of two variometers, a variocoupler, detector, tube, and a two-stage amplifier (an Acme). What size "B" battery should I use for the amplifier—22½ volts or a 45-volt battery? When not in use, should the "B" battery be disconnected from amplifier, and detector tube? Should the 'phones be disconnected from receiving set when not being used? Would a 45-volt "B" battery on detector tube improve results? Why is a single wire aerial 100 feet long recommended? Wouldn't a three or four-wire aerial 100 feet long collect more energy and make the signals louder? Is there not some way to lessen the noises from static?—C. E. J.

Most detector tubes are designed to operate on 22½ volts for the plate supply and a 45-volt battery will not improve the results. However, if the plate voltage of the amplifier bulbs is increased to forty-five volts a marked improvement will be noticed.

It is not necessary to disconnect the 'phones and "B" battery when the set is not in use, as turning off the filament current of the bulb open circuits them and no current will pass.

A Source of Farm Power

Sphere of Usefulness of Explosives is Widening

By L. M. Stowell

TWO fields were selected by the college officials for the demonstration of the value of explosives in farming. The first piece tried was a young apple orchard of about two acres. The ground was very soggy, particularly in a depressed area near the middle of the field, toward which the moisture from the higher ends of the piece slowly gravitated. The surface was dotted here and there with various sizes of boulders and gnarled tree stumps.

Selecting two rows of trees running through the field at nearly a central point, charges of dynamite were placed midway between the two rows, each charge about twenty feet from the next one. Each stick was exploded before another was placed. Varying strengths were used; in some cases a full charge of one-half pound, and in others only the half charge was used. The lull charges, sunk to a depth of about six feet, resulted in an excavation some four feet deep by twelve feet in diameter. The ground was loosened to an area considerably greater. In the half charges, the result was proportionately less efficient.

After these charges had been made, running lengthwise the field for some distance both ways from the center of the depressed area, operations were next begun on a line at right angles with the first rows worked. Charges were sunk two feet apart, beginning at the north boundary of the field and extending crossways in a line through the middle of this low area, to a point beyond the first rows of excavations. These charges were wired and, when all laid, were connected with a battery and were exploded simultaneously.

The result was a well-defined ditch four feet in width and the same in depth. Some of the dirt, of course, fell back from the sides, partly filling the opening but the whole was so loose and separated from the water as to be easily removed. This provided a logical and natural drainage ditch for the orchard; the surplus water from the higher parts was to be carried in tiles to this open ditch and from there run outside the field.

It is expected, however, that by loosening the subsoil at the higher ends of the orchard that the water-level at these ends will be made lower than

A single wire antenna is recommended because the addition of more wire does not increase the signal strength enough to pay to put them up. If the aerial is a single wire 150 feet long it will work about as well as any.

There is no way to lessen interference from static.

I am endeavoring to construct a wireless 'phone. I have an aerial made of several pieces of insulated wire. It is of different sizes. Will that make any difference? I have a medical electric machine with triple cell battery equipped with coil and rheostat of carbon, and a telephone receiver. Can I use any, or all of this, and what else will I need?—W. F. S.

If the joints are well made, different sizes of wire will work just as well as a single wire in one long piece. Insulated wire is sometimes to be preferred for an aerial.

Parts of a medical electric machine cannot be used for parts of a radio set unless there are a few binding-posts or switch arms that might be used in building up an outfit.

The best way to get an idea of what is needed to receive radiophone is to send for a few catalogs of radio sets. There are hundreds of different types and you will be able to select the one you would want to build.

formerly; that the roots of the trees feeding from these areas will be given deeper soil from which to feed and soil that is made more rapidly and more perfectly available; that less water will be carried to this cross drain and consequently wasted; also that those trees feeding in this surrounding depressed area will not be drowned from too much water. In other words, the idea is that this orchard soil needs aerating for the more equitable distribution of water and for the more ready and general availability of plant food.

Incidentally, in a little side by-play, several rocks and stumps about the orchard were made ready for easy removal. Some of the blasts were made with only one or two sticks; another needed ten one-half pound sticks laid on two different flat faces of the rock and plastered down with mud thrown on and patted down with a shovel. This method of blasting is somewhat less effective per unit of power than drilling into the rock but frequently saves much time and labor as well as being safer.

The next day operations were transferred to the other field, consisting of about two-thirds of an acre of corn land. Charges were laid and exploded one at a time at distances of twenty feet each way. The soil here was hard subsoil and sandy surface, and the excavations following the explosions brought considerable of the yellow hard-pan to the surface, also loosening the surface soil for a considerable distance back from the edges of the hole.

One-half of this piece was not treated. The plan is to drag over and sow each section to alfalfa seed and carefully follow the results of growth in the two plots for a long enough period to determine the actual and comparative yields.

In the case of reclaiming wet fields or of irrigating dry fields, explosives provide a quick, efficient and cheap method of opening drains and in preparing the waterways for the irrigating system. All this besides the very considerable value of clearing virgin fields of stumps and rocks. Altogether, there seems to be great possibilities in the use of dynamite for various operations in the development of land.

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On the Dairy Farm

The Future of Dairying

What a Central Michigan Dairyman Thinks About the Situation By T. J. Robertson

ABOUT this time of year when things begin to brighten up and start growing, the cows are wallowing in fresh pastures up to their knees, many farmers are asking the following questions, also some have partly answered them:

Am I going out of the dairy business? What is the future of the dairyman? Can I keep up the fertility of the farm and still realize a profit by raising other crops or other kinds of live stock? These are only a few of the questions that are being pondered by many farmers.

During the last twenty months farm products have been dragging bottom along with dairy products. Of course, other lines of business have been having serious drawbacks but agriculture has suffered most intensely. Where the shoe pinches most seems to be that the farmer's dollar has been reduced to about one-third its buying power, in many cases one-half. We could still produce at a reasonable margin of profit if what we had to buy was reduced accordingly.

But this isn't the purpose of this article. I want to present a few questions to the farmer himself and see what he is really doing toward making the return of better times a shorter period.

Now, with regard to the dairy business. How many have just stopped to consider how they can proceed to strengthen the market for dairy products? Here is one question that will take a long time to answer and bring about some debate also.

What kind of cows are you keeping? There has been enough said on this subject to fill many a volume but still there is chance for herd improvement.

To get to the bottom of the question we must start on the causes of the decline in the price of milk products. No doubt the greatest cause is the under-consumption by our city customers on account of so much idleness and lack of funds to purchase milk. Another is the weakness of our foreign markets for condensed milk, canned milk, etc. There are other causes that all have a bearing on the milk market at the present time.

But, how many of us dairy farmers really know if we have boarder cows in our herds or not? Are we milking a large herd that is producing what half the number might produce with better selection, better breeding, better care and more liberal feeding?

Now here is what a number of farmers have said: "Well, we want to get

so much milk, we want our check to amount to so much each month. So we increase the number of cows in order to get the required amount of milk." Does this sound like good logic? Does it sound business-like? It does not, they would rather slave away with twenty cows to get what ten might easily produce.

And here is one point in that question that is playing havoc with the market today. Two years ago milk was high in price and we were making money, (at least thought we were). We got hold of every cow that was available, whether she was a good one or not, so long as she added a little to the can twice a day. We stopped for nothing; everything was milk, milk, milk, so long as the war was taking our surplus in the form of canned milks, etc., we were all right, but now, that market is shut off. But our cows are still on the job. What are we to do?

Here is what to do: Get a pair of scales and a Babcock tester, or join a cow-testing association if you do not want to do it yourself. Personally, we are doing the testing ourselves as we have no association formed here yet. Next get a milk record sheet. You can get them at your state agricultural college for the asking.

Weigh the milk from each cow, either daily or weekly. Test her milk for percentage of butter-fat once a month, figure what the feed costs for one month. Allow about a half hour per day per cow for your own labor and credit her with \$3.00 per month for manure produced. Set your standard at at least 6,000 pounds of milk per year and about 180 to 200 pounds of butter-fat per year and "Hang to it."

But, before you are too harsh on condemning a cow to the butcher, be sure you have given her a square deal, a chance to do her best, by means of a good stable, plenty of good food and greatest of all, love and kindness. The last statement may sound rather sentimental to some, but if you don't have that quality of disposition when handling cows, don't read any further, because you are not a dairyman and the best cow in the world couldn't do her best work under your care.

The dairy cow is next to our own mother when it comes to showing the motherhood instinct. She is almost human in her love for her offspring, and she will show just as much of that love for you by filling that pail full to the brim instead of merely wetting the bottom.

Cows that lack ability to make a



A Three-ton Sweet Clover Crop Cut June 14 on Farm of August Jensen, of Walloon Lake.

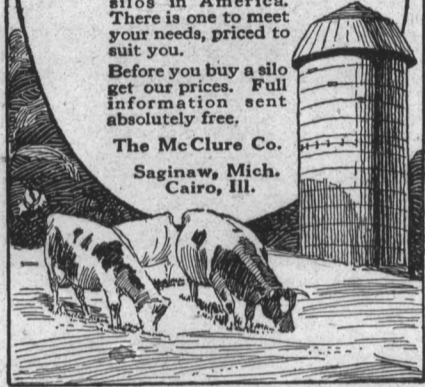
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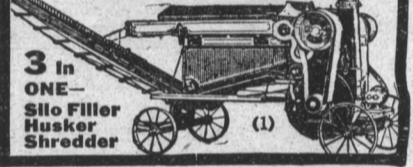
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THESE make the "Indiana" the recognized leader among silos. Feed put into an Indiana Silo comes out 100% in quality and quantity. Ask any of our 100,000 customers. In silos the best is always the cheapest. Late corn will be frosted, save it in an Indiana Silo.

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CATTLE

FOR SALE

Polled Shorthorn Cows & Heifers

in calf and calf by side. Also a few young bulls. Herd headed by Victor Sultan and Royal Nonpareil.

We can please you in richly bred cattle with quality at farmers' prices.

GEO. E. BURDICK, Mgr. Branch County Farm, Coldwater, Mich.

WANTED REGISTERED SHORTHORN AND HOLSTEIN BULLS

Twelve to eighteen months old. Describe as to conformation, breeding, condition of flesh, color and price. Box P. B. 4, Michigan Farmer, Detroit, Mich.

RICHLAND SHORTHORNS

We are offering two splendid white yearling bulls by Imp. Newton Champion and a few extra good heifers and young cows at very attractive prices. For full particulars write to

C. H. PRESCOTT & SON, Herd at Prescott, Mich. Office at Tawas City, Mich.

profit are the cows that cause our good cows to be condemned as no good. Get rid of the boarder cows, sell them for what they will bring, it will add a little to the supply of meat, but we will make it up in better prices for the milk that the good cows produce. The average cow in the United States only produces 4,000 pounds of milk per year and there are 23,000,000 of them. Why not raise that average to 6,000 pounds and cut down the number one-half? There wouldn't be any surplus and the cows that were left would be better cared for from every angle. There would be a steadier production and better profits. It would mean happier farmers and better farms. You would get a better price for the cows you have to sell, as one that is tested for production goes for a much better price than one that the buyer has to take a chance on.

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Advice through this column is given free to our subscribers. Letters should state fully the history and symptoms of each case and give name and address of the writer. Initials only are published. When a reply by mail is requested the service becomes private practice and \$1 must be enclosed.

Dairy Question.—I have a Jersey heifer fourteen months old, due to freshen soon. Had I better continue to milk, or dry her at once? When shall I breed her? G. L. D., Elwell, Mich.—If she is of good size, has well developed udder and is a good feeder, milk her for four or five months. Breed her right away, but don't forget the importance of generous feeding and good care.

Cow Leaks Milk.—We have a four-year-old Durham cow that does not seem to hold her milk very well. This leaking starts about milking time both morning and night. I would like to know if there is any remedy for this? M. H., Holly, Mich.—After milking, dry the end of teats and apply flexible collodion, or use clean teat plugs, or milk her three times daily.

Knuckling.—I have a four-year-old horse that has been knuckling for the past three weeks. He seems to be growing worse. W. G., Pigeon, Mich.—Apply equal parts of turpentine, aqua ammonia and raw linseed oil to fetlock joint daily, until it slightly blisters, then discontinue its use for a few days, then repeat the applications. If hard work or fast driving caused it, give him some rest.

Breathing Affected.—We have a black six-year-old mare that seems to be easily affected with the heat. She is much worse just before a storm. She makes a noise which can be heard fifteen or sixteen rods distant when not over exerted, and her mate is not affected. They are each fed six quarts of oats three times a day and have plenty of clover and timothy hay. E. S., Marlette, Mich.—As she is fleshy, I would advise you to reduce her, and feed less bulky food. Grain and grass, or grain and timothy, is best feed for her.

Melanotic Tumor.—I have a gray horse that has a large wart-like bunch or growth at side of vent. The switching of his tail opens it up, which causes it to bleed sometimes quite freely, while other times only a little. Can this bunch be removed or toughened so it does not open so freely? Would like to remove or dry it up if possible. This growth is about the size of a small teacup and has a rough surface. F. T. H., Clayton, Mich.—The bunch should be cut out. This is the only remedy for melanosis, but other bunches of same nature may form around the anus or sheath; however, if they do form, cut them out when small.

Lousy Calf.—I bought a calf when it was four days old; was told I could veal it some time later, if I fed it calf meal, but instead of gaining it has remained very thin. It is now five weeks old and I have it running on pasture. I find this same calf is troubled with lice or ticks. Also tell me what to feed a six-week-old pig which I hope to kill it for meat in the fall. S. P., Adrian, Mich.—First of all you must kill the lice for they are bloodsuckers and will keep the calf thin. Apply raw linseed oil, but don't expose calf to a bright sunlight for two days, or the skin might become irritated. Feed calf some ground oats, bran and calf meal. Feed the pig some ground corn, oats, middlings and young clover.

No scars—no blemishes
GOMBAULT'S CAUSTIC BALSAM
does the work better than firing. Hair positively grows back natural color

A reliable remedy for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Windpuffs, Skin Diseases, Thrush, Spavin, Ringbone, Throat or Bronchial Troubles. Will not scar or blemish. Supercedes all firing and cautery.

As a human liniment it is unsurpassed. \$1.50 per bottle at druggists or by parcel post.

The LAWRENCE-WILLIAMS CO. Cleveland, Ohio

GOMBAULT'S Caustic BALSAM

Claradale Milking Shorthorns

We invite the discriminating breeder and farmer, who is in need of a real bull, that will transmit the combine qualities, beef, milk, high in butter fat, type, character, beauty. We do state official milk testing. Come and see us or write for circulars and reasonable prices. F. W. Johnson, Custer, Mich., Mason Co. Box 28

Milking Shorthorns of best Bates breeding, bulls, cows and heifers for sale. E. H. KURTZ, Mason, Mich.

Don't you want a good Shorthorn, priced in keeping with the times? ROBERT MARTIN, R. 3, Woodland, Mich.

HOGS

Spring pigs by Walt's Orion, First Sr. Yearling
Detroit, Jackson, Gd. Rapids and Saginaw 1919
Phillips Bros., Riga, Mich.

Sows & Gilts

Bred for July, Aug. and Sept. farrow for sale at reasonable prices. Also a few high class spring and fall boars ready for service and one 2 yrs. old boar, a grandson of Panama special, at a bargain if you can use him. We guarantee satisfaction. Write for prices and description or better come and see them. Visitors always welcome. Sows bred for spring farrow all sold.
Thos. Underhill & Son, Salem, Mich.

Collinsdale Duroc Farm, Lyons, Mich., P. 1. Greatest Blood Lines in Duroc Hogs

Herd Boars by Great Orion Sensation, Pathfinder, Duration and Great Wonder I Am. Now have for sale three yearling boars by Wolverine Sensation. For sale at all times, sows, gilts or boars registered. Sold under a positive guarantee and worth the money. Write for prices.
L. A. BURHANS, OWNER

DUROCS Extra Sow pigs, March 1st and later, 125 lbs. down; big boned, big litters. 75 to select from. \$10 up. Satisfaction or money back. B. E. KIES, Hillsdale, Mich.

AM SELLING

a great offering of bred Duroc sows and gilts March 4th. They are mostly bred to Orion Giant Col., son of Ohio Grand Champion. Get on mailing list for catalog. W. C. TAYLOR, Milan, Mich.

Woodlawn Farm Duroc Hogs
A well kept herd, best of blood lines, with size and breeding qualities, stock of all ages for sale at reasonable prices. W. E. BARTLEY, Alma, Mich.

DUROC JERSEYS: A few choice bred gilts for sale. CAREY U. EDMONDS, Hastings, Mich.

Michigana Farm Durocs
Boars, open and bred sows and spring pigs. Satisfaction guaranteed. MICHIGANA FARM, Pavillion, Mich.

Pure-Bred Duroc Jersey Hogs; we usually have good boars and sows of all ages for sale. Reasonable prices. Larro Research Farm, Box A, North End, Detroit, Mich.

Duroc Jerseys heavy boned, low down type breeding stock for sale. CHAS. BRAY, Okemos, Mich.

Westvie Duroc Bred Sows all sold. Have two spring boars left at a reasonable price. Will book orders for April & May Pigs. ALBERT EBERSOLE, Plymouth, Mich.

Duroc Jersey Bred sows and gilts bred for Aug. and Sept. farrow. A few choice ready for service boars. Shipped on approval. Satisfaction guaranteed. F. J. DRODT, R. 1, Monroe, Mich.

Oakwood Farm offers choice gilts of Orion Cherry King and Walt's Top Col. breeding bred to Pathfinder Orion for Aug. and Sept. farrow. RUSH BROS., Romeo, Mich.

DUROC-JERSEYS Do you want a good Pathfinder boar pig? E. D. HEYDENBERK, Wayland, Mich.

Here we are with a nice bunch of Duroc Pigs the big boned kind \$10.00 each with pedigree. F. A. LAMB & SON, Cassopolis, Mich.

DUROC JERSEYS-- Gilts bred for August, Matt Matthyse, Outlerville, P. O. Byron Center, Mich.

BIG TYPE CHESTER WHITES

The prize winner kind from the best prize winner bloodlines. Early developers, ready for market at six months old. I have started more breeders on the road to success than any man living. I want to place one hog in each community to advertise my herd. Write for agency and my plan. G. S. BENJAMIN, R. F. D. 10, Portland, Mich.

Big Type Chester White March boars Sired by Model's Giant and Hill's Big Buster. Out of granddaughters of Alfalfa Wonder. LUCIAN HILL, Tekonsha, Mich.

O. I. C. and Chester White's. Strictly big type with quality. I have nothing to offer at present, as I have sold my largest herd and entire herd I was fitting for the large shows, to Earle Morrish, of Flint, Mich. I am confident Mr. Morrish, now has one of the very best herds in the State. ALBERT NEWMAN, R. 4, Marlette, Mich.

O. I. C. December Gilts From Big Type Wonder's Oct. by Silver Horde, extra good young boar direct from Silver's. Booking orders for spring pigs. CHAS. H. STEEL, R. 8, Eaton Rapids, Mich.

CHESTER WHITES Start right with a Boar Pig from MONSTER No. 10735. They are hard to beat. FRED L. BODIMER, Reese, Mich.

Chesters We are sold out of Boars. Bred sows of spring pigs, write WEBER BROS., Royal Oak, Mich., 10 ml. and Ridge Rds., Phone 408.

O. I. C. fall gilts ready to breed. Orders booked for O. I. C. spring pigs. Write or call and see our herd. We ship C. O. D. and Register free. GEO. M. WELTON & SON, Middleville, Mich.

O. I. C. Gilts to farrow in Aug. and CLOVERLEAF STOCK FARM, Monroe, Mich.

O. I. C. Bred gilts all sold. Orders booked for spring pigs. A. J. BARKER & SON, Belmont, Mich.

O. I. C. Bred sows all sold. Booking orders for spring pigs. H. W. MANN, Dansville, Mich.

O. I. C. pigs at very reasonable prices for June and July shipment. C. J. THOMPSON, Rockford, Mich.

O. I. C'S. last fall gilts due Aug. and Sept. Spring pigs not a kin, Big Type, 1-2 mile west of Depot. Citizen Phone. OTTO B. SCHULZE, Nashville, Mich.

L. T. P. C. Boars ready for service also gilts. They are right, so is the price. Nuf sed. M. M. PATRICK, Grand Ledge, Mich.

L. T. P. C. Fall Boars

at bargain prices. Fall gilts open or with breeding privilege. Write or see them. A. A. FELDKAMP, R. 2, Manchester, Mich.

Big Type Poland China Spring boars at \$15 each. Sired by Clansman Buster and Hovers Liberator. Also gilts bred for Sept. farrow at \$40 each. All stock shipped on approval. Come and see them or write DORUS ROYER, Akron, Mich.

For 30 years we have been breeding Big Type Poland China hogs on the same farm. We have sold over 100 head each year for the last 15 years for breeding purposes. There's a reason! The farmer has found our kind very profitable. We now offer 25 sows and gilts bred for summer farrow \$30-\$50. JNO. C. BUTLER, Portland, Mich.

L. T. P. C. Gilts bred for Spring litters all sold. Am offering very choice Summer Gilts bred for June and July litters also Fall Boars and Spring Pigs. Clyde Fisher, R. 3, St. Louis, Mich.

L. T. P. C. \$15, \$20 & \$25

Spring pigs with real breeding at the above prices. We are also offering a few choice fall gilts bred for summer farrow. Hart & Cline, Address F. T. HART, St. Louis, Mich.

Large Type P. C.

Largest herd of individuals in state. Everything sold. Nothing to offer until spring pigs are ready to ship. I thank you. W. E. LIVINGSTON, Parma, Mich.

Big Type Polands We have a fine bunch of spring pigs representing the best blood lines and all cholera immune. We raise them to sell. If in need of a real herd boar prospect, come over. Visitors are always welcome. WESLEY HILLE, Ionia, Mich.

Big Type P. C. some very choice boars double im-
Bmune, out 1100 lb. sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

Large Strain P. C. nothing more for sale at present, I thank you. H. O. SWARTZ, Schoolcraft, Mich.

BIG Type P. O. Boar Pigs. Sows and Fall Gilts bred for Sept. to Big Bob Mastodon and Peter A Pan, son of \$1075 Boar. C. E. Garnant, Eaton Rapids, Mich.

BIG TYPE Poland Chinas, leading strains at lowest prices. Both sex, all ages, and bred sows and gilts. G. A. BAUMGARDNER, R. 2, Middleville, Mich.

LEONARD'S B. T. P. C. Herd headed by Leonard's Liberator. Orders booked for boar pigs at weaning time. Call or write E. R. LEONARD, St. Louis, Mich.

P. C. Swine. Sows and pigs, sows bred for Aug. and Sept. farrow, spring and fall boars, best of breeding, satisfaction guaranteed. R. W. MILLS, Saline, Mich.

Book your order for spring boar pigs now Hampshire A few gilts, now ready for summer farrow. JOHN W. SYNDER, R. 4, St. Johns, Mich.

SHEEP

Shropshires

that will win at the State Fairs. I have them for sale. A big bunch of yearling rams as usual and priced reasonably.

KOPE-KON FARMS, S. L. Wing, Prop., Coldwater, Mich.



GRAIN QUOTATIONS

Monday, July 17.

Wheat.

Detroit.—Cash No. 2 red at \$1.16; No. 2 mixed and No. 2 white \$1.24. Chicago.—No. 2 red \$1.15½@1.18; No. 2 hard \$1.16½@1.20¼; September \$1.14½.

Toledo.—Cash \$1.15; July \$1.16½.

Corn.

Detroit.—Cash No. 2 71c; No. 3 yellow 69½c. Chicago.—No. 2 mixed 64¼@65¼c; No. 2 yellow 64¾@65¾c.

Oats.

Detroit.—Cash No. 2 white 41½c; No. 3, 39½c. Chicago.—No. 2 white 37½@38½c; No. 3 white 35@38½c.

Beans.

Detroit.—Immediate and prompt shipment \$8.80. New York.—Choice pea beans at \$10.50; common to fair do \$10@10.25; red kidneys \$9.25@9.35.

Chicago.—Michigan choice, hand-picked \$9.50@9.75; red kidney \$9.

Rye.

Detroit.—Cash No. 3, 85c. Chicago.—\$2½c. Toledo.—80c.

Seeds.

Detroit.—Prime red clover, cash at \$13; alsike \$11.50; timothy \$3.25. Toledo.—Prime red clover \$13; alsike \$10.50; timothy \$2.70.

Feeds.

Detroit.—Bran at \$25; standard middlings \$26; fine middlings \$30; cracked corn \$32; coarse cornmeal at \$29; chop \$24.50 per ton in 100-lb. sacks.

Hay.

Detroit.—No. 1 timothy at \$20@21; standard and light mixed \$19@20; No. 2 timothy \$18@19; No. 1 clover \$15@16; rye straw \$14@14.50; wheat and oat straw \$13.50@14 per ton in carlots.

Fruit.

Chicago.—Currants \$1.50@1.75 per 16-qt. case; sweet cherries \$1.50@2 per 16-qt. case; Tyson pears \$2@2.25 per bu; peaches per Climax basket 25@30c; blackberries \$2@2.50 per 16-qt. case; black raspberries \$2.50@2.75 per 16-qt. case; blueberries \$3.50 per 16-qt. case; red raspberries \$3@4 per 24-pt. case. The above quotations are all for Michigan fruit.

WHEAT

Spring wheat failed to come up to trade expectancy so that the government's forecast of a total wheat crop of 817,000,000 bushels was slightly below the unofficial estimates. It is 22,000,000 bushels more than last year and 18,000,000 bushels more than the average from 1916 to 1920. The market is still unsettled awaiting the outcome of the rail strike, foreign political and financial conditions, the black rust scare, the size of the export and milling demand, and also for the movement of new wheat to reach flood tide. If the estimates upon import needs are correct, importers will be compelled to buy around 425,000,000 bushels from North America in the next eight months which will take care of most of the surplus in the United States and Canada which now appears to be approximately 475,000,000 bushels.

CORN

The area planted to corn was estimated officially at 103,234,000 acres as compared with 103,805,000 acres last year, a decrease of 0.6 per cent. The yield was estimated at 2,860,000,000 bushels, a decrease of 220,000,000 from the final yield in 1922. With the heavy exports and rapid domestic disappearance in the last eight months and a reduction in the crop as large as shown by the government's forecast, the total supply for the next crop year would be about 400,000,000 less than for the present crop year, although still larger than the average. The crop is believed to have improved since the date of the government report. Export demand for cash corn has improved and the rail strike is keeping the domestic trade on the anxious seat.

OATS

The government's estimate upon the oats crop was 1,187,000,000 bushels, showing a loss of 118,000,000, or nine

per cent during June. Recent rains and cool weather have improved prospects to some extent but a crop below the average of 1,250,000,000 bushels looks probable. Receipts are holding up surprisingly in view of the light crop a year ago.

FEEDS

Feed markets are a little higher than last week. Demand has broadened as some of the larger users of bran are accumulating supplies for fall and winter use in the belief that prices will not go much lower. Widespread rains recently will tend to reduce purchases by dairymen. Flour mill operations are likely to increase decidedly in the next month or two and wheat feeds will be more abundant.

HAY

Old timothy is wanted and is selling at a premium of \$4 to \$6 over new hay. Low grades of all kinds are hard to sell. Demand is small for new clover and only fair for new alfalfa. The rail strike is restricting receipts.

POULTRY AND EGGS

The egg market is regaining its strength although prices have not advanced much. Receipts are larger than at this time a year ago but there is only a small surplus over consumptive needs to be placed in storage.

Chicago.—Eggs fresh firsts 21½@22½c; ordinary firsts 20½@21c. Live poultry, hens 23½c; broilers 26@30c; roosters 14c; ducks 21c; geese 12@21c; turkeys 25c.

Detroit.—Eggs, fresh candled and graded 23@24c. Live poultry, heavy springers 35@37c; light springers 25@

28c; heavy hens 26@27; light hens 22@23c; roosters 15c; geese 13c; ducks 22@23c; turkeys 30c.

BUTTER

Butter scoring 90 or below moved differently last week and prices were lower at the close while fancy butter was slightly higher. Export buying was expected but it failed to develop as British markets weakened. The receipts have been falling off but rains have revived pastures and an increase in production is expected or prevention of a further decline for the time being. The daily surplus for storage at the four leading markets remains rather heavy but the total storage surplus is not yet excessive. Prices for 92-score fresh butter were: Chicago 35½c; New York 37½c. In Detroit fresh creamery in tubs sells for 33½@34½c.

POTATOES

The potato crop was officially estimated as of July 1 at 429,000,000 bushels compared with 347,000,000 bushels last year and an average of 373,000,000 bushels during the preceding five years. If this year's promise is fulfilled it will be the third largest crop on record.

APPLES

The apple crop was estimated at a total of 190,000,000 bushels with a commercial crop of 31,400,000 barrels. The boxed apple states have a slightly smaller crop than last year, while the barreled apple states have a much larger crop. Shipments of new apples to July 10 were 1,366 cars compared with 128 cars to the same date last

BEANS

The department of agriculture estimates the bean crop at 139.6 per cent larger than last year. No other details are available but this suggests a crop of 12,730,000 bushels compared with 9,118,000 bushels last year and an average of 13,316,000 bushels during the five years 1916 to 1920. Extremely high prices in the last year have not resulted in an excessive crop.

WOOL

This is 'between seasons' in the wool market as the mills are waiting to see the volume of orders for spring goods at the openings to start this week. Prices are steady as most of the new clip is in manufacturers' and dealers' hands and the possibility of passage of the permanent tariff with lower rates on raw wool before next January now looks remote. Mills are inquiring for supplies but are proceeding with caution. Seaboard markets are receiving large shipments from the west at present.

CHEESE

Cheese distributing markets were weak in the last few days, as the supply has been too large for immediate consumption and speculative buying for storage was negligible. Widespread rains are expected to increase production again. New York state cheese has had the preference in the east. Stocks in storage are only moderate so that prices are not apt to sag much lower. Prices for No. 1 American cheese were:

Chicago.—Flats 20½c; twins 19½@20c; single daisies 20@20½c; double daisies 19½@20c; Longhorns at 20@20½c; square prints 20½@21c; Swiss round, No. 1, 35c; block 22@23c; limburger, 2 lbs. 17c; 1 lb. 18c; brick, fancy 18½c.

DETROIT CITY MARKET

The market was active with a plentiful supply. Cherries, huckleberries, raspberries, green peas and currants were the outstanding commodities in the demand. Eggs, cabbage, leaf lettuce, and butterbeans were draggy because of over-supply. The prices were as follows: Apples \$1.50@2; butterbeans \$1.25@1.50; currants, red, 24-qt. case \$4@4.50; cabbage 30@50c per bushel; sour cherries \$5.25 per 24-qt. case; eggs 28@40c; green corn 25@40c per dozen; huckleberries \$5.75 per 24-qt. case; green peas \$3@3.50 per bushel; radishes, white \$1.50@2; spinach \$1.50@1.75 per bushel.

GRAND RAPIDS

Raspberry production in the Grand Rapids territory began to wane this week and prices were slightly stiffer, particularly on reds. Fruit quotations early this week were: Red raspberries \$4.50@4.75 per case; black \$2.50@3 case; cherries, sour \$1.50@2 per case; sweets \$2@3 case; Everbearing strawberries \$4 case; peaches \$2@4 a bushel; currants \$2.50@3 per case; gooseberries \$1.50@1.75 case; dewberries \$2.50 case; blackberries \$2.50@3 case; huckleberries \$2.50@3 per case; plums \$2 case; green apples 30c@1 per bu; hand-picked ripe \$1@1.50 bu; sugar pears \$1@2 bu. Live stock was steady with prices slightly stiffer on medium weight hogs. Rainy weather has delayed threshing and the markets have held fairly steady with moderate receipts. The supply of Michigan new potatoes is so large that commission houses have ceased shipping in southern tubers. The market was fairly steady at \$1.50@1.75 per bushel for No. 1's. Hothouse tomatoes were in fair demand at 90c per seven-pound basket, with outdoor selling 20c less, due to cracks and inferior quality. Cabbage was weak at 50@65c bushel. Celery was easier at 20@50c a bunch. Dry onions began moving this week at \$2 a bushel. Sweet corn was in good demand at 20@35c per dozen ears.

YIELDS OF LESSER GRAINS.

The rye crop estimate was 82,000,000 bushels compared with 58,000,000 bushels last year and an average of 68,000,000 bushels in the five years 1916 to 1920. Barley was estimated at 182,000,000 bushels, compared with a six-year average of 189,000,000 bushels.

Live Stock Market Service

Monday, July 17.

DETROIT

Cattle.

Receipts 1,368. Good fat cattle are steady; bulls 25c higher; all others 25@50c lower.

Best heavy str., dry-fed..	\$ 8.50@ 9.00
Handy weight bu., dry fed	8.00@ 8.50
Mixed str., hfrs., dry-fed	6.50@ 7.25
Handy light bu., dry-fed..	5.50@ 6.25
Light butchers	4.00@ 5.00
Best cows	4.50@ 5.75
Butcher cows	3.50@ 4.00
Common cows	3.25@ 3.50
Canners	2.50@ 3.00
Choice light bulls, dry-fed	5.00@ 5.50
Bologna bulls	4.50@ 5.00
Stock bulls	3.25@ 3.75
Feeders	5.75@ 6.25
Stockers	5.25@ 6.25
Milkers and springers....	\$ 35@ 75

Veal Calves.

Receipts 987. Market 1.50@2.50 lower than last week's close.

Best	\$10.50@11.00
Culls and common	6.00@ 9.00

Hogs.

Receipts 1,077. Market active.

Mixed hogs	\$11.15@11.25
Roughs	8.00
Extreme heavies	9.50@10.00
Stags	5.50@ 5.75
Pigs	11.25

Sheep and Lambs.

Receipts 503. Market steady on good grades; common thin lambs \$1 lower; common sheep slow.

Best spring lambs	\$13.25@13.75
Fair spring lambs	11.00@12.50
Light to common	7.00@ 9.00
Fair to good sheep	5.00@ 6.50
Culls and common	1.00@ 2.00
Yearlings	5.50@10.00

CHICAGO

Hogs.

Estimated receipts today are 47,000; holdover 7,224. Better grades 10@15c higher; others slow. Bulk of sales at \$8.70@10.80; tops \$10.80; heavy 250 lbs up \$10.10@10.50; medium 200 to 250 lbs \$10.40@10.80; light 150 to 200 lbs \$10.70@10.90; light lights 130 to 150 lbs \$10.25@10.80; heavy packing sows 250 lbs up \$8.35@9.25; packing sows 200 lbs up \$7.85@8.40; pigs 130 lbs down \$9.50@10.50.

Cattle.

Estimated receipts today are 21,000. Best grades steady to strong; others weak to lower. Beef steers medium and heavyweight 1100 lbs up at \$10@10.75; do medium and good \$8.40@10; do common \$7.25@8.40; light weight 1100 lbs down \$9.15@10.35; do common and medium \$7.15@9.15; butcher cattle heifers \$5.35@9; cows \$3.90@8; bulls bologna and beef at \$4.65@6.85; canners and cutters cows and heifers \$2.60@3.90; do canner steers \$3.50@5.25; veal calves light and handy-weight \$8.50@9.75; feeder steers \$5.65@7.75; stocker steers at \$4.75@7.65; stocker cows and heifers \$3.50@5.75.

Sheep and Lambs.

Estimated receipts today are 22,000. Sheep steady; lambs 25c lower. Lambs 84 lbs down \$12.50@13.75; do culls and common \$7.50@12.25; spring lambs \$9@11.25; ewes \$5.50@8.15; ewes cull and common \$2@5; breeding ewes full mouths to yearlings \$6.50@11.50; yearling wethers \$12@13.25.

BUFFALO

Cattle.

Receipts 125 cars. Dry-fed steady; others 15c lower. Choice to prime shipping steers 1400 lbs and up \$10@10.50; good to choice shipping steers \$9.50@10; light native yearlings good quality \$9.50@10; best handy steers \$8.75@9.25; handy steers and heifers \$8.50@9; western heifers at \$7.25@8; light Michigan butchering heifers \$6.50@7.50; best fat cows \$7.50@8.25; canners \$1.50@2.50; best heavy bulls at \$4.50@5.25; heavy bologna bulls \$4@4.75; common bulls \$3.50@4; best feeders \$6@7; medium feeders \$5.50@6; stockers good \$5.50@6; light common \$4@4.50; best milkers and springers \$6@7.50; mediums \$35@50. Calves receipts 17; market strong, with tops at \$11.50.

Hogs.

Receipts 40 cars. Market strong; heavy \$10.75@11; medium and mixed \$11.25@11.50; yorkers and pigs \$11.75@11.90.

Sheep and Lambs.

Receipts two cars. Market is steady. Top-lambs \$14@14.25; yearlings \$9@10.50; wethers \$7.50@8.

Crops Exceed U. S. Average

Michigan Farmers Have Promise of Big Yields

THE condition of every crop except spring wheat is above the ten-year average in Michigan, according to the government's July report issued by John A. Doelle, Commissioner of Agriculture, and Verne H. Church, Statistician, United States Bureau of Agricultural Economics.

Corn.—There was a slight increase in the acreage of corn planted this year, the estimate being 1,737,000 acres as compared with 1,703,000 last year. The stands are generally good except in some northern counties where cut-worms have necessitated more or less replanting. A normal growth has been made in most sections although many fields are uneven. The condition is reported as ninety per cent, three per cent lower than last year, but seven per cent above the ten-year average.

Wheat.—Cutting commenced in southern counties during the closing days of June. The condition figure of eighty-five per cent is one lower than that of last month, but represents a production of 16,154,000 bushels. Red rust is prevalent in many districts. While the condition of spring wheat is good in the Upper Peninsula, the state average is only eighty-four per cent, or two per cent below the ten-year average.

Beans.—There has been a phenomenal increase in the acreage of beans planted. The preliminary estimate of 429,000 acres as compared with 263,000 last year, an increase of sixty-three per cent. The present outlook is for a crop of 4,773,000 bushels, the final output being greater or less as affected by future conditions.

Potatoes.—The acreage shows a considerable increase in southern counties and portions of the Upper Peninsula, a small increase in the central and some of the northwestern counties and a decrease in portions of the Grand Traverse and Oceana districts. The estimate of 364,000 acres is an increase of seven per cent over last year. As planting is only just completed, the condition is not relatively important at this date. It is ninety-two per cent, or nine per cent better than one year ago, and represents a production under favorable future conditions of 35,162,000 bushels.

Oats.—The crop has improved considerably during June in some sections and deteriorated in others. The condition is eighty-seven per cent and the prospective crop, 52,897,000 bushels.

Rye.—The outlook for the crop is ninety per cent of normal, the same as last month and one point above the ten-year average. The forecasted production is 9,649,000 bushels. Harvesting is under way in the southern and central counties.

Hay.—The good crop of hay, estimated at ninety-three per cent of normal which is thirteen per cent better than the ten-year average, promised a production of 4,399,000 tons. This is the second largest crop ever produced in the state.

Truck Crops.—Tomatoes, watermelons and cantaloupes are each reported as ninety per cent of normal. Onions are rated at ninety per cent and cabbage at ninety-three per cent.

Sugar Beets.—The outlook is eighty-eight per cent, one point better than one month ago. Condition for growth, cultivation and weeding have been good. The acreage is somewhat less than during the years of high-priced sugar.

Fruits.—There has been a considerable June drop in apples but many orchards have an ample crop remaining. Early apples are plentiful, and the only varieties that are light over extended areas are Baldwins and Spies.

Scab and fire blight are quite prevalent in some sections. The present condition figure of seventy-five per cent presages a crop of 10,756,000 bushels.

Peaches have a condition of seventy-eight per cent, representing a production of 1,248,000 bushels; pears, eighty per cent representing a crop of 615,000 bushels; grapes, ninety-two per cent, representing a crop of 111,892,000 pounds. The outlook for plums is seventy-six per cent of a crop, and of blackberries and raspberries, ninety per cent.

Cherries have been seriously injured by shot-hole fungus, and what had developed into nearly a full crop was reduced to an estimated production of eighty per cent.

WOOL POOL CLOSES AUGUST 15.

MR. WILLIAMS, manager of the 1922 wool pool for the State Farm Bureau, announces that the 1922 pool will close on August 15. No wool will be accepted after that date. The pool has been open since the first of April. The wool department will proceed to prepare the fleeces for marketing at once and with the trade in its present strong position it is expected that the offerings will be disposed of readily. Mr. Williams, who is handling the department for the first time this year, is now planning on having the books closed and the final checks mailed back to the farmers in a comparatively short time after the last sales are made.

FEEDERS FAVOR LOW GRADES.

In an effort to avoid high cost feeders are buying mostly common and medium grades of thin steers. This may be safe policy if they are not to be resold until next spring but they must compete with an abundance of low grades from all grazing sections if disposed of this fall. The movement from the leading markets is holding up exceptionally well and will increase as soon as a larger supply is available, and farm work is a little less pressing. The shipment of stock calves from the southwest is expected to start about August 1.

TO KEEP OUT FOREIGN PESTS.

IN its report made to Secretary Wallace, the special committee appointed by him to follow the proceedings of the plant quarantine conference held in Washington recently, enumerated the losses now suffered by American agriculture from pests accidentally imported before the quarantine act went into effect, and the need for safeguarding the United States against the entry of foreign plant pests, was emphasized. The belief was expressed that the measure of the Federal Horticultural Board is wisely directed to this end.

THE CONDENSED MILK MARKET.

THE condensed milk market has shown no inclination to improve of late and, in fact, seems to be duller than for some time, if anything. Manufacturers for some time past have been pinning their hopes on a resumption of demand from European relief organizations but there has been no inquiry from such sources for some time and it is highly improbable that little, if any, more condensed milk will be exported because of that demand. From the middle west, however, come reports that the German Central Relief has placed an order that will re-

quire 5,000 cases per week. Competition from Holland, Denmark and Finland has to be met in placing export orders which is resulting in the narrowing down of export business to the supplying regular channels with advertised brands. There is absolutely no call for miscellaneous brands from abroad.

Domestic demand is limited at the present time as home consumption seems to have fallen off greatly of late. What demand there is for well-advertised brands. Bulk goods, especially sweetened skimmed, are firmer in view of the demand from the ice cream trade. For the same reason, there has been a fairly free movement of powdered skim-milk.

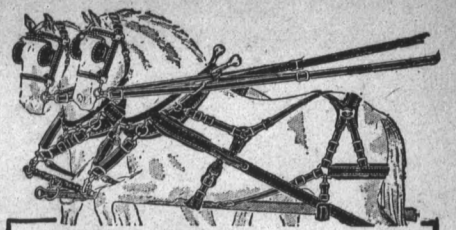
FEEDER LAMBS LOOK HIGH-PRICED.

RECEIPTS of range lambs are not quite up to the usual number at this season, probably reflecting the thirty per cent shortage in the crop. Kentucky and Virginia sent a big consignment to eastern points early in the week and wiped out part of the recent advance but the dressed trade is healthy, the eastern trade is again being forced to resort to middlewestern markets for supplies, and total receipts are not burdensome.

Purchases of feeder lambs are expanding and the range supply has not been sufficient thus far to fill the orders. Prices being paid are high for this time of the year and look rather risky.

BIG FEEDER DEMAND EXPECTED.

THE prospect of a generous crop of corn, hay and rough feed with profitable results for cattle feeders in the last five months and advancing prices on fat steers promise to maintain a broad outlet for thin cattle during the fall. July curtailed buying as usual, the movement from twelve leading markets in the first week in the month declining fifty per cent compared with the last week in June. As more range steers become available and the busy season passes, buying will expand but it probably will not lift values much, if any, and the plain-light weights are apt to work gradually lower during the late summer and fall.



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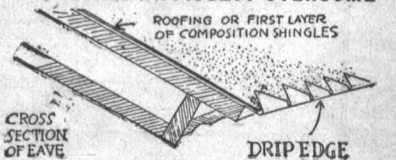
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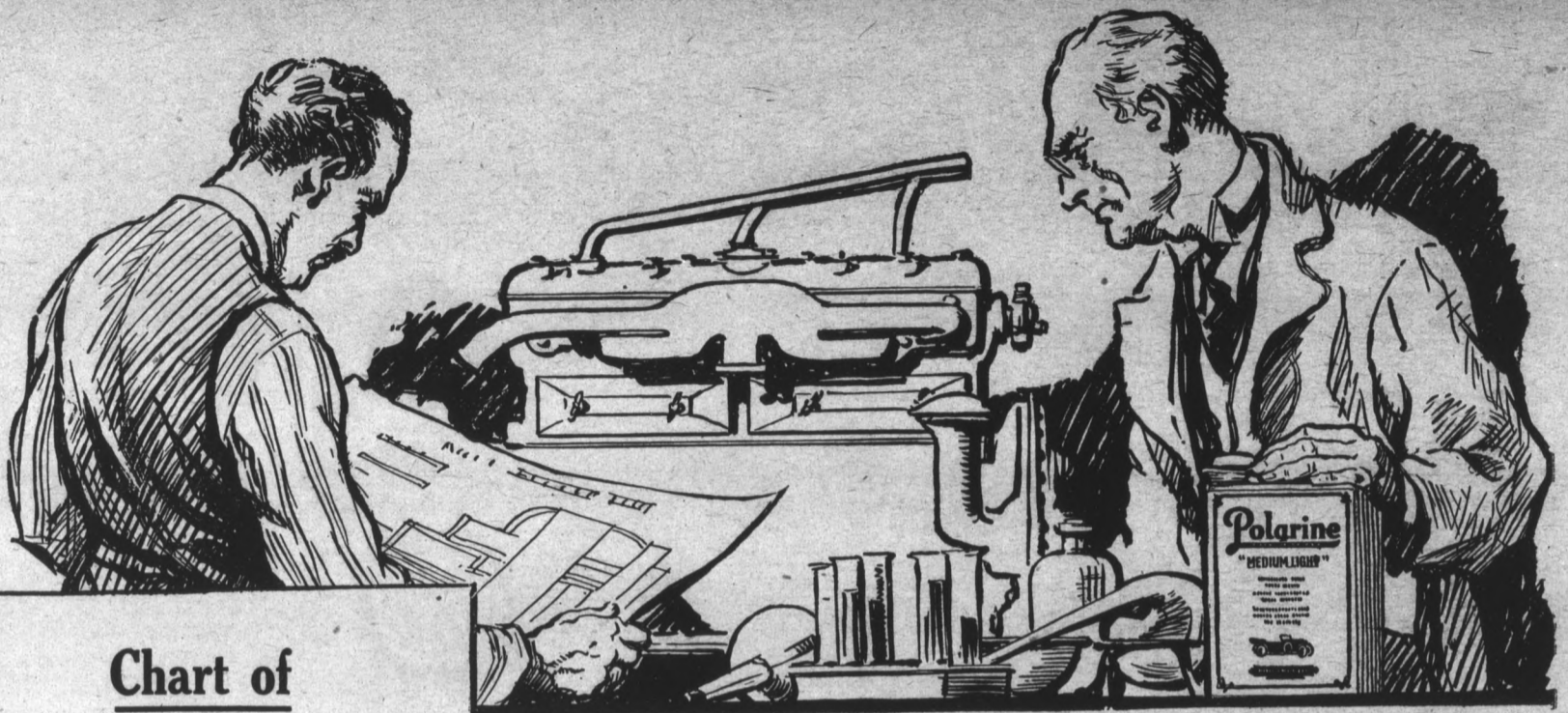


Chart of Recommendations

Name of Car	Motor Oil	Name of Car	Motor Oil
Ace	M. H.	Locomotive	M. L.
Allen	M. H.	Lozier	M. H.
Ambassador	H.	Maibohm	M. H.
American Six	M. H.	Marion Handley—	
Anderson	M. L.	(Cont. Motor)	M. H.
Apperson Road'pl	H.	(Knight Motor)	H.
Auburn	M. L.	Marmon 34	H.
Austin H. King	M. H.	Martin Wasp	H.
Bay State	M. L.	Maxwell	M. L.
Beggs	M. L.	Merced	H.
Biddle	M. L.	McFarlan Six	M. H.
Birch	M. H.	Mitchell	M. H.
Bradley	M. L.	Moline Knight	H.
Brewster	M. L.	Monitor	M. L.
Briscoe	M. H.	Monroe	H.
Brook	M. H.	Moon	M. L.
Buick	M. H.	Moore	M. L.
Bush	M. H.	Nash	M. H.
Cadillac	M. H.	National	M. H.
Case	M. L.	Nelson	M. H.
Chalmers	M. H.	Nelson & Le Moon	M. H.
Chandler	M. H.	Northway	M. H.
Chevrollet	M. L.	Oakland	M. H.
Classic	M. H.	Oldsmobile 6	M. H.
Cleveland	M. H.	Oldsmobile 8	M. H.
Cole 8	M. H.	Olympian	M. H.
Colonial	M. H.	Overland	M. L.
Columbia	M. H.	Owen Magnetic	M. H.
Comet	M. L.	Packard	M. H.
Commonwealth	M. L.	Paige	M. H.
Crawford	M. L.	Pan-American	M. H.
Crow-Elkhart	M. H.	Parenti	M. H.
Cunningham	M. H.	Patterson	M. H.
Daniels	M. H.	Peerless	M. H.
Davis	M. L.	Piedmont	M. L.
Dispatch	M. L.	Pierce-Arrow	M. H.
Dixie Flyer	M. H.	Pilot	M. H.
Dodge	M. H.	Premier	H.
Dorris	M. H.	Preston	M. H.
Dort	M. L.	Regal	M. L.
Durant	M. H.	Reo	M. H.
Dusenberg	H.	Revere	H.
Earl	M. H.	Richlieu	H.
Economy	M. L.	Rickenbacker	M. H.
Eicar	M. L.	Roamer—	
Elgin	M. H.	(Cont. Motor)	M. H.
Essex	M. H.	(Dusenberg Motor)	H.
Ferris	M. L.	Rolls Royce	M. H.
F. I. A. T.	H.	R. & V. Knight	H.
Ford	M. L.	Saxon	M. H.
Fox	H.	Sayers	M. L.
Franklin	M. H.	Scripps Booth	M. H.
Gardner	M. L.	Sheridan	M. H.
Glide	M. H.	Simplex	H.
Grant	M. H.	Singer	H.
Gray	M. H.	Spacke	E. H.
Hackett	M. H.	Sperling	M. H.
Hal Twelve	M. H.	Standard	M. H.
Halladay	M. H.	Stanwood	M. L.
Handley-Knight	H.	Stearns Knight	H.
Hanson	M. H.	Stephens Six	M. H.
Harroun	M. H.	Stevens	M. H.
Hatfield	M. H.	Stevens Duryea	M. H.
Haynes	M. H.	Sterling Knight	H.
Haynes 75	H.	Studebaker	M. L.
H. C. S.	M. H.	Stutz	H.
Holmes	H.	Sun	H.
Hudson	M. H.	Templar	H.
Huffman	M. L.	Velie	M. H.
Hupmobile	M. H.	Westcott	M. L.
Jackson	M. H.	White	M. H.
Jacquet	H.	Wills St. Claire	H.
Jordan	M. L.	Willys-Knight	H.
Kelsey	M. L.	Winther	M. H.
King	H.	Winton Six	M. H.
Kissel Kar	M. H.		
Kline Kar	M. L.		
Lafayette	M. H.		
Leach	M. L.		
Lexington	M. H.		
Lincoln	M. H.		
Liberty	M. L.		

N. B. For recommendation of grades to use in tractors, consult chart in any Standard Oil Co. (Indiana) station

Blue Prints Plus Chemical Formulae

IN the chart to the left the correct grade of Polarine for your car is indicated. This recommendation has been made because the oil has stood practical tests in the engine itself as well as the rigid, scientific tests in the finest petroleum chemical laboratory in the world. In working out the specifications for manufacturing Polarine, petroleum chemists and automotive engineers have co-operated. Blue prints and chemical formulae have worked side by side.

When you fail to avail yourself of this scientific lubrication, you are experimenting at the expense of your car. You are risking "scored" cylinders, "burned" bearings in the crank shaft or elsewhere, and other costly disasters.

Your engine is adjusted throughout with infinite care. It calls for a certain grade of lubricating oil. Which oil this is to be depends upon piston clearance, method of cooling, lubricating system, and other mechanical factors used by the designer of the car. The carefully trained lubricating engineers of the Standard Oil Company (Indiana) recommend

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Consult the Chart on the left.

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