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FARM NOTES.

Dodder.

I am sending a specimen which I think is dodder, of which I find several spots in alfalfa and new seeding of June clover. I intend to mow the June clover for hay next year. Would it be advisable to plow the new seeding next spring in order to get rid of this plant? Is dodder an annual? Will it go to seed in new seeding the first year? Are the enclosed seeds ripe enough to grow? What is your advice for exterminating this plant? Any advice or suggestions will be greatly appreciated.

Saginaw Co.

C. F.

The specimen mentioned in the above inquiry, from which the accompanying illustration was made, is rather an extreme example of the manner in which this parasitic plant entwines about and kills its host, the growth being so dense that it is impossible to see the clover stem about which it has formed. Under no circumstances should the hay from a patch infested with dodder in either a clover or alfalfa field be raked up and drawn to the barn, as in this manner the seed will become more widely distributed. The plant is one which seeds liberally, and while the specimen illustrated had no seeds that were entirely matured, yet it did contain seeds that doubtless would mature sufficiently so that they would grow another spring.

The best way to exterminate the plant is to cut it down wherever it appears in patches and let it dry and then apply an armful of straw and burn where it lies, which will usually result in its complete extermination and there will be little loss or damage to the seeding. If the field is very badly infested it might be best to plow it up and grow a hoed crop before reseeding. Dodder, in both clover and alfalfa, is becoming increasingly common in Michigan and great care should be exercised in purchasing either clover or alfalfa seed not to get the seeds of this pest. It is thought by the best authorities that a single species only lives on one kind of plant, but whether it is found either in clover or alfalfa it should be exterminated as quickly as possible.

The Best Time and Way to Sow Alfalfa.

I have eight acres of good clay loam, rather black land, that I have had to corn for two years after plowing up a good timothy and clover sod, and have kept the corn extra clean both years and got a very good crop. I would like to seed this land to alfalfa. Had thought some of disking the stubble and sowing about one bushel of barley to the acre with the alfalfa, or do you think it would be better to plow the land, and what time would you advise sowing, and would you advise putting grass seed in the drill at the same time with barley? Also, how much alfalfa should I sow to the acre?

Lenawee Co.

F. F. A.

The method of seeding alfalfa contemplated by the inquirer is one which has the approval of the best authorities on the subject, and which the writer's experience would also bear out. Repeated attempts to grow alfalfa on the writer's farm met with poor success until lime was applied as a preparation for the crop. On a portion of a field which had been seeded to alfalfa with poor results, lime was applied last year before planting potatoes. The field was sown to oats this season, the oats being seeded rather lightly with a view of getting a good stand of clover in the field. In addition to the clover, which was sown on the entire field, about seven pounds of alfalfa seed per acre were sown on that portion of the field to which the lime had been applied. Rape seed was also sown in the oats with a view of pasturing lightly with sheep in midsummer, when other pastures were unproductive. Owing to the extremely dry season the oats were very poor and the clover was entirely burned up. The alfalfa, which made a better growth from the start than the clover, survived the dry weather and the conse-

quent pasturing of a flock of sheep which was turned in on the rape after harvest, owing to the fact that the clover seeding was a failure.

However, the alfalfa still lived, contrary to expectations, and as soon as the first rain came, which was during the second week in September, the sheep were taken from the field and the alfalfa commenced to grow at once. Now there is a fairly even stand on this portion of the field and it is making a vigorous fall growth. While it is not as thick as it would have been had it been sown

June, using 15 pounds of seed per acre. This is a good stand, but notwithstanding the previous cultivation which had been given the field, the weeds have encroached somewhat upon it. The weeds were clipped back once and the alfalfa is making a vigorous growth at this time. The exceedingly dry weather seems to affect this seeding almost as much as that sown in the oats, which was, of course, sown earlier and got a better start, although it is thicker on the ground and somewhat larger at the present time.

The ideal way would be to seed with

would indicate that it will stand more dry weather and hardships than the clover plant will when the other conditions are favorable.

However, on many soils as in the cases above cited, it will not thrive without a previous application of lime, and we shall not attempt to seed any more alfalfa without first applying lime. Many soils, however, do not appear to need lime and on some soils inoculation does not seem to be necessary, but in a majority of cases we believe it is a wise precaution. Many Michigan experiences seem to indicate that alfalfa may be sown successfully at almost any time in the summer under proper conditions. All things considered, however, the writer believes early seeding to be the safest plan.

As to the amount of seed required per acre, from 15 to 20 pounds is advocated by the best authorities, although some good stands have been secured with half this amount, depending somewhat upon the manner of sowing and perhaps more upon the season. If disked thoroughly to prepare a good seed bed, there would appear to be no advantage in plowing this field in the spring for alfalfa. This would be particularly true if the seed were to be sown without a nurse crop since the weeds would be less troublesome than if the field were plowed. The best way to seed would be to let the alfalfa seed drop on the ground ahead of the drill hoes rather than to mix it with barley, as it would then be scattered much more evenly and be covered to a more favorable depth to secure good germination and growth under spring weather conditions.

Sunflowers for Silage.

What food value has the common sunflower, both stalk and flower when mixed in the corn in the silo? Some farmers hereabouts have tried planting sunflowers in the ensilage corn and claim it takes the place of oil meal.

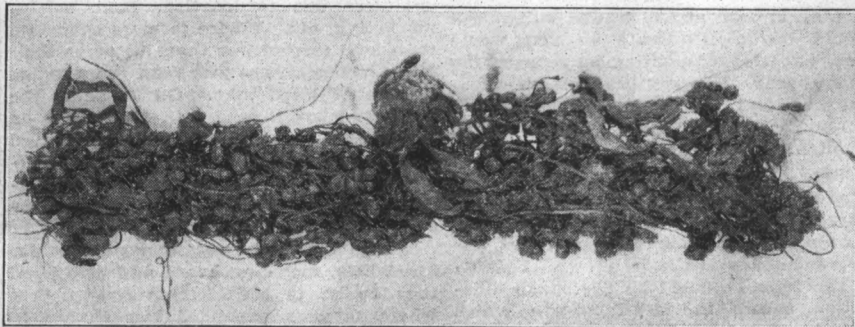
Lenawee Co.

B. H.

Experiments have been conducted in different parts of the country to determine the value of sunflowers as a crop for ensilage. The results obtained in both Maine and Vermont indicate that in those sections the sunflower has no advantage over corn for this purpose. The yield of green matter was from 11,000 to 12,000 pounds per acre, containing from 2,000 to 2,700 pounds of dry matter. In these experiments the entire plant was cut up and put into the silo. At the Canadian stations where this experiment has been tried the butter made, when a silage mixture containing sunflower heads was fed, was of a richer and higher color than when corn silage alone was fed.

In some sections of the country an ensilage mixture known as the Robertson mixture has been tried. This mixture is made by growing together a crop of corn and horse beans, two acres of this mixture being put in the silo with one-half acre of sunflower heads, cutting them both together. It is claimed by some authorities that with 50 pounds of this mixture four pounds less grain is required and is ordinarily given where corn silage alone is fed.

While we have no data at hand which shows either the food value or the digestibility of the sunflower stalk, it is probable that it would not be high, since it doubtless contains relatively more fibre than cornstalks, hence the feeding value would be mostly in the head containing matured seeds. Now, the sunflower seeds like cotton or flaxseed contain a great deal of oil, having 29 per cent of fat as shown by chemical analysis. Hence, with this large content of fat it cannot be considered to contain a surplus of protein which would balance up the nutrients in the ensilage as would oil meal or cottonseed meal fed with it, since cottonseed meal and oil meal have had the

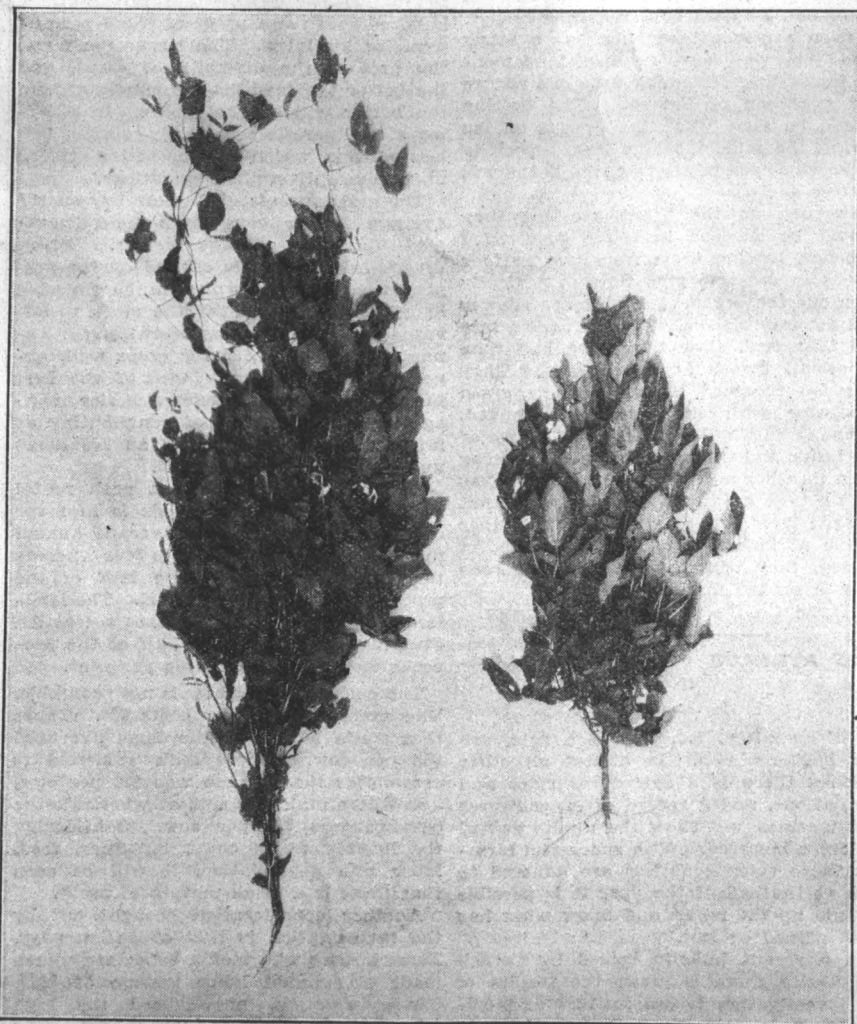


An Example of the Manner in which Dodder Infests and Kills Clover and Alfalfa.

alone, it appears to be thick enough to make a very good stand in case it survives the winter, as it should do under favorable conditions. This soil had been inoculated when alfalfa was sown two years before and the presence of the bacteria in the soil is indicated by the good color of the alfalfa plants, as well as by the presence of the nodules on their roots.

Another field of alfalfa which had received similar preparation was seeded in

beardless barley and cut, this crop for hay, seeding early in the spring. This is the plan favored by Joseph E. Wing, of Ohio, who has probably had as wide an experience with the plant as any farmer in the north central states. There have been many good stands, however, secured in barley and oats which were cut for grain, and on reasonably fertile land, in a normal season, there is no doubt that alfalfa can be successfully seeded in this way. In fact, our experience this year



Two Varieties of Soy Beans Grown by A. D. Pitcher, Wayne Co. (See page 306).

fat extracted from the original cottonseed and flax seed and they are in reality by-products which are especially high in protein. If the sunflower seed had the oil extracted the residue would be comparable to oil meal or cottonseed meal as we know it commercially. The whole seed has a nutritive ratio of practically one to eight, being only a little narrower than the nutritive ratio of corn. Hence, owing to the fact that a larger tonnage of corn can be grown per acre and certainly with less trouble, it is very questionable whether the addition of sunflowers to corn silage could be made with profit to the grower, and the experiences of the experiment stations above referred to seem to bear out this conclusion.

Bindweed—Weeds in Pasture.

Will you please tell me through the Michigan Farmer the name of the enclosed vine and how to eradicate it? I am also enclosing a kind of grass found in large quantities in an old pasture field. Does it indicate any certain condition of the soil where found?

Lapeer Co.

B. F. C.

The specimen of vine enclosed is commonly known as bindweed. This is a perennial plant with extensive root stocks which penetrate far into the soil and develop buds from which new plants come up. On this account it is a very difficult weed to eradicate and careless cultivation or half-way efforts to eradicate it only aggravates the difficulty by carrying the pieces of roots from place to place where they will readily take root and grow. The application of salt is recommended by some practical farmers, but thorough cultivation is the only sure method of ridding the land of the pest. A short rotation of crops should be practiced, using the later planted hoed crops as a matter of preference, which will give an opportunity to keep the weed in check before the crop is planted by repeated cultivation of the field, using thistle sweeps so as to keep the plant cut off below the ground.

In some cases it may be necessary to summer fallow the ground, where the pest is very troublesome, then sow buckwheat, plowing this under in the fall when in boom and continue the surface cultivation, following the next year with a hoed crop if necessary, to thoroughly exterminate the weed.

The sample of grasses taken from the pasture field appear to be annuals of two different species. Their presence would indicate, at least, that the pasture is in need of fertilization, or if not in permanent pasture, breaking up and devoting to a crop for a season and then re-seeding. Old pastures, where grazed closely, become unproductive after a few years, and are greatly improved by a top-dressing of stable manure which will encourage the valuable forage grasses at the expense of the weed grasses. It will be found profitable to make an application of stable manure on permanent pastures occasionally, and even a liberal application of commercial fertilizer will be helpful, although the stable manure is valuable as a mulch to the ground as well as because of the plant food which it contains.

Many weed grasses and plants grow more luxuriantly on an acid soil, but as these plants had not made a large growth their presence is most likely due to the infertile condition of the pasture field as above noted.

Hay From Fall Sown Timothy.

I seeded 28 acres of oats with four qts. of alsike clover seed per acre and only got about half a stand of clover. As I did not want to plow these fields again I bought enough timothy seed to sow four quarts per acre the first two days in September, following the seeder with a harrow and then clipped the stubble, weeds and clover and left it to the weather to do the rest. Now the timothy is from half an inch to two inches high and it also helped the clover to clip it. In your opinion, what is the chance for this timothy to stand the winter and make a meadow next year. The land is a heavy clay loam not very well tiled.

Lenawee Co.

F. F. A.

If this soil is in a fertile condition there is a very good chance indeed for the timothy to survive the winter and make a fair crop of hay next year. Where timothy is sown at the time wheat is seeded in the fall it practically always lives through and makes a good stand, and even where the wheat is winter-killed the timothy will live and the bare spots will under favorable conditions, make so large a growth during the following summer that it is easily gathered with a binder. The writer once sowed timothy in a thin clover seedling late in September and the fall was not sufficiently favorable for its growth so that it hardly got large enough to see before winter. It was sown with a drill and one could just see the drill rows. However, this came up and made a fairly good crop of hay the next year with the clover which was mixed in with it. Timothy will make a much better

growth where there is even a partial stand of clover, due to the presence in the soil of more available nitrogen which is stored up by the bacteria in the nodules of the clover roots, from which the timothy as well as the clover apparently gains a benefit.

SOY BEAN CULTURE.

I planted a small field of soy beans this season and was more than pleased with them, in fact, I regard them as the most valuable forage plant which can be grown on our farms. In habit of growth they are far superior to cowpeas, the latter being much more difficult to harvest. As a nitrogen gatherer, the soy bean has no superior and, when a crop to plow under is desired, it adds humus to the soil equal to clover.

In preparing for the crop, the ground should be plowed early in the spring and prepared as for corn. In this climate soy beans should be planted from May 15 to 20, as they require about the same length of season to mature as corn. They should be planted in drills about 30 inches apart with a plant about every three inches in the drill. They must be planted so they can be cultivated; also, they must be inoculated with the proper bacteria, either with soil from a field which has previously grown soy beans, or with pure cultures secured from the United States Department of Agriculture or from the State Experiment Station.

Like other beans, they come up quickly under favorable conditions, and as soon as they appear above ground cultivation should begin. Cultivate as you would corn, but stop cultivating as soon as the buds appear. The soy bean makes excellent hay and the grain is very rich in protein, both hay and grain being relished by all kinds of animals.

There are seven varieties of soy beans handled by American seedsmen, but of course, a variety should be selected which is suitable to the climatic conditions under which they are to be grown. I planted the Mikado, and the first page illustration shows the good growth which these beans made. There are three stalks in the clump shown at left of the cut, which stood five feet nine inches high and, as will be noted, would make a heavy tonnage of hay or large amount of vegetable matter to plow under. At the right of the cut a single plant is shown which bore 373 pods with three beans in a pod, besides 50 small ones, which illustrates the seed-bearing capacity of the plant. When the beans begin to ripen nearly all the leaves will fall. Where they are to be harvested for seed, cutting should begin when the first pods begin to snap, it will be found that the grain will mature all right after being cut. A bean puller can be used or a self-rake reaper, or even a mowing machine does a fairly good job, the most suitable implement for harvesting depending upon the nature and condition of the soil. The cutting should be done when the dew is on, as during the middle of the day, especially if the vines are pretty ripe, the beans will shatter some.

As soon as the beans are cut they should be shocked in fairly good sized bunches, leaving them from two to four weeks in order to give time to perfectly cure out the beans. An ordinary shower will not injure them. Then put them into the barn and, after they have had time to sweat, thresh at convenience. They may be threshed in an ordinary grain separator with the concaves removed, although this will split a great many of the beans and if desired for seed a regular bean thresher must be used. Any farmer that makes a test of soy beans will not discard them. They will grow on either fertile or impoverished soil, although, of course, they will make a more vigorous growth on the former.

Wayne Co.

A. D. PITCHER.

THE AVERAGE PROFITS OF FARMING.

Unfortunately, farmers, as a rule, are not business men. In almost all other callings there is a system of rules and regulations, and a record of expenditures and incomes will show the profits gained or losses incurred. With successful farmers these rules doubtless are adhered to and at the end of the year it is possible to sum up the result and know what has been gained or lost.

In a recent bulletin issued by Cornell University there is given the results of an investigation began in 1906 and culminating in 1908, in four townships in Tompkins county, New York. Records were obtained from most of the farmers

of the townships canvassed and these records are believed to furnish a fair analysis of the average farm profits in the state. These averages embrace both the income from capital invested and from labor performed, and are thought to be as accurate as it is possible to obtain.

It is assumed that the capital invested should return five per cent, but there is no such basis from which to estimate the wage of labor.

The average labor income over and above all expenditures where farmers operated their own farms, is given as \$423. Tenant farmers averaged \$379. In a few instances the farmers who operated their farms made as high as \$2,000, while in some cases there was a loss of both interest and labor.

It is a popular assumption that where farms average small and where intensive methods are followed, the average profits will be proportionately higher than under more extensive methods. It is shown that this is a mistake, that on the larger farms where more labor-saving machinery is employed the ratio of profits from labor are about six times as great as on the small farms. It is also shown that the same per cent of value of machinery on the large farms will almost double the labor of the small farms. By comparison of farms of from 30 to 60 acres with farms of 200 to 300 acres the average per acre of the small farms does not show an excess over the large farms.

It is also shown that high priced land pays better than low priced. This is doubtless due to location, facilities for marketing, etc. Where farmers operating their land farmed less than 100 acres their labor incomes were less than the average income of hired men. On 30 acres the average labor income was \$168 while on farms of 200 acres the labor received \$940. This was because of the labor-saving facilities on the larger farms. Increased capitalization showed proportionately higher labor incomes.

The average annual expenditure for hired help, including board and help from the family, is \$205. It is shown that where farmers expended less than \$150 for hired help they made no more than hired laborers, while those who expended \$800 for hired help realized \$1,194 from the investment.

Another important consideration was the directing of labor to the best advantage. It is shown that diversified farming employs labor to better advantage than specialized farming. For instance, exclusive dairy farming cannot employ labor to as good advantage as where a variety of crops, including dairying, is employed. Where a diversity of farming, or what is called mixed farming, is practiced there is an increased profit of from 25 to 100 per cent. One farmer in a hundred receives a profit of \$2,000 per annum for his labor. The larger the farm, the greater the diversity of crops, and the better the facilities for handling them the better will be the profits. In dairying alone there is necessarily more or less loss of time, which may be better utilized under more diversified operations.

The most successful farmers buy on the average 89 per cent more concentrated feed than the average farmer. Where diversified farming is carried on the surplus from crops grown can be invested in concentrated feed for the stock to advantage. The farmers showing an annual income of \$1,669 for crops sold, expended \$426 for feed. One of the best farms of 212 acres, under superior management, was capable of contributing as much for outside supplies as 505 acres under average management.

The difference between a cash rental and division of the proceeds is in favor of the cash renter. The average annual income to the cash renter is \$604 whereas the average income where half of the proceeds are given is but \$342. The landlord who rents for cash makes a fraction over five per cent, while half of the proceeds would give him nine per cent.

The common dairy cow is not profitable. The average dairy cow costs \$65. Those that made butter on the farm averaged \$52 per cow. Where milk was sold to creameries the average was \$61 per cow, and where milk was sold at wholesale the average was \$80 per cow. Considering the investment in cows, buildings, feed, labor and depreciation, it will be seen that there is a small margin of profit.

Another consideration brought out by the investigation is that education pays. Farm owners who took a collegiate course made an annual labor income of \$847. Those who did not exceed the high school made \$622, and those from the common school made but \$318.

New York.

B. F. MACK.

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HOW MUCH FARM WORK SHOULD A MAN DO IN A DAY?

I enjoy very much the practical articles
from the pens of Mr. Colon C. Lillie and
others in the Michigan Farmer. These
articles from practical men giving their
experience in the different lines of farm-
ing are very profitable reading and I hope
these experience meetings may be con-
tinued. Just now a host of queries come
into my mind in regard to farm manage-
ment. For instance, the labor problem
is quite an item on the farm. What con-
stitutes a day's work in the different
lines of farm work? How many acres
of corn stubble should a man plow in
spring in an ordinary nine or 10-hour
day, with 12-in. furrow and two good
horses, say 1,200-lb. horses? How many
acres with three horses with a sulky plow
cutting 14-inch furrow? Who has had
experience with gang plows turning two
12-in. furrows drawn by four horses?
How many acres in a day can be plowed
with one of them? Are they practicable
on rolling land? How many acres a day
should a man cultivate with two-horse
cultivator? How many acres with a
three-horse two-row cultivator? Will
some farmer who has a three-horse two-
row cultivator tell us how he likes them?
How many acres a day—nine or 10-hour
day as mentioned before—should a man
mow with a 5-ft. or 5½-ft. mower. How
many acres a day should one cut with a
three-horse binder, 5½-ft. cut? How
many acres of corn should a man plant
in a day with a two-horse, check row
planter? All these queries come into my
mind as intimately associated with farm
economy, for profits in farming are what
is left after expenses are taken out and
the labor item is one of the largest items
of expense. If any one has experimented
planting corn with kernels separated in
the hill, as described in United States
Farmers' Bulletin 400, will he kindly give
results? If any manufacturer of corn
planters has a corn planter which will
separate the kernels in the hill, as de-
scribed in Farmers' Bulletin 400, will he
advertise his planter, so we farmers may
test the separated kernels in the hill and
see what advantage there is in it. On
the face of it, and the experiments given
in the Bulletin, I may say I am very
favorably impressed with the idea. It
looks to me at least quite plausible.

Jackson Co. T. E. M.
While we must all admit that every one
of these questions which T. E. M. has
propounded is practical and that we are
all deeply interested in them, yet we
must also say that there are so many
different factors to take into considera-
tion that it is practically impossible to
give any stated amount of work which
could be accomplished. A farmer will tell
you that he plowed two acres or two and
one-half acres in a day, but he is brag-
ging. He don't do that every day, nor
can he do it every day. If he plowed
two and one-half acres in a day he didn't
do anything the day before and probably
didn't do anything the day after. And
so another man will tell you that he cut
15 acres of wheat in a day with a self-
binder, but he began early and worked
late, worked hurriedly. Now, we can't,
in discussing a proposition like this, take
any such work as this as a standard.
These are farmers working for them-
selves, doing their own work. They prob-
ably were away at a picnic the day be-
fore and felt that if they possibly could
they wanted to make up for lost time or
they wanted to hurry up and get it done
and then they take a lay-off. It is per-
fectly proper where one is doing his own
work. He is at liberty to plan his work
and one day put in 16 hours and the next
day only five, if he chooses to. We must
not take such labor as this as a stan-
dard. Where the labor is performed by
hired men we don't expect anything of
that sort, and neither should we. We
want a man to do a good day's work
today and another one tomorrow, and so
on, and if he does he can't perform these
unusual tasks or a big day's work. Take
for instance the first question asked,
"how much corn stubble should a man
plow in a day with a plow that cuts a
12-inch furrow, drawn by a good team?"
Now one to answer this question must
know what kind of land it is. Is it clay
or is it sand? Are there any stones or
any stumps? And then he must know
what kind of a team. Have you got a
good big pair of horses that have a good
walking gait, that are lively and will
make the man's heels fairly snap, or
have you got a light team, or have you
got a big slow team? Now it makes all
the difference in the world the amount
of land that you can plow. I myself have
plowed two and one-half acres of land in
one day with a team that weighed less
than 2,500 lbs. I did a good job too, but
I wouldn't want to do that every day.
The team couldn't stand it to do it
every day. Everything was favorable, it
was a good cool day. I think on an av-
erage, if a man gets an acre and a half
plowed a day he is doing well, and the
great majority of people won't average
that one day with another.

Of course, with three good horses and
a sulky plow a man ought to plow more
in a day than he can with two horses

because he doesn't have to stop to rest
the horses. They can take a good smart
walking gait and keep it up hour after
hour and day after day, and thus ac-
complish more work than two horses, un-
less he has an unusually good pair of
horses. But the man with a sulky plow
and three horses that plows two acres
a day right along, day after day, is doing
splendid work, and more than I ever got
done.

I have had considerable experience with
two-bottom plows. I have worn one out
and have the second one. I haven't used
this two-bottomed plow the last two
years as much as I did before. Now
there are a number of reasons for this.
I think the principal reason is because
I have been able to get more help when
I wanted it the last few years than I
ever did before, and then again, when
you work a two-bottom plow with four
horses, you want four horses that work
together, that are handy, and you want
a man who has some ingenuity in driving
a four-horse team. Every hired man
hasn't got this ingenuity and will make
awkward work with a four-horse team.
The two-bottomed plow doesn't work as
well on rolling land as it does on level
land. If the land is quite rolling or rough
I wouldn't think that it would be prac-
tical. If you have the right kind of a
field to plow and four good horses and
a good man, of course you can do much
more with a two-bottom plow than you
can with a single-bottom plow, but you
won't do twice as much. Perhaps a man
ought to, but he won't.

A man ought to cultivate on good land,
when the corn is up large enough so that
it doesn't bother, seven acres a day, but
on the average if your man does five acres
a day you should be pretty well satisfied.
With a two-row three-horse cultivator
you can do nearly twice as much as you
can with a single-row cultivator, but you
won't do it. A two-row cultivator, like
a two-bottom plow, is all right for the
right kind of land and the right kind of
man to run it. If the ground is uneven,
if there are many dead furrows, if there
are side hills, if the land is stony or
stumpy, it is not a very practical tool.
But on nice smooth land it works well
and a good man with three good horses
can do almost twice as much as two men
with four horses.

Very few people mow all day long.
Most mow in the forenoon and take care
of this hay in the afternoon, consequently
we do not figure on how many acres a
man can mow in a day. A man ought
to mow with a five-foot mower ten acres
a day, but it is a good day's work, and
there are so many different things to
contend with that you can hardly esti-
mate. If the land is perfectly smooth,
if it was rolled in the spring and the
stones picked out, it makes a great differ-
ence in the amount of work which you
can accomplish.

With a good smart team a man ought
to plant ten acres of corn in a day with
a check row corn planter. This is very
light work for a pair of horses and a
man can urge them almost to the limit
and he ought to have pride enough in
corn planting time so that when it comes
to this job he will exert himself to do
a maximum day's work and get the corn
planted, and most hired men will. You
can get as big a day's work done with a
corn planter as you can with any kind of
work on the farm, at least this is my ex-
perience.

I am of the opinion that it makes lit-
tle difference whether the kernels of corn
are spread in the hill or whether they
are put close together. I believe that
two or three kernels of corn in a hill, or
rather two or three stalks of corn in a
hill, will give a larger crop of ears than
four stalks in a hill and if you only put
two or three kernels in a hill it doesn't
matter much whether they are spread or
not. For ensilage corn I prefer to have
the corn in drills and rather thick because
we raise quite a large kind and intend to
manure the land heavily and the corn
binder can do a much better job, and
then I would prefer to have the stalks
smaller and thicker because it handles
very much easier when you are filling
the silo and certainly one can do a nicer
job in cultivating, especially when the
corn is young, if the kernels are not
spread too much in the hill.

COLON C. LILLIE.

A study of the shrinkage in corn while
in storage by the United States Depart-
ment of Agriculture resulted in finding a
decrease in weight of .4 of 1 per cent
from January 5 to April 21, as against a
shrinkage of 2.6 per cent from April 21
to May 14, while the shrinkage from May
14 to June 1 amounted to 2.6 per cent,
making a total shrinkage of 5.6 per cent
from the first of January to the first of
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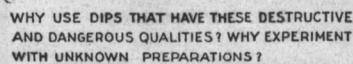
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DISPOSING OF DEAD ANIMALS.

Even on the best managed farms animals are lost from accident, disease or old age. Those animals which have died of some contagious disease are the most serious cases to deal with. Many people who are not familiar with the nature of germ transmission as a cause of disease are altogether too careless in handling their dead animals, as is shown by the case to be given below which occurred on a farm on which the writer was employed a few years ago during a summer vacation while an agricultural college student.

There was a herd of pure-bred Short-horns on the farm. Of the cattle kept at the barn, one calf had been failing in condition for two or three months. Finally the calf died. The young man in charge decided to hold a post-mortem examination on the carcass. Accordingly he opened the body in the barn on the cement floor. The lungs and intestines showed unmistakable lesions of tuberculosis. A strong wind was blowing through the barn which rapidly dried up the viscera and carried the germs of tuberculosis to all parts of the barn. When the young man was satisfied with his examination he dragged the carcass outside and buried it in the barnyard where the hogs rooted it up in a day or two.

The practice followed in that case was extremely bad. In the first place, it exposed the carcass to flies which carried the living germs from the affected parts of the carcass to other animals or to ex-

the case of the calf mentioned above, as soon as the superintendent discovered the condition of the dead body, he ordered that the barn be thoroughly disinfected. The next day every vestige of bedding was taken out of the stalls and lime scattered over the dirt floor. The walls and ceilings were sprayed thoroughly with a strong disinfectant. The dead bodies should be disposed of as soon as possible in order to prevent bad odors and to prevent flies from working on the carcass.

Iowa.

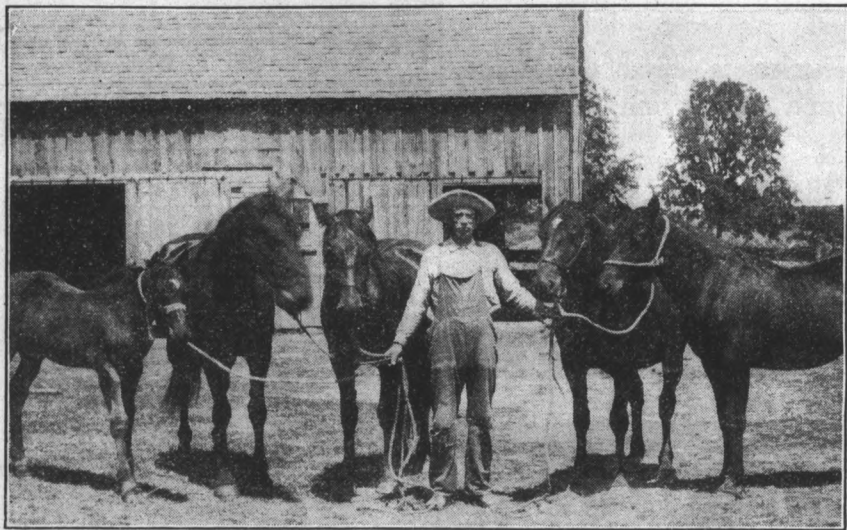
H. E. MCCARTNEY.

LIVE STOCK NOTES.

The railroads have made a change in the classification of calves, and from now on calves are to be classed as young cattle whenever they weigh 300 pounds or under. The calves will be shipped on a pound basis, instead of on an age basis, as formerly. All calves that weigh more than 300 pounds are now classed as cattle and shipped at the same rates as cattle.

On account of the lack of suitable offerings of western range feeder cattle at the Chicago stock yards recently, several distillery buyers have been buying supplies in the Missouri river markets for feeding on slops. It is practically certain that the distillery cattle feeding industry the coming season will attain liberal proportions.

The probability that there will be a shortage of fat beef cattle next February, March and April has caused farmers in various parts of the corn belt to begin buying feeders, with a view of having them returned as finished beefers during that period. There has also been a marked increase in the demand for well-bred stockers suited to make fat beefers for marketing during the late autumn and



The Profit in Horse Breeding is Illustrated by this seven-year-old Grade Percheron Brood Mare with Four Colts at side, Owned by William C. Blackmer, of Ionia County.

posed places where there would be grave danger that they would affect other animals. Then, as the body dried, those same germs would be carried to the nooks and crevices about the barn where they would lurk and possibly later infect valuable animals with that dread disease. Burying the animal as he did was also bad. Hogs rooted it up and ate portions of the flesh. It is an established fact that hogs following tuberculous cattle become tuberculous themselves. It is altogether reasonable that the hogs which eat a tuberculous carcass as in that case would become infected. There is the same danger in case of hog cholera and other germ diseases, although they may not be communicable from one species to another, as from cow to hog.

Hogs are probably the easiest of all animals to get rid of when dead. They can be very easily burned to a powder. It is only necessary to have a nice pile of brush or straw to start a hot fire. Then, if the carcass is cut open so that the internal fat is exposed it won't take a great deal of heat to keep up the burning. It is sometimes more convenient to burn the carcasses of cattle, sheep or horses than to bury them. Especially those animals that have died of a contagious disease should be burned rather than buried. There is an authentic case on record where the bones of hogs that had died from cholera were exhumed after eleven years and then infected the hogs upon the farm at that time, causing the disease and the death of a large herd.

Many follow the practice of feeding dead animals to hogs or chickens. There is no objection to that and no harm to come from it if the animal has died from accident or non-contagious disease. Where there is a rendering plant convenient, dead carcasses can usually be disposed of and a small price secured besides saving the work of burying or burning.

Where any animal has died the immediate premises should be disinfected. In

winter months next year. This buying has been especially large at Chicago, as well as at several Missouri river markets, and it would have attained much larger proportions but for inadequate offerings, particularly of the better class of feeders carrying considerable flesh, these cattle being frequently snapped up by local packers in search of cattle for converting into cheap beef. The largest demand for feeders of a good class comes from farmers living in feeding districts of Illinois and Indiana, although good numbers have gone to Iowa, and also to Ohio, the last named state retaining its well-earned reputation as an important cattle and sheep feeding state. Pennsylvania farmers have been buying a cheap class of stockers, and steers have been taken costing as low as \$3.50@3.85 per 100 lbs., while buyers from the country tributary to Chicago have paid up to \$5.50@5.85 for a choice to fancy class of feeders of rather strong weight. The general demand has centered on cattle weighing around 700 to 1,000 pounds, and the average buyer is unwilling to pay fancy prices, although some 750-lb. steers have sold up to \$5.35. Recent sales of western range feeders have been chiefly at \$4.80@5.50, and native stock heifers have brought \$3@3.75.

Notwithstanding the decreased receipts of hogs and the large requirements for the fresh meat trade, recent sales have been made at the lowest prices recorded in two months. Pigs have been in excessive supply and suffered sensational declines in prices at various times. If hogs were marketed as freely as they were several weeks ago, nothing could prevent a smash-up in prices throughout the list.

The great abundance and cheapness of fruits and vegetables tend to increase their consumption, many housekeepers buying them largely in place of meats, which are very expensive. Beef of a choice grade comes high in price, and eggs have advanced in value under smaller offerings and a good demand.

Since the first of August there has been a marked falling off in cattle supplies at Chicago, the marketings running greatly behind the corresponding period of last year. Most of this falling off has been in supplies of western range cattle, and it is these cattle that the packers usually buy at this season of the year to be used later in the winter and spring as a means of holding down cattle prices at that period for corn-fed stock. Under the circumstances, packers have not been able to store much beef for future requirements.

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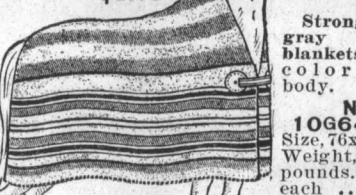
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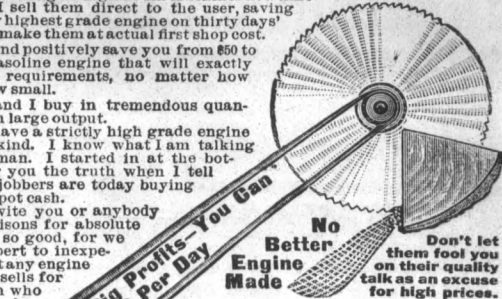
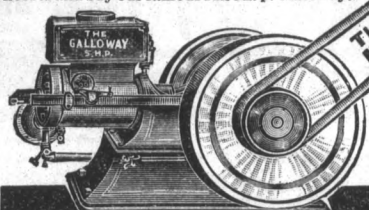
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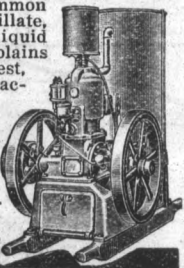
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POULTRY AND BEES

HOLDING DOWN THE COST OF THE WINTER RATION.

While, generally speaking, those staple grains, corn and wheat, are the best main diet for fowls, when grains are high it sometimes pays well to employ substitutes, especially when we have time to "fuss with them." Now the prospect is for high-priced grains during the coming winter, so let us look to a few substitutes.

If you have been fortunate enough to have planted a patch of sunflowers they will make a good food. The fact that your fowls are but mildly enthusiastic over them at the start need not discourage you, as it is a cultivated taste like that for olives. Sunflower seeds are especially valuable at moulting time.

Oats are not generally fed to fowls. In fact, many flocks will refuse them at the first trial, and yet they are the most valuable summer feed I know, especially for laying hens.

Refuse beans can be bought quite cheaply and a limited quantity can be used to "chink in" with. I have never been troubled with the hens overeating on beans, however.

An occasional ration of cooked cull potatoes can be fed. Better still, they may be mixed with meal or bran, preferably the latter.

Screenings composed principally of chaff are of little value when fed dry, the fowls leaving the chaff. Scald this, however, and the chaff swells up to surprising proportions and the fowls will clean it all up.

Where hay, especially clover, has been put in the barn real dry, lots of the leaves and heads fall off in forking it to the stock. Take a bushel basket of these, pour boiling water over the mass and throw it to your flock. It will surprise those who have never tried this to see the amount of this chaff a bunch of fowls will eat.

While riding through the country a short time ago I saw a large field completely covered with "pussy grass," all headed out. Some crop had been sown—I could not determine what—and had failed, but the grass had not. The field looked like a crop of millet, and if it had been cut and raked up there would have been a valuable lot of chicken feed—nearly as valuable as millet, to which family this grass belongs. If anyone doubts its value let him examine the stalks of this grass about his fowl yards, noticing how many seeds are left in the heads. I confidently venture the assertion that he will find them stripped bare. Now please don't assume that I am advising the growing of pussy grass for feed. I simply urge everyone to make the best of existing conditions.

Another thing: when filling the cellar this fall with the family supply of vegetables, don't forget to include a generous share for your fowl family. Don't throw away those bursted and soft-headed cabbages. Instead, throw them to the poultry—one or two each day, or more if your flock is large. You will find only the stumps when night comes. Include also the "scullion" onions, as they are very popular as a relish and valuable as a conditioner. In fact, any vegetable valuable as human food is available for use as a poultry food, and any low-grade surplus should be so utilized.

Now in suggesting these substitute foods I do not recommend their use to the exclusion of the staple feeds. However, under judicious feeding methods, a mighty lot of high-priced grain can be saved with a little effort. These feeds I have suggested are but a few of many that are available. Perhaps there are better ones than I have mentioned, for there are a lot of valuable foods among the neglected grains, usually called weeds, that are not used at present. We are now using for food many plants that were once classed as weeds, and many of the so-called weeds of the present will no doubt be classed as grains in the future.

Isabella Co. Wm. J. COOPER.

IN ANSWER TO INQUIRIES.

Fattening Geese—Curing Feathers.
What is the proper feed for fattening geese? Also, how do you scald these fowls when it is desired to cure and save the feathers?
Tuscola Co. H. E. H.

Young geese should be confined in pens and fed rather heavily for a limited period—from two to four weeks. As a ration,

a mixture of cornmeal and beef scraps is much used, the proportions being 4 parts cornmeal to 1 part beef scraps moistened to a crumbly state. During the first week the feeder must guard against overfeeding as the fowls cannot stand crowding until they have become somewhat accustomed to confinement. Strive to keep the appetite keen for the first week or two, then feed all that they can possibly be persuaded to consume, watching carefully for signs of indigestion or evident lack of appetite. Should any of the fowls be thus affected, remove them from the feeding pen and give them more freedom and little food for a day or two. With the above ration should go a fair allowance of such vegetables or other green foods as are available, also plenty of grit and pure water. For older geese many prefer preparing for market by keeping them on green pasture as long as possible, at the same time feeding a liberal ration of cornmeal and barley meal well moistened with buttermilk.

Feathers wanted for home use or for market should be plucked when they are ripe, that is, when there is no blood in them. This condition in geese occurs several times during the season, depending somewhat upon the feeding of the flock. Geese that are well fed and well cared for have been plucked from three to four times a year. The proper time for plucking can be determined only by pulling a few feathers. If they fail to show any blood they are ripe. Green feathers may be cured by long and careful drying but they will prove less satisfactory than the ripe feathers. Dry picking is generally practiced in dressing geese for market. However, when cold weather comes the feathers set tight and scalding is then resorted to. To effectually loosen the feathers longer scalding than for chickens is required; some claim to get good results from wrapping the fowl in a blanket, for a few minutes after scalding, to retain the steam.

PREPARING BEES FOR WINTER.

In most localities the honey-gathering period is ended. The frosts of October have killed the flowers and the bees have had their last opportunity to lay in their winter stores. If they have not been able, for any reason, to accumulate the requisite twenty-five pounds, their owner will have to make up the deficiency by feeding sugar syrup. But in most localities it will not be necessary. The great variety of fall flowers, most of which yield some nectar, go a great way in supplying the needs of the honey bee. In some localities bee-keepers are even fortunate enough to secure some surplus from this source. At any rate, do not neglect the bees. See to it that they have enough and to spare. Bees differ from other farm stock in this respect, that they can be given their full supply of food at once and they will help themselves as their need requires. Plenty of good food above the cluster is what takes them through, every time.

Considering the requisites for successful wintering, it may be well to note that success is frequently hinged upon very small things. Neglect in attending to the small affairs of life is sure to bring about disaster. Sometimes bees starve to death with honey in the hive, and that within two inches of them, from the fact that during severely cold weather bees form themselves into one compact body. When all the honey within their reach is consumed, and the weather not warm enough for them to change their location in the hive in order to reach their stores, they will surely starve with plenty of food near them. This most often happens in single-walled hives, hence the adoption of chaff hives to confine the heat arising from the bees. Bees usually move toward the warmest part of the hive. If the sun shines on one side of the hive in cool or cold weather the cluster makes for that side of the hive. I have often had colonies eat all the honey in one end of the hive and leave the other end full. A strong colony, in a very good season, covers the greater part of its combs below the honey, and it is a very good sign, when you raise the super, or the cloth, or the honey-board, from the body, to see the bees clustered a little way down from the top of the combs.

New Jersey. F. G. HERMAN.

It is advisable to select a large part of the winter's flock from the pullets hatched in April or earlier. They should commence to lay before real cold weather sets in and in time to get the high prices. If hatched later than April they usually fail to lay before spring and prices have then declined.

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For Sale, Collies—Extra fine brood matrons. Best of breeding, open and bred. Also puppies. W. J. ROSS, Rochester, Mich.

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THE DAIRY

CONDUCTED BY COLON C. LILLIE.

WHY DAIRYING IS A GOOD BUSINESS.

The average farmer who only keeps a few cows and many who call themselves dairymen do not always appreciate fully the nature of dairying itself. They fail to understand that a cash income is of much value to them. They do not have money tied up long before they get it back again, and the average farmer hasn't very much money to tie up. Now, of course, every crop we grow on the farm is important. Some of them are sold for cash; we could say that potato growing is a cash business. The fruit business is a cash business. They are, in a sense, cash businesses as compared with the same kinds of farming years ago. Then many of the crops grown on the farm could not be sold for cash but had to be exchanged for other products which the farmer needed; but since then everything has changed and now the crops we grow are turned into cash and we have to pay cash for that which we buy. This is a decided improvement. Yet in the potato crop we put our money into the investment of the labor and seed at planting time, the preparation of the ground in caring for the crop during the entire season and we do not get a penny in return until after the crop is harvested. There are several months that we have our money tied up and do not realize it. In the case of wheat, for instance, there is an entire year before we get anything from our investment, and so it is with other crops and all other branches of farming, except dairying, which, so far as I know, is a single exception in the farming business. We sell eggs for cash and get returns from our investment regularly and the same way with dairying. The feed bought off the farm is soon turned into cash again, in one or two weeks at least, and in many instances every few days we get cash for the dairy products. In this way one can do business with a more limited capital than where he has to wait a period of months before he gets something in return for his investment, and for the average farmer who hasn't very much money to make an investment this is an important thing.

Now, dairying is not only a cash business but it brings in a cash income the year through, every week in the year cash returns are due. If dairymen take a little pains in breeding the cows and have them freshen at the proper time they can so arrange it that they will have regular incomes coming in each month or each week of the year. This is a very important factor because farmers need cash incomes just as much as any other business man, and it is much better to have this uniform cash income coming throughout the entire year than it is to be engaged in a kind of business which brings in the money only once in a year or twice a year. One fixes expenses according to his income and is not so liable to be extravagant and make ventures which sometimes prove disastrous.

Now dairying not only brings in a uniform cash income but the business of dairying is reliable. Farmers can depend upon it. With a good herd of cows upon a farm, properly equipped for handling them and with an owner who knows how to do it, one can depend upon the income. If one raised winter wheat from which he derives his income everyone knows that he is liable to have a poor crop and consequently his income will be greatly cut down. If one depends upon timothy hay to get his income the possibilities are that drought or an untimely frost will injure this crop so that he will have little or no income from it over and above the cost of production. In the fruit business, which some years is very profitable, is very unreliable. In fact, I think it is the most unreliable branch of farming that one can engage in. Here the fruit grower is so handicapped by having his crop liable to be affected by conditions over which he has no control whatever. He does not know from one year to another what his income is going to be. He can not plan with any degree of certainty as results are too dependent upon weather conditions. With a commercial apple orchard one doesn't know whether that orchard is going to fruit or not. The same way with grapes or with peaches, or in fact with any other kind of fruit. It is unreliable. While the dairy farmer, even though the pastures are affected by drought, or a frost injures his ensilage corn and it don't get its full

feeding value, can go outside of his farm and purchase feed at the market price and bring it onto his farm and feed it to a good herd of dairy cows and make a good profit on his investment, and his income will not be materially affected by these adverse conditions because, in many instances a man can buy crops as cheaply as he can raise them, when he takes into consideration the time element, especially on a run-down farm or on land that is not naturally productive. When one is well equipped to handle a good bunch of cows upon his farm he has a business which he can depend upon and which will bring him in cash and bring that cash to the farmer throughout the year.

But one has to handle a herd of cows in an intelligent and business-like way to make a profit. Slipshod methods will not do in dairying. The farmer must provide the cows a good liberal ration for every day in the year and keep them comfortable. He must systematize his work so that he will do it regularly, and in a careful manner. He must use good business judgment in selling the product. If he does these things, dairying will pay as good or a better per cent of interest upon the investment than any other branch of farming. I am warranted in saying this because experiment stations, even our own Michigan station, has made an investment in a herd of dairy cows, purchased average cows at market prices, charged them with every pound of feed they consumed, gave them credit for every pound of butter-fat they produced, and made a good profit with all hired labor to care for them. Then, too, the records of our cow testing associations show that the average herd will pay for their feed and give a profit. In fact, the best market that the farmer has is a good bunch of dairy cows for the feed which he grows upon his farm.

THE MODEL COW STALL ONCE MORE.

I am making over a barn. One of my neighbors said you had what you called a model cow stall illustrated in one of your back numbers. I write to ask for information.

St. Clair Co.

H. C. P.

It is some little time ago that the Michigan Farmer published a drawing of the model cow stall. Unless one has the files of the paper carefully preserved, with the index, it would be quite a job to find it and, of course there are many new subscribers to the paper that undoubtedly would not have these files. This, unquestionably, is the reason why we have so many inquiries about the model stall. As I have stated before it is well nigh impossible to give word description of this stall which can be readily understood without a cut accompanying, and my previous advice to other inquirers to make a visit to some dairy where one of these stalls is in practical operation is a much better way to get the desired information.

At the State Fair, in the new model dairy barn, among other stalls, were three model cow stalls. It was too bad that the carpenter made a mistake and made the stalls a little bit short, yet the principle is correct and well illustrated the method of construction. The work of the model cow stall is entirely satisfactory. It gives the cows liberty that no other stall gives them. It is very convenient in feeding. One can feed the grain ration and then feed the roughage ration without waiting until the grain ration is all consumed. Taking everything into consideration I think the model cow stall is a practical, durable stall that will give satisfaction.

I am glad to be able to say to H. C. P. and all other inquiring subscribers that they can get splendid information and a very carefully prepared cut of the model cow stall in a bulletin entitled, "Clean Cows and Clean Stables," recently published by the Dairy and Food Department. A letter addressed to the department at Lansing will bring this bulletin without cost to the subscriber.

In beginning a private butter trade, one should not insist upon too high a quotation; after that is once done, then it is not a difficult matter to secure prices that are above the average. It seems to be a wise practice to start at lower prices, work up a name for furnishing good butter and to think of the difference between the prices asked and those that might be secured as advertising expenses. It will be found many times worth the cost in the end. Otherwise your customers are not likely to warm up to the advantages offered and to become a fixed part of your dairy business.

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For the next 30 days, Free enough wire staples to put it on with.

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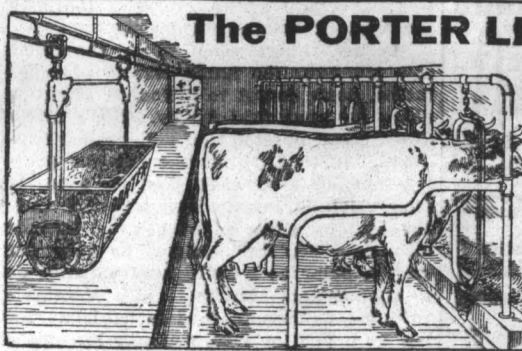
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FREE CHURN —To introduce the **CHALLENGE CHURN**
1 to 10-gal capacity. Makes good butter from milk or cream, easy in from 1 to 5 minutes. Write to-day sure, get one FREE. **MASON MFG. CO. Department M, CANTON, OHIO**

HANDLING THE MILK COWS.

The cow is a nervous animal, easily excited and fretted, and susceptible to harsh or kind treatment. It has been proven many times that both the quantity and the quality of the milk given by a cow may be influenced by the kind of treatment the cow receives.

The cow that is constantly in fear of a blow from the milker will soon begin to shrink in her milk flow. To punish an animal because she makes some little mistake will never do any good. I must admit that it is annoying to have an animal switch her tail in one's eyes, or kick a bucket of milk over, or refuse to give her milk down, but the average cow does not do these things in a spirit of meanness, and to belabor her with the milking stool or to give her a hard kick or two with a pair of heavy shoes at such times will do no good, except possibly to relieve the feeling of some milkers. Such treatment has been responsible for drying up many a good cow, and the good dairyman makes it a point to never lose his temper while milking, no matter what offense the cow is guilty of. He knows that if he permits himself to become angry he will do both himself and the cow injury which he will later regret.

Instead of becoming angry he seeks to learn the source of the trouble if the cow's offensive actions are frequent. For, as stated before, the cow usually has a reason for her actions.

The kicking cow is probably the most aggravating member of a herd. It is true that a cow here and there is a confirmed kicker and kicks at every milking without any apparent reason. Unless particularly valuable, such an animal would better be disposed of as soon as possible, for it is almost impossible to break the confirmed kicker of her vicious habit without being put to more bother than the average cow is worth. But the otherwise good cow that kicks only occasionally has a reason for her actions. All cows are apt to kick at some time or other. Sore teats and udders are the source of a great deal of this trouble. A slight scratch or sore on the teat may seem of little consequence to the milker but may be very painful to the cow when grasped by the hands, especially if the milker is inclined to be a little rough in his movements. At each milking the sore will break open and so require a long time to heal unless given attention. A good plan in such cases is to have some lard or vaseline handy and apply it to all sores and bruises after each milking. Lard will also render hard and rough teats soft and pliable.

When a cow has been dry for some time be gentle with her when she freshens again. Her udder has become tender, and she may kick viciously the first few times she is milked if her teats are handled at all roughly.

Sore teats will also cause some cows to switch their tails into the milker's face. They may do this either voluntarily or involuntarily. In either case the milker should realize that he has inflicted pain. The pest of flies, at certain seasons of the year is responsible for most of the tail switching, however, thin-skinned animals being the chief offenders. It is no more than natural that the suffering animals should use their only weapons of defense against the torturing flies, and the only proper thing to do is to banish as many of the flies as possible or else use light blankets to cover the cows while they are being milked. If the milking is done outdoors, it will help some to do it early in the morning and late in the evening, just before dark, when the flies are not so annoying as at other times during the

day. While, if the milking is done indoors, the stable can be darkened as much as possible. Commercial preparations are now on the market which, when properly used, effectually relieve cows and other animals of the distress caused by flies.

The failure on the part of a cow to give down her milk is sometimes very annoying to one when he is in a hurry. Now the failure of a cow to give down her usual quantity of milk at milking time is due to some abnormal condition. She has not secreted the milk owing to some cause. She may have been frightened; she may have been chased by a dog; she may have been wandering around all day in a scant pasture or stalk field and be tired. Any one of these and similar reasons will cause some cows to withhold their milk. Some cows will not give down their milk to a strange milker. Cows with calves that have been allowed to suck will usually withhold their milk for a few days after the calves are weaned. In such cases, the best thing to do is to be patient and not try to deal roughly with the cow. Rough handling will only make matters worse, for the animal that has come to fear the milker will be likely to withhold her milk at each milking until friendly relations are established again.

There should always be a friendly feeling between the cow and her milker. The milker who is gentle with the animals in his charge and who takes time to pet them a little as he goes about his work will usually get all the milk the udder contains, while on the other hand the man who is rough and noisy is certain to lessen the milk flow materially.

The young heifer will seldom cause much trouble when they freshen if they have been handled carefully from calf-hood with the end in view of making milk cows of them. Many practice the plan of rubbing the udder with the hands while they are still heifers, thus establishing a friendly feeling that proves of value later. Of course, the young heifer should be milked gently at first and the milker should have plenty of patience. She will soon learn what is expected of her and will conduct herself in the proper manner when milking times comes around if she is accorded the right kind of treatment.

Indiana.

WM. PURDUE.

THE DEPARTMENT OF AGRICULTURE PLANS DAIRY EXHIBIT.

The Agricultural Department at the national capital has promised for the National Dairy Show at Chicago in November the most elaborate exhibit which it has made since the World's Fair in 1893. There will be shown, says a recent dispatch from Washington, a large number of enlarged photographs taken by government officials during their inspection trips through the most important dairy districts in this country. The collection includes both exterior and interior barns, dairies and all buildings used in the production and marketing of milk and milk products. The display will be of immense and practical value to any dairy farmer who plans building new or remodeling old barns, in which to produce the higher quality milk now demanded by almost all cities throughout the country. Charts, illustrating at a glance the results of important government investigation, will also be shown; and in a general way the department at Washington plans to get on a more intimate and friendly basis with the nation's dairy farmers.

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Six Months

This farmer got his money back after using his Tubular only six months. He was throwing away the cost of a Tubular every six months, but now he puts the purchase price into his pocket every six months:

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The month before we got our Tubular we made 66 pounds of butter. The first month we used the Tubular we made 150 pounds from same cows. Our Tubular paid for itself in six months.

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Mr. Furniss increased his butter 84 pounds per month by using the Tubular. At even 25 cents a pound he gained \$21.00 per month. Figure his yearly profits for yourself. Mr. Furniss gained more than the average; but all Tubular users make money—most of them make at least 100 per cent a year on the cost of the Tubular.

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Dairy Tubulars contain no disks. Ask for free trial. Other separators taken in exchange. Write for catalog 152.



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AND SANITARY STEEL STALLS. Send for our catalog which shows photographs of some of the most up-to-date barns in the country. You will be convinced that we make the very best there is at the lowest price. **THE HARRIS MFG. COMPANY** 316 Cleveland Ave., Salem, Ohio

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The De Laval Separator Co.

NEW YORK CHICAGO SAN FRANCISCO
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HORTICULTURE

Storing the Winter Supply of Cabbage.

..Storing the Winter Supply of Cabbage.
On account of the extremely strong odors given off by cabbages they should not be stored even in small quantities in the house cellar. Dig a pit four feet wide and deep enough to hold four or five tiers, and any length desired. A layer of clean, dry straw or cornstalks should cover the bottom to the depth of three or four inches. Remove the stumps and all outer leaves and pack them stem end up, stopping them above ground to a peak. Cover with straw and earth to the depth of six or eight inches. If they freeze, so much the better, only then they should be covered with more earth or manure to hold them in that condition. The great essentials in safe keeping are to keep them dry and at as low and steady temperature as possible. So make sure that they are perfectly dry when packed away and are kept thus, and that they are covered sufficiently to prevent alternate freezing and thawing, and under these conditions they will ordinarily keep until spring without loss.

Turnips and Rutabagas.

As to strong odors these lose very little by comparison with cabbage and are not suitable for cellar storage. Pit them outside as they will keep much fresher than it is possible to hold them in any house cellar. Before covering throw on fine soil (and if damp it is all the better), allowing it to sift down through the roots. Cover with straw and dirt sufficient to hold them with steady temperature. If desired to keep them in small quantities in the cellar, remove the crowns with a sharp knife and this will prevent the strong odors so that they will not be objectionable.

Parsnips, Salsify, Beets and Carrots.

These, while entirely unobjectionable in so far as bad odors are concerned, will keep far better if pitted. If kept in the cellar it is best to cover them well with fine soil as it preserves their crispness. As to the former two, the spring supply should be left standing in the rows where grown. Under all ordinary conditions they will keep in perfect condition, and much better than if stored.

Wayne Co.

J. E. MORSE.

MICHIGAN VS. CALIFORNIA FOR FRUIT GROWING.

I have \$2,000 saved up which I am thinking of investing in an apple orchard. Can you give me any information regarding apple growing, such as the sort of soil to choose, probable cost per acre of the land, cost of setting out young trees, how long I will have to wait for the trees to bear, etc. How large an orchard should I be able to secure for my money? What can be done to secure an orchard that will bear continually after the start? Also, can you give me any information about California orange groves? What could I do with my money along that line? Do you not think that 10 acres planted to apples, and cultivated as carefully as western farmers cultivate oranges, would give as good returns.

Oscoda Co.

M. A.

Apples require a deep, fertile, clayey soil, which is well drained, either naturally or artificially, and which does not suffer from drouth or excess of water, to give best results. The cost per acre of land for apple orcharding would depend upon the location, but good apple land can be found in Michigan under \$60 per acre. Trees set 20 feet one way and 40 feet the other way would require about 50 trees per acre. This nursery stock would cost you from \$6 to \$12 per acre, according to the quality and age of stock selected; preparing the land and setting the trees would cost you around \$10 more; this would make an orchard cost you, when planted, from \$80 to \$85 per acre. You would have to wait from four to twelve years for the trees to bear, depending upon the variety you plant. Wagener, Jonathans, and many other varieties will bear within four or five years, while Baldwins and Northern Spies require from ten to twelve years. You could probably secure a twenty-acre orchard with the amount of money you mention, depending, of course, upon the cost of the land.

In a matter of this kind, as well as in other businesses, the personal element is the largest factor in one's success. Many men in the most ideal circumstances fail, while others placed where conditions are most unpromising make a success simply because of an ability to cope with conditions and bend them to meet the desired ends. For this reason men have made a success in the culture of oranges

in Southern California as others have succeeded equally well in growing apples in Michigan.

The writer is informed that land in southern California suitable for the production of oranges can be secured from \$500 to \$2,000 per acre. Land as well adapted to the growing of apples as the California land is for the production of oranges, can be had in Michigan at from \$50 to \$100 per acre. The fitting of the land for the reception of the crop would be in favor of the northern state inasmuch as irrigation systems usually require that the land be made perfectly level to insure that water be applied successfully. In Michigan irrigation is unnecessary with an apple orchard which does away with this expensive work of grading. Then, too, the Michigan owner is not troubled with heavy taxes for water and the usual trouble which is connected with the securing of water rights. As to the labor proposition, there is probably little difference between the two localities, since Japanese and Chinese laborers are largely employed in the western state. There is no material difference in the care given the orange grove and that required in an up-to-date apple orchard. Both demand the careful attention of a well informed person in order to guarantee the best results.

When we come to marketing the crop, we find conditions more favorable to the Michigan man. It is a common remark that apples during the past several years retail at as much or more per dozen than do oranges. The oranges are shipped across the continent while the apples are sold almost at the gates of the orchard. The grower of the former must therefore sell his product at the price that will allow for the charges of transportation over the mountains to the eastern markets and then permit them to be placed on sale at quotations not higher than what is asked for the best apples.

Again, the range of uses to which apples can be put is much wider than that for oranges, which enables the grower of this crop to dispose of not only his No. 1 fruit but also of the other grades. In growing oranges the western producer finds an outlet for the two highest grades. This condition has forced him to produce a high quality product, and it might be well if the eastern apple growers were placed under like conditions. Nevertheless, the eastern man finds a legitimate outlet for the poorer kinds, and is therefore in a more advantageous position than his western cousin. We may be somewhat prejudiced to the opportunities of our own state when it comes to growing fruit, but the seeming foolishness of many men who leave behind them conditions existing here in Michigan to go to California to spend extraordinary prices to gain a start in business with which they have had no experience whatever, is impressed upon us as the years go along, and especially as testimonies come to us of the success attending the culture of apples in our own state and many disappointments and failures, resulting from western ventures. We believe the inquirer would do well to consider carefully the advantages offered in Michigan before making an investment in an orange grove on the Pacific Coast.

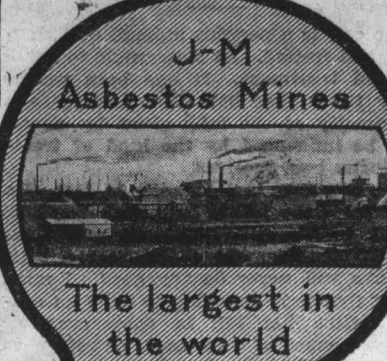
RULES FOR GRADING APPLES.

The following rules have been made the standard requirements by the National Apple Buyers' Association, for grading and packing this fruit:

The Standard Barrel—A barrel which is 17½ inches in diameter at the head, 28½ inches in length of stave and bulge not less than 64 inches outside measurement.

Requirements for No. 1 Apples—The standard size for No. 1 apples shall not be less than 2½ inches in diameter and shall include such varieties as the Ben Davis, Willow Twig, Baldwin, Greening and other varieties kindred in size. That the standard for such apples as Romanito, Russett, Wine Sap, Jonathan, Missouri Pippin and other varieties kindred in size shall not be less than 2¼ inches in diameter. And further that No. 1 apples shall be, at the time of packing practically free from the action of worms, defacement of surface or breaking of skin, shall be hand-picked from the tree, a bright and normal color and of shapely form.

Requirements for No. 2 Apples—No. 2 apples shall be hand-picked from the tree. Shall not be more than 2¼ inches in diameter and of fair color for the variety. The skin must not be broken, nor the apple bruised and must be practically free from scab and other defects. This grade must be faced and packed with as much care as the No. 1 fruit.



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FRUIT GROWERS AND BUYERS MEET AT FENNVILLE.

The unsatisfactory prices offered to growers for winter apples caused an extraordinary session of the Saugatuck and Ganges Pomological Society to be held at Fennville at which a number of buyers were invited. About 100 growers and 20 buyers were present to determine if possible the solution of the present low prices of fruit, and winter apples in particular. The program given was more or less impromptu but to the point.

President Hutchins saw three ways of disposing of the crop: First, to let the apples rot on the ground; second, to sell at the present price to the buyers, the evaporators or the cider mill, and third, to store the crop until better prices prevailed. He assured the commission men present that the meeting was called in all friendliness to them and that their opinion of the present conditions was sought that more light might be thrown upon the situation.

C. E. Bassett, of the State Horticultural Society, deprecated the low prices for fruit. He thought, however, growers were somewhat to blame by shipping their windfalls after the severe wind-storm of last summer, thus causing a break in the market. Also, the early ripening of fruit of all kinds encouraged the same conditions. He pled for honest packing and grading of apples, and believed this to be the time for the community to secure a reputation for itself. Had this been done in the past, he believed there would have been no occasion for coming together to consider the cause of low prices.

C. J. Monroe, of Van Buren county, confirmed Mr. Bassett's remarks. He had just returned from South Water street, Chicago, and confessed that after a day's inspection he knew little more than when he went. He emphasized the fact that growers should not put poor fruit on the market as it had much to do in keeping down the price on better grades.

C. H. Weaver, of Chicago, followed with a statement that this year and last year conditions were just the opposite, as a year ago Michigan had a short crop and this year a "bumper" crop. The early apples in 1910 were short while this year they were heavy, and with late apples the reverse was true. He believes that after the fall apples are gone that winter apples will probably bring a fair price.

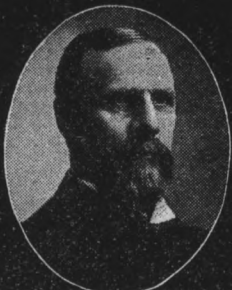
George Tucker next declared that it was impossible for a grower who took proper care of his orchard and of the fruit, to pick, pack and haul to market apples for less than \$2.25 a barrel, as that was the actual expense of growing and marketing the fruit.

The next speaker, D. D. Tourtellote, thought the real solution of the problem lay in a thorough organization of the growers. The other factors in the market were organized, that is, the commission men, the buyers and the cold storage people. He asserted that buyers would rather purchase from an organization handling from fifty to sixty thousand barrels of fruit than from individuals with from fifty to five hundred barrels, to which statement many of the commission men assented. He believed each grower joining the organization should be required to give a bond to guarantee his fruit to be packed in the right manner.

Charles Hoffman, a buyer, recited how he had lost considerable money in buying too heavy in fruit and that he now was in no frame of mind to invest heavily along that line. Other buyers spoke, and it appeared to be their general contention that the apple crop is larger than the growers are willing to admit. It was made plain, however, that the excess crop consisted entirely of summer and fall apples and that winter varieties would produce no larger crop than the trees yielded in 1910. This gave hope to both sellers and buyers that later in the season better prices would prevail.

The sentiment of the meeting appeared to be favorable for a better organization of growers, through which means the leaders hoped that more uniform grading could be secured, which condition would result in more satisfaction as regards prices.

While small and inferior fruit is dull and irregular in the Philadelphia market, the better grades have recently taken a turn upward, and the situation seems to be in a very favorable condition from the seller's standpoint. That market shows a good demand for peaches and pears and a fair request for other fruits.



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The Lawrence Publishing Co.,
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DETROIT, OCT. 14, 1911.

CURRENT COMMENT.

Potato Market Prospects. The October crop report which appears in another column of this issue, shows the estimated average condition of the potato crop for the country to be 62.3 per cent of normal, as compared with 59.8 per cent on September 1, 71.8 on October 1, 1910, and a ten-year average on October 1 of 75.6. The estimated average yield for the country at present is 79.7 bushels per acre, with an estimated total yield of 278,551,000 bushels, as compared with 338,811,000 bushels in 1910, 376,537,000 in 1909 and 278,985,000 in 1908. The Michigan crop report places the estimated average yield per acre for Michigan at 81 bushels, which is only a few points above the estimated average yield in the country as shown by the national report.

With digging only just commenced, it is difficult to estimate with any degree of accuracy just what the improvement in crop conditions during the favorable weather of early October may have been. However, it is probable that the improvement of the crop due to copious fall rains will be nearly or quite counterbalanced by the losses on the heavier soil from the rotting of the tubers due to the extremely wet weather, and possible losses from freezing due to delay in digging the crop, necessitated by the same cause.

However, it appears to be certain that there will be a shortage in the season's crop, the indicated yield being the smallest since 1908, which season's yield was quite close to the estimated figures for the present year. With the prospect of this short crop and with the tendency of prices for all food stuffs to advance which has been noted in recent market reports, there is every reason to believe that potato growers will receive good prices for their product this year, providing it is wisely marketed.

There are always a good many potato growers whose need of the money which their crop will bring prompts them to sell on the early fall market, especially when the potatoes bring a fairly good price. Probably there are enough of these to prevent the average farm price in Michigan going over 50 cents per bushel during the early portion of the marketing season, and if receipts in the large centers of consumption continue to come in as they have in recent days, it is questionable whether the market will start out and be maintained at this figure dur-

the rush of early marketing. However, the demand for consumption will not be the governing factor in the marketing, since upon the reported condition of the crop throughout the country, dealers will be inclined to purchase against future needs as soon as the crop is sufficiently matured to make this practice a safe one.

As most of the crop is very green, however, due to the rains and the absence of frost, there will be no rush on the part of the dealers to put the tubers in storage, so that the very early market is likely to suffer more from heavy shipments than at any other time during the movement of the crop. But it is certain that, unless the official estimates are very much in error, consumers will be compelled to pay liberal prices for their potatoes this year, and by exercising a degree of control in delivery, the growers will be able to realize a better proportion of the consumer's dollar paid for this product than if the speculators get possession of the crop. Unquestionably this is the season when conservative marketing should be practiced, and where facilities are available, at least a portion of the crop should be stored for the later market unless the need of the money which they will bring is quite urgent. There can be little, if any, danger of loss from such a course, with a very good prospect of better prices prevailing after the market becomes settled than will be given for earlier shipments.

The High Cost of Living. Prices of food stuffs are again advancing and the consumer will feel the effects of the

dry season perhaps as much as the farmers have done. When production is limited by unfavorable weather conditions, and the demand for food stuffs remains unchanged, the aggregate of commodities grown upon the farm will nearly, if not quite, approximate the value of the total crop under normal production. On the other hand, where an especially favorable season results in an excess of production over the demand, prices fall to such a low level that the aggregate value of the larger crops grown shrinks below what it would be under normal production.

The happy medium is the best for all concerned, and in both cases there is room for benefit by cheapening the cost of distribution, which is the important factor confronting producers and consumers alike. However, at the present time the consumer may congratulate himself upon the fact that the great staple cereal, wheat, is low in price, while other products are sufficiently plentiful so that, save in perhaps one or two products, there is no prospect of anything like prohibitive prices. In any event, prices are on none too high a level for the continued prosperity of the American farmer, upon which the prosperity of the country depends to such a large extent, and notwithstanding their discontent the consumers of the country have little cause for complaint, except against the middlemen who obtain the largest proportion of the dollars which they spend for the necessities of life.

HAPPENINGS OF THE WEEK.

National.

The strike on the Illinois Central and other Hariman roads lines continues. While the railroads contend that the men are becoming dissatisfied with the strike, the leaders maintain that the men are prepared and will stay out all winter unless their demands are met.

The second investigation of the election of Senator Lorimer as United States Senator from Illinois is to be resumed in Chicago. Over 200 prominent men have been notified to appear and testify before the committee.

Secretary of the Navy Meyer has concluded to displace the scientific system of navy yard management advocated for the country, by the English system. He declares that this change will overcome much hostility from labor unions, will be less costly and more effective.

A number of towns between Black River Falls and Lacrosse, Wis., were flooded last week. While exact figures cannot be obtained, it is estimated that 40 persons are dead the result of being caught by the water, and 2,000 others rendered homeless. The estimated loss of property is between \$5,000,000 and \$10,000,000.

An international balloon race which started from Kansas City resulted in a victory for the German balloon Berlin. The air craft landed in Chippewa county, Wisconsin, after covering a distance of 750 kilometers. The keenest interest was given to this race, owing to the fact that had the Americans won this year, they would have retained permanent possession of the International Cup for which they contested. This makes two victories for the German and three for the Americans since the races were inaugurated.

The German American National Alliance is now in convention at Washington. The organization is making a strong appeal to both the American and German governments to effect an arbitration

treaty similar to that between this country and Great Britain and France, now pending ratification in the United States Senate.

The victims of the recent flood at Austin, Pa., are now believed to number 74. Of this number 62 have been taken from the ruins. There is much difficulty in removing the debris and 800 employees of the Reno car shops voluntarily came from Williamsport, Pa., to assist in the work.

Cornelius N. Bliss, the famous financier of New York City, and politician, died in that city Monday of heart failure. He was 79 years of age.

The McNamara Brothers' trial, who are under indictment for murder in connection with the destruction of the Times Building at Los Angeles over a year ago, is in progress at that place this week.

The Michigan state tax commission, beginning October 24, will hold a two weeks' session in the senate chambers at Lansing for hearings upon the question of adopting a new system for providing state revenues. A preliminary report has already been completed. Following the hearing, a final report will be compiled and submitted to the governor and the state legislature.

Plans are completed for establishing stock yards at Saginaw. From \$25,000 \$50,000 will be spent in carrying out the project.

The enrollment of students at the Michigan Agricultural College began on September 25, and continued quite briskly throughout the entire week. The total enrollment in all the four and five-year courses up to October 5, is 278. This number is divided as follows, viz. Agriculture, horticulture and forestry, 571; engineering, 452; home economics, 255. Graduation from accredited high schools is required for entrance to the freshman year. The agricultural students are divided among the various classes as follows, viz.: Seniors, 78, juniors, 94; sophomores, 103; freshmen, 201; sub-freshmen 53 and irregulars 42. Nearly 30 men are now enrolled in agriculture and horticulture who have submitted credits from other institutions such as universities, denominational colleges, normals, etc.

Foreign.

The war between Turkey and Italy goes on. According to reports, victories so far have been favorable to Italy. An attempt has been made to restore peace between the two nations but this effort was in vain. Turkey appears to be ready to enter into a treaty suing for peace and Italy would also do this, providing Turkey agrees to transfer Tripoli to Italy and to restore the status previously existing in Turkey before the present trouble began. Turkish troops have withdrawn from Tripoli and the country appears to be well under the authority of the Italian forces. A proclamation has been published freeing the slaves in the entire country. This was the only place remaining on the African coast where slavery still prevailed.

The Spanish troops in Morocco have recently been engaged in hunting down hostile tribes in the country back of Melilla. The tribesmen are determined and only leave their strongholds after they have been overpowered.

The new Canadian government which is being sworn in this week by Governor-General Earl Grey, is constituted as follows: R. L. Borden, of Nova Scotia, Premier; D. J. Hazen, New Brunswick; D. P. Pelletier, F. B. Monk, George Perley and C. J. Doherty, Quebec; Frank Cochrane, W. T. White, George E. Foster, John Reid and Samuel Hughes, Ontario; W. J. Roche, Manitoba; Robert Rogers, Saskatchewan; John Loughheed, Alberta, and Martin Burrell, British Columbia. Earl Grey, the governor-general, will be succeeded by the Duke of Connaught, who will arrive in Canada Saturday from England to accept that high office.

When it became known that the Turkish government intended seizing cargoes of grain passing the Bosphorus, the British and Russian governments immediately made protests which caused the porte at Constantinople to rescind their action. England receives about 50 per cent of her wheat from the country about the Black Sea and should this source be cut off her food supply would be greatly endangered, and Russia's market would be equally disturbed.

Both chambers of the Portugal parliament have been summoned to meet in an extraordinary session next Monday, at which time certain paragraphs of the constitution will be suspended, if the legislative body meets the request of the government, so that a special high tribunal may be constituted for the immediate trial of the 600 monarchists now in jail charged with political offences.

MICHIGAN CROP REPORT.

Wheat.—The final estimated yield of wheat in the state and upper peninsula is 17, in the southern and central counties 18 and in the northern counties 14 bus. per acre. The estimated total yield for the state is 14,144,000 bushels.

The total number of bushels of wheat marketed by farmers in September at 103 flouring mills is 219,717 and at 110 elevators and to grain dealers 329,434 or a total of 549,151 bushels. Of this amount 388,848 bushels were marketed in the southern four tiers of counties, 129,662 in the central counties and 30,641 in the northern counties and upper peninsula.

The estimated total number of bushels of wheat marketed in the two months, August-September, is 4,000,000. Twenty-nine mills, elevators and grain dealers report no wheat marketed in September.

The per cent of acreage sown this fall compared with the average for the past five years in the state and southern counties is 93, in the central counties 91, in the northern counties 94 and in the upper peninsula 92. The average date of sowing wheat in the state is September 18, in the southern counties the 21st, in the central counties the 17th, in the northern

counties the 13th and in the upper peninsula the 11th.

Rye.—The per cent of acreage sown this fall compared with the average for the past five years in the state is 87, in the southern counties 86, in the central counties 85 and in the northern counties and upper peninsula 92.

Barley.—The estimated average yield per acre, in bushels, in the state and southern counties is 22, in the central counties 23, in the northern counties 19, and in the upper peninsula 27.

Oats.—The estimated average yield per acre, in bushels, in the state is 27, in the southern and central counties 28, in the northern counties 21 and in the upper peninsula 34.

Corn.—The estimated average yield per acre, in bushels, in the state is 32, in the southern counties 33, in the central counties 31, in the northern counties 30 and in the upper peninsula 35.

Potatoes.—The estimated average yield per acre, in bushels, in the state is 81, in the southern counties 71, in the central counties 74, in the northern counties 92 and in the upper peninsula 144. Correspondents in many localities report potatoes rotting badly on low land, a result of the heavy fall of rain during the month of September.

Beans.—The estimated average yield per acre, in bushels, in the state and southern counties is 12, in the central and northern counties 13 and in the upper peninsula 17. The U. S. Census of 1910 shows the following counties as having harvested over 10,000 acres of beans in the year 1909: Tuscola, Genesee, Shiawassee, Saginaw, Huron, Eaton, Ionia, Livingston, Gratiot, Sanilac, Clinton, Isabella, Ingham, Lapeer, Montcalm and Kent. Crop correspondents in all these counties, on October 1 report the damage to the bean crop by excessive wet weather at from 25 to 50 per cent.

Sugar Beets.—The estimated average yield per acre, in tons, in the state, southern and central counties is 10, in the northern counties 9 and in the upper peninsula 12.

Buckwheat.—The estimated average yield per acre, in bushels, in the state and northern counties is 14, in the southern counties 15, in the central counties 13 and in the upper peninsula 20.

NATIONAL CROP REPORT.

Official preliminary estimates of production of important crops follow:

Crops.	1911.	1910.
Spring wheat	200,367,000	231,399,000
Winter wheat	455,149,000	464,044,000
All wheat	655,516,000	695,443,000
Oats	873,641,000	1,126,765,000
Barley	145,951,000	162,227,000
Rye	30,677,000	43,039,000
Hay (tons)	46,969,000	60,978,000

The indicated total production of important crops not yet harvested, as shown by their condition on Oct. 1, follows:

Crops.	1911.	1910.
Corn	2,769,348,200	2,125,713,000
Buckwheat	15,699,600	17,239,000
Potatoes	278,551,500	338,811,000
Tobacco (lbs.)	715,542,520	984,349,000
Flax	24,405,300	14,116,000
Rice	22,582,400	24,510,000

Corn—Condition, 70.4; acre yield, 23.8.
Potatoes—Condition, 62.3; acre yield, 79.7. Condition in important producing states follows:

	1911.	1910.	10-yr. avg.
New York	60	79	74
MICHIGAN	70	74	72
Pennsylvania	56	76	75
Wisconsin	83	63	73
Iowa	53	53	71
Ohio	60	68	73
Minnesota	83	52	75
Illinois	42	64	73
Maine	85	88	86
Colorado	20	69	82

Tobacco—Condition, 80.5; acre yield, 801.1 lbs.

Apples—Condition, 59.8.
Spring Wheat—Production, 200,367,000; acre yield, 9.7; quality, 79.8.

Winter Wheat—Production, 455,149,000; all wheat production, 655,516,000; acre yield, 12.6.

Oats—Production, 873,641,000; acre yield 24.8; quality, 84.6.

Barley—Production, 145,951,000; acre yield, 20.7; quality, 84.9.

Rye—Production, 30,677,000.

Hay—Production, 46,969,000 tons.

Buckwheat—Condition, 81.4; acre yield, 19.6.

CROP AND MARKET NOTES.

Newaygo Co., Sept. 30.—We are having lots of rain, which is bad on bean harvest but is making late potatoes, which will be a better crop than expected. Wheat about all sown and is up and looking fine. Some farmers2 husking out fodder corn which is turning out about one and one-half crates to the shock of 10 hills square. A good bit of rye is being sown, which is higher in price than wheat. Fall pasture is good for this time of the year. Peaches were the largest crop in years. A good many winter apples. Hay and feed of all kinds is going to be high in price around here this winter. Nearly all crops are lighter than usual. Not many farms changing hands on account of the bad year.

Northern Isabella and Southern Clare Co.'s, Sept. 29.—Bean harvest nearly over, and a rather poor harvest owing to the damp, cloudy weather. Beans are well podded but poorly filled; don't look for more than eight bushels per acre on an average. Quite a large acreage of wheat is being sown on bean ground, corn husking has commenced and is a light yield. Late potatoes doing fine, as there has been no frost to hurt, and lots of moisture at present. Sugar beet harvest will commence next week; they are about 75 per cent of a crop. Hay is selling from \$15@18 per ton. Farmers are well pleased over the elections in Canada on reciprocity and look for better prices on wheat and a rise in farming land.



Manufacturers' Outlet Sale

of Building Materials and Home Furnishings

We, The Manufacturers' Outlet Company of Buffalo, have undertaken to sell the surplus stock of a certain group of large manufacturers who are content to get out of these goods the money they have in them. They ask no profit whatever. Rather than carry this merchandise over till next season and pay interest, taxes, storage and insurance, they choose to sell at factory cost. We therefore offer

Two Million Dollars' Worth of New Merchandise at 45c on the Dollar!

Forty-five cents at this great sale buys as much as a dollar will buy at any store in your home town. In other words, your money just now goes more than twice as far as it usually does. That's a big saving and one well worth making in

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Your money back if not satisfied.

Goods of Best Quality—No "Seconds"

Do not think, because of the low prices we quote here and in our catalog, just out, that we are selling "seconds" or shelf-worn or out-of-date merchandise. We handle no rubbish from Receivers' or Sheriffs' Sales, no "junk" from wrecked buildings, no damaged Fire Sale Merchandise. Our goods are all bright and fresh, new, up-to-date, the best product of America's best factories.

Everything to Build and Furnish the Home!

There are more than 2,000 separate bargains included in this great sale, at which is offered almost everything imaginable in the way of House Furnishings and Building Materials. The bargains shown here are but a drop in the bucket compared with those shown in our catalog. If you don't see just what you want pictured on this

page, write us anyway. The chances are 100 to 1 that we have the very articles you need, and if we have we will save you 55% on them.

ROOFING, 63c

Nails and Cement FREE

1-ply Rubber Roofing, remnants, per 108 sq. ft., 63c; 2-ply, remnants, 73c; 3-ply, remnants, 83c. 1-ply Rubber Roofing, unlimited amounts, 98c; 2-ply, unlimited amounts, \$1.26; 3-ply, unlimited amounts, \$1.54. This roofing is fully guaranteed to be of the very highest quality—resists fire, water, snow, hail, heat, cold and acids; needs no painting; easy to lay as carpet; no tools needed but hammer.

For Corrugated Roofing, see special prices in our catalog.

Stoves "Dirt Cheap"

Eleven hundred handsome new stoves, direct from Michigan factories. We are authorized to sell these at 35c on the dollar. Includes Cooking Stoves, Ranges, Wood Heaters, Coal Heaters and Base Burners—all going at half-prices. Don't think of buying a stove of any kind till you've got our prices. We guarantee every stove to be a fuel-saver and to give lasting satisfaction. Get the catalog.

New Bargain Catalog Now Ready—Send for It

We are placing our new Bargain Catalog in every home in this country. Don't fail to send for your copy at once. Simply send us the coupon below—or even a postal with your name on it will do. We prepay postage on catalogs to all points within the United States boundaries.

Remember, we guarantee quality, low price, prompt delivery and permanent satisfaction.

Rugs and Curtains at HALF PRICE!

Buy your Rugs, Curtains, Linoleum, etc., of us and furnish two rooms at the usual cost of one. Our patterns are all new and of latest design. Our agreement with this manufacturer is to get \$30,000 cash for him in 20 days. To make sure, we have slashed prices down to almost nothing. Think of buying a beautiful 6x9 rug, like here shown, for \$5.59. This rug is one of the best genuine Tapestry rugs sold, a beautiful rose floral design worked on a green center. This rug is seamless and will outlast the sewed or seamed rug by years. Same quality in 9x12 rugs, only \$10.88.

Do You Need Any of These Things?

In this sale of merchandise at 45c on the dollar are included:

Lumber of all kinds	Radiators
Millwork, Windows	Hardware Supplies
Doors, Balusters, etc.	Stoves, Ranges
Wall Board	Heaters
Paints and Paint Brushes	Furniture—Chairs,
Roofing—Tarred, Rub-	Desks, Dressers,
ber, Corrugated Steel.	Couches, Beds, etc.
Steel Brick Siding	Rugs, Curtains
Pipes and Fittings	Washing Machines
Boilers	Plumbing Outfits

In short, everything to build a home and furnish it comfortably.

FREE! Aviation Pictures and Scenic Pictures of NIAGARA FALLS

To the first 1,500 people who write us and send us the name and address of a neighbor we are going to send a Souvenir Present Free! your choice of a beautiful picture of the great International Aviation Meet, held August 12-20, 1911, or Portfolio of 22 Scenic Pictures of Niagara Falls.

The Aviation pictures show more than 12 airships, all flying at once. They are suitable for framing. Worth 25c, but we give them away (600 of them) free as long as they last.

The Niagara Falls pictures show the greatest wonder of the world in all its varied beauty. Each of these scenes is an actual picture such as you'd pay money for at any store. We will give away 900 of these free.

Be sure to say which you prefer, the Airship Picture or the Niagara Falls Pictures. Remember, we have but 1,500 pictures in all and they won't last long. "First come, first served."

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Either send in the coupon below or your name and address on a postal, at once, if you want our special list of over 2,000 bargains in Building Materials and Home Furnishings. We invite you to take this catalog and compare the things in it, quality for quality and price for price, with all the other catalogs you can get. Our prices are absolutely the lowest and our values the best. We guarantee you new, up-to-date, best-quality goods at less than half prices, delivered promptly. Money cheerfully refunded if not satisfied.

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FREE Bargain List

The Manufacturers' Outlet Co., 494 Waldon Ave Buffalo, N.Y.
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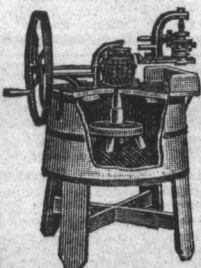
House Paint, \$1.06



Paint your buildings now, while the weather's fine and good paint is cheap. Genuine Buffalo, Ready-Mixed, Guaranteed House Paint, only \$1.06 per gallon in 5-gallon cans! Regular price \$2.25 per gallon. Buffalo House Paint is guaranteed to cover more square feet, surface for surface, per gallon than any other. Does not flake or crack. Wears like iron, preserves buildings and makes them look most attractive.

Barn Paint, 78c

Best ready-mixed Barn Paint only 78c per gallon while it lasts. Selling fast. Write today.



193 Washers Going at \$5.35

Buffalo Roller-Bearer Rotary Washers—193 of them, each selling at \$5.35. This Washer has freed thousands of women from wash-tub slavery. Roller bearings make this Washer the easiest running machine on the market. Telescopic dasher and large tub insure perfect work in one-half time required by other washers. Metal parts are rust-proof. Enclosed gearing prevents accidents to women and children. This machine at your dealer's would cost \$12.50—our price, \$5.35.

Furniture Prices Slaughtered!

Hold off on buying furniture a few days longer, until you hear from us. We offer the most astounding bargains in plain and upholstered furniture the world has ever known. This includes plain Chairs, Rockers, Tables, etc.; Velour, Plush and Buffalo Leather Chairs, Couches, Lounges and Davenport. And if you want genuine leather upholstered furniture, don't lose a minute in writing us. We offer values such as your retail furniture dealer cannot begin to secure from wholesale dealers, so how could the dealer ever hope to meet our prices? It doesn't cost anything to get our catalog of Furniture Bargains, so send for it today and pick out what you want. We save you, on the average, 55c on the dollar on furniture.

Save Lath and Plaster Expense!

No use to use lath and plaster. They are too expensive, and besides, are not so durable as Buffalo Improved Wall Board. This Wall Board makes houses warmer and drier in winter and cooler in summer than lath and plastering. No trick at all to put it on. Anybody can do it. Great stuff for remodeling or rebuilding. You just tack it onto studding or over the old lath and plaster. Weighs so little that freight is almost nothing.

We have a million feet of Buffalo Improved Wall Board, all of which we shall sell in a short time. It won't last long at these low prices. Per hundred square feet, \$2.35; per thousand square feet, \$22.50. Samples sent free to anybody. Better write now, while you are thinking of it.

Beds Almost Given Away!

How's this? A beautiful enameled iron bed, fine cotton top mattress and woven wire springs, all for \$10.25. Head is 61 1/4 inches high, foot 41 1/4 inches, post 11 1/2 inches in diameter. Sizes, 4 feet 6 inches or 4 feet 3 inches. Guaranteed mattress and springs. All for \$10.25. This bed has brass filling in head and foot. Less than 100 of this particular style and price left, so if you want to get in on this great bargain, better write at once!



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Remember, this Manufacturers' Outlet Sale includes over 2,000 more bargains, besides these. Some are even more startling than we picture and describe here.

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THE MANUFACTURERS' OUTLET COMPANY, 494 Waldon Ave Buffalo, N.Y.

PRACTICAL SCIENCE.

THE CHEMICAL CONSTITUENTS OF SOILS.—IV.

BY FLOYD W. ROBISON.

Aside from the element Nitrogen, the various elements which we discussed in our previous study are so abundant in nature and the balance is so arranged that it is unnecessary in agriculture to give economic consideration to them. The elements Nitrogen, Phosphorus, Potassium and Calcium, however, are of such vital importance to agriculture that it is desirable and imperative in fact to keep somewhat close track of their relations in the soil and in the crops. It is certain, of course, that they are no more removed from their participation in one way or another in the affairs of the universe than are the other elements, but they are quite easily removed from the sphere of their active relation to agriculture.

Until comparatively recent times it had been supposed that with the exhaustion of the supply of Nitrogen in the soil, vegetation must cease. It was known, of course, that there was a tremendous supply of Nitrogen in the air but how this Nitrogen could be made available was the problem that was confronting the agricultural scientists. In fact, agricultural economists were going almost hysterical from the knowledge that the supply of Nitrogen in the soil which was available for plant growth was being rapidly exhausted and no adequate amount was being returned through fertilizers and manures. A widespread scientific opposition to the burning of any material which might contain Nitrogen sprang up because it was observed that in burning the material the Nitrogen therein was converted into Nitrogen gas and went to take its place with the inert Nitrogen of the air, and thus, it was supposed, became lost to agriculture.

Practically, the first relief from this unpleasant supposition came in the discovery by Hellriegel, that certain plants had on their tiny rootlets a little parasitical plant, as was at first supposed, and that this plant, which he called the microbe plant, seemed to have power to transform the Nitrogen gas which surrounded the rootlet in the soil into a form which the rootlet could absorb and turn into plant tissue. This discovery was the beginning point of the study of the relation of bacteria to plant life. We now know with certainty that the class of plants belonging to the leguminosae order, or clover family, have the power, by means of these same nodules which affix themselves to the rootlet to change the otherwise inert Nitrogen of the air into a form available for plant growth. This discovery aided very materially the efforts of scientists in so far as the Nitrogen supply was concerned. We shall have occasion to study the question of microbe life in greater detail a little further on. This discovery centered attention only more decidedly upon this element Nitrogen.

It seems to me that Nitrogen is the most interesting, from an agricultural standpoint, of all the elements which enter into plant growth. It occupies the extremes of nature. In the atmosphere as a gas it is one of the most inert if not the most inert element with which we have to deal. As a gas it is not inflammable, it is odorless, tasteless, and seemingly occupies no office other than that of a diluent of the Oxygen with which it is mixed. While this element as a gas is the most inert element with which we have to deal, on the other hand, in its various combinations in Nitro-Glycerine and gun cotton, and various forms of explosives, it is again the most active element with which we have come in contact. It forms in proper combinations the most violent explosives known. Again this Nitrogen which as a gas is so inert and so valueless and yet which in another way, its other extreme, is such a powerful explosive, is in the form of Prussic Acid, one of the most deadly poisons known to man. In another of its combinations (i. e. Protein), this same element Nitrogen forms one of the most valuable food stuffs. In fact, in food stuffs it is absolutely indispensable for the nourishment of the animal kingdom. Again in the form of nitrates and soluble salts it forms one of the most valuable and expensive manures and is of inestimable value to plant growth.

Is it any wonder that this element Nitrogen fascinates one. In its free form

a practically inert, inactive, non-toxic, seemingly valueless element: in its combinations, it is firstly, a highly explosive substance; secondly, a deadly poisonous substance; thirdly, a valuable food material; fourthly, an exceedingly valuable fertilizing constituent.

Life activity cannot take place in the absence of Nitrogen. Sugar, starch and oil, or fat, are exceedingly valuable food materials but an animal will starve with an abundance of these materials to eat, provided he is not supplied at the same time with a certain amount of Nitrogenous food. It is evident, therefore, that there must be a point, a certain balance, between the nitrogenous portion of the food and the sugar and starchy portion of the food, which is the optimum point for animal life. This has given rise to the balanced ration which we shall have occasion to refer to further on in our study of feeds and feeding.

In our study of the excretions of the animal body, the study of the income and outgo of this element Nitrogen furnishes one of our most interesting studies. In the examination of the waste of farm manures it is the element Nitrogen which here again is of such great economic interest to us. We shall be referring to it in one way or another all through our course in agricultural chemistry.

COMMERCIAL FEEDING STUFFS.

The effect of the continuous teachings of our experiment stations, farmers' institutes and agricultural papers has resulted in proclaiming Michigan to be a more or less ideal dairy state. We have not yet realized to the fullest extent that our soil and our climate are as favorable to the development of the dairy industry as is that of any state in the union. The increased attention given to dairying and to stock raising, however, shows that it is simply a question of time until Michigan will be considered one of the extremely important dairy and stock raising states. Our sister states to the west of us, with soil of no greater value and with climate no better adapted to these agricultural pursuits than is Michigan, have developed these industries to a magnitude far beyond us. These industries likewise have proven very valuable assets to the agricultural interests of these states. To dairying and to stock raising probably more than to any other pursuits should we give the credit for teaching our people the value of a scientific study of the farm and its various operations. The subject of dairying has compelled the undertaking of the growing of crops upon the farm upon a scientific basis in order to make a success of this industry and more especially to compete in the markets of the world with the various dairy products from other localities.

There was a time when it was considered a disgrace for a farmer to buy feed. The farm was supposed to raise the feed sufficient to supply all of the stock on the farm, but with the arrival of dairying and stock raising it soon became apparent that the farmer could not hope to compete successfully and depend entirely upon crops grown upon his own farm. Dairy conditions and stock raising conditions require merely that the roughage should be raised on the farm and necessitates that the farmer shall go into the markets and purchase the concentrates, or the grain portion of the ration. This necessity has given rise to the placing upon the markets of greater quantities and greater varieties of so-called commercial feed stuffs, and this condition has called forth the regulating hand of the law in order that the dairyman and the feeder shall not be at the mercy absolutely of the commercial interests.

It was the good fortune of the writer to have assisted actively in the formation of a commercial feeding stuffs law in the state of Michigan. That law is now upon our statute books and should insure a reasonable protection to dairymen and stockmen within this state.

In the state of Michigan, the thing to be most desired in the purchase of commercial feeding stuffs is the percentage of protein therein contained. Few of the farm crops contain a sufficient amount of protein to make a proper balance of the various constituents in the ration of the farm animal. Commercial feeding stuffs we therefore purchase for the purpose, primarily, of securing the highest content of protein obtainable. In comparing

different feed stuffs we therefore determine, or should ascertain first of all, which feed furnishes the largest amount of protein for one dollar. But this is not all. The total amount of protein is not always the criterion by which we should be guided. For example, one feed may contain 20 per cent of protein, another feed may contain 16 per cent of protein, and yet it is possible that the one containing the lower content of protein is the more desirable and the more economical because perhaps this protein content is much more completely digestible than is the one containing the 20 per cent. The factor which determines to a large degree the question of the digestibility, we term Crude Fibre. The larger the amount of crude fibre, in the feed, the lower the digestibility of that feed. For example, wheat straw contains about 30 per cent crude fibre. Now it is certain that a cow cannot be kept at a profit on wheat straw. The effort made by the animal economy to absorb and utilize the four or five per cent of protein which wheat straw contains is so great because of the large percentage of crude fibre which the animal must digest before she can absorb the protein, proclaims that wheat straw is not a suitable ration, in itself, for the dairy cow. On the other hand, certain concentrated feeds, such as cottonseed meal, contain such a small amount of crude fibre that the protein in the same is very nearly all digestible. Were the animal's digestive processes merely mechanical a feed with practically no crude fibre would be the ideal feed, but to keep the animal in perfect health it is necessary to provide her with some of the bulky material which prevents the impaction of the food in its movement down the alimentary canal. Therefore, that food is selected which is the best balance between the easily digested concentrate and the more bulky, less digestible roughage. As the dairyman ordinarily has a sufficient amount of roughage on his own farm he does not go into the market to purchase roughage. He needs concentrates to combine and balance with the roughage which he has on his own farm. He therefore selects that feed which is the lowest in crude fibre.

His effort, then, is first to get the highest content of protein which he can obtain for a dollar and also that feed which at the same time contains the lowest content of crude fibre.

FLOYD W. ROBISON.

LABORATORY REPORT.

The sample of cottonseed meal submitted by R. D. L. showed the following analysis:

Moisture	9.41 per cent
Protein	39.81 per cent
Crude Fibre	9.20 per cent
Nitrogen-free extract	27.94 per cent
Ether extract	10.14 per cent
Ash	3.50 per cent
Approximate digestibility	70.00 per cent

The sample of "Canning Compound" submitted by Mrs. C. H. R. was found to be Boracic Acid.

This product has been used to a considerable extent of late by women in canning corn, etc. It formed the subject of an extensive investigation by Dr. Wiley and his associates in the famous "Poison Squad" experiments and was severely condemned by him as an ingredient of food stuffs. We believe it a great mistake to use this product in the preservation of food products, especially in canned food products where it cannot be removed before placing on the table, and the writer has always condemned its indiscriminate use.

BOOK NOTICES.

"Meadows and Pastures," a new book by Joseph E. Wing, for which the author has been collecting material for many years, has just been published by the Sanders Publishing Co., of Chicago. This book is the result of the author's investigations and observations, made in every state and in several foreign countries, in addition to his own extended experience as a scientific farmer, to the growing of common grasses which have an economic value in meadows and pastures. This is a handsome volume of 418 pages and more than 60 illustrations and is designed especially for stock farmers who wish to secure the largest returns from meadows and pastures. It gives definite instruction concerning every phase of the subject in the comprehensive discussion of the methods to secure and maintain profitable meadows and pastures. It has a special article governing each state, aside from the general discussion, which makes it a most practical and valuable book for every farmer. It is the first attempt to show that grass intelligently cared for and used is the most profitable crop in America. Price, prepaid, \$1.50, may be ordered through the Michigan Farmer.

A FINE NIGHT-CAP

The Best Thing in the World to go to Bed and Sleep on.

"My wife and I find that 4 teaspoonfuls of Grape-Nuts and a cup of hot milk, or some cream, with it, makes the finest night-cap in the world," says an Alleghany, Pa., man.

"We go to sleep as soon as we strike the bed, and slumber like babies till rising time in the morning."

"It is about 3 years now since we began to use Grape-Nuts food, and we always have it for breakfast and before retiring and sometimes for lunch. I was so sick from what the doctors called acute indigestion and brain fog before I began to use Grape-Nuts that I could neither eat, sleep nor work with any comfort."

"I was afflicted at the same time with the most intense pains, accompanied by a racking headache and backache, every time I tried to eat anything. Notwithstanding an unusual pressure from my professional duties, I was compelled for a time to give up my work altogether."

"Then I put myself on a diet of Grape-Nuts and cream alone, with an occasional cup of Postum as a runner-up, and sometimes a little dry toast. I assure you that in less than a week I felt like a new man; I had gained six pounds in weight, could sleep well and think well."

"The good work went on, and I was soon ready to return to business, and have been hard at it, and enjoying it ever since."

"Command me at any time any one enquires as to the merits of Grape-Nuts. You will find me always ready to testify." Name given by Postum Co., Battle Creek, Mich.

Read the little book, "The Road to Wellville," in pkgs. "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

Deaf People Hear Whispers

With Common-Sense Ear Drums
—"Wireless Phones for the Ears"

For twenty years the Common-Sense Ear Drums have been giving good hearing to hundreds of thousands of deaf people, and they will do the same for all who try them.

Every condition of deafness or defective hearing is being helped and cured, such as Catarrhal Deafness, Relaxed or Sunken Drums, Thickened Drums, Roaring and Hissing Sounds, Perforated or Partially Destroyed Drums, Drums Wholly Destroyed, Discharge from Ears—no matter what the cause or how long standing the case may be, there is hope of good hearing for all the afflicted deaf.

The Common-Sense Ear Drum is made of a soft, sensitized material, comfortable and safe to wear. They are out of sight when worn, and easily adjusted by the wearer.

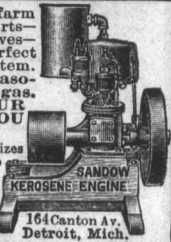
Good hearing brings cheerfulness, comfort and sunshine into the life of the lonely deaf. Our Free Book, which tells all, will be sent on application. Write for it today to

WILSON EAR DRUM CO. (18)
205 Todd Building Louisville, Ky.

Sandow \$37⁵⁰ 2½ H. P. Stationary Engine—Complete

Gives ample power for all farm uses. Only three moving parts—no cams, no gears, no valves—can't get out of order. Perfect governor—ideal cooling system. Uses kerosene (coal oil), gasoline, alcohol, distillate or gas. Sold on 15 days' trial. YOUR MONEY BACK IF YOU ARE NOT SATISFIED.

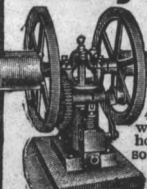
5-year ironclad guarantee. Sizes 2½ to 20 H. P., at proportionate prices, in stock, ready to ship. Postal brings full particulars free. Write for proposition on first engine in your locality. (116)
Detroit Motor Car Supply Co., Detroit, Mich.



STOP! STOP! STOP!

Thirty Days Trial of

United States Bonded Engine. Burns gas, gasoline, kerosene, distillate. Consider these 12 Advantages—12 1st, Pays for itself in fuel saving in short time. 2nd, No violent vibration. 3rd, Greatly reduced bulk. 4th, Easily portable; mounted anywhere. 5th, Every engine part and horse power guaranteed. 6th, Absolutely frost proof. 7th, Positively most economical running engine made. 8th, Only engine with pulley on both sides. 9th, Small pulley on cam shaft, for very slow machines. 10th, Perfect lubrication, cooling & ignition. 11th, Lowest cost engine in the world. 12th, Made by reputable firm, 50 years in business. United States Engine Works 1603 Canal St., Chicago, Ill.





FREE this real leather bill fold for the head of the Farm

(Not for boys—they're all right and their turn will come later—but this is for the boss.)

Thousands of farmers will buy gasoline engines this fall and winter. I want to get in direct and personal touch with every one of them, as I want them to know about the Olds Engine.

If you are going to buy an engine, or are thinking about it, you ought to know what an Olds Engine will do for you. I want to tell you about them—give you just the information you want—so if you will fill out the coupon below (or write me a letter) saying what size engine you want, whether portable or stationary, and when you expect to need one, without asking you to make any promise or obligating you in any way, I will send you absolutely free this genuine calfskin bill fold, stamped with your name in gold letters.

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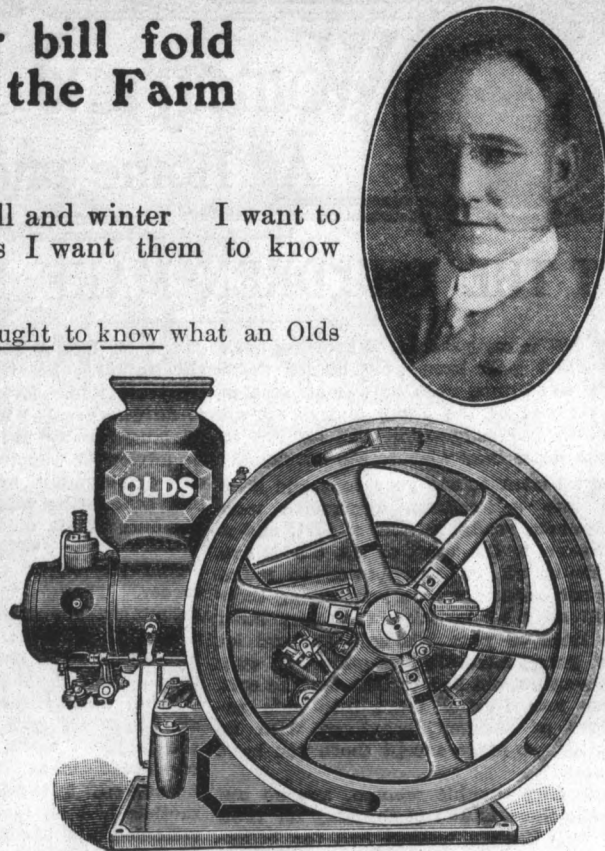
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WILLIAM LOUDEN

Woman and Her Needs

At Home and Elsewhere

LET THE CHILDREN MAKE MISTAKES.

HOW many parents of growing boys and girls keep ever before them the future man or woman who is to grow out of the child, and direct all discipline and suggestion with an eye to the character they wish to see developed?

You all want to see your boys and girls grow into self-reliant, aggressive men and women, ready to take a part, and a large part, in the work of the world. Are you doing all in your power to make them self-reliant, or are you stifling their individuality by insisting that they mold their lives to your wishes? Do you let them grow, naturally, nipping off only the thoughts and habits that tend to evil, or are you forcing them into pale reflections of yourself, creatures with no initiative, no ideas except those you have expressed?

Energetic, capable women, are so apt to make the mistake of thinking for their children. Such a woman had the bringing up of two children, a bright boy and girl, each with ideas of their own which they were very anxious to try out. But the mother simply could not live with anyone who had ideas different from hers, and she set herself to work to mold her children over. With the girl she tried coercion. The poor youngster was literally ruled with a rod of iron, she was allowed no friends except of her mother's choosing, no clothes, no amusements, no occupations which were not first suggested by the mother. Even her thoughts she dare not express, though it is to be hoped she hugged them secretly. Naturally timid and sensitive, she submitted, and has grown into a colorless woman, still living in fear of saying or doing the wrong thing, absolutely without initiative, and so dependent a creature that should she be left penniless she wouldn't know how to set to work to earn a dollar.

With the boy coercion did not work. He inherited a large share of his mother's disposition, (temper, the neighbors

called it, but neighbors are always uncharitable). So with him the mother tried ridicule. Everything he attempted to do was greeted with derision and hoots of laughter by his mother. Every idea he advanced was treated as a joke. Every employment he wished to enter or new scheme he wanted to try were made the butt of his mother's so-called wit.

And the effect was ruin to the boy's career. Though he doggedly refused to submit to his mother's will, he became a coward at heart. He dared not assert himself at home because of her volleys of ridicule and he hesitated to express an opinion abroad for fear he might after all be wrong and his mother right. In the business world he was afraid to ask for advancement, afraid to demand what he secretly felt was his due, because his mother had so long and so continuously ridiculed his ability and openly taunted him with being too small for his job.

Of course, this woman was exceptional. But many parents are making the mistake of meddling too much with their children. They are over-anxious to set their boys and girls right, so anxious they can not bear to see the children make a false move. They spoil a great deal of valuable experience for their children by telling them what they should do, when it would be much better to let the child go ahead and make a few mistakes. Do you not know in your own experience, that you learn more from one mistake than from all your successes? If you spoil a garment by laying the pattern the wrong way on the cloth, you never forget your experience and you never spoil another. So it is with children. Let them go ahead and make their mistakes. Better a few little mileposts like this, if it is tending to self-reliance, than a life without blemishes, but which is directed always by others.

DEBORAH.

SOME USEFUL EMBROIDERY STITCHES.—No. 10.

MAE Y. MAHAFFY.

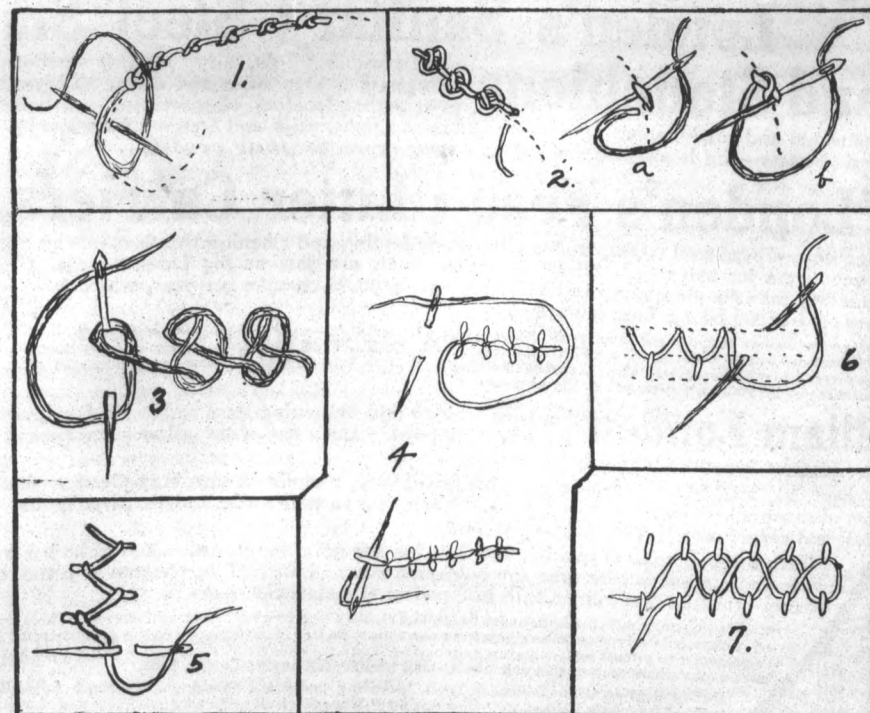
There are numerous useful stitches in the embroidery line which are not so familiar to the average worker as they well deserve to be. A few of these appear in the illustrations herewith, and from the explanations given it is hoped that everyone who wishes to master their intricacies will be enabled to do so with little difficulty.

Number 1 is known as braiding or knotting stitch. We have already discussed French knots and bullion stitch, but there are other knot stitches which are equally serviceable which may be used for continuous lines, and this is one of them. It was quite the thing among workers of the seventeenth century to knot thread by the skein or ball preparatory to couching it down upon the fabrics which they embellished with embroidery stitches, and today in some Chinese and Japanese work the same plan is followed. A majority of us prefer, however, to make the knots as we proceed with the embroidery, and by working in this method we may do so.

Bring the thread up from the wrong side at one end of the outline, and lightly holding it in advance along the outline, take a short crosswise stitch under the line, throwing the thread under the point of the needle. A knot is thus tied, and these knots should be placed at regular intervals as far as needed. Curved lines are readily followed in this stitch, and it is sometimes used for outlining leaf veins in work combining various fancy stitches. When placed right along the edge of a hem or border it is known as knotted edging, and gives a quaint, pretty finish.

The German knot stitch is shown at No. 2, another device for following outlines, the knots being set close together or spaced evenly. Bring the thread up on the outline, and take a short stitch under the outline a little in advance, drawing the thread down snug. Now run the needle under this stitch from

above, as appears in "a" of the diagram, and leave the thread just the merest trifle loose. Again run the needle under the first stitch in advance of the point where it previously passed under, keeping the thread under the point of the needle, and draw it up taut, not so tight as to spoil the effect of the knot, yet not loose enough to catch. This process ap-



pears in "b." The needle is now inserted under the line in advance for the beginning of another knot. The explanation seems rather intricate, but with needle and thread at hand it will not be found hard to work.

The next stitch, No. 3, is a sort of double knot, which, when worked along closely somewhat resembles some varieties of braid, hence its name, braid

stitch. For the best results with this stitch use a rather strongly twisted thread. The stitch should not be more than a quarter of an inch across when heavy floss is used, and an eighth of an inch will be sufficient for finer threads. Two lines may be traced as guides so that the stitch will retain the same width throughout. Bring the thread up on the lower line at the right hand end, throwing the thread across to the left, to form a loop, into which the needle is thrust on the upper line, the thread being back toward the needle. The needle is then brought out on the lower line with the thread under its point, and drawn down to form the knot.

No. 4 is the backbone stitch, neat for outlining, or for covering a seam, and may be made with quite close set stitches, or with greater latitude, as the space warrants. Work from right to left along the outline, and if a wide effect is to be secured it will be a help to add a line above and below the main line, using a pencil or basting in a thread. Bring the needle up on the main line, and take an upright stitch by inserting the needle in advance on the upper line, bringing it out directly below on the lower line. This step appears in the upper sketch. The next step is shown in the lower sketch. The thread having been drawn through the needle is run up under it from below, and when drawn up will catch the former thread down to the main outline, leaving a short stitch projecting at either side.

Border stitch, No. 5, is worked something like herringbone, but with the short stitches standing out instead of running with the edges. This stitch and the two following are good for long spaces where something fanciful is needed.

Tied stitch, No. 6, requires three simulated or real lines, equally distant, or with the lower one somewhat closer to the center than the upper one, since it is not necessary to have long single stitches. Bring the thread up on the upper line; insert the needle in advance on the upper line, bringing it out on the central line midway between the starting point and the point of insertion. Now insert it again on the lower line directly beneath and bring it out on the upper line ready to take the next stitch. Interlaced tied stitch is an adaptation of this stitch which opens the way for the utilization of two colors. Make the regular tied stitch in one color; then with another, twist around each of the long stitches

twice, and once around the short ones.

Spike and ring stitch is the remaining one, pictured in No. 7. Two parallel rows of short stitches across the outlines are placed exactly opposite. Another thread, which may be of a different color if desired, is then laced back and forth, always skipping one stitch. Still another thread then laces the stitches formerly omitted.

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THE YOUNG MOTHER AND THE FIRST CHILD.—No. 5.

If Baby Must Have a Bottle.

Thrice blessed is the mother whose baby is fed in the natural way. Of course, not every bottle-fed baby is bothered with malnutrition, but so many are that the average mother of the bottle-fed baby is the victim of a constant small worry. If baby must have the bottle try at first a mixture of pure cream and water, one part cream to four of boiled water, and either sterilize the whole or add two tablespoonfuls of lime water to the whole day's feeding. At the end of three weeks begin to add skim-milk to this solution and keep on adding at the rate of a teaspoonful daily until baby has all the skim-milk he can digest.

If he does not thrive on this formula, take him to a child specialist who can tell you exactly what is wrong and just what food will agree with him. Do not be foolish enough to experiment on the baby or allow some doctor who has never made a study of baby cases, to bungle along until your baby is dead. Above all, don't try everything the neighbors tell you to try. Take your formula and follow it until you see it is not the thing. Then go at once to someone who knows. It will cost you a little in money, but it will save you a thousand times as much in anxiety, loss of sleep, ill health, and possibly your child's life. Besides, specialists do not ask the exorbitant fees you imagine they do. They are all very kindly men who look their patient over and "temper the wind to the shorn lamb." They can tell very well whether you have plenty of money, and if you haven't you will not be asked a high fee.

If baby's food is wrong, you will quickly know it. He becomes thin and blue in color; frets continually, gnaws at his little fingers, and exhibits every sign of distress. His stools will be slimy, loose, perhaps green in color. In less time than it takes to tell it he will resemble a little East Indian famine sufferer or a "before taking" baby food advertisement picture. Your neighbors will all tell you he has consumption and will cheer you up by telling you how Cousin Sarah's baby died the same way. They will probably tell you everything Sarah tried for baby and urge you to try the same things, possibly to get your baby out of the way quicker. One person will recommend one baby food and another a different brand. Shut your ears to all and find out what your own baby needs. Remember, what is one man's meat is another man's poison. What might agree with one baby might not agree with yours, so study your own individual case.

A small pair of scales is almost an essential with a delicate baby. Weigh him every second day and see if he is gaining, losing or simply holding his own. If he holds his own it is probable the food is all right, but he is not taking enough of it. Try to increase the amount he takes gradually. Some babies never grow rapidly or put on much flesh until they begin to take some starch. As the salivary glands are not ready to digest this sort of food under seven months many babies are thin until that age, when they may be fed starch in some form.

(Questions concerning diet, clothing or anything else regarding the child will gladly be answered.—Ed.)

GETTING INTO A RUT.

BY ELLA E. ROCKWOOD.

Sometimes we point to some one of our acquaintances who is no longer young and is becoming of decidedly fixed habits of life and declare that that person is getting into a rut. But do we ever stop to think that possibly the same thing may be true of ourselves?

It is very easy to fall into habits, either good or bad. Following the everyday routine of life becomes second nature after a few years and anything outside of this routine means an effort. Hence we allow ourselves to drift with the current following the lines of least resistance, which means that we have gotten into a rut.

Some housewives get into ruts. Their way of doing things seems the only way. They do not try new and advanced methods, pleading that the one they are familiar with is good enough. The same old rules of cooking, the same way of washing, even the same way of cleaning house, is followed year after year.

How many married couples get the habit of staying at home so fixed while the children are small that it follows them all the rest of their lives? How many fail to join the grange or farmers'

club because the effort to get out among people, to dress up and get away from home, seems too great? They are accustomed to going to bed at an early hour and being up later breaks them all up. Working people need plenty of sleep but a night out once in a while is good for all of us.

Think this over, Mr. and Mrs. Stay-at-home, and decide right now to get out in society a little more the coming winter. It will do you both all kinds of good.

HOME QUERIES.

Reader:—A pretty Angora baby bonnet may be easily crocheted. Start with a chain of three stitches and join to form a loop. Then crochet round and round single crochet, enlarging by making two stitches in each stitch the first time around and two in every second stitch in each succeeding row. Crochet in this way until a circle large enough for the back is done. This you can determine by trying on your baby's head. Then crochet a straight strip for the front of the bonnet and join to the circular back with a single crochet. The edge is pretty finished with crocheted scallops of silk.

SHORT CUTS TO HOUSEKEEPING.

Ground charcoal gives knives a splendid polish.—M. A. P.

When shaking small rugs bring the two ends together and shake double. They will not fray at the ends and will last much longer.—Mrs. A. D. P.

A neat scrap box is made by covering old cereal boxes with crepe paper.—E. L.

In mixing pie crust make enough for two or three bakings and after using what is wanted drop the rest into a pan of flour. It will keep better than if put into a dish.—E. L.

Small punctures in hot water bags or rubber gloves may be repaired by this method: Apply a small patch of tailors' mending tissue, and moisten with chloroform; lay on a second patch, and moisten again, proceeding thus until four or five patches have been applied. The chloroform dissolves the tissue, and when it evaporates, a firm patch adheres to the rubber.—Mrs. H. L.

MICHIGAN FARMER PATTERNS.

These patterns may be obtained from the Michigan Farmer office at the prices named. Be sure to give pattern number and the size wanted.



No. 4527—Ladies' Plain Shirt-waist. Seven sizes, 32 to 44 inches, bust measure. For 36 bust it requires 2½ yards 27 inches wide. Price 10 cents.

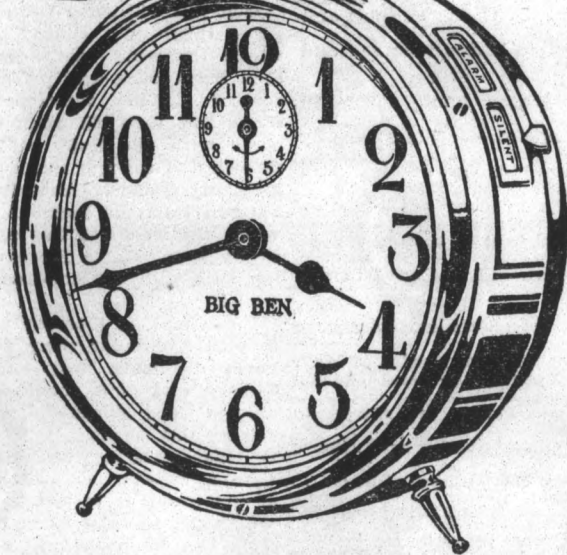
No. 5580—Ladies Tight-fitting Corset Cover. Cut in 7 sizes, 32 to 44 inches bust measure. Size 36 requires 2¼ yards of 18-inch all-over, or 1 yard of 36-inch plain material. Price, 10 cents.

No. 5257—Ladies Long Coat. Cut in 4 sizes, 32, 36, 40 and 44 inches bust measure. Size 36 requires 4½ yards of 34-inch material. Price, 10 cents.

No. 5591—Ladies Two-piece Skirt Closed at Left Side. Cut in 5 sizes, 22 to 30 inches waist measure. Size 24 measures 3 yards around lower edge and requires 2½ yards of 50-inch material. Price, 10 cents.

No. 5572—Boys' Long Overcoat. Cut in sizes, 6, 8, 10 and 12 years. Age 8 requires 1½ yards of 54-inch material; ¼ yard of 20-inch velvet. Price, 10 cents.

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WM. C. FIERO.

HOME AND YOUTH

WHEN THE MAPLE LEAVES TURN
TO RED AND GOLD.

BY ANNA STERNS.

The poet sings of spring, of leafy June;
Of tender bud and roses' sweet perfume;
Of wild bird's song and lambs within
the fold;
But there is yet a better, sweeter time
Than sunny May, the theme of song and
rhyme,
'Tis when the maple leaves turn red and
gold.

'Tis when the grapes hang purple in
the sun,
The nuts and apples dropping one by
one,
And the distant hills grow dim with
purple haze;
When the shocks of corn are standing
brown and sere,
The fire upon the hearth bespeaks good
cheer,
And the leaves are red and gold in au-
tumn days.

The winter has its sports and pleasures
gay;
Likewise we love the sunny skies of May,
While summer does a thousand charms
unfold;
But somehow our hearts are drawn to
things above—
We can better understand our Father's
love
When the maple leaves have turned to
red and gold.

AUTUMN TRAMPS.

BY MARY MASON WRIGHT.

The autumn months are the months of
all others for tramps afield. The relief
from the intense heat of summer, and
the crisp autumn air, invigorating as a
tonic, creates a desire for active outdoor
exercise; and then Mother Nature at this
season of the year has a charm and ma-
ture beauty that draws one to her, for
she is glorified by the richest robe in her
wardrobe—a suit of orange, scarlet, gold
and green blending harmoniously to-
gether.

It is at this season of the year that
mothers should lay aside some of their
household cares and duties and take
health-giving tramps in woods and mea-
dows in company with their children or
other mothers. Those mothers who have
not tramped afield, who have not ploughed
their way through heaped-up brown and
rustling leaves, to come back covered
with "beggar-lice" and "stick-tights,"
with hands and arms full of golden-rod
and purple asters, branches of gay au-
tumn leaves, bright berries and pretty
grasses and a feeling of new life and an
appetite which makes even the common-
est fare seem good, have missed something
in life; and if she has been able to show
her children new beauties in nature, and
kept them nearer herself, she has added
something more to these tramps than
mere pleasure.

October is one of the best months for
these outdoor tramps, since there is a
brilliance in nature not found as late as
November, yet there is still much in this
later autumn month that will repay one
for such walks. October is the month
when the squirrels are busy laying up
their winter store of nuts and seeds. How
interesting to quietly watch the saucy
chipmunk or red squirrel as he carries
the nuts to his general storehouse, and
how he scolds if he catches sight of you;
it is also interesting to note how the
gray squirrel buries his nuts here and
there, singly instead of in a general store-
house, and one is puzzled to know how he
will be able to locate the exact spot
where he buried the nut when he wants
to make a meal. This is also the month
when the birds are migrating to a south-
ern climate and stop to feed on the ber-
ries and seeds by the way, to sustain them
on their long journey. As you ramble
along the wood's edge and through the
thickets you will see some of the warb-
lers, a goldfinch, a robin, and mayhap a
bluebird or oriole as they flit about from
bush to weed stalk to rifle the bushes of
their bright berries and the seedpods of
their contents. If we want any of these
bright berries for decorating our homes
and tables at Thanksgiving or Christmas
we must not tarry too late in the season
for few of them escape the keen eyes.
A good plan is to gather them as soon
as they ripen and hang up the branches
until they are needed to decorate the
Thanksgiving or Christmas table. In Oc-
tober we find the hillsides and roadsides
covered with the golden-rod, which is
surely a reflection of our autumn sunsets.
How we delight to gather great armfuls
of bloom, fill a blue bowl or a little birch-
bark canoe or basket with the golden
bloom to decorate the center of the table,

and to fill other bowls and jardinières
with them to place about the rooms.
Then the wild asters, in their shades of
purple, violet and blue, may be found by
roadways and the edges of woods in many
places in profusion and make fine bou-
quets.

Milkweed pods make the finest kind of
filling for sofa pillows and sachet bags.
It is best to gather the pods in the au-
tumn before they burst open. Sling a
bag over your shoulder before starting
out on your tramp. With a little diligent
search you will come home with it filled.
Place them in a sunny, airy place but
where the wind won't disturb them as
they burst open and reveal their downy
contents. When they open, remove the
seeds and then fill your pillows or sa-
chets with the fluffy milkweed. These
pillows and sachets make fine Christmas
gifts for friends. Another object in an
autumn tramp is found in the nuts with
which the woods at this season are plen-
tifully supplied. A day spent in gather-
ing nuts with the children is well worth
while.

When making these autumn tramps try
to plan a circular route and don't come
home the same way you started out.
Women and girls should dress comfort-
ably in short skirts and wear low-heeled
comfortable shoes. A flannel shirtwaist
or blouse can be worn, and it is well to
take a sweater or a light wrap along.
If the tramp is to last a whole day you
will want to take some luncheon along.
This can be packed in shoe boxes and
strapped securely on the back or hung
over the shoulder by a strap. These
boxes should be packed with substantial
food, since the active exercise is pretty
sure to produce phenomenal appetites.
Even when going on a few hours' tramp
it is well to take a few sandwiches or
cakes along.

RUTH, MARTHA, AND JANE.

BY WILLIAM A. FREEHOFF.

Ruth, Martha, and Jane were three
sisters, and they were as unlike as sisters
can possibly be. Their father was a min-
ister and had given them their plain,
unassuming names. Their mother died
when Jane, the youngest, was barely five.
For several years after that the pious
man had struggled along manfully with
his three charges, doing his duty by them
as he saw it, and then he, too, was
stricken. As he lay upon his deathbed
he called his daughters to his side.

"I am going on a long journey," he
said. "You will see me no more, but I
shall be with you in spirit, always. Be
true to yourselves and to your Master,
so that by and by we may be re-united in
Paradise." With these words he died.

Ruth was the oldest. Her father had
always said that she resembled her moth-
er more than the other daughters, not
only in personal appearance but in char-
acter also. She was a busy little house-
wife if ever there was one. It was her
pleasure to keep the home in order after
the death of her mother and to see to it
that the domestic machinery ran smooth-
ly. Among the neighbors she was known
as a ministering angel. Whenever she
heard of sickness or of trouble of any
sort, she was the first to give aid and
comfort. The older she grew the more
popular she became among her associates,
and when she married the man who, for
largeness of heart and nobility of char-
acter, was the cream of the village man-
hood, nobody was very much surprised at
her good fortune, and all predicted a
happy future for the young couple. And
they did lead a blessed life. Neither
fame nor fortune was her husband's lot;
she was no society belle nor talented lit-
erary woman; between the two, however,
the spirit of home hovered about their
hearth. Never did parents possess such
well behaved children nor bring them up
in such ways of goodness and truth.

Nobody would ever have mistaken Mar-
tha for a housewife. There was some-
thing indefinable in her appearance which
precluded any possibility of that. She
was tall and angular, and her clothes
were never known to fit her properly.
Martha was a voracious reader. Her
father had always experienced much
difficulty in restraining her appetite for
books. Knowledge came easy to her and
she grasped every opportunity to obtain
it. Leaving to her sister the bulk of the
struggle to rear Jane decently, she de-
voted herself to her High School career.
Taking a prominent part in the activities
of that institution she organized a girls'
literary society and was its moving spirit.
Day and night Martha preached the doc-
trine of equality for women, never miss-
ing a chance to argue the question with
anybody who dared champion the opposi-

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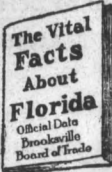
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tion. Her companions, save a few who agreed with her, regarded her with disapproval; she was the despair of her teachers. Martha never married, never having received a proposal, and would most probably not have accepted even if she had. Never was suffragette more militant than she, never was forlorn hope led with greater desperation. But failure and disappointment, and the defection of womankind itself from the movement she represented, served to sour her nature to such an extent that at sixty she confessed her life to have been a mistake.

Jane, the youngest, was most radically different from either Ruth or Martha. Not only was she very beautiful, but her actions were graceful and pleasing. A swarm of young men perpetually haunted her steps while she attended school; it was considered only natural that she should marry the rich young banker of the neighboring metropolis. It is needless to say that she had long before changed the plebian name of "Jane" to the more fashionable "Jeannette." Although she was considered a brilliant social success, it was rumored before very long that she and her husband could not agree. It surprised no one, therefore, that after a few years they were not seen together in public life, and that finally a divorce was granted. Jane's plunge into the world of laughter and gaiety had not proved an unqualified success.

Such is the story of three sisters, only too familiar to us all. In these dizzy times of the Twentieth Century, when there are so many things to distract woman and make her long for representation in the activities of men, the only marvel is that there are so many Ruths to realize the blessings of a home builder and not more Marthas who, with the best intentions in the world, waste their genius in battling to change the very heart and being of womankind, and more Janes who choose to spend their time in life at Vanity Fair.

CHESTNUTS BROWN.

BY LALIA MITCHELL.

A-pitter, a-patter, what's this that I hear, As I walk through the woodland when branches are here?

Not footfall of partridge, nor scurry of quail,

But like unto raindrops or downfall of hail.

No grouse at his drumming e'er made such a sound;

No robin e'er beat such a strain on the ground.

And all the long summer I never have heard

Such a noise in the woodland, from beast or from bird.

A-pitter, a-patter, what's this that I see, That falls like a hailstone from yon chestnut tree?

Now, brown as a berry, it lies at my feet;

I think I'd best taste it and see if it's sweet.

Encased in a wrapper as tough as the bark

Of the sturdy old chestnut—now this is a lark;

I'll warrant there's something delightful for me

Shut up in this wrapper. I'll sample and see.

A-pitter, a-patter, I'm glad that you dropped,

And glad that right here in my rambles I stopped.

A tid-bit, a treasure, fit food for a king,

You plump little brownie, discretion I fling.

To the four winds of heaven, and, down on my knees,

I search for your brothers, asleep 'neath the trees.

A-pitter, a-patter, from morning 'till night,

You little brown chestnuts, you're surely all right.

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THE ABSENT-MINDED MR. AINSWORTH.

BY H. LEE SNYDER.

"Did you ever hear," asked Amos Green, "of the man who was so absent-minded that he went home late at night an' put his umbrella to bed an' went an' stood in the corner himself?"

"He wasn't any worse than old Andy Ainsworth," responded Henry Williams, as the laughter subsided. "Of course you've all heard the latest story about him?"

"I guess I haven't," admitted Alex Wallace.

"Haven't you?" asked Amos. "Well, I guess you're the only man in Willow township that hasn't; but I'll tell you. You know Andy always was terrible absent-minded an' it seems to grow on him as he gets along in years. I understand that worrying about his daughter Jessie an' Will Harding has lately made him worse than ever."

"I never could see," said Mr. Wallace, as he meditatively scratched a tangled whisker, "what he had to worry about. Will Hardin is a good boy and he'd make Jessie a first-class husband."

"Nor I," admitted Amos, "but we all know that old Andy's as stubborn as a mule an' it seems he's just taken a notion that he don't want Will for a son-in-law. But that's not my story. It seems that Andy an' his wife went to Hometown one day—a matter of two or three weeks ago. Andy had his taxes to pay an' she had some trading to do, but they was calculating to be through an' home by noon. Well, along about noon old Andy drives in at home—all in a rush."

"Susie," he yells to the youngest girl, 'tell your ma to rush dinner for I'm going to start in that north field of wheat this afternoon.'

"Land, Pa!" cries Susie, 'where is Ma? Didn't you bring her home?'

"Andy never said a word. He just jerked the harness off that gray mare, slapped it on the bay, and started after his wife. It's a good hour's drive from their place to Hometown an' they didn't get home till about two o'clock."

"Say!" exclaimed Mr. Williams, "I'll bet you Mrs. Ainsworth said a few things to Andy when he got there! As a girl she was a spunky little thing."

"Now there you're mistaken," responded Amos. "Maria Ainsworth hasn't been married to Andy thirty years without learning something of the art of managing husbands. No, sir! She never said a word but went over to the St. Charles hotel an' got a dinner that cost a dollar. Andy had to foot the bill when he came but he never opened his head about it."

The Willow Township Farmers Picnic was a great event in the community and, indeed, a most enjoyable one. It was always held in Hillman's Grove, which was as attractive a clump of maples as one would wish to see, and practically the entire community made the occasion of the annual picnic a holiday. There was a big dinner—for every one brought a basket filled with the finest specimens of the housewife's skill—followed by speeches, music and visiting without limit. The little knot about Amos was made up of congenial spirits who were always to be found together on picnic days, as they were on this one.

As Amos finished his tale of Mr. Ainsworth's absent-mindedness a little old man, seated in a roomy and comfortable phaeton, drove into the grove. He was short, and lean even to the extent of being scrawny. His face was seamed with the deep lines that spelled hard work and exposure to the suns and rains of many seasons, and it needed but a glance at his face to convince one that his mind was ever busy.

"Hello, Andy," called Amos. "Where's Mrs. Ainsworth? Couldn't she come or did you leave her on the way?"

Mr. Ainsworth grinned feebly.

"She couldn't come very well," he replied, "but you needn't worry about my leaving her anywhere. Once is a plenty."

"How did you come to leave her in town that day anyway?" someone asked.

"Well," replied Mr. Ainsworth, passing his hand through his thin gray hair, "that's a pretty hard question to answer. It won't do to say because I'm absent-minded, because you'll all want to know why I am—an' that I can't exactly tell. I tell you it's a terrible failing. Some way your mind just picks you up an' flies away with you, but it does it so sly an' quiet that you never know nothing about it till something wakes you up sudden. Curious thing about it is that you can never tell afterwards what you was thinking about—there don't seem to be no substance to your thoughts. You just think

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—an' think—an' somehow float away through space. The Lord only knows where you'll light!"

Mr. Ainsworth really appeared to be so downcast and disconsolate over his affliction that none of the group had the heart to harass him further. Mr. Wallace sought to change the subject of conversation and succeeded beyond his wildest expectations.

"Andy," he said, "why didn't you bring Jessie if your wife couldn't come? A man shouldn't come to the picnic alone."

A curious expression came over old Andy's face. A look of stupid wonder was succeeded quickly by one of the most intense chagrin. A dull red crept into his weather-beaten cheeks and he nervously rubbed his chin with his left hand.

"Gosh!" he exclaimed. "Gosh-a-mighty!"

"What's the matter?" cried Amos. "Did you forget an' leave her at home?"

But Mr. Ainsworth made no reply. He turned and hurried to the old phaeton and began to put the gray mare between the shafts. Amos followed him and laid a detaining hand upon his arm.

"Now look here, Andy," he said, "it's just about time for the picnic dinner an' you can't possibly get her an' get back in time for it. My folks, an' Henry's, an' Alec's are going to eat together. You come an' get your dinner an' then you can get Jessie an' get back before the exercises begin."

Mr. Ainsworth thereupon suffered himself to be led back, but he ate with little zest and was wonderfully silent and subdued. He had no praise for the multitude of good things set before him, and not a smile for the jests and jollity of the young people. The quaint remarks and comical stories of Amos, and the obvious sympathy of the women folks, alike failed to rouse him from his abstraction or to cause the slightest flicker of light in his dull brown eyes, and it was something of a relief to all when the meal was finished.

Just as the remnants had been gathered up and the baskets repacked, a clean-cut, sturdy young man accompanied by a very pretty girl drove up in a buggy and stopped near the group. It was Will Harding and Jessie.

"Well, Pa," said the girl, "here I am."

"Yes," added Will, "we're here."

Mr. Ainsworth grinned and rubbed his chin. Evidently he was beyond words.

"Your pa was going home after you," exclaimed Amos, "but it was just dinner time an' we made him stay to eat with us. I told him he could bring you back in time for the exercises."

Jessie threw a little sympathetic smile in the direction of her father.

"Did he say he had left me at home?" she asked Amos.

"Well, I don't know as he did—exactly," he acknowledged, "but that's what we thought."

"I'll tell you where he left me," explained Jessie. "I got out of the phaeton and went over in Ephraim Woods' pasture—down there in the hollow behind those big cottonwood trees—to pick some wild flowers to bring to the picnic, and he simply forgot all about me and drove off. Mr. Woods' big red bull chased me up a tree and there I sat screaming as if I'd split my throat, and there Pa was driving down the road—and he might as well have been a thousand miles away for all the good he did me—and there was the bull pawing up the earth below me. I guess I'd have been there yet if Will hadn't come along."

Amos smothered a laugh in his handkerchief, but the young people standing about could not be restrained and their shouts echoed through the grove. Mr. Ainsworth's face still wore the same sickly smile, he still continued to nervously rub his chin, but no sound passed his lips. Evidently it was a case where mere words failed.

"Now, I'll tell you how it is Pa," continued Jessie. "I made up my mind when I was up in that tree that I needed somebody to take care of me who wasn't so absent-minded, so when Will asked me to go to the minister's and be married, why—we just did."

Mr. Ainsworth looked at his daughter, her cheeks glowing in her new-found happiness. She brought vividly to his mind the picture of another bride on whom he had looked so proudly thirty years before, and his withered old heart grew suddenly tender, and his eyes dimmed with unshed tears. Then he turned suddenly and grasped the outstretched hand of his new-made son-in-law.

"I guess I'm not too absent-minded to forgive you both," he said, "and I guess maybe Jessie does need somebody to look after her."

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Woonsocket, R. I.



GRANGE

Our Motto—"The Farmer is of more consequence than the farm, and should be first improved."

THE OCTOBER PROGRAMS.

Suggestions for Second Meeting.

Phonograph selection.
 Declamation, "The farmer that grows," by a man or boy.
 What I would look for if I went to buy a farm—discussion led by a man and woman.
 Roll call—responded to by each giving the name of his farm or suggesting one which might be given it.
 Character song—No. 64 in Grange Melodies.
 Book review—by a woman.
 Recitation—"The farmer's challenge."
 What is worth reading in my favorite paper.
 Phonographic selection.
 Exhibit of ribbons and trophies won at fairs—(in charge of Ceres and Overseer).

FROM MAUMEE BAY TO KEEWEE-NAW.

"A richer land one never saw,
 Michigan, My Michigan."

It is a wide stretch from the southeastern corner of one peninsula to the root of the rabbit's ear in the other. Yet people sing our state song with equal zest and loyalty in both places.

These facts were impressed upon me with realistic force a few days ago when fifty patrons in Baraga Pomona joined heartily in the familiar song. This newest of our Pomonas was organized one day last July when the country-side, to the number of 700 people, joined in a genuine celebration over the event.

Not every county Grange has been launched under such auspicious circumstances. Usually a farmers' organization has to win its way to popularity by proving its strength. Not so at present, with the Grange in the upper peninsula. Business men and men of public affairs here are looking to the Grange as the logical and legitimate leader of the movement now setting in toward better and more farming. More than this, the alert moral element of the population is attracted by the firm, uncompromising stand the Grange has always taken upon temperance. As a result, the Order is, in many places, a Moses leading the way out of a moral and social wilderness.

It is useless to attempt to condense the observations of more than a fortnight's visit among the Pomona Granges of the upper peninsula into a half column. Let me, just now, mention only a few:

At Munising, within a year, the business men and their wives have organized a Grange with the avowed purpose of promoting an increase in the number and quality of the farms of Alger county. Most of these men own farms themselves and are in various ways interested in the rapid development of agriculture. In this instance the Grange becomes actually the countryman's business organization.

Last year the Pomonas of the upper peninsula selected a few important legislative measures and asked State Granges to assist in a campaign for them. The most marked result was the securing of two-cent fares on part of the railroads and the pending, at the present time, of that rate on others. This year a few demands stand out noticeably in the resolutions which these Granges are preparing to send to State Grange. The character of these issues is well illustrated by the resolutions adopted by Delta Pomona, which in substance are as follows:

That the state should appropriate more money for farmers' institutes in the upper peninsula.

That we request the appropriation of more money by the State Board of Agriculture for the upper peninsula experiment station at Chatham.

That the course of study in the Michigan Agricultural College be changed so as to conform with that of the Wisconsin Agricultural College.

That the school laws of this state be amended so that school buildings in rural districts may legally be used for general hall purposes, so long as such use will not interfere with the school work.

That the township unit system school law be amended so that all candidates for the office of trustee shall be compelled to file their names with the secretary of the school board at least five days before the days of the election of school officers, and that such election be conducted under the Australian ballot system.

That the liquor laws of this state be amended so that the attorney general of the state shall be responsible for the enforcement of the liquor laws, the law suppressing gambling of all kinds, and also the law suppressing houses of prostitution.

That the liquor laws of this state be amended so that the sale or use of intoxicating liquors on railroad trains and

electric street and interurban cars be prohibited, and that no person under the influence of such liquors shall be permitted to board such trains or cars.

That Michigan enact a pure food and seed law similar to the Wisconsin law.
 JENNIE BUELL.

THE GRANGE THE COUNTRY OVER SHOWS INCREASED GROWTH.

That the organization is making a steady and constant growth is apparent from the report, just issued by National Secretary Freeman, which covers the Grange year ending Sept. 30. The report referred to shows a total of 453 new Granges organized during the year and 60 re-organized, 28 states contributing to this record. It is entirely proper to speak of this year's work as a record since it surpasses that of any other year in the past decade. In fact, the growth in the past ten years, when measured by the number of Granges brought into existence, has been more than 100 per cent, the figures for the year ending Sept. 30, 1902, being 170 new Granges and 86 re-organized. The figures for the intervening years show a pretty steady increase in the formation of new Granges. They also show something of a decrease in the number of re-organizations—unquestionably an indication of increasing strength and stability. This year Ohio leads in the organization of new Granges, followed closely by Washington, Oregon, Michigan and New York. The number organized and re-organized in the various states during the year beginning Oct. 1, 1910, and ending Sept. 30, 1911, is as follows:

Organized.	
California	3
Colorado	11
Connecticut	4
Idaho	19
Iowa	20
Illinois	4
Indiana	2
Kansas	15
Kentucky	1
Maine	9
Maryland	13
Massachusetts	9
Michigan	43
Missouri	5
Minnesota	8
New Jersey	3
New Hampshire	2
Nebraska	10
New York	43
Ohio	56
Oregon	46
Pennsylvania	34
Rhode Island	6
South Dakota	19
Vermont	11
Washington	51
Wisconsin	6
Total	453

Re-Organized.	
California	1
Colorado	1
Connecticut	1
Illinois	3
Maine	1
Maryland	2
Michigan	3
New York	1
Ohio	2
Oregon	1
Pennsylvania	9
Rhode Island	3
South Dakota	1
Washington	15
West Virginia	11
Wisconsin	1
Total	60

THE GRANGE IN OTHER STATES.

Agnes L. Biddle, Secretary of Colorado State Grange, has been elected to the Colorado Legislature representing the counties of Arapahoe, Adams and Elbert. Sister Biddle is the first lady member of the Grange who has ever been elected to membership in a state legislative body.

State Lecturer Lowell, of New York, recently closed a series of conferences with subordinate lecturers throughout the state. He finds the Grange doing a splendid work and more interest in the conferences than ever before. There are now over 800 subordinate and Pomona Granges in the state, with nearly 100,000 members.

From a report made public by State Master Laylin, of Ohio, it appears that the Grange in that state is making a very steady, substantial growth, forty-three Granges having been added last year—twenty-eight new ones, eight re-organized, three Pomonas and four juveniles—and 4,799 new members gained, this being the greatest annual gain in thirty-three years. A large number of Ohio Granges own their halls. Quite a number were built last year. More Grange fairs are being held than in any previous year, and the demand for Grange speakers for picnics was unprecedented. Many county fair organizations provide halls for Grange exhibits and provide Grange speakers as attractions. The secretary's last annual report showed that the total receipts for the year were \$12,377.57, itemized as follows: \$9,735.80 from membership dues and initiation fees, \$2,091.03 from sundry sources, \$436.74 from sale of supplies and \$112 from sixth degree fees. The expenditures totaled \$11,430.81, of which \$1,549.30 was paid to the National Grange for membership dues, leaving a net surplus of \$946.76. The treasurer reported the total resources of the State Grange as \$26,463.18, divided thus: Bonds, \$14,000; mortgage notes, \$6,500; cash, \$5,963.18. The superintendent of Juvenile Granges reported that Ohio now has fifteen of these. The juvenile membership totals about 300, and the children are very loyal to their obligations and take intense pride in the ritualistic work.

COMING EVENTS.

National Grange, Forty-fifth annual session, opens at Columbus, Ohio, Wednesday, Nov. 15.

Michigan State Grange, Thirty-ninth annual session, at Kalamazoo, Dec. 11-15.

Pomona Meetings.
 Western Ottawa Co., with Hudsonville Grange, Saturday, Oct. 14.
 Ingham Co., with Alaledon Grange, Friday, Oct. 20.

Gratiot Co., with Sumner Grange, Saturday, Nov. 4. Hon. Geo. B. Horton, state speaker.

Lenawee Co., at Adrian, Thursday, Dec. 7. Annual meeting and election of officers.

FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—B. A. Holden, Wixom.
 Vice-Pres., J. D. Leland, Corunna.
 Secretary—Mrs. C. P. Johnson, Metamora.

Treasurer—Mrs. Lewis Sackett, Eckford.
 Directors—A. R. Palmer, Jackson; Wm. H. Marks, Fair Haven; C. L. Wright, Caro; E. W. Woodruff, Blanchard; C. P. Johnson, Metamora; Patrick Hankerd, Munith.

Address all communications relative to the organization of new Clubs to Mrs. C. P. Johnson, Metamora, Mich.

Associational Motto.—

The skillful hand, with cultured mind, is the farmer's most valuable asset.

IN MEMORIAM.

At a meeting of the Executive Committee of the State Association of Farmers' Clubs in Flint on September 28, 1911, the following was authorized and adopted:

Whereas, Hon. Patrick Hankerd, of Jackson county, has been a prominent and valued member of this Association for a number of years, has served upon our committees, has been a candidate for the presidency, and at the last annual meeting was elected one of its directors; and,

Whereas, his life of usefulness and honor was terminated by death on September 22, 1911.

Therefore, Resolved, That we hereby express our appreciation of his worth and many excellent qualities, and our sense of the loss suffered by the community and the state, and by our Association in his death; and that we extend to the family and all near friends our sympathy in their great loss.

THE FARMERS' CLUB FAIR.

Now that the fair season is practically over, so far as state and county shows are concerned, the season will be fittingly closed with a Farmers' Club Fair in many Club communities throughout the state. The Farmers' Club fair is a special feature of Club work now dating back a number of years, and in practically every case where the feature has been introduced the fair has been such a success that it has been retained as a permanent annual event in these local organizations.

The character of these fairs has been varied not a little and there is opportunity for a wide variety of exhibits with suitable programs to make the event interesting to any Club community. In some instances, live stock, as well as vegetables and grains, relics of pioneer days, etc., have been exhibited. This is not always practicable, but it is undoubtedly a profitable feature for some special product of a community to be made a factor in the fair exhibit and a feature of the program, since there is greater opportunity to benefit from the exhibits at fairs of this kind than at the larger fairs if the methods by which the products shown were produced are given by the exhibitor. Comparisons are then possible which will often afford valuable information to the Club members.

But aside from this undoubtedly valuable feature of the Club Fair, its social value should not be overlooked, for in meetings of this kind practically every Club member can be interested and the Club Fair is usually one meeting during the year which is very largely attended by all members as well as many visitors. This occasion will also afford opportunity to interest residents of the community who are not members of the Club in its work and may be the means of creating an interest in the community which will result in the formation of new Clubs, as well as strengthen the membership of those already in existence. The Club Fair should not be neglected as a special feature of Club work since it has proven to be universally popular and successful.

CLUB DISCUSSIONS.

An All-Night Session.—The longest session, (from 1:30 p. m. to 8:00 a. m.), in the history of the Hadley and Elba Farmers' Club occurred September 14 at Hickory Grove, the home of Mr. and Mrs. Jas. Leyle. The meeting was called to order with 40 in attendance. The paper, "When is a man poor?" by Mrs. Wm. Bartenfelder, caused much comment and merited hearty endorsement. "What shall we do with our farms when we are unable to work them?" was thoroughly discussed from various standpoints. Mr. Bartenfelder and Frank Smith favored selling. Mr. Bullock, Mrs. Farrar, Mrs. Bartenfelder and others preferred holding on a little longer for the children's sake. The few who heeded the muttered warnings

of the storm clouds, reached home safely, others battled with the storm and the balance of the party remained all night. All things considered, it was a record meeting and all join in pronouncing Mr. and Mrs. Leyle jolly, resourceful hosts. The next meeting will be the Club Fair, October 19, at the Hadley Town Hall. R. J. Pierson was elected general manager and F. A. Smith assistant, with full power to appoint the various committees. A good attendance is desired and a general invitation extended to all interested friends to bring old relics, farm and garden products, needlework, flowers, etc., for exhibition.—Mrs. C. P. Johnson, Sec.

Have High Ideals.—The Deerfield Farmers' Club met at the home of Mr. and Mrs. Arthur Hall, Saturday, September 30. President Fred Hall opened the meeting and in the absence of the chaplain the Club repeated the Lord's prayer. After several literary numbers had been rendered John Lutz gave a talk on ideals. Thought each individual should have an ideal and aim for it. Have ideal horses and breed for them. Have ideal cows, ideal farms and try and make them as near our ideal as they could be made, and last of all make the book of all books our ideal study. The question box was ably conducted by George Evans and contained some very interesting and important questions. When to pick geese or should we not pick them at all, discussed by Mrs. Diviney. "Is it too late to sow wheat?" "Why should Canada oppose reciprocity?" All the questions were ably discussed by the gentlemen present. Club then adjourned for supper.

The Ideal Haying Outfit.—Conway and Handy Farmers' Club held their September meeting at the home of Mr. and Mrs. G. L. Adams of Fowlerville. A very good crowd was in attendance, considering the busy bean harvest and rainy weather. Meeting was called to order on time by President Horton. Following the usual opening exercises the Club discussed the subject, "The ideal haying outfit from mower to hay slings and horse fork." In the absence of N. Franks the subject was opened by C. Fuller, who thought the mowing machine should be a six foot cut, can cut down more hay in the same length of time and same team. Hay should be tedded, gets it in better shape; nothing but side delivery rake and loader answers the purpose at present time, difference in opinion as to slings and forks. Discussion. J. Snyder thought as to the mower the five-foot cut works better with tedder, rake and loader, thinks a man could gain more time by using two five-foot mowers, and get the kind commonly used in community as he would be more apt to get repairs handily for same. Slings are better than forks in high barns, one man can mow away from slings where it would take two men with forks. He gave a description of a new car and side delivery rake seen at the state fair which was a great improvement on both. J. B. Fuller said large flat racks were used by some men and found to be a great help; large hay tools was a saving of time and labor; would prefer a six-foot cut mower; the tedder would run over the heavy part of a swath and that was all that was considered necessary as a general thing. Slings are far ahead of forks. S. R. Holmes liked forks better with one sling on the bottom; the tedder is the best tool on the farm. J. B. Rambo liked forks; slings are a bother and in his estimation hay was damaged by using the tedder; it was not necessary unless wet. The main thing in a hayfield was good help.

The Outlook for Lamb Feeding.—"What is the outlook for feeding lambs for market the coming season?" J. Franks referred to the old saying, "Cheap lambs in the fall, a good time to feed." The lamb market at present is reasonably good along that line and the outlook seems as good as usual. Discussion. J. B. Fuller said lambs are not very cheap at present, somewhere about five and one-half to six cents; that price is not called cheap lambs. The lamb market is in the hands of a few and they control prices; could not see the reason for lamb market being so bad last winter; anyone knows a good fat lamb is better in all ways, better meat, better pelt, simply a matter of fixing the price to suit themselves. Feeding lambs is a matter of speculation and the outlook is no better than last year. J. Snyder agreed with others that the price was in the hands of the packers and buyers. They would pay less for heavy lambs and oblige the farmer to sell, because the longer fed the heavier, and at last pay big prices for heavy lambs. Fred Rathbun came later and had a good paper on the same subject, showing he had read up and dug deep to get good straight information on the lamb feeding business. The outlook was good.

Home Making.—"Home making and housekeeping, past, present and future." Mrs. F. Curtis gave a very interesting paper on the subject, commencing way back to the mound builders, those homes known as the most lasting of any race of people, their successors the Indians, then the first American homes. The white men learned many things of the Indians. Money was scarce, musket balls used as money, reading scarce, the Bible being the most commonly used. First newspaper in 1792, on to the log houses, brick ovens a luxury. From the rafters hung all the seed corn, etc.; looms, weaving and spinning outfits, no carpets, but fluffy feather beds; no screens, those days so little wanted, this day so much; happiness as much then as now, work as much now with all conveniences as then; we know about the present, the future will be fairer, with more brains than muscle; housekeeping made easy, Edison says, press a button and work will be done by electricity. G. L. Adams said that all eatables will be put up in tablet form so there will be no cooking, only pour out some tablets for each meal. Question box, roll call followed, after which the Club adjourned to meet with J. B. Rambo in October.

MARKETS

DETROIT WHOLESALE MARKET.

October 11, 1911.

Grains and Seeds.

Wheat.—The present tendency of the wheat market is bullish. Two foreign conditions are aiding in the upward tendency—the war between Italy and Turkey (which, through the threatening attitude of the former government to consider cargoes of wheat as contrabands of war, may cut off Russia from western Europe), and the reports of the damage done by frosts in the Argentine. Several reports of frosts in the southern continent have been received heretofore but were immediately denied. It is now generally conceded, however, that the crop has been damaged by low temperatures. The government crop report is considered as being more favorable to the bulls than the bears. Opposing these features of the market were improved weather which has helped the farmers in the northwest to continue threshing and to deliver grain to the markets, and a large increase in the visible supply of grain amounting to four million bushels as compared with the decrease of one-half million bushels a year ago. But this increase was modified by Canada's increase of a little over one million bushels as compared with a two million bushels increase in 1910. One year ago No. 2 red wheat was selling on this market at 98½¢ per bu. Quotations for the week are:

	No. 2	No. 1	Dec.	May.
Thursday	94	91	99½	1.04½
Friday	94	91	99½	1.04½
Saturday	93½	90½	99½	1.04½
Monday	93½	90½	99½	1.04½
Tuesday	94	91	99½	1.04½
Wednesday	94	91	99½	1.04½

Corn.—The average price of corn the past week is about 3½¢ above the average for the week previous. This change has been due principally to weather conditions. Not only has corn cutting been greatly delayed in the northern part of the corn belt, but much that has already been secured in the shock is being damaged by heavy rains. The government crop report, which was expected to aid the bears, showed a condition supporting the position of the bulls. A condition better than 71 was expected, whereas the average figured 70.4. The price is now unusually high, and will probably restrict consumption to no small extent. One year ago the price for No. 3 corn was 53½¢ per bu. Quotations for the week are:

	No. 2	No. 3
Thursday	73½	75
Friday	74	75
Saturday	74	75
Monday	74	75
Tuesday	74	75
Wednesday	74	74½

Oats.—The average advance in price here amounted to nearly one cent during the week. The chief factor in the deal has been the influence of corn, which because of its dearthness is increasing the demand for substitutes. One year ago the price for standard oats was 36¢, or 14½¢ below the present price. Quotations are as follows:

	Standard	No. 3
Thursday	50	49½
Friday	50½	50
Saturday	50½	50
Monday	50½	50
Tuesday	50½	50
Wednesday	49½	49

Beans.—The unfavorable weather conditions for harvesting beans has improved prices about 20¢ per bu. Complaints are coming in from nearly every section of Michigan stating that a large percentage of the crop is practically destroyed for market purposes. In all probability the extent of the damage will be shown to be much larger than is now realized, and we anticipate further improvements in price. Quotations for the week are:

	Oct.	Nov.
Thursday	\$2.27	\$2.17
Friday	2.40	2.30
Saturday	2.40	2.30
Monday	2.40	2.30
Tuesday	2.40	2.30
Wednesday	\$2.40	2.30

Clover Seed.—Last week's prices ruled until Tuesday when an advance of 25¢ was made for common clover seed. The demand is fair and offerings limited. Alsike remains steady. Quotations are as follows:

	Oct.	Alsike.
Thursday	\$12.00	\$10.50
Friday	12.00	10.50
Saturday	12.00	10.50
Monday	12.00	10.50
Tuesday	12.25	10.50
Wednesday	12.25	10.50

Rye.—Cash No. 2 rye reached \$1 per bushel this week, which is the highest of the season. The market is firm but inactive, due to the lack of offerings.

Timothy Seed.—There has been little change in the quotations for this product and prime spot sold on the market at \$7 per bushel on Tuesday.

Flour, Feed, Potatoes, Etc.

Flour.—There is a brisk demand for flour, with prices unchanged.

Patent Michigan 4.10
Ordinary Patent 4.75
Feed.—All grades steady with last week.

Carlot prices on track are: Bran, \$27 per ton; coarse middlings, \$29; fine middlings \$32; cracked corn, \$30; coarse corn meal, \$30; corn and oat chop, \$28 per ton.

Hay and Straw.—The trade here has marked down No. 1 timothy \$1, and wheat and oat straw 50¢, while rye straw is up 25¢. Quotations: No. 1 timothy, \$19@20; No. 2 timothy, \$18@19; clover,

mixed, \$18@19; rye straw, \$8@8.50; wheat and oat straw, \$7@7.50 per ton.

Potatoes.—Where the late crop is being harvested yields are meeting the expectations of the farmers. However, the weather is very poor for securing the crop and many of the tubers will not grade high. Car lots on track are quoted at 55@60¢ per bushel, which is substantially last week's price.

Provisions.—Family pork, \$18@18.50; mess pork, \$16; medium clear, \$16@18; smoked hams, 14½¢; shoulders, 10¢; picnic hams, 9¢; bacon, 12½@14¢; pure lard in tierces, 10½¢; kettle rendered lard, 11½¢ per lb.

Dairy and Poultry Products.

Butter.—The week has brought gains amounting to 1½¢ for creamery and 1¢ for dairy, over the advanced values of a week ago. There is a lively demand and the market rules steady at the new figures. Quotations: Extra creamery, 29¢; firsts, do., 28¢; dairy, 20¢; packing stock, 19¢ per lb.

Eggs.—An advance of two cents in egg prices was a feature of last week's trading, the change resulted from a steady demand and diminishing supplies. Fresh receipts, case count, cases included, are now quoted at 23¢ per dozen.

Poultry.—Broilers and hens are lower. Other kinds steady. The market is easy owing to the liberal supply. Prices are: Live—Hens, 11¢; turkeys, 14@15¢; geese, \$8@9¢; ducks, 12@13¢; young ducks, 14@15¢; broilers, 12¢ per lb.

Cheese.—Michigan, old, 17¢; Michigan, late, 15½@16¢; York state, new, 16@16½¢; Swiss, domestic block, 19@21¢; cream brick, 15@16¢; limburger, 12@13¢.

Veal.—Market steady. Fancy, 11@12¢; choice, 8@9¢ per lb.

Fruits and Vegetables.

Cabbage.—Lower. Selling at \$1.50@1.75 per bbl. for home-grown.

Onions.—80@90¢ per bu.

Pears.—75¢@1 per bu for average offerings.

Peaches.—Market is steady. Offerings light. Quotations: A. A., \$2; A., \$1.50@1.75; B., 90¢@1 per bu.

Apples.—Recent wind storms have caused an increase in offerings of windfalls. Average offerings are going at 50@75¢ per bu.; Snows are selling at \$2.50@3 per bbl.

Grapes.—Niagara 8-lb. basket, 15@18¢; concord, 14@15¢.

From Farmers' Wagons on Detroit Eastern Market.

While there was a liberal amount of produce on the eastern market Tuesday morning, rain kept away a good many buyers. However, prices appeared about steady with those of the previous week, and offerings were taken quite readily. Pears were selling from 75¢@1.25 per bu; apples were offered more freely than a few weeks' past, consisting mostly of wind-falls from recent high winds; prices ranged from 75¢@1.25 per bu; grapes were selling at 25¢ for 16-lb. baskets; cabbage was plentiful at 35@40¢ per bu; squash 25¢ apiece for large and 50¢ per basket for small; pumpkins, 10@15¢ each, according to size; eggs were selling at 27@28¢; celery, good quality, 25¢ per bunch; tomatoes 50¢ per bu; turnips 30¢ per bu; melons 50¢ per bu; horse-radish 25¢ per bunch; potatoes were in greatly increased quantities and were quoted around 80¢ per bu. Many of the offerings were dug before fully ripened. Hay is still quoted at \$20@25 per ton. There were quite a number of loads on the market Tuesday but not so many as the week previous. It is expected that from now on, more hay will be brought to the market since farmers have more liberty for doing that work.

OTHER MARKETS.

Grand Rapids.

Potatoes were off to 65@70¢ on the city market Tuesday morning, while the paying price at up-state loading stations ranges from 45@50¢. The wheat market is steady at 89¢. Rye has advanced to 92¢ and buckwheat is also higher, being quoted at 70¢. Oats are worth 50¢ and corn 73¢. Egg shippers are paying 21¢ for fresh stock and dairy butter is also worth 21¢. Grand Rapids forcing lettuce raised under glass is starting at 6¢ per lb., while greenhouse cucumbers are worth 40¢ per dozen. Dressed hogs are worth around 9¢.

New York.

Butter.—Creamery specials are 2¢ higher, while other grades have advanced proportionately. Market firm. Creamery specials are quoted at 31½@32¢ per lb.; extras, 31¢; firsts, 27@29¢; seconds, 25@26¢; thirds, 23@24¢.

Eggs.—Firm, with prices generally showing a 2@3¢ gain. Fresh gathered extras, 30@31¢; extra, firsts, 26@28¢; seconds, 20@22¢; western gathered whites, 26@30¢ per dozen.

Poultry.—Dressed. Market is quiet with turkeys marked up 5¢. Turkeys, 14@23¢; do., young, 25¢; fowls, 10@17½¢; western broilers, 12@19¢.

Chicago.

Wheat.—No. 2 red, 97@98¢; Dec., 97½¢; May, \$1.04½¢ per bu.

Corn.—No. 2, 71½@71¾¢; Dec., 64½¢; May, 65½¢ per bu.

Oats.—No. 2 white, 47½@48¢; Dec., 47½¢; May, 50½¢.

Barley.—Malt grades, \$1.00@1.25 per bu; feeding, 75@95¢.

Butter.—Offerings the past week have fallen a little short of trade requirements, resulting in an advance of a full cent in creamery and ½¢ in dairy stock, at this week's opening. Best creamery moved up another ½¢ on Tuesday, placing this market on a par with Elgin. Creameries, 23@29¢; dairies, 21@26¢ per lb.

Eggs.—Ordinary qualities still comprise the bulk of the offerings, which show increased volume. The better grades are 1¢ higher, with market generally firm. Quotations: Prime firsts, 21½¢; firsts, 23@29¢; dairies, 21@26¢ per lb.

Potatoes.—Bad weather last week curtailed receipts and prices advanced rapidly. A material increase in offerings this week brought a reaction, and the market is sluggish. Michigan stock is now quoted at 68@70¢ per bu; Wisconsin, 68@70¢; Minnesota, 75@80¢.

Beans.—Market very firm; prices unchanged. Choice hand-picked pea beans are quoted at \$2.28@2.35 per bu; prime, \$2.17@2.21; red kidneys, \$2.75@3 per bu.

Hay and Straw.—Hay a little easier with the better grades quoted 50¢ lower. Clover has made a good advance and rye and wheat straw are slightly higher. Quotations: Choice timothy, \$23@24 per ton; do., No. 1, \$21@22; do., No. 2 and No. 1 mixed, \$19@20¢; do., No. 3 and No. 2 mixed, \$14@18; clover, \$15@17; do., No. 2 and no grade, \$8@13; rye straw, \$8.50@9.50; oat straw, \$7@7.50 per ton; wheat straw, \$5.50@6 per ton.

Boston.

Wool.—Prospects are brightening according to reports from the mills, there being a larger demand for manufactured goods. This has increased the amount of wool business with prices ruling steady with a week ago. The improvement is confined largely to territory stock, fleeces still remaining dull although there is some demand for low grades. The fifth series of wool auctions in London was closed Tuesday and offerings were quickly taken at current prices. Leading domestic quotations here are as follows: Ohio and Pennsylvania fleeces—Delaine washed, 30¢; XX, 28¢; fine unmerchanted, 22@23¢; ½-blood combing, 25½@26¢; ¾-blood combing, 25¢; ¼-blood combing, 24@24½¢; delaine unwashed, 25¢; fine unwashed, 21¢. Michigan, Wisconsin and New York fleeces—Fine unwashed, 19@20¢; delaine unwashed, 23@24¢; ½-blood unwashed, 24½@25¢. Kentucky, Indiana and Missouri—¾-blood, 25¢; ¼-blood, 23½@24¢.

Elgin.

Butter.—Market firm at 29¢ per lb. which is 1½¢ above last week's quotation. Output for the week, 705,800 lbs., as compared with 720,300 lbs. for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

October 9, 1911.

(Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, N. Y.)

Receipts of stock here today as follows: Cattle, 176 cars; hogs, 100 double decks; sheep and lambs, 100 double decks; calves 1,500 head.

With 176 loads of cattle on our market here today, there is scarcely any change to note in prices from last Monday. There was not a strictly prime load of cattle on the market here today, and the top price was \$7.25 per cwt.; however, had there been some weighty, good quality, corn-fed, fat cattle here, they would have sold readily at \$7.75 per cwt. All the lower grades of cattle sold about steady, except cows, which sold from 10@20¢ per cwt. lower than last week.

We quote: Best 1,400 to 1,600-lb. steers \$7.60@7.75; good prime 1,300 to 1,400-lb. do. \$7@7.25; do. 1,200 to 1,300-lb. do., \$6.50@7.25; best 1,100 to 1,200-lb. shipping steers, \$5.75@6.15; medium butcher steers 1,000 to 1,100 lbs., \$5.10@5.60; light butcher steers, \$4.50@5; best fat cows, \$4.25@4.75; fair to good do., \$3.50@4; common to medium do., \$2.50@3; trimmers, \$1.75@2.50; best fat heifers, \$5.25@5.75; good do. \$4.75@5.25; fair to good do., \$4@4.75; stock heifers, \$3@3.25; best feeding steers dehorned, \$4.50@5; common do., \$3.50@4; stockers, all grades, \$3.25@3.50; prime export bulls, \$5@5.25; best butcher bulls, \$4.25@4.75; bologna bulls, \$3.25@3.75; stock bulls, \$3@3.75; best milkers and springers, \$5@6; common to good do., \$2.50@3.50.

With 100 cars of hogs on sale here today, market ruled fairly active after the opening; best quality yorkers, mixed and medium weights selling generally from \$7@7.05; with a few decks of fancy quality of the medium and heavier grades up to \$7.10. A plainer kind of yorkers, mixed and medium sold around \$6.90@6.95, and the bulk of the good quality and weight pigs sold generally at 6½¢. Rough sows sold mostly from \$5.75@5.85. Stags, \$5@5.50. The hogs are fairly well cleaned up; market closing steady. We still advise caution on the commoner grades, as there will no doubt be a wide range in prices for some time to come.

The sheep and lamb market was active today at the prices. Most of the choice lambs sold from \$6.85@6.90. Wethers from \$4.10@4.35; look for shade lower prices the balance of the week; everything about sold tonight.

We quote: Best spring lambs, \$6.85@6.90; cull to common do., \$5@5.75; wethers, \$4.10@4.35; bucks, \$2.50@2.75; yearlings, \$4.50@5; handy ewes, \$3.75@4; heavy ewes, \$3.65@3.85; cull sheep, \$1.50@2.50; veals, choice to extra, \$8.75@10; fair to good do., \$8.50@9.50; heavy calves, \$4@6.

Chicago.

October 9, 1911.

Cattle. Hogs. Sheep.
 Received today 24,000 23,000 45,000
 Same day last year 31,491 22,355 70,373
 Received last week 71,860 108,117 157,510
 Same week last year 65,356 85,998 218,345

The marked falling off in the receipts of cattle today compared with Monday a week ago and Monday a year ago, was a good thing for sellers, who were able to sell choice beefs at least a dime higher, such lots being scarce. A consignment of remarkably fancy, extra heavy, long-fered Missouri Shorthorn steers that averaged not greatly below 1,800 lbs. brought \$8.50, another high record for the year and an advance of 15¢ over any former sales. Common and medium to good cattle were firm and partly a little higher. About 6,000 western range cattle arrived and sold largely a dime higher for desir-

able ones. Hogs were in small supply for a Monday and were active and 5@10¢ higher, bringing \$6@6.85. Medium weights averaging around 205 to 250 lbs. sold highest, the best light hogs bringing \$6.75, while pigs sold at \$4.15@6.05; stags at \$6.50@6.90 and boars at \$2.50@3. The great marketing of underweights last week resulted in the hogs averaging but 201 lbs., compared with 215 lbs. a week earlier, 241 lbs. a month ago, 261 lbs. a year ago, 228 lbs. two years ago and 210 lbs. three years ago. A week ago hogs sold at \$5.80@6.90, the commoner grades of heavy hogs having sold much closer to the best hogs since then. Sheep and lambs are active at steady prices, lambs going at \$4.25@6.40; ewes at \$2@3.90; wethers at \$3.70@4.35 and yearlings at \$4@4.60. Feeders pay \$4@4.50 for yearlings; \$2@3.25 for ewes and \$3.25@3.65 for wethers, while breeding ewes are active at \$3.75@4.50.

Cattle advanced last week to the highest prices for the year for the choicest long-fed, heavy lots, these being offered more sparingly than heretofore, while they met with a lively demand. It should be understood that this upward movement is due altogether to their growing scarcity rather than to any large trade requirements, and anything like normal supplies would bring about a great fall in values. The common to medium grades of cattle, and even a class that is often called "good," have been offered in much larger numbers, the offerings of cattle from the western ranges showing marked gains, and these cattle declined largely 25¢, choice steers excepted. Native cattle that were not good in grade suffered a similar break and closed largely 10@15¢ lower than a week ago, the greater part of the cows going off as much as steers, if not more. While fancy beefs of strong weight sold quite freely on Wednesday at \$8@8.35, the commoner lots of grassy steers were slow sellers at \$1.65@5.75, with a better class of grassers going at \$6@6.75. Medium steers were almost as slow of sale as a poorer grade, and even cattle selling as high as \$7.50 were apt to show dullness and even weakness. Anything entitled to be termed choice sold as high as \$7.75, and desirable yearlings sold at \$7.15@8.10. Butcher lots of cows and heifers had a fair outlet at \$3.25@6, with a few fancy heifers quotable at \$6.25@6.75, while cutters went at \$2.65@3.20; canners at \$1.75@2.60 and bulls at \$2.75@5.50. The large arrivals of range cattle demoralized the market for their native competitors, and made slow sales. Range cattle sold at \$3.65@7.10 for steers and \$3@5.75 for cows and heifers. The stocker and feeder trade was fairly active at a decline of as much as 25¢, with much larger offerings, stockers going at \$3.25@4.75 and feeders at \$4.50@5.00, a few fancy stockers selling at \$4.80@5. Calves sold fairly at \$2.85@9.50 per 100 lbs., and milkers and springers sold moderately at \$30@70 per head, backward springers going to packers and common cows for canners.

Hogs have shown more rallying power in prices for a week past than of late on account of better buying by eastern shippers at times and much smaller receipts. Shippers wanted choice light and medium-weight butcher hogs, and these offerings continued to top the market, while the extremely large receipts of little pigs could be disposed of only by submitting to a big discount in prices from matured hogs. Next to the little pigs averaging around 45 to 80 lbs., rough, extra heavy old sows were the lowest and slowest sellers, there being an extremely wide spread in prices between the commonest and the best hogs. Hogs sold very much below the prices recorded one and two years ago, but they compared favorably with the prices paid at corresponding figures paid at corresponding dates in most other years as far back as 1903, but in 1902 sales were made at \$6.35@7.50. Local packers have not changed their views and are as desirous as ever of lowering prices, but when shippers buy freely and receipts are light sellers have the advantage. So far as can be seen now, there is every reason for making healthy young hogs good and fat before marketing, even at ruling high prices for feed.

Sheep and lambs had some recent rallies on smaller receipts, the biggest run being that of Monday last week, when plenty of consignments from the ranges arrived, and even on that day sellers found a good demand for attractive lots, both live muttons and feeders. Lambs were, as usual, much the best sellers, bringing a liberal premium, and the best brought \$6.40, the highest price recorded in a month. The demand for feeders has been extremely animated, lambs from the range, as well as range wethers and yearlings, being wanted, and the demand from Michigan stockmen was much the largest yet seen. To conservative men who understand the business and are prepared to make lambs prime the feeder proposition is regarded as extremely good, as shipments from the western markets to feeding districts this season have run far behind those for the corresponding period last year, but stockmen who intend to warm up lambs and get them back to market in a month or two are likely to lose money. As a rule Ohio and Michigan sheepmen make their holdings fat. Sheep and lambs advanced during the week 25@50¢, feeder lambs going at \$5@5.55, while the poorest lambs went at \$4.25.

Horses of the better class are in good demand at unchanged prices, with no excessive offerings, but the commoner kinds are plentiful and hard to sell except at shaded prices. Feeders are wanted at \$200@265 per head, and wagon horses are bringing \$165@200 for a good kind, with choice expressers salable at \$220@240. The east is calling for prime heavy drafters at \$225@275, and occasionally a sale is made around \$300. Heavy loggers are purchased at \$185@235, some going as far east as Maine. Rugged farm horses that weighed around 1,350 lbs. have been taken around \$200 for shipment to New York state.

THIS IS THE LAST EDITION.

In the first edition the Detroit Live stock markets are reports of last week; all other markets are right up to date. Thursday's Detroit Live Stock markets are given in the last edition. The first edition is mailed Thursday, the last edition Friday morning. The first edition is mailed to those who care more to get the paper early than they do for Thursday's Detroit Live Stock market report. You may have any edition desired. Subscribers may change from one edition to another by dropping us a card to that effect.

DETROIT LIVE STOCK MARKETS.

Thursday's Market.
October 12, 1911.

Cattle.

Receipts, 1,511. All grades 15@25c lower than last week.

We quote Extra dry-fed steers and heifers, \$5.50@5.75; steers and heifers, 1,000 to 1,200, \$4.50@5.25; do. 800 to 1,000, \$4@4.50; grass steers and heifers that are fat, 800 to 1,000, \$4@4.50; do. 500 to 700, \$3.50@4.25; choice fat cows, \$4@4.50; good fat cows, \$3.50@3.75; common cows, \$2.75@3.25; canners, \$2@2.50; choice heavy bulls, \$3.50@3.75; fair to good bolognas, bulls, \$3@3.25; stock bulls, \$2.75@3.50; choice feeding steers, 800 to 1,000, \$4.25@4.50; fair do. 800 to 1,000, \$3.75@4; choice stockers, 500 to 700, \$3.50@4; fair stockers, 500 to 700, \$3@3.50; stock heifers, \$3@3.25; milkers, large, young, medium age, \$4@5; common milkers, \$2@3.50.

Bishop, B. & H. sold Fromm 16 butchers av 767 at \$4; to Rattkowsky 3 do av 590 at \$3.25, 1 bull weighing 640 at \$3.25, 1 cow weighing 1,000 at \$4.50, 2 do av 1,000 at \$3.75; to Goose 3 do av 1,040 at \$3.65, 10 do av 1,020 at \$3.25; to Hammond, S. & Co. 1 bull weighing 1,130 at \$3.50, 2 heifers av 675 at \$4, 3 cows av 980 at \$2.50, 1 steer weighing 1,000 at \$4, 1 do weighing 1,230 at \$5; to Bresnahan 5 canners av 900 at \$2.50, 4 do av 825 at \$2.50, 3 cows av 970 at \$2.90; to Parker, W. & Co. 5 cows av 905 at \$3, 2 do av 1,075 at \$3, 3 do av 916 at \$3, 3 do av 923 at \$3, 6 bulls av 586 at \$3, 1 do weighing 1,100 at \$3.50, 16 steers av 1,112 at \$5.80, 3 do av 1,026 at \$4.25, 2 cows av 980 at \$3.1 do weighing 780 at \$2.25, 2 do av 990 at \$3; to Herchelmann 11 butchers av 550 at \$3.50; to Schlischer 11 do av 654 at \$3.50; to Sullivan P. Co. 3 bulls av 950 at \$3.50; to Regan 17 butchers av 540 at \$3.65; to Marx 2 steers av 685 at \$3.85; to Heinrich 1 heifer weighing 980 at \$5.25, 2 do av 685 at \$4.50; to Hammond, S. & Co. 2 cows av 810 at \$2.50, 2 do av 860 at \$2.50; to Parker, W. & Co. 19 butchers av 654 at \$3.50; to Thompson Bros. 5 do av 804 at \$4.50, 4 cows av 1,087 at \$3.75, 10 butchers av 655 at \$3.25; to Thompson Bros. 2 steers av 1,040 at \$5, 1 do weighing 1,100 at \$4.50; to Sullivan P. Co. 8 do av 822 at \$4.40, 2 cows av 890 at \$4, 1 bull weighing 1,170 at \$3.50; to Mich. B. Co. 21 butchers av 814 at \$3.30; to Heinrich 6 steers av 971 at \$5; to Sullivan P. Co. 1 do weighing 1,120 at \$5.50. Roe Com. Co. sold Newton B. Co. 3 cows av 990 at \$3.60, 6 heifers av 665 at \$3.90; to Regan 7 butchers av 566 at \$3.85; to Bresnahan 7 canners av 900 at \$2.40; to Parker, W. & Co. 2 cows av 1,200 at \$3.50, 3 do av 877 at \$2.50, 16 butchers av 675 at \$3.75, 3 bulls av 926 at \$3.50; to Hammond, S. & Co. 1 bull weighing 800 at \$3.50, 2 do av 1,230 at \$3.75, 10 steers av 918 at \$5.10, 1 do weighing 770 at \$4.25, 11 butchers av 491 at \$3.40; to Lotz 7 stockers av 640 at \$4.

Haley & M. sold Bresnahan 2 cows av 925 at \$3, 15 butchers av 565 at \$3.55; to Lawson 13 do av 800 at \$4.25; to Applebaum 6 do av 986 at \$4, 2 cows av 915 at \$3.25; to Haley 16 butchers av 980 at \$4; to Rattkowsky 5 cows av 806 at \$4, 1 do weighing 920 at \$4; to Kamman 25 butchers av 710 at \$4.25; to Sullivan P. Co. 15 do av 753 at \$4.40, 1 cow weighing 1,260 at \$4, 1 bull weighing 1,380 at \$3.85.

Spicer & R. sold Bresnahan 3 canners av 890 at \$2.75, 2 do av 835 at \$2.75, 1 cow weighing 760 at \$2.25, 2 do av 865 at \$2.75; to Mich. B. Co. 16 steers av 965 at \$5.10, 1 do weighing 810 at \$5.10, 2 cow and steer av 750 at \$3.75; to Sullivan P. Co. 1 bull weighing 1,250 at \$4, 1 heifer weighing 700 at \$4, 1 canner weighing 770 at \$1.50, 5 butchers av 586 at \$3.75, 1 cow weighing 1,020 at \$3.50; to Goose 2 do av 920 at \$3, 4 do av 1,030 at \$3.50; to Rattkowsky 4 butchers av 405 at \$3.25, 4 cows av 805 at \$3.50, 1 bull weighing 1,070 at \$4, 1 do weighing 570 at \$3.25, 2 cows av 1,035 at \$3.25, 2 do av 915 at \$3.50, 1 bull weighing 550 at \$3.25; to Lachalt 9 steers av 890 at \$4.40, 6 do av 916 at \$4.80.

Veal Calves.

Receipts, 611. Market 50c lower than last week; common grades very dull. Best \$8.50@9; others, \$3.50@8; milch cows and springers \$3@5 lower.

Bishop, B. & H. sold Mich. B. Co. 7 av 130 at \$8.75, 2 av 145 at \$9, 1 weighing 190 at \$9, 16 av 150 at \$8.75; to Parker, W. & Co. 6 av 130 at \$8, 3 av 185 at \$4, 7 av 160 at \$8, 4 av 155 at \$9.25; to Applebaum 3 av 230 at \$4; to Newton B. Co. 9 av 150 at \$8.50, 5 av 165 at \$8.75, 3 av 170 at \$9; to Kull 1 weighing 200 at \$4, 11 av 135 at \$7.50; to Rattkowsky 5 av 125 at \$8.75, 2 av 105 at \$6, 19 av 125 at \$7.50.

Spicer & R. sold Mich. B. Co. 7 av 150 at \$9; to Goose 7 av 250 at \$4; to Freidman 6 av 150 at \$8.75, 7 av 125 at \$8.25; to Mich. B. Co. 7 av 140 at \$8.25, 6 av 150 at \$9.

Youngs sold Mich. B. Co. 5 av 125 at \$8.60.

Haley & M. sold Newton B. Co. 4 av 250 at \$6; to Goose 3 av 170 at \$4; to Patrowsky 11 av 190 at \$5.50; to McGuire 7 av 145 at \$9, 4 av 180 at \$9.

Roe Com. Co. sold Mich. B. Co. 4 av 155 at \$8.75; to Burnstine 6 av 150 at \$9.25.

Groff sold Burnstine 7 av 130 at \$8.

Sheep and Lambs.

Receipts, 7,577. A few extras sold early at \$5.75; market 35@60 lower than last week. Best lambs, \$5.50; fair do., \$5@

5.25; light to common lambs, \$4@4.50; fair to good sheep, \$3@3.25; culls and common, \$1.50@2.50.

Bishop, B. & H. sold Mich. B. Co. 92 lambs av 75 at \$5.40, 26 do av 60 at \$4.25, 75 do av 80 at \$5.40, 52 sheep av 90 at \$3, 47 lambs av 73 at \$5.50, 46 do av 70 at \$5.60, 33 do av 70 at \$5.40; to Sullivan P. Co. 12 do av 62 at \$4, 27 do av 73 at \$5.25, 13 sheep av 110 at \$3, 10 do av 97 at \$2.35; to Nagle P. Co. 13 lambs av 68 at \$5.25, 102 do av 70 at \$5.75, 12 do av 60 at \$5.25, 102 do av 70 at \$5.75, 15 do av 78 at \$5.50, 97 do av 73 at \$5.25, 99 do av 73 at \$5.50, 36 do av 65 at \$4, 79 do av 75 at \$5.40, 87 do av 73 at \$5.50, 25 sheep av 125 at \$3; to Sullivan P. Co. 12 lambs av 60 at \$4.75, 67 do av 75 at \$5.55, 29 do av 56 at \$4.50; to Thompson Bros. 28 do av 60 at \$5, 11 do av 35 at \$3.50, 10 sheep av 108 at \$2.50, 22 do av 78 at \$2.50; to Breitenbeck 102 lambs av 73 at \$5, 25 sheep av 90 at \$2.85; to Wood & Son 150 lambs av 55 at \$4.75, 31 do av 70 at \$5.50; to Sullivan P. Co. 7 do av 85 at \$5.50, 20 sheep av 95 at \$3; to Hayes 58 lambs av 58 at \$4.75; to Fitzpatrick Bros. 77 sheep av 85 at \$2.50, 16 sheep av 95 at \$3, 7 do av 90 at \$2.50, 117 lambs av 78 at \$5.75, 67 do av 60 at \$4.75; to Johnson 20 sheep av 100 at \$2.50, 11 do av 100 at \$2.50; to Hammond, S. & Co. 28 do av 90 at \$3, 21 do av 110 at \$3.

Haley & M. sold Nagle P. Co. 149 lambs av 78 at \$5.60, 43 sheep av 125 at \$3, 10 lambs av 60 at \$4, 67 do av 75 at \$5.25; to Youngs 8 sheep av 110 at \$2, 42 lambs av 110 at \$5.30, 16 do av 85 at \$5.30.

Roe Com. Co. sold Newton B. Co. 149 lambs av 80 at \$5.50; to Nagle P. Co. 53 do av 80 at \$5.30; to Hayes 16 sheep av 85 at \$2.75; to Youngs 13 yearlings av 90 at \$4.25.

Downing sold Nagle P. Co. 51 lambs av 63 at \$5.40, 154 do av 65 at \$5.40.

Stephens sold Sullivan P. Co. 29 sheep av 95 at \$2.60, 21 lambs av 72 at \$5.25.

Duelle sold Newton B. Co. 10 sheep av 99 at \$2.75.

Groff sold Barlage 17 lambs av 55 at \$5. Spicer & R. sold Mich. B. Co. 21 lambs av 70 at \$5.75, 20 do av 70 at \$5.75; to Sullivan P. Co. 25 sheep av 110 at \$2.40; to Sullivan P. Co. 10 do av 121 at \$3.

3 do av 95 at \$1.50; to Parker, W. & Co. 23 lambs av 80 at \$5.85; to Mich. B. Co. 119 do av 75 at \$5.50; to Youngs 32 sheep av 90 at \$3.30; to Thompson Bros. 16 lambs av 65 at \$4.25; to Newton B. Co. 109 do av 77 at \$5.25, 16 sheep av 80 at \$3.25.

Hogs.

Receipts, 5,030. Market steady at Wednesday's and last week's prices.

Range of prices: Light to good butchers, \$6.40@6.60; pigs, \$6@6.25; light yorkers, \$6.35@6.55.

Bishop, B. & H. sold Hammond, S. & Co. 850 av 200 at \$6.60, 2,160 av 175 at \$6.55, 1,355 av 165 at \$6.50, 315 av 150 at \$6.40.

Roe Com. Co. sold Sullivan P. Co. 275 av 200 at \$6.55, 60 av 170 at \$6.40, 65 av 130 at \$6.25, 32 av 120 at \$6.10.

Haley & M. sold Parker, W. & Co. 580 av 200 at \$6.60, 180 av 180 at \$6.55, 145 av 175 at \$6.50, 130 av 150 at \$6.40.

Spicer & R. sold same 120 av 200 at \$6.60, 315 av 185 at \$6.50, 150 av 160 at \$6.40.

Montana is credited with the biggest hog supply on record, while its winter sheep and lamb feeding is going to attain generous proportions. Montana farmers and stockmen have been able during the past summer to pick up plenty of desirable yearling ewes at \$2.25 to \$2.40 per head that two years ago would have cost \$4.25 to \$5. The old sheep have been mostly sold, and sheepmen are now taking advantage of the fairly good fall range and plenty of hay to go into sheep breeding and feeding on a rather extended scale. Should market conditions be satisfactory next spring, in all probability the Chicago stock yards will receive fair supplies of Montana hay-fed sheep, but otherwise owners may be expected to shear their flocks and retain them on the range.

The Kansas and other southwestern grass cattle are later in being marketed this year than usual, as the drought made poor pasture much of the summer. They are coming now, and at the same time the northwestern range cattle are being marketed in full force.

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1½-Horse Power

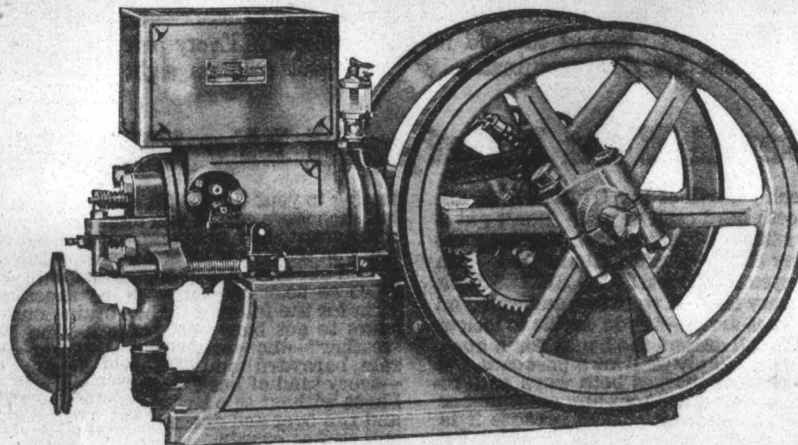
\$29⁹⁵

2-Horse Power

\$42⁹⁵

4-Horse Power

\$74⁷⁵



6-Horse Power

\$104⁴⁵

8-Horse Power

\$168⁹⁵

10-Horse Power

\$243⁴⁵

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P. O. Box No. _____ Street and No. _____

Send in your order. The very day it reaches the factory, we'll load your Economy Gasoline Engine into a freight car, and the best farm hand you ever saw will be on the way eager to go to work. Use the coupon if you want our free Gasoline Engine Catalog.

SEARS, ROEBUCK AND CO. CHICAGO

Which Shoe Will You Buy—Number One or Number Two



N. M. Ruthstein
The Steel Shoe Man

of these shoes was sent out for free examination. Every pair sold on sight on its own merits.

If it's true that I can make your shoes last longer—keep their shape, keep your feet dry, keep them comfortable—make one pair of shoes last as long as three to six pairs of old style leather shoes—save you enough money on shoes each year to buy a lot of new fence for your farm—if that's true you'd hire me for your shoemaker from now on, wouldn't you?

That's exactly what 500,000 farmers have already done. Half a million are now wearing my modern steel shoes for all sorts of work—in place of the old all-leather shoes. Every pair



Let Me Send You Postpaid My FREE BOOK

to convince you of the solid worth of my STEEL SHOES. Your foot comfort is worth hard cash to you. Don't put it off another day. Then, after reading my book if you decide to send for a pair of my shoes—Examination FREE—you can see with your own eyes how my STEEL SHOES back up every claim—meet every need of your feet and save you \$10 to \$20. When my shoes arrive—if you decide to look at them—you can wear them all around the house for a good trial; if you don't like them simply mail me a post card, I'll send for the shoes, pay express charges both ways and return your money—the full amount without any quibbling or questioning. I'm writing this advertisement because it is more economical for me to reach you in this way than by

coming to your town. In selling by mail, without the retail shoe store cost, I can offer my shoes at inside prices. I want your shoe business. I'll be more careful about fitting you than your local shoemaker. You're naturally prejudiced about an out-of-town man, but you'll lose your prejudice as soon as you wear my shoes. You'll be saying: "I'm for the fellow who has brains enough after all these years to get busy and make a shoe that will stand the weather"—the worst sort of weather—pouring, drenching rain, barnyard mud and ooze, logging, tramping on rocks—every kind of hard work. Shoes with shape and comfort. Shoes without sole leather to warp and crease, and tear out and run over and down at the heel, and get soaked through and stiff as boards.

You Can't Get Wet Feet or Cold Feet—You Can't Get Corns, Bunions and Callouses in My Steel Shoes. They Prevent all the Sickness and Other Troubles Caused by Wet Feet

My STEEL SHOES are replacing leather shoes for all kinds of work faster than leather shoes replaced the old-time wooden shoes. Don't think steel means something hard and unyielding. My FREE Book will show you how

My Steel Shoes are Built to Fit the Foot Scientifically

—the right lines—the genuine foot-shape shoe. They outwear three to six pairs of leather shoes and remain comfortable and shapely to the last. Look at this illustration, from an actual photograph of one of my STEEL SHOES worn for three years—think of it, three years of hard work! There's your money-saving. Now read what the man who wore these shoes says:

N. M. RUTHSTEIN, Dear Sir:—I have a pair of your steel shoes that I have been wearing **FOR THREE YEARS** for all kinds of work. Working in cement, watering in greenhouses, washing autos and carriages, and all kinds of rough work. They are a godsend. I wouldn't take any price for them if I couldn't get another pair. I used to suffer terribly with weak arch before wearing your steel shoes, but have no trouble now.

W. J. Bradley, New York Mills, N. Y.

That's one reason why you may suffer from tired, sore, aching feet. The arch of your old leather shoes has nine chances out of ten broken down, lost shape. You've become flat-footed, maybe you've had to put in shanks to support your instep. That's the worst thing that could happen to your feet. Now, my STEEL SHOES have fine inner soles of springy, hair-cushion to take all jar. They can't break down, they can't lose instep shape. On hard-

est roads, the longest day's work your feet are comfortable. You don't have to put in shanks and if your feet are in bad shape now from hard work in leather shoes my STEEL SHOES will put them in condition again.

My STEEL SHOES keep out the heat and the cold. They are warm and dry in winter; cool and dry in summer. My FREE BOOK gives sizes and prices. It will prove to you conclusively that all I say is not half of what others have said in praise of my shoes. I can fit your foot perfectly. I can save you \$10 to \$20 on every pair of shoes and I can give you sure foot comfort and health.

Let My FREE Book Prove It—Write For It At Once

Let me send it by next mail to show you how easily I can fit your foot—the exact size, no difficulty. Remember, I'm an expert shoemaker. I've fitted half a million farmers, not to mention the thousands of men in other lines of business now wearing my STEEL SHOES. Look at illustration Number 2. The soles are stamped out of thin, rust-resisting, seamless, special process steel—from heel to toe and around the edges and above the sole as shown. No cracks—no seams. Studded with adjustable steel rivets which protect from wear and give a firm sure lower footing. When rivets wear out you can replace them easily and quickly yourself—no trouble—they keep your shoes in good repair for two years more. 50 rivets cost 30 cents.

The uppers are made of special water-proof leather—best quality—pliable. Water or cold cannot penetrate. Your feet are constantly dry and comfortable.

When it costs only a penny post card to investigate, what's the use of suffering discomfort, catching cold, getting bad feet and paying out a lot of extra money for shoes that look good to start with but won't stand the weather and the wear?



This is the shoe people had to buy up to four years ago



This is the modern STEEL SHOE one half million farmers are now wearing



This is Number 1 after two months of wear.



This is Number 2 — Ruthstein's modern STEEL SHOE after three years of all kinds of weather and rough usage.

Which shoe will you buy

The above are actual photographic reproductions of the actual shoes—worn the exact length of time stated.

Canadian Fct.
Toronto, Can.

N. M. RUTHSTEIN
The Steel Shoe Man
205 7TH STREET - RACINE, WIS., U.S.A.

Great Britain Fct.
Northampton Eng.