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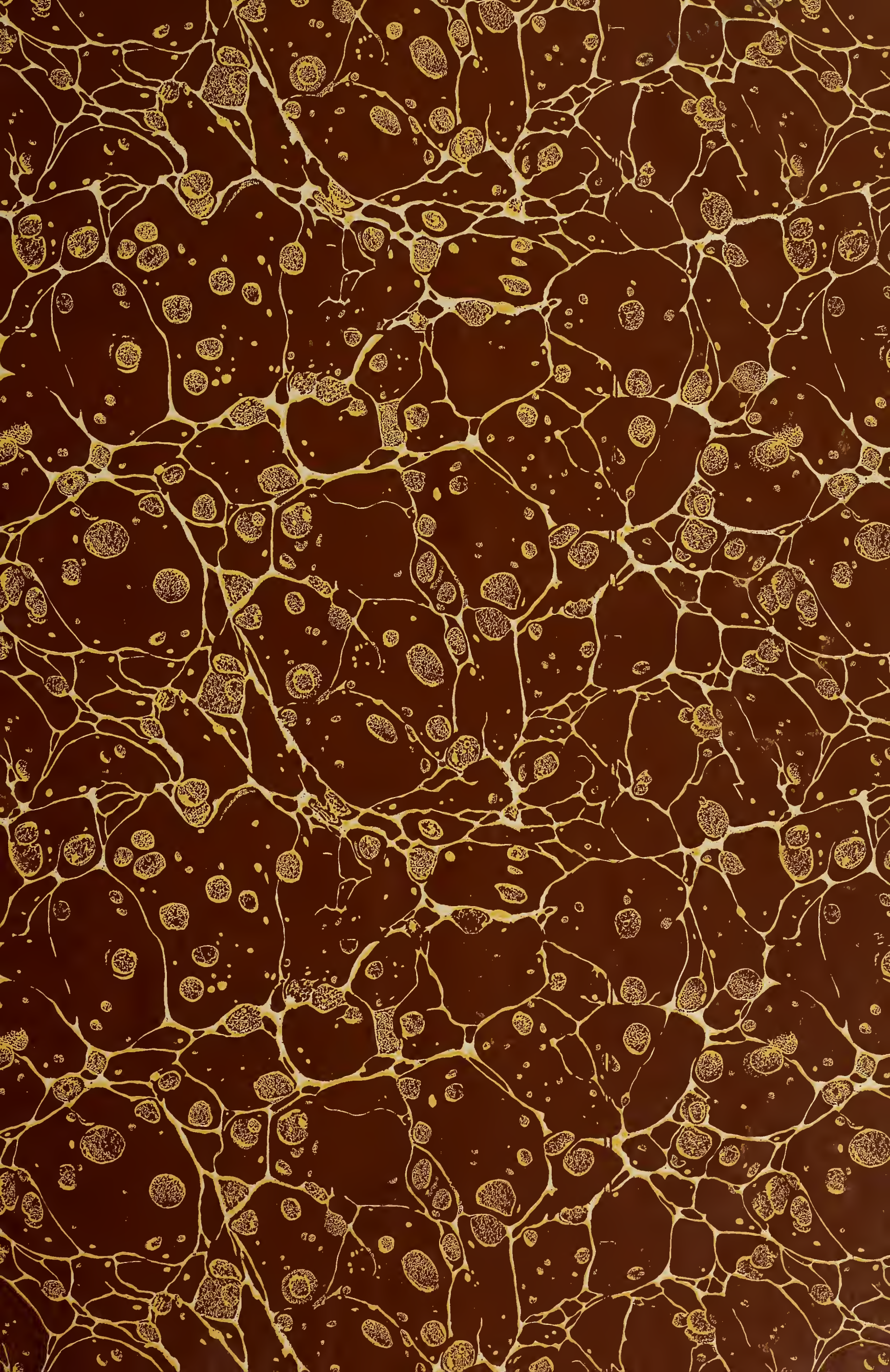
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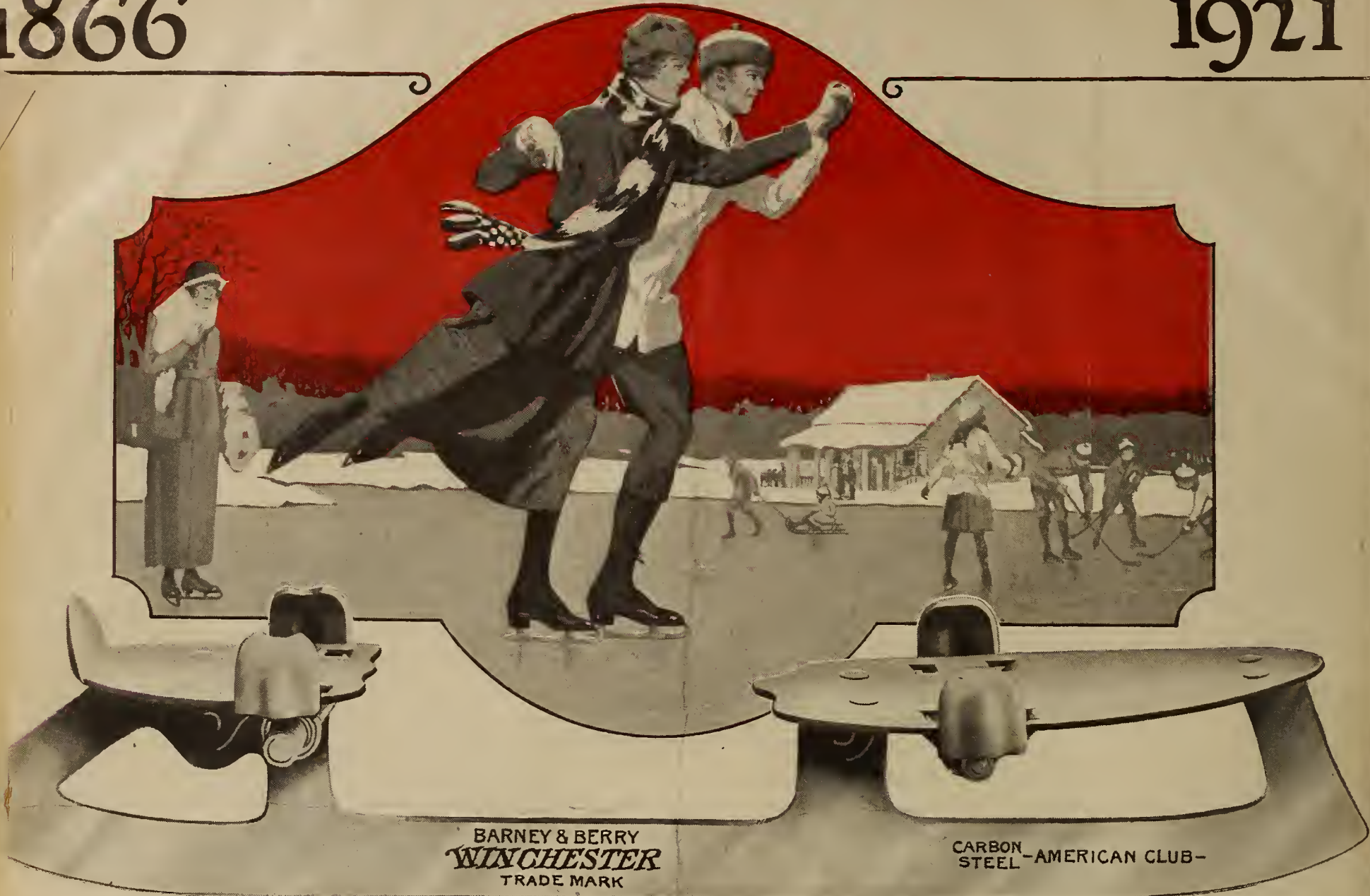
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Thorne on Rothamsted — See page 5

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When Hen 678 Laid the \$150 Egg and Won the International Contest

By Victor G. Aubry

Corresponding Editor of Farm and Fireside

HOP to it, Old Girl; go ahead and lay your \$150 egg!" said Dick Gramh when bird 678 of pen 67 laid the egg during the last fifteen minutes of the egg-laying contest at Vineland, New Jersey, last October, which broke the tie between the two high Leghorn pens, and actually won \$150 for her owner.

This same Dick is none other than Prof. W. C. Gramh, in charge of the poultry department at Guelf, Ontario, and for the few who do not happen to know him let me say that there is no better poultryman anywhere than Gramh. Not only is he one of the best exhibition judges, but he can pick layers with the best of them, and breed them too. He is a man who, besides being practical to the core, has been one of the guiding hands of the poultry industry, both nationally and internationally, so that his views on the subject should carry weight. When I got up on the platform with Professor Gramh, he said:

"Look at all those fellows out there walking around from one house to the other. Did you ever see a more interested and enthusiastic crowd at any horse race or cattle show or any other kind of a meeting?"

The crowd was large and very much interested in the various hens and pens which were just completing their laying records, and the new hens being shipped in to start the new contest. The people were around in small groups, looking them over for fair, making predictions on what the new birds were going to do, estimating what the old ones had done. When they happened to know the records of the individual hens they were looking at, they were going over in detail the characteristics of the bird, to see if their pet hobbies as to distinguishing marks of good laying and poor laying birds were working out, or if they could find some new characteristics which had not been discovered, and which would indicate good or poor egg production.

THE records made at the Vineland International Egg-Laying and Breeding Contest last year were not only very remarkable in many ways, but are world's records which will stand unbeaten, perhaps for some time to come.

Before going any farther let us briefly review some of the more striking figures of these records, so that we may analyze them. There were 1,000 pullets in this contest, made up of 100 pens of 10 birds each. These 1,000 birds laid 179,079 eggs in 365 days, an average of 179 each. Of the 1,000 birds, 600, or 60 per cent, were Leghorns, and 400, or 40 per cent, were of the heavier birds, such as Plymouth Rocks, Rhode Island Reds, and Wyandottes. The 600 Leghorns laid 112,800 eggs, an average of 188 each; the 400 heavier birds laid 65,615 eggs, an average of 164 each. For fear that some might get the impression that the light birds, or Leghorns, were favored, let us not overlook the record made by pen 39 of Rhode Island Reds, which made a world's record for a pen of 10 hens, laying 2,431 eggs, an average of 243 each; also, that the high hen this year was a Wyandotte, laying 288 eggs.

It is rather interesting to note that but one pen dropped below the 1,000-egg mark, laying 997 eggs. These particular birds were strong and healthy for the entire year, but were a type bred for meat production rather than egg production. Out of the thousand, 324 hens, or 32.4 per cent, laid over 200 eggs each, and had the rules of the contest permitted, any experienced poultryman could have gone over the birds along the middle of last summer and selected or culled out 250 or 300 of them, and in this way brought the average productions of the year quite a bit over 200 eggs each.

Many will be interested to know that these birds which made such exceptional records were bred and raised at the contest the year previous, and that they were bred from the birds of the previous year's contest, and that, so far as possible, one daughter from each of the 1,000 old hens at the first contest was selected to compete for the second year's production. In addition

it is well to remember that the average egg production for the mothers of these birds was 162 eggs as against 179 for their daughters.

Immediately the question arises, Why this increase and how? Naturally, a great many factors entered which are responsible, and there are probably many more which nobody knows about; but some of the outstanding factors should be interesting.

First, the sires of all, or most of these pullets were a grade better than their dams. Being closely selected, many of them pedigreed cockerels for high egg production, so that undoubtedly these pullets on an average inherited characters for a better production than their dams.

Second, they were reared under very favorable conditions, and by the time they were ready to go to their task of production their bodies had that reserve strength and stamina which is an absolute necessity in order to go through such an ordeal.

Third—(without question just as important as the other factors), they were kept on the job, being held up to their maximum efforts by the careful, untiring, experienced work of the superintendent.

To come back to the incident of the \$150 egg, or the race between the two high Leghorn pens: About six weeks before the close of the contest, when most of the pens which were still in the race began to show signs of weakening, both pens 63 and pen 67 began to come up pretty strong, and these two pens were "nip and tuck," with only a few eggs difference between them, pen 63 having a few eggs the lead, and both of them laying about the same number of eggs each day. About ten days before the close, pen 63 began to show signs of weakening, while pen 67 was just about holding its own and slowly but surely gaining.

You can imagine the anxiety of the owners of these two pens, because not only was the high pen between them going to win \$150, but the advertising value was worth thousands, and the satisfaction of winning a closely contested race was worth a lot.

The wind-up was even more exciting than the preliminaries, because the race was not settled until about fifteen minutes before

the close of a 365-day contest. Twenty-four hours before the close, pen 63 was two eggs ahead; the morning of the last day, pen 67 laid two eggs, tying the score, and then both pens seemed to have quit for the day, and it certainly did look like a tie; but right after dinner, bird 8 of pen 63 laid one egg, breaking the tie, and it looked again as if the race was over. Still there was one more bird in pen 67 which might lay according to the previous days' records, and, sure enough, in order not to have her pen outdone, she stepped in the nest, and in a few minutes she stuck her head through the trap door and let the world know that she had come through.



This is Dick Gramh, the Hen Judge

PROF. DICK GRAHM, although at present actively engaged by the Canadian Government, has been responsible as much as any other one man for the rapid constructive growth of the poultry industry in this country as well as in Canada. He was born in Scotland, but came to America as a boy, and got most of his poultry training under Rankin, the pioneer duck man. Gramh also is the originator and developer of many of the modern developments in poultrydom.

Now everybody was convinced that a tie was sure to stand as it was getting late in the afternoon and the birds in both pens were acting very much as if they had "knocked off" for the day. Studying the two pen records showed, in fact, that they were through, when the unexpected happened—bird 8 in pen 67, which had not laid for a few days and which everybody thought was through for the season, jumped up on the nest, and the fun started again.

It was comical to see the crowd outside this small hen house all trying to look through the tiny window in the east side of the house to see this hen lay, if she was going to. It must be remembered that that no one was allowed to enter either of these pens but the contest attendants. There the hen sat on the nest, looking the crowd over, and I suppose wondering what was going on. After she had been there half an hour the crowd began to wonder if this hen was kidding them. This kept up until about fifteen minutes before the close, when, like her pen mate, she stuck her head out and told the world that she had laid an honest-to-goodness two-ounce egg that meant \$150 of good American money to her owner, besides a whole lot of other things.

Like a true sport, the owner of pen 63 went up and shook hands with the owner of this little hen, and congratulated him, and the crowd began to break up very much the same as a crowd which leaves a race track or a ball game. It was then that Professor

Gramh remarked again on the enthusiasm of the incident, saying:

"This is characteristic of the new era that poultry-keeping is entering, and in my judgment a mighty good era. What you and I have seen this day means a whole lot more to poultry-keeping than either you or I can imagine."

Teamwork Won

UP IN Oneida county, Wisconsin, the farmers have been "putting over" potato-growing in a really big way. What is even better, they have been marketing their potatoes just as efficiently as they have grown them.

A few years ago the farmers of this county were in the same boat as thousands of others. Each spring they planted just the general run of potatoes from the bin. Each summer and fall they hoped that this might be the off year for bugs; that the blight would not wither their vines, and with them their chances; that the crop would ripen together; and that in the event of a good supply it would bring enough to pay them for the rent of the land, for the seed, and for other materials, and still leave them a fair return for their work.

Finally something happened—it usually does among pioneers. They were unwilling to let well enough alone.

So they did what most folks do when enough see the need—they got together. They hired a county agent. Steps were taken to develop, on a profitable scale, the lines of farming for which the county was adapted.

At the outset they recognized that if they were to improve their production and demand better prices for their products certain things would have to be done. Many so-called varieties would have to go; a few standard and well-adapted varieties must supplant them. Large enough acreages would be grown to meet orders for carload lots. The seed would have to be treated to insure the production of clean, marketable seed and table stock.

Throughout the summer months the fields would need to be tended properly. Careful watch of the growing vines would be kept to check, at its first appearance, late blight. After the crop was produced cooperative efforts would create a market for it.

Stimulus was given all this work by holding county potato shows and by exhibiting at the annual State shows. Oneida is forming a habit of winning first prize at the big shows held under the auspices of the Wisconsin Potato Growers' Association.

Thanks to good leadership and a willingness to co-operate, the Oneida County growers have won out. They are growing their crops according to three men who know how: Juday, the county agent; Milward, the state's potato enthusiast; and Vaughn, the plant disease specialist of the State College of Agriculture and the United States Department of Agriculture. Their county crop-marketing committee, for which the county agent is a moving spirit, is building up a trade second to none for their seed and table stock.

Whoever heard of a county sending out its potato salesman to "drum up the trade"? Yet this is just what they did. Their county agent packed his grip one day, filling one side of it with Oneida-grown Green Mountains, Rural New Yorkers, etc. He visited several of the big markets of the South, and returned with orders for carload shipments.

The results in Oneida County, from the campaign started by the county agent and the county committee, have been far beyond expectations, but no greater than many other counties could secure by similar teamwork and enterprise.

In 1918 the Oneida growers sold more than 11,000 bushels of seed potatoes at an advance of about 40 cents a bushel over the top market. This has meant nearly \$5,000 in the pockets of the farmers who took pains with their seed-potato crop. They also sold about 15,000 bushels of fancy table stock, which brought from 25 to 40 cents a bushel over the market price, and netted the growers about \$5,000 extra money.



Some of the crowd that are making modern poultry history. These men are lined up on their annual auto tour to the state agricultural experiment station which is located at New Brunswick, New Jersey

Brothers



DR. WILL and Dr. Charlie Mayo have shown the world that the best place on earth to have a leg set is in Rochester, Minnesota. Twenty-six years ago a cyclone hit Rochester, and there was no hospital to handle the results. The two young Mayos and their father pointed the obvious moral, and out of the wreckage rose St. Mary's, a hospital that, with their organization and the advantage of their personal skill in performing well-nigh bloodless operations, has become a refuge for the injured and a school for the profession. (Dr. Charlie in the uniform.)



HERE are three of the five Ringling boys, founders of Ringling Brothers' circus, who ran away from their home out in Iowa when they were kids, and joined a minstrel show. They were gone three days, till their father found them and washed the black off their faces. Their next appearance was at a prison entertainment, where the grand-stand collapsed while Al was spinning cannon balls around his neck. Then they began to hire clowns and fat women and camels. Well do we remember the annual thrill we got, as a small boy, watching their train unload at 4 A. M. of a summer morning. Long may they wave! (That's Al up in the corner; Charlie is right below him, while John is the one with his hands in his pockets.)

INVENTING runs in the Wright family. Their father, besides being a bishop, invented a typewriter; their other brother invented a hay press, and they could make bicycles before they began even to think it would be fun to fly off the barn roof in an airplane. Their playing with flying became too interesting to be mere sport, and in three years of experimenting they had learned how to build a machine that would fly. Strangely enough, it was Europe that first recognized their genius and bought their flying machines; but when Wilbur died in 1912 the whole world was aware what he and Orville had actually done. (Wilbur is the tall one.)



THESE are the Guggenheim boys of Colorado. The Guggenheim fortune started with a few bits of lace that old Meyer Guggenheim peddled from door to door, and ended with owning about all the mines in the world. From peddling lace, Meyer opened a lace factory in Switzerland which did well. Then a Colorado merchant paid a debt he owed them, with an option

on a mine. The mine paid. They built a smelter. Then another smelter in Mexico, and got in with Diaz. Then they jaunted East, and added a refinery in New Jersey. And each bit paid. Railroads came next, and at last, which placed them among the richest families in the world, they secured their footing in Alaska. (Father has the whiskers.)

Two Coöperative Shipping Plans That Save Us Money in Illinois

By W. H. Smith

Of the Animal Husbandry Department, College of Agriculture, University of Illinois

ON THE first shipment of hogs by our coöperative shipping association I received \$1.35 per hundredweight more than the local buyer had offered," said one Illinois farmer recently. And thousands of other Illinois farmers are echoing this sentiment since coöperative shipping has begun to sweep the State.

Shipping associations in Illinois have not been so numerous as in some of the adjoining States, but the sentiment favoring this system of marketing livestock has been rapidly crystallizing into definite action because it has paid. New associations are being formed every week. Ample reasons for starting an association are not hard to find wherever livestock is being shipped, and catchy arguments discouraging the work are becoming less numerous as the results become better known.

One Illinois county adviser said that the movement was launched in his county because the farmers felt that they were not getting the full worth of their animals when they sold them to local buyers. In this small town there were four buyers, all of whom found the business profitable enough to put them in the list of income-tax payers. Another, in summing up the situation, said:

"Our local buyers have been buying on a margin of around \$1.50 per hundredweight. Deducting shipping expenses, this leaves them 50 to 55 cents per hundredweight profit. On the basis of 18,000 pounds for a car of hogs, this means a profit of \$85 to \$90 per car. This amount is a little more than three per cent of \$2,800, which is a fair estimate of the value of an average load of hogs. It is certainly unreasonable for the man who furnishes the feed for fattening and the labor of caring for the animals to be called upon to pay a tax of three per cent as an additional cost for getting his animals on the market."

THE manager of one of the shipping associations said:

"The results of our first experience will show why we organized, and why we are satisfied. Our association has been organized about three months, and we have shipped 15 cars of hogs, cattle, and sheep. Each day we shipped I secured the prices the local buyers were offering for stock, and on that basis compared them with our receipts, and in this way found that our organization saved the shippers almost \$1,000. We have eighty members, and most all of them have shipped stock through the association."

Nebraska claims the honor of starting the coöperative shipping idea nearly forty years ago, by organizing the first association. From that beginning the movement has grown until it is estimated that 40 per cent of the hogs marketed at the Chicago yards and 20 to 25 per cent of all the cattle and hogs marketed are shipped through coöperative associations. Secretary McKerrow of the Minnesota Central Coöperative Livestock Shippers' Association says that 70 per cent of the livestock shipped in

1918 by the farmers of Minnesota to the South St. Paul yards was marketed coöperatively, and he estimated a saving to the farmers of nearly \$2,500,000.

The development of this work has not come without a struggle. The country buyer was first to see the handwriting, and fought the plan. In many instances where he had previously paid discouragingly low prices before an association was started, he offered unreasonably high prices after it

tions states its manager's duties as follows:

"The manager shall be at the yard on the day of shipment, unless he shall have secured a competent substitute, and shall receive all the stock, and weigh, mark, and load the same on the car. He shall keep on file a complete statement of settlement, together with returns from the commission firm selling the livestock for the association. At the annual meeting he shall furnish a detailed statement of all business done during

"Which is the better plan?" is frequently asked. The answer is similar to that given to the question, "Which is the best breed of cattle?" Both plans have their advantages, and each is operating successfully in Illinois. The county agents are equally enthusiastic over both, and since they have been largely instrumental in promoting the organization of each, it would seem that local conditions must be the factor which governs.

The associations first formed in the state were of the local type. A few of these have been in operation for from eight to ten years. The county associations are of recent origin, the first being formed less than one year ago. The work of this association has been so unusually successful that several other counties have formed similar organizations.

ADVISER F. A. GOUGLER of Adams County, in discussing the relative merits of the two plans, outlined the advantages of the county plan as follows:

"1. Returns come to the county manager from many commission firms, and it gives an opportunity to check up on these firms.

"2. A board of directors has charge of the entire county's livestock shipping problem.

"3. The local shippers meet regularly with the county manager to discuss the business of shipping and to exchange ideas. This gives a splendid opportunity to improve the business of shipping.

"4. A central office through which all the business of the association passes is of great value.

"5. If one local manager cannot make up a carload of stock in his community, he can often combine his part-car shipment with that of an adjoining community.

"6. Adjustments can readily be secured, because the county manager or members of the board of directors have much more prestige when they go before railroad officials or others to make appeal for better service, than when representing only a small group of men."

ADVISER L. S. GRIFFITH of Lee County, Illinois, is likewise enthusiastic in his support of the county plan:

"We organized our association March 1, 1920, and have shipped 10 cars of cattle, 51 cars of hogs, and 11 mixed cars of hogs, cattle, and sheep, having a total value of \$163,994.67. These shipments have been made from nine different shipping stations. We have twelve local managers appointed, who ship from fifteen different stations. The local managers bill out the stock for shipment, and send a copy of the invoice to the commission firm and to the county manager. Returns are sent by the commission firms to the county manager who distributes the funds to the different shippers. This relieves the local manager of much clerical work. This is usually the monotonous part of the work, and it can be done more efficiently by the county manager. [CONTINUED ON PAGE 24]

We're on the Right Road Now— Let's Keep Going!

SOUND common sense characterizes the attitude of the National City Bank of New York in one of its recent reviews of the economic situation.

When trade, industry, and finance leaders unanimously echo this sentiment toward the coöperative movement that is now sweeping American agriculture, we will have taken a big stride toward the solution of our costly problem of food distribution.

Here is what the bank says:

"This [the agricultural coöperative movement] is evidently a normal development, and while some features of it may not be welcomed by dealers and agencies for whom it brings new competition, intelligent business men recognize that it is a perfectly legitimate movement, and will succeed or fail on the results which are produced. If the farmers get better returns or are better satisfied by marketing through their own organization, they have reason enough for following the policy. Such a development is a matter of business, in no way related to politics, involving no controversies, and meeting with no opposition except such as may arise naturally from business competition. The latter is not undesirable, for the competitive test is the best spur to efficiency. The community as a whole is interested in the perfection of business methods."

began business. But the plan would not smother out; it spread. Handling of livestock shipments by the country buyer on a narrow margin, or even without profits, to discourage coöperation, was short-lived.

Some of the commission firms did not take kindly to the idea because of the extra work involved in handling the mixed loads. But that obstacle soon vanished as other firms prepared to handle the work, and it was not long until all of them believed in it. Many commission firms to-day have special experts to encourage coöperative shipments.

THE Illinois associations are organized under two different systems. One is known as the local, and the other as the county plan. While the purpose of the two systems is the same, the methods of operation are distinctly different.

Under the local plan, shipping organizations are formed by communities, and the operations are confined to a single community or shipping point. This type of organization, while small, is complete in itself, elects its own officers, and conducts all of its business according to its own policies. A local manager is selected whose duty it is to handle all the shipments. A section from the by-laws of one of the local associa-

the year. He shall also be under the direct control of the board of directors at all times, and may be released at any time for just cause, as decided by the board of directors."

The county plan, on the other hand, represents an organization covering an entire county, with a board of directors and a county manager who control the business affairs of the organization. Local associations under the supervision of the county directors are formed at the various shipping points. The Lee County (Illinois) Shippers' Association defines the county plan in their constitution as follows:

"The board of directors shall employ a county manager to carry on the business of the association, under their authority, supervision, and guidance, and shall arrange for his compensation according to the best interests of the association. The county manager, in coöperation with the members in any community, may arrange for a local shipping manager, and his compensation shall be decided upon by the county manager and the board of directors. The duties of the local manager shall be to list livestock for sale, arrange for the weighing, loading, and billing out of the livestock and farm produce to be marketed by members of the association."

"UNCLE JOHN" BROWN, president of the Indiana Federation of Farmers, not long ago decided to go West and study coöperation as practiced in the Golden State. Fearing he might not be able to keep in his head everything he learned, he took me along to help remember.

I armed myself with notebook and pencil, and in due time we landed in California. We visited the Growers' Exchange, called on the Associated Raisin Growers—in fact, made a tour of the country. My original notebook filled quickly, so did several others; so by the end of a month's trip we had picked up enough "dope" to fill a book. But, getting down to rock bottom, we decided the basic principles of Western coöperation, which can be applied to farm coöperation anywhere, are:

1. Successful coöperative farm associations are born only out of absolute economic necessity—when the farmer thinks his business is not as profitable as it should be.

2. For successful coöperation, it is necessary to have competent men in charge and the members must have absolute confidence in their leaders and in each other.

"Uncle John" on Coöperation

3. Uniform grading and packing and systematic advertising are necessary to establish a high reputation in the market.

4. Pooling each grade, and paying each member the average price received for that grade during the season eliminates dissatisfaction, due to price fluctuation.

5. It is necessary for the association to have a binding contract with its members to sell their product through the association, so the association can know what volume of business it will have. This too, curbs speculative buyers.

6. These associations do not tear down existing marketing machinery, but use it, eliminating speculation.

7. The associations make a specialty of marketing, and do very little buying, thus eliminating overhead expense and opportunities for dissatisfaction.

8. The strongest influence that any of these associations have in controlling prices is by increasing demand through national advertising, and by controlling the distribution so as to maintain an even flow at all times, and thus prevent flooding their market.—P. R. BAUSMAN, County Agent, White County, Indiana.

How I Make Money for Myself on the Farm

Prize Letters by Farm and Fireside Readers



This is Mrs. Sheppard and a swarm of bees she captured last summer. There aren't many beekeepers who care to gather in a migrating swarm thus unprotected

WHEN we were married, forty-three years ago, we moved on a little Ohio farm. I knew nothing of farm life, as I had always lived in town; but I was determined to learn everything that I could that would be helpful to me as a farmer's wife. We considered marriage as a partnership, and we have always planned the management of the work and expenditures together. While I know I am welcome to any of the farm income, I am like many other women, I think; I like an income I can feel is from my own work.

I have always had charge of the poultry-raising, and use the money as I please. I am always so much prouder of anything I buy with my own money than I would be if I used money earned by my husband.

Last year my health was very poor, and

my income from poultry and eggs was only \$132.68. In the first six months of 1920 I sold \$87.50 worth of poultry and eggs, and had about \$200 worth of turkeys and chickens to sell in the fall, besides a steady income from the 100 hens which I expect to keep. I wish you could see my fine prize-winning bronze turkeys. They are surely beauties.

One year I used \$25 of my poultry money and bought a young colt, and sold it later for \$85. I bought a young brood sow for \$20, and sold \$67 worth of pigs, and have \$75 worth of pigs left, which I will sell this winter. I recently bought two Jersey cows and expect to have quite an income from the increase each year.

My farm products have brought in quite a bit of prize-money. I won \$75 in gold with an exhibit of 198 products for the table. I have won also other money prizes, and once won an \$85 sewing machine. I won 33 ribbons at fairs this year. Eighteen were first premiums, and the rest seconds. Besides the honor, this meant \$28.75.

My husband does the milking, and I do what I can in washing the cream separator, milk buckets, cream jars, and cream cans. The cream money is used by either of us.

I am sixty-one years old and have poor health, and if I were living in town I would not be able to earn any money. But caring for the poultry is not hard work, and I am in the fresh air. The work is a pleasure and is company for me, as our children are all married and gone, and it would be very lonely with nothing to take up my time.

MRS. A. C. KEPHART, Cedar Lawn Farm, R. F. D. 5, Wellston, Oklahoma.

My Money Comes on Wings

SECOND PRIZE LETTER

SEVERAL years ago we had a swarm of bees wished on us. They came from the eaves of the schoolhouse. The next season

they swarmed, and I hived the swarm. This has been going on for several years, until there are many strong colonies, and on June 3, 1920, our Beekeepers' Association held their field meeting at our apiary.

There is plenty of work connected with beekeeping, but it is not only a profitable undertaking, but a pleasant one as well. I have made money by raising chickens, selling butter, eggs, vegetables, and flowers, but they look like hard work and small pay alongside of honey by the ton to sell. My husband takes the profit from the other crops.

The honey money is banked separately from our individual accounts, and is to be used for sensible luxuries. My husband has purchased a new baritone horn. I have a new camera, and now I am selling extracted honey to buy a new car.

Preferring liquid honey for hot cakes, I purchased an extractor before the war, and enjoyed the honey, not only on hot cakes, but all during the sugar shortage I preserved several hundred cans of fruit each year with the liquid honey, also made extract for cake and ice cream in place of sugar. I am glad to extract it for market, now that we have such a tremendous crop. The bees sting my husband, but never me. I never strike at them or let them scare me.

MRS. C. J. SHEPPARD,
Shiloh, New Jersey.

We Share Alike

THIRD PRIZE LETTER

WE ARE interested in a farm product which is salable but not widely offered. The Woman's Exchange is ever ready to pay 20 cents a pint for good cottage cheese. Brown bread, baked beans, and cookies are in almost equal demand.

My daughter and I do retail our morning work so that the afternoons are free for rest, reading, or sewing, except in rush sea-

sons of canning and house-cleaning. She tends her chickens and garden in the early morning, while I do dishwashing, sweep the dining-room, and clean lamps. However, before beginning these jobs I have the milk heating for the cheese, the brown bread steaming, and also have custard or pudding on the way for supper. Some days I pack eggs into the cases for city customers. All these things, except the custard, go on the same trip via auto to the town, ten miles away. We divide profits, as both are concerned in the preparation.

As country hours are early—we are up at five—I am through with these jobs by or before ten o'clock, and I have two good hours, after a little rest, for work at my desk before twelve-o'clock dinner.

We are active in community affairs, domestic science, and home bureau clubs. As chairman of Equipment for the Home in this county, I attend different club meetings. Farm-paper editors seemed to like to hear about our community "barn plays" which we gave in a new barn. They also seem interested in the ice-cream parties, the tea-wagon suppers on the big porch for our own family, and other happenings.

In spring and fall I give three or four weeks' time to do up the children's sewing. My daughter insists that I accept a check for this work, so before I know it I have an amount sufficient for a trip. A farm woman needs a vacation, as also does the farm man.

MRS. I. W. MCCONOUGHAY,
Tolono, Illinois.

Are We Greatest Hunters?

THERE are 7,000,000 hunters in the United States, according to the Chief United States Game Warden. In 1915 3,600,000 licenses were issued, and it is estimated that 3,500,000 more were exempted under state laws. License fees collected totaled about \$4,500,000.

This Time—Underwear

DO YOU need new underthings? Now is the time to make them, or buy them, if you do. When we women think of January, we think of the shops filled with snowy, billowy underwear. We know the white sales are on.

Fashion has her way of saying what she wants and what she doesn't want in underwear, almost as often as she does in our other clothes. For instance, it isn't such a long, long time ago when the majority of us wore white underclothes exclusively. Now Fashion says, "White if you wish it, but pale blue, pink, orchid, and yellow are the newer vogue." Batiste is the favorite material, though many dainty and inexpensive garments are made of cotton voile and cross-barred dimity. For the best underwear, there is handkerchief linen and washable satin.

Lately, Fashion has apparently had a grudge against all sleeves. She has shown this feeling specially in party frocks and nightgowns. It's hard to find a long-sleeved nightgown in the shops to-day, and there are only a few made with elbow sleeves.

A short time ago the step-in chemise was more favored than the envelope, but now the envelope chemise is again the most popular.

Blue batiste nightgowns and chemises are feather-stitched in light pink. Lace medallions and lace insertions, as well as tatting, are all much used as trimmings.

If you want to add to the charm of a dainty but plain batiste nightgown, trim it with lace medallions. You can do this yourself if you just follow these instructions: Baste the medallion on the right side of the fabric. Machine-stitch around the outer edges, or blind-stitch it to the material. Cut the goods from under the medallion to within an eighth of an inch of the outer edges of the medallion. Turn under the raw edges of the material and blind-stitch the edges to the lace. Medallions of Irish crochet lace are effective, also imitation filet or torchon. Then there are medallions of finely tucked net that make a simple, pretty trimming.

Write Miss Gould if you want fashion help.

Miss Gould's Ideas

Easy-to-Make One-Piece Play Clothes

HERE'S help for the mother and comfort for the little folks—play clothes for children cut in one piece. Just think how quickly they can be made, and how easily they can be laundered! And how the little tots can romp in them, too! The one-piece play dress, pattern No. 3988, consists of waist and bloomers, cut in one, and, for good measure, a circular outside skirt, which is buttoned on. The pictures show the little costume with and without the skirt.

The best play apron I can recommend is pictured in pattern No. 3989. Here's novelty for you, for the lower part of the apron is made like a romper, but cut so very full that it blouses over at the lower edge and looks a trifle like a skirt.

The other dress is also one piece, and is made with bloomers to match. The young ladies from two to six who adopt this costume are pretty sure to be averse to wearing petticoats the rest of their natural lives.

FF-3988—Play Dress with Detachable Skirt. Sizes, 2 to 6 years. Pattern, twenty cents.

FF-3989—Bloomer Apron. Sizes, 2 to 6 years. Pattern, sixteen cents.

FF-3990—One-Piece Dress with Bloomers. Sizes, 2 to 6 years. Pattern, sixteen cents.

Send orders to Pattern Department, Farm and Fireside, 381 Fourth Avenue, New York City, or Pattern Department, Farm and Fireside, Springfield, Ohio.



No. FF-3983

No. FF-3989

No. FF-3990

Looking Your Best

KEEP the youthful contour of your face. You can do it if you'll only try hard enough. Don't sag. Don't bag. Bring up your muscles in the way they should go, and when you are old they won't sag but will stand by you.

Flabby, relaxed skin always gives the appearance of age and, incidentally, carelessness. A good astringent and massage given regularly will take years off a woman's age, especially after she has become fat, flabby, and forty. An excellent astringent which will help to coax the muscles back to their former firmness is made by adding a teaspoonful of spirits of camphor to each ounce of tincture of benzoin. Another equally simple astringent, but well worth while using, is made by adding one part of benzoin to ten parts of either orange-flower or elder-flower water. Your druggist can make both of these astringents for you. Then, there is an astringent balm almost like a jelly that, if used faithfully, will make a double chin or flabby throat disappear. The best way to use it is to slap it into the skin.

A good skin food, one that has been prepared purposely to strengthen weak tissues, is the one you should use for massaging the loose skin under your chin. You know that the movement must always be upward and outward.

Never let warm water touch your face unless you follow it with cold. A piece of ice wrapped in a towel is a good compress to hold against flabby skin.

Sometimes it seems as though all your muscles took a downward course. This often happens after a long sickness or some mental troubles. Try giving these muscles a little internal treatment. Build up your general health. Don't allow yourself to have the blues. This often is much better than sitting indoors massaging away, and thinking all the time, "Oh, dear! I'll never get these muscles back to where they belong! And how old I do look!" Massage is a good thing, but healthy circulation and a determination not to worry will work wonders in keeping the face young.

If you have any questions to ask, Miss Gould, FARM AND FIRESIDE, 381 Fourth Avenue, New York City, will answer you personally.

A Midwest Reply to Sapiro's Far-West Views on Coöperation

By Hugh J. Hughes

Director of Markets, Minnesota State Department of Agriculture, St. Paul

MR. AARON SAPIRO, in the December FARM AND FIRE-SIDE, began a discussion of coöperation under the title "Coöperation as I See It." I am sure that every reader enjoyed, as I did, his discussion of the greatest economic problem now facing the farmer.

With Mr. Sapiro's point of view I agree in the main, but at some very vital points I dissent thoroughly. Therefore I accept the invitation of the Editor to take up the discussion where Mr. Sapiro leaves it, to test its soundness for the purpose of arriving at the best possible structural foundation upon which to build the future of farm marketing.

Mr. Sapiro has set before you the coöperative idea as put in operation under conditions peculiar to the Far West. I have in mind other conditions incident to mid-continental farming and its world contacts. Mr. Sapiro has told you, in effect, that the cure for coöperative halting and blindness is in the application of those methods employed by the Far-Western coöperators.

I wonder! We agree at many points. I think the nub of our differences lies (1) in the assumption that Far-Western coöperation is a satisfactory model for the Midwest to follow, and (2) that the proper aim of coöperation is control of the market—a monopoly of the product.

Before we of the Midwest commit ourselves to these two ideas, however correct they may be as applied to West Coast conditions, we should carefully examine our position, and know that by their adoption we can do the things we set out to accomplish.

The Far West, Mr. Sapiro argues, has succeeded by organizing along commodity lines, and by establishing a controlling sales interest in each of these lines, and he recommends the same recipe to us.

The apparent good in this plan is so evident, and the danger to us so deep under the surface, that any hesitancy about probing it to the bottom is worse than folly.

Organization along commodity lines is fundamental, and control of the market is at least desirable. I do not say that it is essential. That depends upon your commodity and upon your market outlet.

THE Far West has a unique climate and unusual products. It has a few real competitors. It is engaged in a highly specialized form of local production. We all like oranges. We all like raisins. We all like prunes. But our sun—speaking for a moment as one of the great horde of consumers—would not go out in darkness if every orange and every raisin grape and every prune were to be wiped off the face of the earth. We would grumble a good deal, but we would find some substitute.

The attention of the world at large is not focused upon what the producer of oranges or of raisins may be doing. It accepts the results of his labors, grumbles if the price is too high, and buys, or refuses to buy, as it happens to feel like doing.

As a result, the Far West, protected as it is by climatic limitations that do not permit of any wide exportation of its industries to other sections of the continent, onhapt itself admirably to a ce:n of coöperation that sprouts over the region of production. In other words, the coöperation described by Mr. Sapiro as being upon a commodity basis is, in fact, upon a regional basis, and

the reason this is not apparent is that the world trade in such products as the Far West has to sell is still regional, rather than world-wide.

Florida produces admirable grapefruit, oranges, and other products common to the Far West. Has the Far-Western coöperative group reached out and included Florida in its circle? It has not! And why not?

The answer is that up to date the Far-Western coöperator is organizing upon a commodity basis within the limits of his own natural productive area. Two perfectly logical things to do. And the natural limits placed upon the marketing of a semi-perishable product like oranges have protected and fostered the industries of the Western coöperators, as against the invasion of competing products from other lands.

Nothing like world commerce in oranges, grapefruit, raisins, or prunes is yet established, to the same degree and in the same sense that wheat, for example, is a world commodity.

ANOTHER thing inherent in the business of the Far-Western coöperator is the fact that the growing of citrous fruits, and the like, takes many years. The effect of monopoly control, or of good prices, or of any other favorable condition that naturally leads men to engage in the business, is not immediately apparent. It takes some years for an orchard to come into bearing, while shifting about from one crop to another is easy for the farmer of the Middle West.

And while Mr. Sapiro does not mention the fact in his article, I believe it is true that commodity-monopoly control of the prune industry of California has induced the planting of new orchards to such an extent that the immediate widening of the prune market is an absolute necessity to

the continued prosperity of the coöperators.

So as I see it, the commodity control suggested to the farmers of the Midwest as the thing to aim at simmers down to a regional control of a regional market—a big achievement, surely, but hardly a safe model on which to attempt to build a national coöperation in wheat, or butter, or livestock marketing.

WHEN Mr. Sapiro talks about the necessity of solid business organization, of contracts between producer and selling agent, when he urges the fact that selling and production are two different functions, I am with him; but when he tries to tell me that the Far-Western coöperators have eliminated inter-coöperative competition I am forced to believe that all the products he talks about grow, and are marketed, and coöperatively marketed, outside of the Far West. When he tells me that "the man who buys the product does not care where it came from," I nod approval, but when he goes on and says that the association "must be organized on the basis of the commodity, and not on the basis of the locality of production," I submit that the coöperative associations of the Far West disprove his own contention.

We must recognize both commodity and locality!—as, unwittingly, the Far West has done.

As to the possibility of establishing commodity control over the marketing of the great staples of the Midwest—wheat, livestock, butter, and the coarse grains—I wish to say as clearly as I can do so that I do not believe it can be done.

This is not because I am adverse to the farmer's getting every cent he can for his products, not because I am set against the notion of his fixing his own price, not because of any leaning toward the present owners of the agencies of distribution: it is because I never have been taught to believe, and cannot now bring myself to believe, that the tail can wag the dog.

The Far-Western grape, prune, and citrus grower has established a temporary control over marketing conditions by virtue of the fact that a localized national consumer market has been stirred, through well planned advertising, to meet a production that is, comparatively speaking, highly localized, and because climatic conditions battle for the retention in the hands of the growers of the means of production. Whether he can, in the face of crop stimulation induced by favorable prices, maintain that control he now exercises, is a matter for the future to decide. If he can hold down the producing acreage he may do so. If he can shut out competition from other countries he may do so. If he can stimulate consumption he may do so. If he will resist all the selfishness inherent in human nature, and hold his prices where prices ought to be, relative to the cost of production, he may do so.

But if I wanted prunes, and wanted them badly enough—wanted them as the world wants wheat, for instance—my inclination would be, the average inclination would be, to grow enough prunes so that we, the consumers, would not have to depend upon the Far West for our prunes.

And we would grow prunes. That's human nature—to break down any real or apparent monopoly of man's making, by increased production.

And I don't care how you try to season the Sapiro idea



This is Mr. Hughes, the man who doesn't quite agree with Mr. Sapiro in everything

of coöperation, it means monopoly by the farmer of the crop which he produces. And that is not workable.

The conditions that might make it workable do not exist. Monopoly is possible only where there is a restricted output moving onto a market that must be fed.

And where does such a condition exist for the grower of those products that, are the basis of Midwestern agriculture?

Take wheat: Suppose every farmer in America who grows wheat entered a wheat pool to fix prices. Would that give them price control?

You know that what the farmers of America do about wheat does not decide the matter at all. What they do merely helps to decide. What they might do were they in a wheat pool such as I have imagined would only help to decide wheat production and wheat prices.

Canada, India, Australia, Russia, Siberia, and the Argentine produce wheat. And in the great consuming centers of the world these wheats from all these lands meet and are milled. Mr. Sapiro truly says that the consumer "does not care where it came from." He wants bread at a price that fits his pocketbook. And if our imagined pool went into being right now, and set a price above what he, this worldwide consumer, thinks is reasonable, it would be only a matter of a year or two before the production of the rest of the world would rise to the level necessary to supply all demands at a fair consumer's price.

DO YOU recall what happened to Russian wheat a few years ago? Bottled up at the Black Sea ports and on the Russian farms, wasn't it? It is there yet. Never has come out. Never will come out. Eaten up, probably.

And after a gasp or two, and a couple of years' tightening of the belt, the world wags on as though Russia and Siberia were on another planet.

If a commodity is a world commodity—and wheat is such a commodity—then price control can only be had through world-wide control of the crop. Anything short of that merely stirs the balance of the world to increased activity in production, or to substitution.

When you can limit the wheat acreage of the world, you can set the price of the world's wheat. And in this rather sizable job the production of America does not cut a controlling figure.

Shall I remind the reader about the butter situation? Our butter is rather local in its production. New York, Wisconsin, Minnesota, and a few other States are the main support of the industry. But the world as a whole makes, and ships, and sells butter. If butter is high in Europe we ship butter. [CONTINUED ON PAGE 20]

Anyhow, Hughes is Glad Sapiro "Stirred 'Em Up"

HUGH J. HUGHES was born in the Middle West—near Milwaukee—in 1872, and has lived all his life in one or another Middle Western State. He has done many things, but whatever he has been at he has kept up his work and study in coöperative agriculture.

He farmed in North Dakota from 1901 until 1907, was the editor of "Farm, Stock and Home," at Minneapolis, from 1910 until 1919, when he became head of the Minnesota Bureau of Markets. He has four children, and is a graduate of Lawrence and North Dakota College of Agriculture. Commenting on his article when he mailed it in, Mr. Hughes said:

"Nothing I have written is meant to disparage either Mr. Sapiro or the coöperative work he represents. I am glad he came East and stirred up the animals. His visit has focused our attention upon matters such as contracting, commodity organization, and the like, in a way that will be productive of much good; and even we who take exception to some of his statements ought to be fair enough to admit that his discussions have resulted, or will result, in a clearing of the atmosphere, leaving the things that may be done somewhat more definitely outlined."

Incidentally, you may be interested to know that next month a prominent livestock expert will reply to both Sapiro and Hughes with the stockman's viewpoint on coöperative matters as they have outlined them.

Do you find this type of material in FARM AND FIRE-SIDE useful and interesting?
THE EDITOR.



"The controlling vote in any coöperation plan"

What Teamwork Did for One Montana Town

The story of how a farming community pulled itself out of a rut

By G. L. Martin



This is the cheese factory that has helped put the town of Sedan on its feet

IF YOU were to visit the little Sedan valley in the heart of the Montana Rockies, you would soon discover how the cooperative spirit is working a real transformation in a small farming community. This little isolated community is twelve miles from the nearest railroad and nearly surrounded by mountains, on which snow may be seen a goodly portion of the year. This valley was settled a few years ago by a number of homesteaders who came to seek their fortunes from the soil. Like nearly all newcomers, they chose the path of least resistance and began to raise grain. They soon discovered that frost, hail and grasshoppers were a hard combination to beat. They got poorer every year, so finally were forced to cast about for a more certain line of endeavor.

Something had to be done. They sought advice from the dairy department at the Montana Agricultural College. The situation was gone over carefully, and the valley was found to be admirably adapted to grass and forage crops, with an abundance of cold water at all times. The cheese-making industry was decided upon as the most practical solution of their problems. They were skeptical and had only a few cows of very poor breeding, and little knowledge of dairying. However, they were willing to try, so in the spring of 1916 they perfected an organization and purchased equipment, but were too poor to put up a building. The machinery came and was stored until the next year. Finally it was suggested that they lease a portion of the floor space in an old dilapidated Yeomen's hall that had been built years before. This solved the building problem, and a number of the farmers turned out to help remodel and install the equipment. Within a fortnight the factory was ready for operation. One of the old-timers, more skeptical than the rest, who had refused to attend any meeting or to take a share in the enterprise was seen to go by each day, evidently to learn what was going on inside. He said nothing, but on the morning the factory opened, he was the first man there with his milk, and has been a regular patron ever since.

THE factory was a success from the start, and the cheese found ready local sale. A year later the shareholders voted to double the capacity of the factory, which now occupies the entire floor space with a boiler-room and receiving-room in addition. After three years of operation, it requires two men, full time, to handle the milk. Here is the ledger account for 1919:

Milk received, pounds.....	538,197
Cheese manufactured, pounds...	55,359
Butterfat paid for, pounds.....	20,759.54

EXPENSES:

Salary cheese maker.....	\$1,555.12
Operating.....	849.19
Interest, depreciation, etc.....	290.00
Sinking fund.....	1,067.08
Amount paid farmers.....	12,285.87
Average price paid for butterfat..	59.182 cents

Per cent increase in butterfat paid for:

1917-1918.....	6.4%
1918-1919.....	16.0%

The most important result of the fine teamwork begun three years ago is not seen in the financial returns, but it is in the forward look which has developed in this community. Three of the patrons visited the annual convention of the State Dairy-men's Association, and for the first time these men listened to talks on dairy

husbandry, saw real high-bred dairy cows fed from silos filled with sunflowers, milked with milking machines, and inspected modern dairy barns. Each man went home filled with so much new knowledge that he talked to his neighbors about it, all winter. As a result, a number of the patrons sent in a combined order for four silos, one modern dairy barn was built and was equipped with a milking machine. Some of the patrons went to their banker and arranged a small loan with which to buy cows. After three years there are owned by the patrons of the factory five purebred Holstein bulls and over 125 head of black-and-white cows and young stock.

When a community awakens after a long rest, it usually wants to begin to work. This one is no exception. The religious spirit has also been revived and the old abandoned chapel, a short distance down

the lane, has been remodeled, regular services again resumed, and the whole countryside is at work. A branch of the county farm bureau has recently been formed, committees selected and the people meet regularly to plan for better community organization. The school children have formed potato, canning, and calf clubs, while their elders are planning to put on a local dairy-cattle show, and have demonstrations by the county agent and extension lecturers from the agricultural college.

Why I Feed Oats to Pigs

EXPERTS may say that oats are not one of the best hog feeds in the world on account of the hard dry hull or husk, but I find clean dry oats a very good feed for pigs during the winter, and also during other seasons when the grass is short.

I have seen fellows try to get around the experts' advice by soaking oats overnight. I never soak oats, and I rarely grind them.

My pigs and shotes get all their threshed oats scattered evenly over a clean cement floor, and I believe the hogs get much more good out of it fed in this way. If the oats are soaked up and fed in a slop, those old

sows and pigs merely gulp the mess down in great mouthfuls and chew scarcely a grain.

Oats eaten in this way are apt to swell and cause impaction of the bowels. I have seen a number of fellows blue over their losses due to this cause.

I feed the oats dry, right out of the bin, in reasonable quantities, and the pigs must chew every mouthful well and good to get it down. Oats are a natural laxative in their way, and the hulls do not bother after the pig has started eating shelled corn.

When I first began feeding oats dry to little pigs, I noticed they messed around over the grain on the floor considerably, and seemed to enjoy it a great deal, but they didn't seem to clean up the stuff very well.

Close inspection, however, showed me that those pigs had merely shelled out those oat kernels and left the tough, unpalatable hulls lying on the floor. They had done a remarkably clean job of hulling, and there was but a minimum of waste. Older hogs do not bother with the hulls, and chew them up indiscriminately. Hogs never get in a hurry on dry threshed oats, and with a dry, clean floor to feed them on I consider oats fed in this way a very thrifty growth-producing feed.

W. L. H., Indiana.

How I Handle Prize-Winning Bulls

By W. E. Stillwell of Mississippi

MY TWENTY-FIVE years' experience in the cattle business has served to impress on me the great importance of selecting the right kind of a herd sire. Most of my life has been spent in the blue-grass region of Kentucky, where I have bred Shorthorn cattle, fine saddle horses, and hogs. I have farmed for myself and for others, and have been in the show ring for a number of years. If there is anything in my experience that you can use you are very welcome to it.

When I was a boy we bought a new bull, and when they brought him home they led him with a staff. I asked the man why. He replied that he did it so he could hold him. I looked him over, and agreed that he was a fine bull but I didn't like his eye. I took charge of him, and forgot those wicked eyes. A short time after he came I went to take his staff off in the stall, and before I could move he gave a fierce bellow, and the next thing I knew he had me down, mashing me and blowing his hot breath in my face. He backed, made a dash at me and threw me up in the manger. He did it so quickly that I didn't have time to pray, but I thought my time had surely come.

I took the heavy staff, aimed it between his eyes and tried to kill him. He jumped at the staff with such force that it struck on the edge of the manger, bounced back, and knocked a plank off the stall. When I got well I handled him in a different way. I always made him turn around with me on the safe side of the door. Always keep

your eye on a wicked bull. They are cunning and quick as a cat.

There never was such a demand for herd bulls of the beef type, with quality and breeding. A shorthorn bull should have a clean, bony head, a pure white nose, with medium horns slightly curved, wide between the eyes, which denotes intelligence. The eye must have a mild, kind expression. He will produce the gentle

IT IS sometimes forgotten that the herd sire needs the best of care if he is to live up to expectations. Mr. Stillwell, an experienced cattleman, tells here how he chooses and cares for his herd bulls.

calf that makes a good feeder, or a gentle cow. The bull with the fierce, vicious expression will produce the nervous calf that makes a poor feeder, a nervous cow or a dangerous bull. It was the nervous cow that caused the great fire in Chicago; it was the bull with the vicious eye that killed two men in two months. His neck should taper gradually back to a body of great width. His ribs and heart girth must extend out so a straight edge will touch all the way if placed just back of the shoulder. The top line should be straight, and he should flank down well. His ribs must be full and plump, his legs well muscled, with stout bone, his coat soft

with a deep, mellow flesh. He should have natural style, carry his head above his back line, and with a great form that only nature and a skilled feeder can produce.

This is very important. He must have a good sire and dam. If she does not furnish enough milk, a nurse cow should be used, for those little ribs must be sprung out at the start. Keep pushing him every day, and just as soon as he will eat grain and grass he should have it. Give him plenty of pure water after he nurses, plenty of sunshine, exercise, and kind treatment, but always be positive. Have a gentle touch. It wins his confidence. Fix his feeding place so that his front feet will be higher than his hind feet. This gives him a good, strong back. Growing a fine calf is like growing fine show corn. If it fails to have proper cultivation, a few faulty grains and a lack of plumpness will cause it to miss the prize. He must have all the attention that a skilled feeder can give to develop the beautiful form of a champion sire.

A GOOD bull deserves a good home. Give him a stout, comfortable stall, and the paddock should be enclosed with a very strong fence containing an acre of good grass and pure running water. Never allow a draft through his stall. I saw a \$7,000 bull die from pneumonia caused by a draft. I saw a \$10,000 bull die from injuries received from jumping over a fence that was not properly built. Bad fencing and careless persons leaving gates and doors open will teach the herd bull bad habits.

Many valuable herd bulls have been ruined by unkind treatment and improper feeding, which makes them cross and dangerous to handle. A gentle touch and a generous feed will win their confidence, and they will always look for it.

And what should he measure? Lespedeza Collyine, the champion two-year-old, weighed in show form 2,400 pounds; measure of heart girth, 7 feet 8 inches; flank girth, 7 feet 7 inches; from top of horns to nose, 21 inches; top of horns to tail head, 7 feet 6 inches; fore arm, 24 inches; stifle on hind leg to ground, 27 inches; brisket to ground, 14 1/2 inches.

When a bred-in-the-purple bull is catalogued, I like to print his name and headline in block red ink. Then every breeder will throw at a glance that he is in a different class from the plain-bred ones. This is a help to the beginner, and makes the catalogue more attractive.

Sale stunts like this are as important in farming as in any other business.



The Eastern Girl: "Gracious! Don't you simply dread milking time?"

Courtesy of Life

Black Prince and His Doddie Daughters

What has happened since this royal fellow, built like a bullet and wearing no horns, came here from Scotland fifty years ago

By Daniel Lewis

IT WAS in November, 1883. We were holding a series of fat stock shows out in Kansas City—at Riverview Park, I think it was. And those were the days, the happy days, when a stock show meant a real battle of the breeds. All of the stockmen who had crowded into Kansas City for the big event were discussing the all-important question as to which breed, the Shorthorn or the Hereford, would capture the purple rosette for the best bullock of the show. But, even while they spoke, there was a-rushing westward, in a chartered express car, the steer which was to be the real sensation of the show. He was neither Hereford nor Shorthorn. He was Aberdeen-Angus, a breed about which American stockmen knew little. Black Prince was his name. He had been shipped all the way from Scotland, through the enterprise of Geary Brothers, London, Ontario, pioneer doddie men who were determined to force their favorites to the attention of the public at large.

So it was that on Friday morning, November 30, 1883, there started a parade from the Kansas City stockyards which was destined to become historic in the agricultural annals of America. A band of Scotch bagpipers, duly attired in kilts of vivid tartan, led the procession, followed by the big and smooth-lined Black Prince, weighing that day 2,360 pounds. Then came an imposing, though small, parade of black-polled cattle, just over from Scotland. At any rate, the stockmen in the cowboy hats found out that the Aberdeen-Angus were there, even if Black Prince didn't get the grand championship. And that show, truth to tell, was where the killers of cattle began to fall in love with doddies. And be it further known that they have not ceased "falling" yet, for admittedly no breed of cattle is equal to the Aberdeen-Angus as a butcher's beast. It dresses out and hangs up on the hooks of the slaughter house with a minimum of waste.

It was about fifty years ago then, in 1873 to be exact, when George Grant imported three Aberdeen-Angus bulls from Scotland. After showing two of them at the Kansas City fair, he took them on to his ranch at Victoria, Kansas. His purpose was to see what these bulls would do in siring calves out of the common long-horned cows of the time. By the one hundredth anniversary of the signing of the Declaration of Independence the three bulls had as many as 800 descendants. These half-breed black calves without any horns fell into the hands of a number of feeders, and proved most satisfactory. The fame of the blacks began to spread.

NOW let's go to Paris, and I will tell you a little story about Rosa Bonheur and William McCombie and the doddies. Of course, you know Rosa Bonheur was the great French painter of animals, a copy of whose "Horse Fair" used to hang on the east wall of the parlor. William McCombie was one of the greatest cattle breeders who ever lived, a Scotchman who saved the Aberdeen-Angus from extinction, and largely made the breed what we have to-day. The universal exposition was held in Paris in 1878. The two most coveted prizes, so far as cattlemen were concerned, were the championship for the best group of foreign-bred cattle and the supreme championship for the best group of beef-producing animals on the grounds. McCombie's Angus won both these prizes—a smashing triumph. News of the notable victory scored by the doddies from Aberdeen reached America just when the calves sired by George Grant's bulls were beginning to cause comment.

Well, Rosa Bonheur came down from By, her country place near Fontainebleau, to see the Paris exposition. She had heard of McCombie's wonderful Aberdeen-Angus, and expressed a keen desire to see and study them. Perhaps she would paint them! McCombie was flattered, of course, though it was not the first time that a

famous woman had done him the high compliment of taking an interest in his cattle. For had not Queen Victoria herself seen his steer Black Prince at the Smithfield show in 1867, where he had downed them all and gone through to the championship? And had not the good queen been so impressed by Black Prince that she commanded his attendance at Windsor castle? It must have been a satisfactory reception too, because, later, Queen Victoria vis-

picturesque. William McCombie was a cattle breeder, searching for perfection.

"Doddie" is the Scotch word for hornless. It has come to be the nickname for Aberdeen-Angus, just as we say "white-face" for Hereford or "red-white-and-roan" for Shorthorn. The Scotch have another word for the hornless or polled characteristic. It is "humlie," meaning what you mean when you say a "muley cow." Before the name Aberdeen-Angus was thought of, they called the blacks "Angus doddies" in the old kingdom of Angus (Forfar), and



This is the grand champion baby beef calf of the Oklahoma City show and its owner, Floyd Blandford, Hayward, Oklahoma

ited William McCombie at his farm, Tillyfour, and became so interested in his work that she established a herd of Aberdeen-Angus at Abergeldie Mains, one of her Scotch estates. And did I forget to say that after Mr. McCombie got Black Prince back from Windsor he had him slaughtered, and from his carcass presented to Her Majesty her Christmas baron of beef, and had his head mounted, and hung in the dining-room at Tillyfour, where the queen saw it when she visited the farm? McCombie had a way with the ladies, didn't he—a cattleman hobnobbing with queens and artists like that?

Yes, we were talking about McCombie and Bonheur. He was most painstaking in showing her his best—the first-prize yearling bull Paris, the four-year-old cow Gaily, and the sweet yearling heifers Sybil 2d, Halt 2d, Pride of Aberdeen 9th, and Witch of Endor—replete in the full bloom of youthful cattlehood, smooth as satin, as uniform as peas in a pod, trained to stand like statues, arranged in perfect line like steps of stairs, as near perfect specimens of beef conformation as man had ever assembled. But Rosa didn't enthuse much. Poor McCombie's heart was broken. His pity was turned to utter disgust when farther on down the line Bonheur lavished all kinds of typical artistic encomiums on a thin, scrubby-looking, unkempt, long-haired, bush-headed bunch of blacks. Oh, there, there, were the cattle for the artist's brush! You see, Rosa Bonheur was an artist, searching for the

"Buchan humlies" in the Buchan district of Aberdeen. All this was in the native home of the breed in northeastern Scotland, a bleak, brow country where turnips, barley, oats, and straw are the chief cattle feeds, with abundant hill pasture.

Hornless cattle seem to have been on earth as long as man himself. Whether all the original cattle were horned, and the polled ones developed as "sports" or mutations, just as Polled Shorthorns, Polled Herefords, Polled Jerseys, and Polled Holsteins did, or whether there were polled cattle before the horned cattle, no one seems to know. The scientists are greatly interested in it, but it seems to me a great deal like trying to decide which was here first, the hen or the egg.

The Aberdeen-Angus breeders set great store on the polled heads. But even though an animal with horns is not eligible to registry, in every purebred herd a calf will be born every now and then with scurs, or little horns, in which case the poor "calvie" is strictly out of luck, and if not knocked in the head by the disgusted owner is unsexed and sent to the feed lot. It is a fancy point in Aberdeen-Angus to have a sharp, smart poll; I mean, the judges do not like to see the top of a bull's head flat and even. The animal's head is neatly clipped, so that the poll will show up sharply and clean-cut.

In color the doddie is black. Just a little white below the underline or on the udders of the cows is not a serious objection; but just let it come above the underline, and

away goes pedigree, esteem, and all. The ideal is "black and all black." But sometimes, even in the most carefully selected herds, Nature upsets all the plans, and a red calf is born. This shows that there must have been some red cattle among the old-time ancestors of the breed, or, better, it shows that the red color is there all the time, only it is covered up by the black. The chemist could prove this to you, too, by taking the black hairs from an Angus cow's tail and analyzing the pigment. He could get out the red color, and put it in a bottle for you. Or perhaps you have noticed Aberdeen-Angus cattle in the winter time when their coats are long. You can see then that the ends of the long hair are decidedly red, giving the animals a rusty appearance. Formerly a red Aberdeen-Angus heifer calf could be registered, if any one would want to do it, but not a red bull, but now even the red heifer calves are taboo.

IN CONFORMATION the Aberdeen-Angus is distinctly different from any other breed. In general, the form is cylindrical, rather than box-like, or, as the Scotchman will tell you, the form is not so fully drawn out to the square as in the case of the Shorthorn. A doddie breeder always has uppermost in his mind the reputation of his charges with the butchers. He insists upon a trim beef carcass with the minimum amount of waste. This means that the ideal Aberdeen-Angus is an animal of great quality, with fine bone and a mellow hide. Though it has been charged that too many specimens of this breed show thick, harsh hides, the blocky, compact, short-legged, full-meated type of the good beef animal of any breed is demanded here in its most extreme form.

On account of its bullet-like conformation, the Aberdeen-Angus is notably heavy for its size. One accustomed to judge the weights of other breeds is likely to be fooled in estimating how far down the doddies will pull the scale beams. In general, the breed averages just a little under the average weight of the Shorthorn and Hereford. The noted bull Justice is said to have weighed more than 3,000 pounds; Judge weighed 2,800 pounds. If you get interested enough in Aberdeen-Angus history to delve deeply into the subject, you will find that both of them were out of the famous old cow Jilt—the mother of Justice, Judge, and Juryman.

Angus breeders have always made it a point to produce early maturing animals, so that the breed has become particularly famous for its baby beeves. As a producer of show bullocks this breed has no superior, if, indeed, it has an equal. Ample proof of the breed's superiority in this regard may be obtained by studying the record of the International Livestock Exposition, or any other fat stock show, for that matter. The Aberdeen-Angus has produced more grand champion steers, both singly and in car lots, at the International than all other breeds put together. The grand champion at the first International in 1900 was the Aberdeen-Angus steer Advance. He sold at auction for \$1.50 a pound.

THE Aberdeen-Angus lays another claim to superiority in the longevity and prolificacy of its matrons. By this I mean that Aberdeen-Angus cows are noted for their long lives and large families. If you were to pick up Volume I of the "Polled Herdbook," which was first published in 1862, and which is the record of the breed in Scotland, you would of course be interested in the first entry. It deals with the record of the cow called Old Grannie, or "The Prima Cow," because she is the first cow entered in the herdbook. This is what the herdbook says of Old Grannie:

"Calved 1824. Bred by Hugh Watson of Keillor.

"This animal, first named The Prima Cow, afterwards Old Grannie, died on 1st July, 1859, at the age of thirty-five years and six months. The object of Mr. Watson in keeping her till [CONTINUED ON PAGE 38]

The Story of the Aberdeen-Angus

"Black and all black,
The Angus doddie and no surrender!"
—Motto of the Heatherton herd.

IT HAPPENED about fifty years ago that the Shorthorns and the Herefords had divided the American beef cattle domain between them. But suddenly there appeared a new Richmond in the field. He was "black and all black;" he wore no horns; he was built like a bullet, and not like a box; and his name was Aberdeen-Angus. The newcomer hailed from Bonnie Scotland, and with defiant bellow he demanded a new apportionment of the favor of the cattle feeders of America, especially of those who dwelt in the great corn belt and liked to hear the butcher say nice things about their cattle.

You've Met Ada Jones on the Phonograph, But Here She is in Real Life

By Lawton Mackall



"What! This is Ada Jones, the comédienne? Since when has bringing in the family wash become funny?" A comical dialect doesn't always mean that the speaker is a joke. Ada Jones proves this. Folks only know her through her voice, so when they meet her they're disappointed. Instead of finding somebody they can laugh at they find a person too much like themselves to make it exciting. This picture was taken at her home at Huntington, Long Island

sure enough!" (She mimicked the tone of voice.)

When you come down to it, why should a professional fun maker be expected to look comical and clown around continuously? When someone says to you, "This is my friend Dr. Poulitice," you don't expect the doc to grab your pulse or sound your chest. If you met Jack Dempsey, you wouldn't expect him to knock you down just to be consistent. When the waiter asks Caruso what he'll have for breakfast, he hardly looks for a reply of "Soft-boiled eggs and coffee!" sung on high C. Yet, for some reason, comedians are expected to be in a mad, mad mood day in and day out. Alas, the only person who fills that requirement is the smart guy at the village store—who isn't half as funny as he thinks he is.

Ada Jones's quiet, matter-of-fact manner is like the magician's sedate-looking silk hat from which he produces astonishing surprises when he wants to. The sleight-of-hand man's equipment, although varied, is limited to what he happens to have up his sleeve, but Ada Jones can bring forth, without preparation, most anything you ask for.

IN PERSONAL appearance Miss Jones is of medium height and what the poets call "buxom." The saying "Laugh and grow plump" is true of most comedians. Old Cal Stewart had a build like Santa Claus, and Collins and Harlan can each cast a pretty substantial shadow; even Billy Murray—with whom Miss Jones has sung many a record—is no bean pole. Ada Jones, while by far from being a Marie Dressler, has the cheerful proportions of the true fun maker. When her usually serious face lights up with

drollery, there is a sudden white glint of teeth and a sparkle of dancing eyes.

As she sat there on the front porch of her house, rocking casually, she answered a question about dialects by giving me an astonishing demonstration of voice magic. She would speak a few words in broad Irish brogue, then shift suddenly to darkey intonations; then, as instantaneously, to Bowery lingo. Her impersonations were so real that if my back had been turned I veritably should have thought that the characters she thus conjured up were there on the porch. She had me seeing things! If she chose to be a spiritualistic medium she should fool anybody. The truth is, she is a lightning-change artist without the aid of make-up.

"Where did I learn how to take off different kinds of people? Oh, just by watching and noticing. Some women can take one good look at a dress in a store window and go home and make one like it. I can't do that; but I can watch and listen to somebody on a street car or in a restaurant and go home and take them off. It's a matter of habit and training. You see, I've been mimicking ever since I was a baby.

"When I was a kid I found that taking off people was more fun than any other game. All children when they play imitate grown-ups. You watch any little girl teaching her dolls to behave. She talks to them just the way her mother talks to her

—same words, same tone of voice, or so nearly the same as to sound absurd coming from a little tot.

"I was such a little mimic that my father would show me off before friends. I was too young to feel self-conscious or scared; it was just play to me. When I was five I took part in a concert, and sang a song all alone. I had an unusually strong voice for a child, and a good memory, so that I could pick up most any song I heard. At entertainments I would watch the other performers, and then come out and imitate them. Father used to say I could 'steal anybody's act.' If I hadn't been so young, they might have got sore at my nerviness, but as it was they let me pass as a sort of curiosity.

"Gradually I drifted into professional acting. When I was twelve years old I took the part of a boy in an old English race-track melodrama called 'Taken from Life.' John Bunny—the fat fellow who later became famous in the movies—played the comedian. There was a scene where he comes into the stable and says to the villain: 'Look here, Philip Radley, suppose I was to come to Mrs. Lee and, pointing to that ill-clad, half-starved, miserable boy, say, 'There, Mrs. Lee, there is your son!' Now, instead of being eight years old and emaciated as I was supposed to be, I was twelve years old and quite chubby. The audience burst out laughing. I'm afraid I never was meant to be tragic.

"But there seemed to be no chance for me to be a comédienne. In those days audiences wanted a girl to look sweet, dance nicely, and sing sentimental songs—that was all. Comic monologues and impersonations weren't dreamed of. 'Variety,' as they called it,

was mighty different from present-day vaudeville. Well, I wore pretty dresses and sang pretty ballads, but I never could dance.

"When I had made some success in 'variety' and comic opera, my stepmother, who was my manager, took me to the old North American Phonograph Company, which Thomas A. Edison had started not long before, and there I tried singing into the horn. It is a fact that mine was the first woman's voice ever successfully recorded by a phonograph.

"That was twenty years ago, before the modern disk had been invented or the cylinder perfected. Only about forty copies could be made from an original master record, so that if a selection proved popular it had to be recorded over and over again."

(Nowadays metal matrices or molds are made from the original "master," and from these a large number of playable disks can be pressed—like waffles from a waffle iron. Without this invention phonograph music could never have been available to the general public.)

"Within a year or so I was singing for all the companies then in existence, including some such as the Leeds-Catlin and the Zonophone, whose names are only a memory, as they have been absorbed by other concerns.

"The turning point came when I met Len Spencer. Len was one of the most



Since way back when phonograph records were made on cylinders instead of disks, Ada Jones and Cal Stewart have teamed together in turning out the comic dialogue record hits of the day. She has also worked with such comic artists as Len Spencer and Steve Porter. Remember "Maggie and Jim?" Well, it was in this series that Ada made her biggest hit. She was the first woman whose voice was successfully reproduced on wax—with the old North American Phonograph Company—and she's still in the game

original performers who ever appeared on the American stage. He was the first man to introduce coon songs in 'variety,' and he popularized all sorts of comic characterizations that had never been done before. Not long after he began recording for the phonograph, he and I joined forces as a comedy team.

"One of the first records we did was 'He's My Pal.' I was tough Maggie from the Bowery, and he was Jim, my 'feller.' (I got the idea of Maggie from a funny waitress I once saw in a Childs' restaurant. Sometimes you can build up a whole character from one or two remarks you happen to overhear.) This number 'took' so well that we made a series on the same order: 'Maggie and Jim at Coney Island,' 'Maggie and Jim at a Ball Game,' and so on. And we did Irish numbers and 'Dutch' numbers and 'coon' numbers. Each new type we tried led to a series. It was a lot more fun than singing sentimental ballads.

"LEN wrote or arranged all of these. He was a well-educated, brainy man (grandson of the Spencer who created Spenserian pens), and he had a genius for putting things in the fewest words. In those days brevity was even more important than it is now, as the old-style records played only two minutes—about half as long as the present ones. There was room for only one verse and a short chorus. If any talk was introduced, even that short allowance had to be cut down. Often we would rehearse a number, believing it would come inside the two minutes, and then find, when we came to record it, that it ran to three—and some of the melody or laughs we'd set our hearts on would have to be dropped. But Len would pare it down so cleverly that anyone who heard the finished record would never guess the trouble we'd had squeezing it within the limit.

"Even nowadays, to get a comic number on the wax takes a lot of patience. The science of recording has advanced marvelously, and for that very reason a lot more is attempted than was ever dreamed of in the old days. Why, when I first began singing into the horn the only accompaniment I had was Frank Banta playing the piano! It sounded [CONTINUED ON PAGE 35]



This little boy is our old friend Ada Jones, in spite of the trousers and derby. The picture was taken when she was about twelve years of age, when she first appeared on the professional stage. Even in tragedy she brought laughs. When she was once pointed to as the "pore, half-starved che-ild" the audience saw her as the "corn-fed" she was, and the speech brought laughs instead of tears

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GOODYEAR CORD TIRES

How to Tell Who's Who in Dairy Cows

By J. B. Fitch

Professor of Dairying, Kansas State Agricultural College

IT IS oftentimes confusing to the average farmer who is not posted on dairy cattle matters to read of the numerous milk and butterfat records. The term "world's record" is used rather indiscriminately, but when properly defined the term may be correctly used. One seldom picks up a dairy paper without noticing that some world's record cow has been dethroned.

The breeds of dairy cattle each have what is known as the Advanced Registry. To gain admission to this, the purebred animals of each breed must produce certain specified amounts of milk or butterfat, depending upon the age of the animal. The development of the Advanced Registry has done much to stimulate competition between breeders, and also among the different breeds of cattle.

The dairy breed associations classify their cows in the Advanced Registry according to their ages. Cows starting their records between the ages of 2 and 2½ years are classed as junior two-year-olds; from 2½ to 3 years in age, as senior two-year-olds; from 3 to 3½, as junior three-year-olds; and from 3½ to 4 years as senior three-year-olds. We likewise have junior and senior four-year-olds up to the age of five years, when they are called full-aged cows. Each class has its fixed requirements for production of fat or milk, and each breed association publishes at regular intervals the standing of the cows in the classes.

Thus it can be seen that each breed has a high cow in every class. If in the Holstein breed, one would be justified in calling the high animal in the junior two-year-old class the world's record junior two-year-old Holstein. In this way each class leader might be called the world's record cow for her age.

THE Advanced Registry of the Guernsey, Jersey, and Ayrshire breeds are based mostly upon yearly records, and their records are classified as mentioned above, according to the age of the cow when the test begins. The Holstein breed lays most emphasis on the seven-day test, but they have also the yearly test. While the Advanced Registry requirements for three of the breeds are on the butterfat basis, the Ayrshire breed must meet both the fat and milk requirements to get into the registry. This breed also ranks its cows in the order of their milk production. The breeds that require the production of a specified amount of fat for the Advanced Registry requirements also pay some attention to high milk producers, and in a few cases list the cows in the order of their milk



These are members of the cow-testing team, boys' club of Phoenix, Arizona. Through the Babcock milk test they are finding how many of their cows are on the boarder instead of the producer list

production irrespective of the amount of fat produced.

From this it can be seen that the number of cows that could be called class leaders for their respective ages and for different lengths of time and for butterfat or for milk will increase to the point that it cannot be easily followed by the dairyman. In the strictest sense there is but one "world's record" cow. Since butterfat is most desired by the different breeds, the "world's record" cow would be the cow that produces the largest amount of butterfat in a year.

This title is now held by the Holstein cow Duchess Skylark Ormsby, owned by John B. Irwin of Minneapolis, Minnesota. This cow produced 27,761 pounds of milk and 1,205 pounds of butterfat in 365 days. The high cow for milk production is also a Holstein—Tilly Alcartra, owned by A. W. Morris & Son, Woodland, California. This cow has produced 33,425 pounds of milk and 1,058 pounds of butterfat in a year. To the inexperienced the above records may mean little, but when we consider that

the average cow produces but 120 pounds of butterfat and about 3,000 pounds of milk per year the significance of these records is quite apparent.

IN TALKING of records of cows, one must remember that butterfat and butter are not the same. By butterfat we mean the pure fat in the milk or cream, and by butter we mean the finished product. The creamery pays for cream on the butterfat basis, but sells the finished butter. One hundred pounds of butterfat will make about 120 pounds of butter, due to the addition of salt, moisture, and some curd during the churning. Butter contains from 80 to 85 per cent butterfat, and in estimating butter records the fat is increased from one fourth to one sixth, and for this reason it is hard to compare records unless we know what per cent of fat the butter contains.

The different breeds of cattle each have their high cows which may also be called "world's record" cows for the respective breeds. The following is a list of the high-

est record cows in fat production for the different breeds for one year:

Breed	Milk	% Fat	Butterfat	
Duchess Skylark Ormsby	Holstein	27,761.7	4.34	1,205.09
Murne Cowan	Guernsey	24,008	4.57	1,098
Plain Mary	Jersey	15,255	6.91	1,040
Lilly of Willowmoor	Ayrshire	22,596	4.23	955

The following is the list of the highest record cows in milk production for one year:

Breed	Milk	% Fat	Butterfat	
Tilly Alcartra	Holstein	33,425.3	3.17	1,058.42
Garclaugh May	Ayrshire	25,328	3.53	894
Mischief	Guernsey	24,008	4.57	1,098
Murne Cowan	Jersey	19,694	4.26	839.2

In short-time tests the Holsteins have made some great records for butterfat production. The Holstein cow Segis Fayne Johanna has a seven-day record of 40.5 pounds of butterfat, equivalent to 50.63 pounds of 80 per cent butter.

The Holstein cow May Echo Sylvia has produced 1,005 pounds of milk in seven days, and as much as 152 pounds in a single day. The above are world's records for seven-day production, but there is much discussion among breeders in regard to the value of such short-time records in determining the real value of a cow. The high records given above are but a very few of those made by the different breeds.

These records show the possibilities of development of the different cows, and also the value of experience in feeding and caring for such cattle. In many cases, however, high records have been made at a sacrifice of other normal functions of the cow, particularly reproduction. At the present time all the breeds of dairy cattle are paying more tribute to the cow that makes a high record for a year and produces a calf at the same time.

Cheaper Phosphates?

A NEW method of making phosphatic fertilizer that may revolutionize the fertilizer industry has recently been made public by the Bureau of Soils, U. S. Department of Agriculture. Ordinary acid phosphate contains about 16 per cent phosphoric acid. The new fertilizer will run about 50 per cent phosphoric acid, and is made by a heat process. A great saving in cost of handling can be made, and it is believed that it will also cost less to manufacture.

A. S. W.

the ship entering the beautiful harbor of Cherbourg, and after standing in line an hour to get our "landing cards" we were transferred to a tender and carried to the dock, where a toy train was waiting to convey us over the 300 kilometers, or 200 miles, between Cherbourg and Paris.

In both France and England the railway equipment is less than half as heavy as that in America, a fact that considerably impeded the movement of troops and munitions during the Great War. The capacity of the freight cars—wagons they are called in England—is from 8 to 12 tons, and they are built with four wheels instead of eight. The passenger cars have eight wheels in England, but in France these also sometimes have but four wheels.

The road from Cherbourg to Paris lies for the greater part of its way in the ancient province of Lombardy. The latitude of this province is the same as that of southern Manitoba, that of Cherbourg and Winnipeg being almost the same, while Paris lies north of the line which forms the boundary between the United States and western Canada. The climate of this region is greatly modified by the Gulf Stream, but it is too cool for corn. For about 50 miles from Cherbourg our route lay through a land of little meadows, pastures, apple orchards, and gardens, with very few fields of grain of any kind. The fields, usually of five acres or less, are separated by lines of brush and poplars, which furnish the principal supply of fuel, the side branches of the trees being trimmed off when an inch or more in diameter for firewood.

Hay harvest was in progress, the hay being a short grass, similar to or identical with the redtop of America. Men, women, and children were working at it, piling it

Dr. Thorne's Trip to Rothamsted

[CONTINUED FROM PAGE 5]

first in bunches holding a good forkful, and assembling these into small, neatly built stacks. Occasionally a steel-tooth horse rake was seen, and in one field a tedder. The yield of hay was generally very light.

On the pastures were many cattle, of the red-and-white spotted Normandy breed, which seemed to be in good condition.

The orchards were all in grass, and the trees had a stunted, half-starved appearance. The gardens were small and the houses were of stone, with one or two rooms, the roof being usually tile, but often straw thatch. Altogether the picture was one of a very restricted scale of living.

AS THE route receded from the coast, the agricultural features of the landscape began to improve. The meadows were giving a heavier cutting and fields of rye and wheat began to appear, the rye yellowing for the harvest. Instead of the little hedged-in fields, there were fewer hedges and the fields were long, narrow strips, reminding us of our experiment plots. This method of land division is the outgrowth of the ancient system of land tenure, when all the land was held in common, and in order that each farmer might have his fair share he was given a strip of the good land in the valley, another of that not quite so good on the hillside, and either another allotment on the higher upland or the right of pasturing a certain number of animals there in common with others.

A characteristic feature of the agricul-

ture of northern France is the two-wheeled cart, which is practically the only farm vehicle. For heavy hauling its wheels are nearly or quite six feet high, and it is drawn by one, two, three, or four horses, usually all hitched tandem, with two drivers when there are more than two horses. Occasionally a three-horse team is made up of one horse in the shafts and two abreast in front. In one case oxen were drawing in freshly harvested rye. Considering the great destruction of both horses and cattle during the war, it is not surprising that the French farmer is straitened for draft animals, but his enslavement to ancestral tradition is adding greatly to his labor.

The farm buggy is simply a lighter two-wheeled cart, with canvas drawn over bows for the top. In this his family rides to the market, taking the lighter produce.

From our first entry into France at Cherbourg, to our final exit at Boulogne, the red poppies were everywhere, along the roadsides and in the meadows and grain fields. Wherever the stand of grain was light, there the poppies had taken possession, and often acres upon acres were red with them. Even in the best fields of grain the poppies were disputing possession of the land, though overshadowed when the grain was vigorous. No American weed of which I have any knowledge compares as a field pest with these beautiful "poppies of Flanders fields," but their range is by no means limited to Flanders, for not only in northern France, but also in southern Eng-

land, we found them frequently in evidence.

It is said that they have their periods of greater or less abundance, much as do chess and whitetop on our side of the Atlantic. The whitetop is perhaps our nearest approach to the poppy as a field pest, but it is practically limited to the clover fields, whereas the poppy seems to be "no respecter of persons" in the plant world.

Our chess and cockle are bad enough as pests of the wheat field, but they are easily kept under control by good husbandry, while in so carefully managed a wheat field as Broadbalk at Rothamsted the poppy was triumphantly flaunting its red flag.

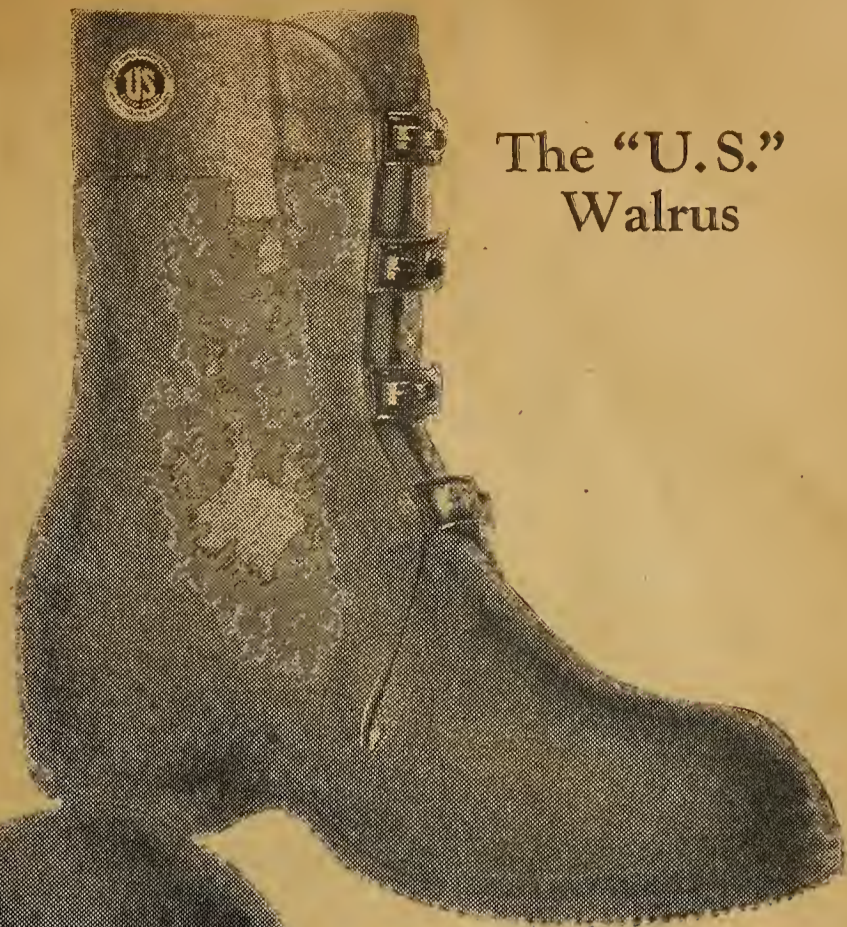
MILES upon miles of six-story gray stone buildings, all the same height and only diversified by the architecture of their frontage; narrow streets, with sidewalks often only wide enough for two to pass; the streets intersecting each other at every angle, more often six streets than four at intersections; in the canyons thus formed a maelstrom of humanity, on foot and in swiftly moving motor cars, taxicabs, and immense, two-story motor buses; a city in which no attempt is made to protect the pedestrian, but in which he takes his life in his hands when he attempts to cross the streets, the occasional policeman apparently taking no interest in the rushing flood—such is the picture left in the memory by a few days' stay in the heart of Paris.

As an offset to this picture is the recollection of drives through the beautiful Bois de Boulogne and past historic monuments and palaces, and of hours spent among the old paintings and tapestries of the Louvre.

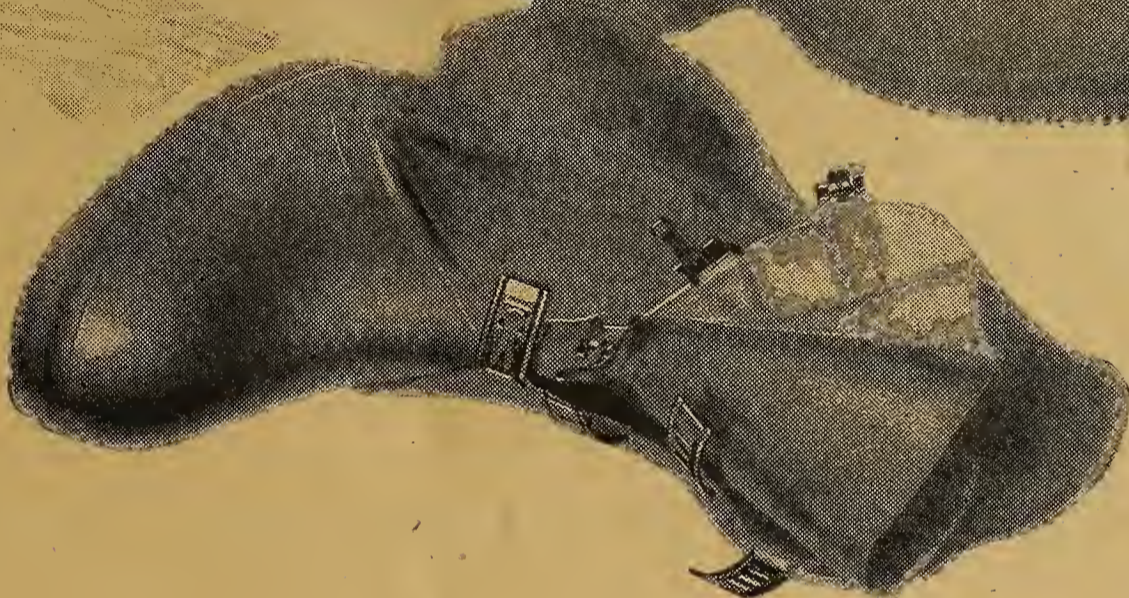
But cities were not the objective points of our journey, and it was a relief when the time came to turn our backs upon them.



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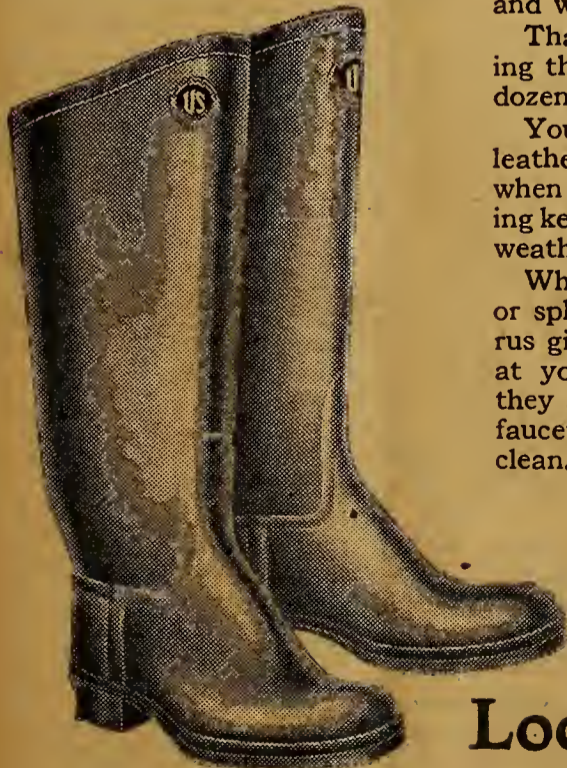
Wherever you go—tramping through snow or splashing through water—the U. S. Walrus gives you perfect protection. And then at your doorstep—no matter how muddy they are—a moment's rinse at the pump or faucet washes their smooth rubber surface clean.

Made by the oldest and largest rubber manufacturer in the world, the U. S. Walrus is *built to wear*. At the very points where ordinary overshoes are weakest, the U. S. Walrus has been made *strongest*. Every point of strain is heavily reinforced. Ask your dealer to show you a pair!

Other types of "U.S." Footwear —built for rough service

The U. S. line of footwear has a type for every need—arctics, rubbers, "overs." Every one is backed by over half a century of experience. The rubber comes from our own plantations—the whole process of manufacture is supervised by experts.

Always look for the U. S. Seal—it means solid wear and long service for your money.



United States Rubber Company

Look for this seal  on all "U.S." Footwear

Questions Farmers Ask Us

Maybe the answers will help you, or perhaps you have a question of your own to ask

QUESTION: How long after mating does it take to get fertile eggs? My chickens are penned.

Mrs. J. B. A., Illinois.

REPLY BY V. G. AUBRY: You can begin to save eggs for hatching about one week or ten days after the pens are mated up. If you put new hens in the pen, and have no way to tell their eggs, you will have to take a chance on their eggs not being fertile for the above length of time.

To Test Need of Lime

QUESTION: We have a 40-acre field which will not raise clover. Do you think it needs lime? W. S. A., Minnesota.

REPLY BY L. E. CALL: The fact that you have been unable to secure a catch of clover is a fairly good indication that your soil is in need of lime. I would suggest that you try lime on a small area of your field. If you will go to a lumber dealer and secure some air-slaked lime and spread this over a part of the field that you expect to seed to clover, you can determine for yourself the need of your soil for lime. The lime should be spread at the rate of about 200 pounds to a tenth of an acre.

If you were to apply lime to any large area, it would probably pay you to use ground lime rock at the rate of about

Can We Help You?*

WHENEVER you strike a snag in your farming operations, or find a puzzling problem in your housekeeping, or in the care of your children, tell our Service Department about it, and maybe we can help you. There are nine men and women on our staff of Corresponding Editors, who spend a good deal of time writing letters of advice to FARM AND FIRESIDE readers. All are experts in their respective lines. If you have any questions to ask, they will be glad to hear from you, and will try to give you the right answer. On this page are samples of the questions they get and the answers they give.

This service is free. In writing, state your problem briefly and clearly, enclosing self-addressed envelope. Your letter will be answered direct. Address Service Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

THE EDITOR.

two tons to the acre, in case ground lime rock can be purchased in your section of the state. If it is necessary to ship lime any distance, hydrated or some other form of burned lime is usually more economical.

Care of Home Orchard

QUESTION: C. A. of Massachusetts, describes the condition of his fruit trees, and asks for advice in taking care of them.

REPLY BY F. F. ROCKWELL: Undoubtedly much of the trouble with your apples and plums has been due to the lack of spraying. Arsenate of lead used before the foliage came out could do absolutely no good, because it is an internal poison, and is effective only when actually swallowed by insects. Arsenate of lead should be used for the first spraying after the foliage is out, and just before the blossoms open, to control chewing insects. If green aphid is present on the green foliage, use Black Leaf in connection with the arsenate of lead. This spray should be repeated again immediately after the blossoms fall and before the calyx of the newly set fruit closes.

To keep the trees in good condition, use a dormant spray in the winter and early spring before the leaf buds start. Unless your trees have been pruned, they will probably need to have a good

deal of the growth cut out, removing all dead limbs and smaller which cross each other, so as to let plenty of air and sunlight in.

Grapevines require more pruning than any other fruit. If the vines are making satisfactory growth, you will get much finer grapes by pruning them back each fall or early in the spring before the sap starts. You will find both fruit trees and grapevines greatly improved by working in a generous amount of bone meal around the roots early in the spring.

Boll-Weevil Control

QUESTION: I would like to know how to control the pink bollworm in cotton.

J. M. F., Louisiana.

ANSWER BY J. F. DUGGAR: The only methods thus far found effective in the warfare against the pink bollworm consist in the complete destruction of all parts of the cotton plant in and near the infested field, and in cleaning up all possible hiding places of the insect. The Crop Pest Commission of Louisiana is dealing with this subject energetically, and I can cite you to no better source of information. Bulletins may be had by application to Bureau of Publications, Washington, D. C.

Best Tractor Type

QUESTION: Which tractor is best for rocky land, the wheel or crawler type? What would be the approximate cost of a one-man outfit of tractor, plow, cart, and tools used for clearing such land?

H. H., Maine.

REPLY BY F. W. IVES: The crawler type of tractor would probably be best under your conditions. The tractor and equipment would cost about \$2,500. The use of dynamite or high explosive would likely be your cheapest method of breaking up stones and stumps.

The University of Wisconsin has pre-

pared a bulletin on land-clearing that might help you some.

How to Self-Feed Hogs

QUESTION: What kind of feed should be used in a self-feeder for shotes weighing about 50 pounds? They are getting skim milk. Should it be ground feed or shelled corn? If ground feed, what about grinding cob and corn when it is too tough for shelling?

L. J. B., Pennsylvania.

REPLY BY H. H. KILDEE: Shelled corn in one compartment and meat meal tankage in another should prove very satisfactory feeds under conditions mentioned. Corncob meal is sometimes used for hog-feeding, but does not prove very satisfactory, owing to the fact that the hog's digestive system is not adapted to handling such high proportion of crude fiber nor so bulky a ration as the corncob meal.

In case the corn is too tough for shelling, it will doubtless prove more satisfactory to feed the ear corn on feeding floors, and to supply the meat meal or tankage with the self-feeder.

Curing Hard Hoofs

QUESTION: I have a horse with naturally hard hoofs. What is the best method of keeping the hoofs in condition?

A. B. B., Canada.

REPLY BY DR. A. S. ALEXANDER: Unless the weather is very cold, keep wet packs upon the hoof heads, or soak the feet for an hour or more, twice daily, and each night apply any simple, greasy hoof dressing. If you cannot do this, smear lanolin or corona wool fat freely upon the soles of the feet at time of shoeing. Then put on a thin layer of oakum and a leather pad, kept in place by the shoe. Any competent horse-shoer can do this. It will not be necessary to reset the shoes oftener than every four or five weeks, renewing the dressing each time.

If it is high in America we get imported butter. Does the consumer know the difference? He does not. Does he care whether he eats Minnesota or New Zealand butter? Only as the quality of one or the other appeals to his taste.

Again, consumer demand ultimately controls, and always will control, because you cannot throw a fence about the producers and say, "Anybody else who makes butter will be shot at sunrise!"

Just bear in mind the fact that any producer group you please to mention is a minority group, as compared to the consumers, and it makes the matter easier to hang onto. If the consumers get the notion that the producers are getting a "big thing" out of growing wheat, or making butter, or feeding steers, some of them are going to join the ranks of the producers.

What holds good for wheat and butter holds good for livestock. The consumers of meat products are the ones who say, in the long run, whether prices are fair or not. If the farmer owned all the packing plants in America, it would not alter this fact.

SUCH control as is here discussed involves owning, and managing, all the means of distribution down to the consumer, and when all our troubles with the middlemen are over there remains, and always will remain, the matter of making terms with him.

Since you can't limit the number of those who produce the world's food, and since the business of the Middle West is to produce food for the consumers of the world at large, you can't limit production, and you can't set prices.

It is the consumer who exercises the free choice of taking or not taking, and, by his doing so, sets the price.

So I think there is good reason to abandon an idea of commodity control that has as an end the fixing of prices.

Now we get back to a position where we can take advantage of much that Mr. Sapiro puts forward. We will admit:

1. That the main crops in which Midwestern America is interested are part of the great world-wide ebb and flow of food production, transit, and sale.

2. That we cannot hope to organize any one of them upon a commodity basis carrying with it price control.

3. That such control as we have is regional, and not complete.

4. That, as a consequence, our aim must be to recognize commodities such as wheat, livestock, and butter, both upon commodity and a regional basis.

5. That the aim of cooperative organization is reached when cooperative groups have fairly established contact with the consumer.

6. That such contact rests upon the free-working law of supply and demand.

We need to keep our minds on several important points other than the above.

A lot of people have the notion, fed by half-baked economists, and vote-seeking "statesmen," that an aim of cooperation is the "elimination of the middleman."

Not at all. The same old machinery, improved a bit here and there, will keep right on functioning.

But the ownership of the machine will have changed hands!

When a bunch of cooperatives buy out a store, that doesn't eliminate the store, does it? When the farmers elect to buy an elevator, that doesn't wipe out any detail of handling grain. If the farmers should establish their own commission firms, mills, and cold storage,

there wouldn't be any marked "shortening of the market route."

What would happen—and what is going to happen—would be this: The farmers themselves would own, control, and operate the physical machinery necessary to marketing. If there prove to be too many local elevators, stores, or cattle buyers, some of them will go out of business, but the machinery as a whole will remain intact.

So cooperation does not "eliminate the middleman"—it uses him. Another thing to bear in mind is this: Cooperation is not against anything or anybody. Honest-to-goodness cooperation is simply the assertion of the coöperator to his right to own

and sell his own products to his own best advantage.

And any coöperation that is started in opposition to the other fellow, that goes about recruiting members by appeals to hatred

and ill will, is built of rotten timber, and will go to pieces in a real storm.

We have had altogether too much of that sort of coöperation in the Midwest.

AND we have another sort of coöperation that is loaded for trouble—the namby-pamby sort that is started to get "something," no matter what, across. It doesn't exact much of anything from its members. Its promoters get their names on the plea that there is little or no personal responsibility. Everybody "passes the buck" to everybody else, and you know what happens!

Then we have a coöperation that is a camouflage. It pulls trade to put "Coöperative" on your sign and letterhead.

All these weaknesses I admit. But Midwestern coöperation isn't dead.

The trouble is that its beginnings have been humble, and not all of its leaders have known the ropes, and some of them have gambled on human nature being better than human nature was ever calculated to be, and a lot of its advisors have a lot to learn before they can talk in terms of business sense, but its pains are the pains of growth, and not of dissolution.

You can travel over the Middle West, from the borders of West [CONTINUED ON PAGE 22]

Hughes Replies to Sapiro on Coöperation

[CONTINUED FROM PAGE 13]

Prize Contest Announcement

How We Made a Poor Farm Pay

THERE are a lot of FARM AND FIRESIDE readers who are trying to make poor farms pay, or who are thinking of buying cheap land, who will be interested in hearing how you have succeeded in building up and making profitable an infertile, low-priced farm.

We will give a prize of \$10 for the best letter telling how you have made a poor farm pay. For the next best letters we will pay \$5, \$4, \$3, \$2, and \$1 each for all other letters that are accepted.

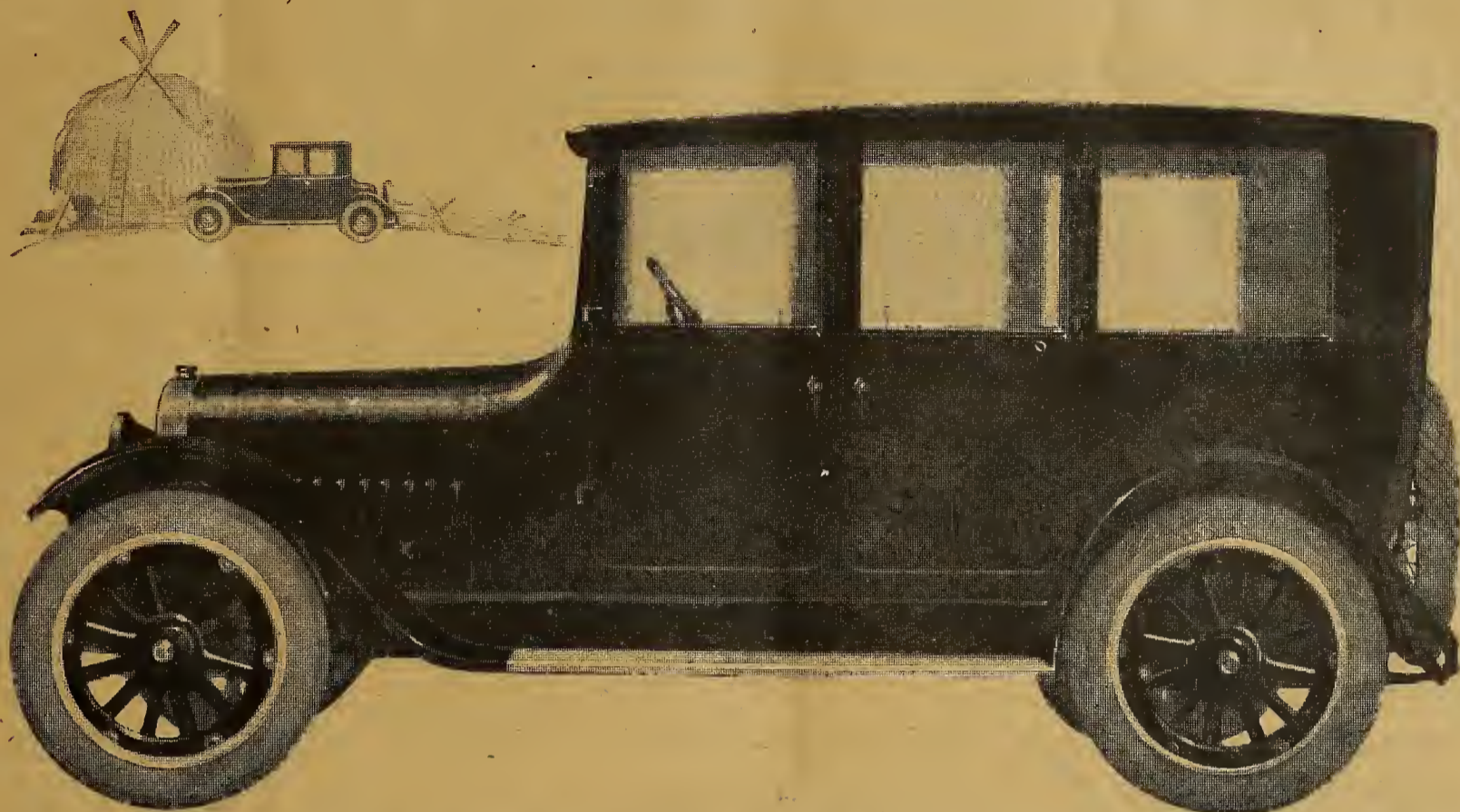
Give full details of how you built up your farm and put it on a paying basis, such as size of farm, crop rotations, kind of fertilizer used, breeds of livestock kept, etc. Also tell how your yields and profits have increased. Farms under 10 acres not considered. Keep your letter to 500 words, if possible. Photographs will add to the value of your letter. This contest closes January 31st. Enclose stamped envelope if you want your letter back.

Address Contest Editor, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

THE EDITOR.



OAKLAND OWNERS REPORT RETURNS OF FROM
18 TO 25 MILES PER GALLON OF GASOLINE
AND FROM 8,000 TO 12,000 MILES ON TIRES



THIS NEW OAKLAND SENSIBLE SIX FOUR DOOR SEDAN IS POWERED WITH THE FAMOUS 44-HORSEPOWER, OVERHEAD-VALVE OAKLAND ENGINE

WHAT does the possession of this new Oakland Sensible Six Sedan mean to the farmer who drives it? It means, first of all, reliable transportation of the highest order, at the minimum of attention and expense. It means the saving of his time, in his trips to market or about the countryside, and the saving of his energy as well. It means to his family greater comfort and convenience, and an increased opportunity for recreation. Sturdy as Oakland cars always have been, this new Oakland is yet more sturdy through an even stronger chassis of longer wheelbase. Powerful, thrifty and dependable—useful the whole year 'round—it offers a value not to be equaled in any other type of car.

OPEN CAR, \$1395; ROADSTER, \$1395; FOUR DOOR SEDAN, \$2065; COUPE, \$2065
F. O. B. PONTIAC, MICH. ADDITIONAL FOR WIRE WHEEL EQUIPMENT, \$85

OAKLAND MOTOR CAR COMPANY
Pontiac, Michigan

OAKLAND

SENSIBLE SIX



Superior ~ The Even-Seeding Grain Drill

BUYING a Superior Grain Drill is the best long-life implement investment you can make. For over fifty years the work of the Superior has been the recognized standard of good seeding. Superior Drills seed evenly—all the time. They plant every seed at an even depth and at an even space. Every furrow opener makes a perfect, roomy trench and then properly covers the seed.

For Team or Any Tractor

THE Superior is built for good work and long, hard service. Simple in construction—and extra strong where strength is needed. It is extremely light of draft—easy on team both on hillsides and in heavy soils. It is the drill you need on your farm.

SUPERIOR Tractor Drills have an adjustable hitch for use with any tractor, and a special power lift that enables the operator to raise or lower the discs without leaving the tractor seat. Your dealer will be glad to show and explain all special features.

The American Seeding-Machine Company, Incorporated
Springfield Most Complete Line of Grain Drills in the World Ohio



What is sauce for the goose may not be sauce for the gander

Hughes Replies to Sapiro

[CONTINUED FROM PAGE 20]

Virginia to the slopes of the Rockies, and in practically every neighborhood you can find men who have grown gray in laying the foundations of the cooperation that is coming. They are the drill masters who have trained their little groups to loyalty in spite of obstructive state laws.

And now we are getting laws that permit us to do things that Mr. Sapiro wisely suggests. And we have a few organizations that, in a modest way, are looking beyond the borders of their own neighborhoods. The forty thousand members of the Farmers' Union of Nebraska compares rather favorably with the eleven thousand prune growers mentioned by Mr. Sapiro. The potato growers' exchanges of Michigan, of Minnesota, of North Dakota, of Nebraska, and of Colorado are organized and harnessed for business from tip to toe.

WHAT have we on hand to federate? We have now come to the point where federation is in order.

Loosely thrown together associations, for the most part, many of them built on the wrong principle of stock dividends, and very few of them recognizing the crop contract. Some of them are financed in a manner that would make a banker dizzy. Our elevator system of paying cash, as Mr. Sapiro points out, is wrong.

But the thing Mr. Sapiro did not see, and that no casual visitor can see, is the rugged belief in the cooperative idea that makes for loyalty and that makes good local management possible where the machinery of management is about as modern as the flail.

We have the personnel of a great cooperative movement.

What are we of the Midwest going to do? I do not think any of us know exactly how far we can go, but we do know what we want to do, and are fairly certain what steps we propose to take.

We want to meet the ultimate buyer with our wares in our hand, and sell to him without anyone else standing between.

That means the building, out of our many thousands of local associations, of federations, organized, as are the potato growers of Michigan and Minnesota, to act as the selling agents of the grower members of the local associations. In all the potato organizations we have the crop contract, the guarantee note given by the grower to the local association, exclusive control by the selling agency of the crop of the local association, the pooling principle, no-purchase for cash, no dealing with non-members—all of these things essential to the best and most stable sort of cooperation. And I am violating no confidence, am making no threats against the consumer, when I say, deliberately, that it is the purpose of these associations, now acting separately, some day to form a selling agency that shall ramify throughout the consumer area, and do for the potato grower what the local association does locally—eliminate wasteful competition, and so distribute the crop that there shall be a fair price level. But no price control.

I MENTION potatoes because they represent the latest and most perfect form of Midwestern cooperative organization. And also because they belong to the same group of products as are discussed by Mr. Sapiro—the semi-perishables that find a market almost wholly within our own borders.

Some day, not so far off, we shall move in the same direction with our local creameries; but for the moment the farmer unrest that is stirring in dairy circles is overshadowed by the question of the farmer's right to sell his grain and livestock direct to the miller and packer.

Each group is trying to get results in one of two ways—either by buying into the exchanges or by establishing outside connections with the consumer, who is, in this instance, the manufacturer who takes the grain or livestock. The rules of the exchanges, both grain and livestock, forbid rebating, and, legally speaking, the payment of a patronage dividend is considered rebating. The Farmers' Union of Nebraska

[CONTINUED ON PAGE 26]

Stifel's Indigo Cloth
Standard for over 75 years

Look for the boot trademark on the back of the cloth, inside the garments before you buy.

For Men's Overalls, Jumpers, Uniforms
Miss Stifel Indigo Cloth—for women's overalls and work clothes

The strongest, fast color, work-garment cloth made.

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Garments made of Stifel Indigo sold by dealers everywhere. We are manufacturers of the cloth only.

It is to your interest to mention Farm and Fireside in answering advertisements.



LATEST OUT

Log and Tree Saw

NOW you can get the latest WITTE Arm Swing, Lever Controlled, Force Feed Log Saw for sawing up logs any size. Moves like a wheelbarrow—goes anywhere—saws up-hill, down-hill or on level. Cuts much faster than former rigs. Operated by a high-power, frost-proof

WITTE 4-Cycle Engine

Costs only 25 to 50 cents a day to operate. Double the power needed for sawing logs or trees. Perfectly balanced rig. Can be used for belt work.

New WITTE Tree Saw

At low cost additional you can now get the new WITTE Tree Saw Equipment—changes Log Saw to Tree Saw. Saws down trees any size.

Send for Log and Tree Saw Catalog



Quick Change From Log to Tree Saw

\$125.00 NOW

For this Complete Log Saw F. O. B. Kansas City, Mo. From Pittsburgh, Pa., add \$6.80

Don't buy any Log Saw, Tree Saw or Buzz Saw Outfit until you have seen the new WITTE. Lowest priced Guaranteed rig on the market. Cuts much faster than former rigs. On tests we cut 2-ft. log in 90 seconds. Tree saw cuts 'em close to the ground. Goes anywhere. We are making a special advertising price NOW—so write at once for complete description of this wonderful outfit FREE. BRANCH BUZZ SAW \$23.50.

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2065 Oakland Ave., Kansas City, Mo.
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Farm Lumbering

with a light, portable "American" Saw Mill is a money-making winter sideline. No special skill required. Just your spare time and otherwise idle teams, and tractor for power. Save money on costly lumber by sawing for yourself. Make money by sawing for, or selling to, your neighbors. Wherever there's a woodlot, there's money to be made by the owner of an "American"—the nationally-known, standard quality, portable saw mill.

Send for free booklet

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American PORTABLE Saw Mill

A Good Way to Cut Your Fuel Bill

LAST winter several farmers in a neighboring community found a way to beat the "high cost of fuel." This is how they did it:

Harry Bartlett had five acres of land which he wanted cleared, and the trees made into fuel. He secured two men and started the job. Bartlett soon saw that he was paying out more than his wood was worth, and that he might have to spend a fuelless winter. Rains set in, roads were bad, and the prospect of coal was poor.

He knew that several neighbors were in the same shape, so one evening he talked to eight farmers about a community plan, and six agreed to it. The following day the six men met, elected a secretary, and decided to purchase a wood saw and engine.

All agreed to share expenses equally, and also to share alike in either profit or loss. To guard against two parties wanting work done on the same date, they arranged the names according to distance and the amount of work to be done. The first and last Tuesdays in each month were set aside as regular work days.

When the outfit was put in operation, others saw that the plan was good, and asked for admittance. The members decided to do the work on a cash basis for these non-members at a lower rate than by the old methods. Later on, however, labor was taken in exchange.

"We paid out on the outfit before spring," Mr. Bartlett told me. "We sawed wood, cleared land, and cut posts and logs for each other. We have purchased a light truck on which to haul the machine, and it does not take long to set up and begin work. If it rains, we cover the outfit with a canvas and begin business as soon as it ceases. This enables us to get a job done in quick time.

"A correct list of all expenses, as well as profits, is kept in the secretary's ledger," continued Bartlett. "This is open for inspection at all times, which prevents misunderstandings. We do not try to make a profit, but rather to do a community service. Our own locality comes first, although we often receive calls from farmers ten miles away."

It isn't a complicated process to organize a community cooperative association such as these Ohio men did. All it takes is the need for it, and the willingness of the organizers to give and take—which, after all, is the basis of all true cooperation. F. R. COZZENS, Ohio.

Why Horses Balk

BALKY horses are always a nuisance, and cause a great loss of time. I have found from experience that a lot of it can be avoided.

I once saw a horse that wouldn't pull on a new collar. Everything looked all right, and the collar seemed to fit. Yet he would start into the collar and back off. He had always been a good worker, and it seemed queer to find him balking. However, a careful examination showed a small cobbler's nail, left in the collar during the process of manufacture. It was removed, and the horse pulled. Some horses would have pulled anyway. This one was of such disposition that he wouldn't.

I saw a German farmer drive a confirmed balker. It was threshing time, and he put on a fair load. Whenever the horse wanted to stop, which he indicated by throwing his head over the other horse's shoulder, the German said "Whoa." He stopped for a minute, started the team off to the left side, and then pulled. By carefully watching and stopping the horse before he balked he got away with it all day. In time he got to be a fairly good puller. Probably a little carelessness in the first few months started this horse to balking. This kind of a driver wouldn't have had this trouble.

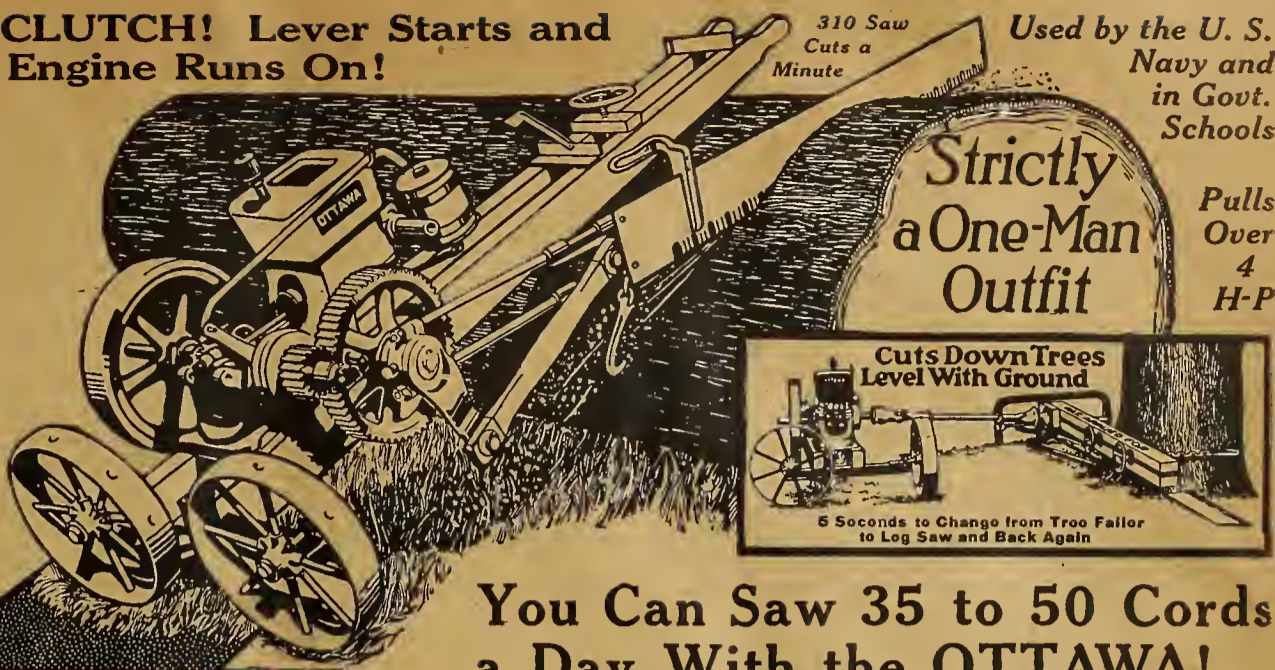
I knew another horse that wouldn't tackle a big load of anything. It was found that his collar was too light. A heavy draft-horse collar made a good puller out of him. Usually there is a reason, and often a balker can be broken, but not always. EARL ROGERS.

FRICION CLUTCH! Lever Starts and Stops Saw: Engine Runs On!

Does Work of 10 to 15 Able-bodied Men!

Counter-Balanced Crank Shaft

Easy to Move



310 Saw Cuts a Minute
Used by the U. S. Navy and in Govt. Schools
Strictly a One-Man Outfit
Pulls Over 4 H-P

You Can Saw 35 to 50 Cords a Day With the OTTAWA!

Thousands of farmers, lumber concerns and loggers are cutting down trees and sawing up logs and branches with this One-Man Power Outfit at low cost of 1 1/2 cents a cord. The OTTAWA does away with all the old time, hard, back-breaking work of cross-cut sawing or lugging logs to a circular saw. Does the work of 10 to 15 able-bodied men.

Beat the Coal Shortage!

This winter will see the greatest fuel shortage ever known. The only solution is the use of wood in larger quantities than ever before. And \$20 to \$30 a cord for wood at places of greatest demand is practically a certainty this winter. The farmer or woodsman who delays plans for supplying wood for fuel will lose splendid profits. If you want to help your neighbors, prevent suffering, and at the same time make big profits, get an OTTAWA Log Saw right away. Be sure to send your name and address on the coupon attached and get full information and our Special Offer. Sign and mail the coupon today!

Friction Clutch—

lever controlled—enables you to start and stop saw blade without stopping the engine. Saves time and provides absolute safety in moving saw from log to log and from cut to cut along the log! No dangerous swishing of the saw blade in the air. Mounted on wheels; easy to move on any ground.



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The OTTAWA Buzz Saw Rig, wheel mounted, is designed for use in cutting smaller wood.



Wheels Turn On Swivel Axle



Easy to Move from Cut to Cut



Wheels Like a Barrow

Now! Ottawa Ships 'Em Quick!

OTTAWA LOG SAW

Cuts Down Trees—Saws Logs By Power

Pulls Over 4 H-P. The New Improved 1921 Model cuts much faster than other Drag or Log Saws as they are built today. **Makes 310 Saw Cuts a Minute!** Weighs less than any 3 H-P Drag or Log Saw built. Balanced Crank Shaft eliminates vibration, increases power and saves fuel. Direct gear drives saw; no chains to tighten; no keys; no set screws. 4-Cycle Frost-Proof Engine. Built-in Magneto—no batteries ever needed. Automatic Governor with Speed Regulator. Eccentric gives saw human rocking motion, keeping cut free from saw dust. Outfit strong but simply built. Nothing to get out of fix. A great work-saver and money-maker. When not sawing wood, engine runs pumps, feed grinders, cream separators, washing machines, etc. Runs in the rain. Plenty of reserve power.

Easiest to Move; Easiest to Run—

The OTTAWA is the original wheel-mounted, one-man log saw. Only log saw with specially designed swivel axle. Wheels do not have to be taken off to travel in any direction. No lifting, no prying to change direction of wheel travel. Less than 5 seconds to set from one cut to another.

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30 Days' Trial Every OTTAWA shipped on 30 days' trial. Must fulfill 10-Year Guarantee. Only sold direct from factory to user, at Wholesale Factory Prices. For nearly 20 years we have been selling direct to users, saving them thousands of dollars.

Cash or Easy Payments

Get our payment plans of purchase and find how easy it is to own an OTTAWA Log Saw. It will soon pay for itself. Any man with logs to cut cannot afford to be without this Log Saw. And you can soon own an OTTAWA under our wonderful selling plan.

Special Offer Now!

To enable as many as possible to provide fuel for themselves and to sell, we are making a Special Offer now at Wholesale Factory Prices. Send at once. Put name and address on coupon and receive promptly complete information.

FREE BOOK Send your name and address on the coupon below and you will receive your copy of the fine 32-page book, fully illustrated in three colors. Shows how thousands of OTTAWA users have paid for their log saws in a few weeks. Don't delay. It costs you nothing to find out all about the OTTAWA Log Saw. See what over 10,000 satisfied users say. Mail coupon now!

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Without obligation to me please send me your Free Book and Big Special Offer on the OTTAWA Log Saw.

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You find the hive—bees will find their own food. Surplus honey costs you nothing. More profit on less cost than any other farm line. Ask us to tell you how

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50 years' experience. Low-priced beginners' outfits. Write us what your occupation is and if you keep bees now. This will help us send you needed information. Write today for handsome free booklet, "Bees for Pleasure and Profit."

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124 Main Street Medina, Ohio



Turn stump land into Money

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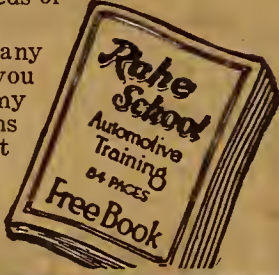
The thousands of Rahe Trained men now in business for themselves in every State are always sending to me for more Rahe Trained men than I can furnish. By coming here, you get preferred opportunity for a good job, or for a business of your own immediately upon leaving. I always have more calls for men than students.

As a Rahe Trained man, you always have the advantage over all other men not trained here. You learn better here in 6 to 8 weeks than in 2 years in any shop or factory. Thousands of men come here every year who have had 2 to 5 years' work in garages and shops. They come here finally to learn right.

Learn by Doing daily work on real Automobiles, Trucks, Tractors and Aviation equipment. Four big buildings (equal to 20-story skyscraper); big tractor farm and big flying field. Complete and thorough training in every branch of the business. **Plenty of opportunity to earn part living expenses while in school.** Hundreds of men are doing this every day.

Free Catalog Before you arrange to go to any school, visit this School. If you can't come now, do the next best thing—send for my 84-page free catalog which shows fully by photographs how you learn best here—how you are sure of the best opportunities now open in the business world.

HENRY J. RAHE, Dept. 2269
Kansas City, Mo. Cincinnati, Ohio



Two Shipping Plans That Save Us Money

[CONTINUED FROM PAGE 11]

"Furthermore, a county manager in a good livestock county can put his full time on the job, and will be more ambitious to do better work than the local manager who merely takes up the work as a side line."

The shipping associations of Champaign County are organized on the local plan. Adviser Watson says of this method:

"For Champaign County we see no particular advantage of the county plan over the local system. We are organizing our associations in conjunction with the farmers' elevators of the county, and in most cases the manager of the farmers' elevator is the manager of the shipping association. We feel it is an advantage to combine these two lines under one management. Ours is a typical grain county, and livestock conditions are different from those in the so-called livestock counties. Where we ship 75 to 100 cars each year through our associations, one of those counties will handle from 1,000 to 1,200 cars."

La Salle County, which probably has more shipping associations than any other county in the State, follows the local plan of organization. Henry County has also followed the same plan, and is fully convinced of the advantage of cooperative marketing. During 1919, 994 carloads of stock were shipped through eleven local associations, consisting of 6,570 cattle, 188,145 hogs, and 4,300 sheep, or a total of 158,515 head. After deducting the expense of shipping and selling, the proceeds amounted to \$2,869,153.42.

In this county, while the local plan of organization has been followed, the officers and managers of the various associations have formed a county federation with headquarters at the farm bureau office. The plan of membership is similar in both types of association. Anyone wishing to ship stock can become a member by paying the usual fee of from \$1 to \$2. Some local associations, in order to purchase a set of scales or build a manager's office, have made their membership fees as high as \$5.

The cost of shipping is practically the same, whether it is through local association or by the county plan. Some local associations allow the manager a flat rate of 10 cents per hundredweight on all shipments, others pay a little less. Under the county plan the commission charged in most cases is 8 cents per hundredweight on all livestock shipped. The local manager receives 75 per cent and the county manager 25 per cent. Two per cent is charged on all stock to cover running expenses and provide a sinking fund for any emergency expense. Full carloads owned by one man and shipped by the association are handled at one half the usual charges.

Insurance that is usually bought by shippers from insurance companies, to cover losses in transit, is carried by most of the shipping associations themselves. Experience of large associations has shown that the losses do not equal the cost of insurance, so they can well afford to carry their own risks. Five cents per hundredweight on hogs and sheep, and two cents per hundredweight on cattle, is the amount usually collected on all shipments as an insurance fund to cover the losses in transit. If this fund proves to be more than is required to pay the losses, the amount levied for insurance can be decreased, or the money may be used to further the general welfare of the association.

Under a county plan the losses are prorated over the shipments of the entire county, and even in case of heavy losses the amount does not prove excessive to any group of shippers. But with a local association a large loss in the beginning of the work might exceed the insurance fund, and work a hardship on a small number of shippers. Some of the local associations that ship only a small number of cars take out insurance with some insurance company rather than take the risks themselves.

The insurance feature appeals to most shippers as being one of the important reasons for supporting the cooperative enterprises. In carrying their own insurance the animals are insured from the time they are accepted by the manager at the loading station until they are sold and weighed at the stockyards. The insurance companies, on the other hand, do not insure the animals except while on board the cars, and do not pay for losses incurred while getting the animal off the cars and up to the scales.

Shipping losses, particularly in case of hogs, can undoubtedly be cut down through cooperative shipping. It is not uncommon to find five or six dead hogs in a carload, and the number often-times is greater. One morning last June, I was in the Chicago yards when a trainload of hogs was being unloaded, and I counted over 60 dead hogs on that single platform. The U. S. Bureau of Markets reports that

PROSPERITY is not without many fears and distastes; and adversity is not without comforts and hopes. BACON.

the hog losses in transit and in the yards have been as high as 1,160 head in one day. In the past the country buyer has shouldered this loss, but now the farmers in shipping their own stock must pay the bill or take means to reduce the number that die in transit. The shipping associations are in a position to study the best systems of handling hogs. This should materially reduce the loss.

The success of a shipping association is determined largely by the kind of a manager that is secured. Business training and experience in the handling of livestock, together with a pleasing personality, are characteristics of the most successful managers. His job is to handle the funds, keep all records, and look after the general welfare of the organization. Marking the animals for shipment is one of his important duties.

That the cooperative plan of marketing is sound, and the movement likely to be permanent, is indicated by the endorsement it has received. Professor H. W. Mumford, director of the livestock marketing department of the Illinois Agricultural Association, says:

"I feel that the cooperative livestock shipping association movement is one of the important links in securing a better system of marketing our meat-producing animals. If we are going to maintain an adequate supply of meat-producing animals in this country, we must work out a marketing system that is profitable to the small man. The plan is of special value to the farmer who has only a small number of animals to sell. Relatively speaking, our cheapest products come from the man who operates on a small scale and who manufactures meat by consuming the feeds that would otherwise be wasted."

King Corn Meets a Rival
DRIED sugar-beet pulp will soon become a real rival of corn in livestock-feeding, declares the University of Nebraska College of Agriculture. This statement is based on an experiment recently conducted by the college during which different rations were fed twelve lots of Utah lambs, 31 to each lot, for 100 days, to determine the food value of the sugar-beet by-product in comparison with some of the standard rations, such as corn and alfalfa, or corn, alfalfa, and cottonseed cake.

The beet-pulp-fed lambs led with a profit of \$3.80 per head at the end of the period, while the corn-and-alfalfa-fed lot showed a profit of only \$1.83 a head. The experiment proved, furthermore, that either corn or dried beet pulp is necessary to produce a finished lamb.

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The famous Kirstin is made of finest steel. Guaranteed 3 years against breakage—flaw-or-no-flaw. It weighs less—Cost less. Yet has greater speed, power, strength, and lasts longer. A few pounds on handle exerts tons on stump. Single, double, triple power. Several speeds. Low speed loosens stump. High yanks it out quick. Patented quick take-up for slack cable. Easily moved around field. A WONDERFUL SUCCESS.

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WORLD'S LARGEST MAKERS OF STUMP PULLERS



A Fact the Farm Bureaus Should Not Ignore

AN IMPRESSION has gained currency among non-farming Americans that the Farm Bureau Federation is out to form a gigantic combine to gouge the public.

To any informed, thinking person this is ridiculous. The sad fact remains, however, that most persons don't think, and are content with casual information, usually unsound.

No one thing is more vital to the permanent success of the Farm Bureau movement than a clear understanding of it by the general public. The facts must be supplied by the federation itself. The best way to do it is through direct, paid advertising in newspapers and magazines of general circulation.

A representative national campaign, handled by a first-class agency, would cost about \$200,000 a year, and would be well worth the money.

Local county farm bureaus and state federations could well afford to supplement the national campaign with local or state campaigns. This, however, would be a refinement of the idea, and is not absolutely necessary.

Only a few points need to be driven home. They could be hammered ceaselessly in this campaign. Once sell the public on the Farm Bureau's sincerity, fairness, and legitimate objects, and you will have the public with you—a long step toward the success of any national undertaking.

THE EDITOR.

Three Ways to Farm Better

[CONTINUED FROM PAGE 8]

boy's savings can be invested in dairy cows, brood sows, work stock, and machinery. After a small accumulation of this kind the workman soon becomes a proprietor on a rented farm, and no longer a "hired man." He becomes his own boss, with added opportunities for investment and saving.

How about the hours in town and country? It is true that the farm workman is on the job more hours than the city man, but if the time required to go to and from work in the city is counted the day will usually average longer than in the country. In the country the workman's occupation is varied. In the course of a year he will not put in the number of hours of hard, intensive work that will be required of either skilled or common labor in the industries.

WHEN it comes to living conditions, the city job is in some ways the more attractive. The farmer has not learned that the factory operator has known for some time that it is necessary, in order to secure good labor, to provide conditions that will be attractive. A little more attention to the comfort of the men on the farm will do much to hold farm labor. Mr. W. I. Drummond, in speaking of the farm labor problem in "Agricultural Review," summarizes the situation well when he says:

"The solution of the farm-labor problem will come when farmers generally stop admitting that a working man can do better in the city, and begin 'selling' their own proposition. Many of them are knocking their own game, when they should be boosting it.

"To begin with, each farmer who wants hired help should be sure that the conditions under which such help is required to work and live are acceptable to a self-respecting man. If they are really attractive, so much the better. This is not hard on the ordinary farm, but it is far too often ignored. The hired man needs a bed as well as a lantern. There is such a thing as too long hours, even on a farm. Eight hours are out of the question, but sixteen are unnecessary, unwise, and unprofitable.

A job on a good farm, with an employer who is reasonable and fair, is the best kind of a job for any worker. Such jobs ought to be at a premium, and they will be if the proper educational effort is substituted for the present 'viewing with alarm' and 'we're going to starve to death' propaganda."

NOTE: An article similar to this, dealing with the problem from the Southern farmers' viewpoint, will be written by J. F. Duggar in the next issue.

THE EDITOR.

TITAN 10-20

THIS practical favorite among tractors has long aided industriously in the cause of good American farming and it has gained as great a popularity across boundaries and oceans as well. Since the first Titan went out to the fields five years ago, the farming world has invested over seventy million dollars in Titan 10-20 Tractors. No other 3-plow tractor has approached such a record as this.

Titans at this writing are delivering reliable horse power at drawbar and belt for many thousands of owners who are done with uncertainties and who know that quality is but another name for economy.

Entering into 1921, this Company has effected arrangements which include provision for time payment and price reduction guarantees in the sale of its tractors. Prospective Titan owners will be glad to have the assurance of this benefit and safeguard during the present period of uncertainty. Details may be had by application to any International dealer or by letter from the address below.

Farmers who believe in the money value of high standards in agriculture, as this Company believes in manufacturing standards based on quality, will be helping to build higher the achievement of Titan in 1921.

With every Titan 10-20 Tractor purchased from us—cash or liberal terms—between now and May 1, 1921, we will give our written guarantee that if this Company reduces its price on Titan 10-20 Tractors on or before May 1, 1921, we will refund the purchaser the amount of such reduction.

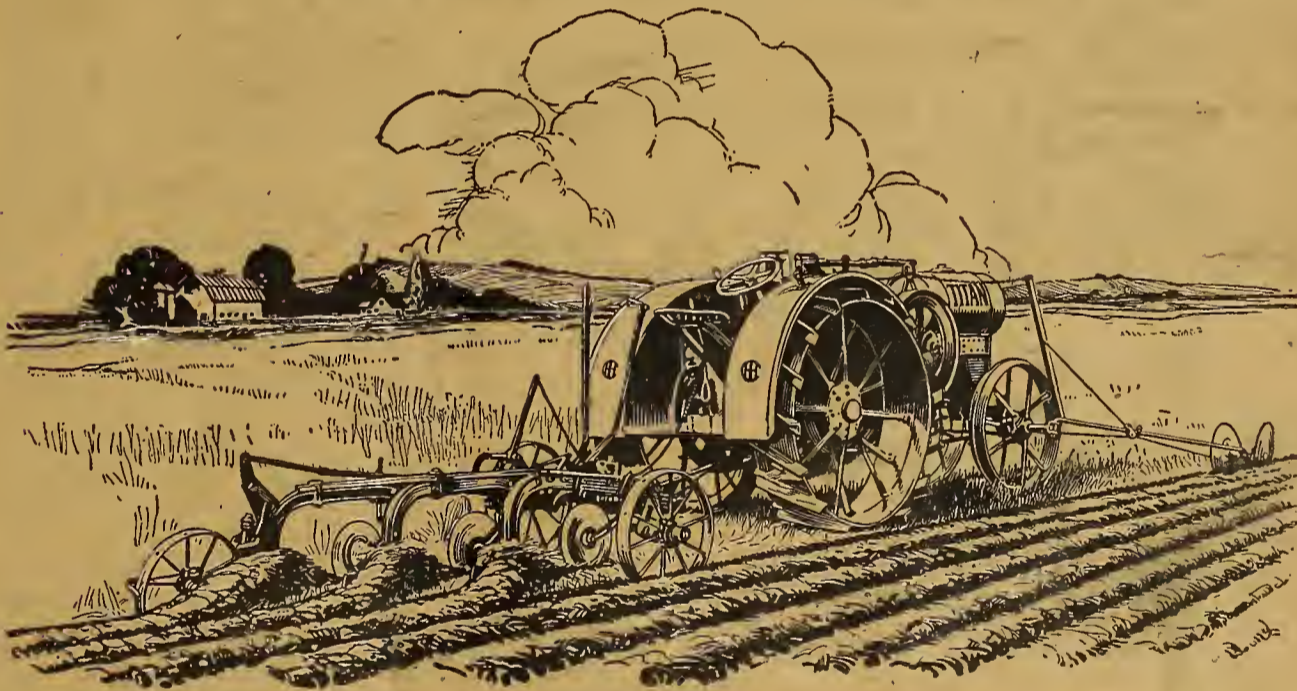
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LOWEST PRICES—I Pay All Freight Charges

Don't buy a rod of fence this year until you get my New Bargain Fence Book. Shows 150 styles. Also Gates, Lawn Fence, Barb Wire—all at startling low prices. A postal brings sample to test and book free, postpaid.

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SAVED 38 PER CENT

Mr. R. A. Dillard, Milton, Okla., writes: "I found all the fence as good or better than I expected. A rare bargain. I saved \$28.65 on my \$75.00 order."

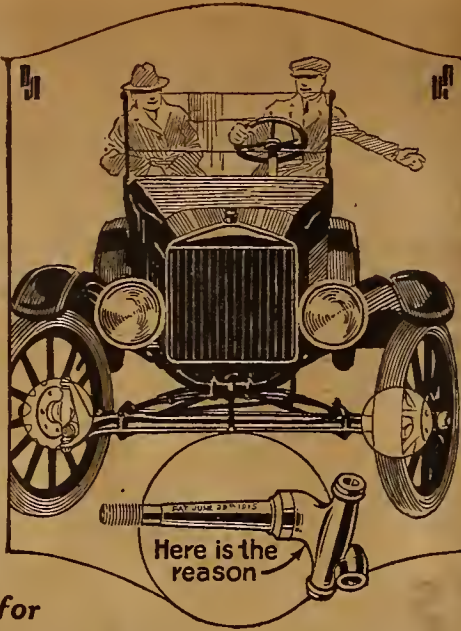
Why not put this big saving in your own pocket through our **Direct From Factory to Farm** plan of selling? Kitzelman's low prices and Long-Lasting Fences have reduced fence building costs for more than a half-million farmers.

WE PAY THE FREIGHT
save you money on every rod and sell you a better fence. Write us today for Free Catalog and money-saving prices on Farm, Poultry and Lawn Fence, Gates and Barb Wire.

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We want representatives everywhere for the greatest safety device ever invented for Ford cars. No big investment for tools or equipment. Selling experience not necessary. Use your Ford for demonstrator. This device on your car (at dealer's price, \$6.50) your only investment. Big profits sure. \$10.00 to \$25.00 a day.



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The greatest complaint against the Ford car is on the great danger and fatigue from steering. This new caster-type spindle absolutely overcomes this and makes a Ford handle just as easily as any of the larger cars. No need to "hang on" to the steering wheel.

Mospico Safety Spindles Make Steering Sure They Make Riding in a Ford Safe

Put a pair of Mospico Safety Spindles on your own car. Give any Ford owner five minutes behind the wheel and you get his order. Drive through mud, sand, gravel, snow; in and out of ruts, over car tracks or through ditches just as safely as on smooth roads, and you can steer the Ford with one hand. Turn corners at 20 miles an hour, let go of the steering wheel, and see how the Ford straightens itself up. No danger of turning over if you have Mospico Safety Spindles for the wheels can't lock. These Safety Spindles act on the caster principle—wheels always travel straight ahead and parallel no matter what obstructions are encountered. They fit any Ford without any additional parts.

WRITE US TODAY—Get the Contract for Your Territory

It means money for you in the winter months when there is little to do. Mospico Safety Spindles sell for only \$9.75 a pair. Any Ford owner will pay that to make his car safe to drive and easy to handle. Quick action means the dealer's contract for a wonderful Ford accessory and one that will make big profits every hour of your spare time. Write Us Today.

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The price is cheerfully refunded if Mospico Safety Spindles fail to do all we claim for them.

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Multiply the number of Fords in your community by \$3.25 and you will see what profit you can make.

You are sure of a square deal if you mention Farm and Fireside in answering advertisements.

1921 Prices

Quality—Higher Price—Lower

You may now purchase your favorite type of Champion Spark Plug anywhere in the United States at these prices—

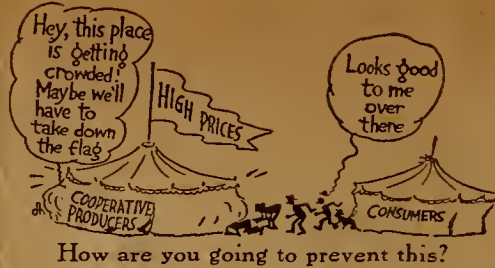
- Champion X [Ford] \$.75 formerly \$.90
- Champion Regular \$.90 formerly \$1.00
- Champion Heavy Stone \$1.00 formerly \$1.25

Over 30,000,000 Champion Plugs sold this past year.

Champion Spark Plug Co.
Toledo, Ohio



Champion Dependable Spark Plugs



How are you going to prevent this?

Hughes Replies to Sapiro

(CONTINUED FROM PAGE 22)

offered to buy into the livestock exchanges at Omaha and other Western packing centers, but was turned down. It went direct to the packers. Would they buy of the Union in car lots? They would. And from that day to this it has been doing business without the exchanges.

No one who watched price fluctuations can doubt the necessity of some centralized control of the farmers' offerings. The packers are fairly steady buyers, but they have no facilities for buying and holding the heavy runs. If the flow to market can in some manner be controlled, then, automatically, a fairly steady price is established. This is what the farmers of the Midwest are aiming at—not at any monopoly.

Naturally, it is desirable that such an organization shall be built solidly, from the ground up. The local cooperative association, strengthened by the adoption of a stock contract to give financial standing, and by a sufficient capitalization to meet the financing pro rata called for by the central selling agency, seems the best method to get what we are after. But some things we think of as essential are perhaps matters of detail; for example, the Michigan potato associations are non-capital-stock, while the Minnesota associations are, under the new law of 1919, capital-stock associations. Both forms "get by" the income-tax boggy mentioned by Mr. Sapiro, and I see a decided advantage in the Minnesota form, particularly in the matter of arranging local banking credits. But the Michigan people are strong for the non-capital-stock plan. So why worry? If the plan gives results, it is a good plan.

The grain men are in the same boat as the cattle men—or one a bit less satisfactory. Membership on the grain exchanges is practically necessary, unless, by general and concerted action, these exchanges are abandoned and new connections, through which the miller can get the farmers' grain as readily, as surely, as he now does, are formed. Grain-marketing is not as simple as might appear. If the grain exchanges are to be cast aside, similar machinery must be built up to take care of the flood of grain that leaves the farmer's hands, physically if not financially, at threshing time. A means of putting this grain where the consumer wants it, when he wants it, must be worked out. And if the farmer is to retain the ownership of his crop until the consumer—that is to say, the miller or other buyer for use—is ready to take it, a plan will have to be worked out whereby the farmer who must have money can borrow up to the full loaning value of the grain. For, as Mr. Sapiro points out, the weakness of the present cooperative elevator is its practice of cash payment for grain. Under any plan that is to endure that practice will have to be abandoned, and long-time pledging of the crop, together with payment only upon sale, must be adopted. The merchant who expects to remain in business doesn't take his money out of the business until the business earns it. The farmer, having decided to become a wholesale merchant of his wares, must use ordinary merchandising methods—or see his dreams evaporate.

Whether there be one or several of such groups is likely to be settled in favor of several. Farmers having a common trading center are apt to form the nucleus of a federated association local to that center. So again locality seems pretty sure to hook up with its old team-mate, commodity. The farmers of Minnesota, the Dakotas, and Montana understand each others' problems, and are more likely to pull together at the outstart of such a movement than they would be to pull with the farmers of Indiana, Oklahoma, and Oregon.

makes a suggestion that may help to solve the long-time dispute over cooperative membership. It remains firm in its refusal to allow pro-rating of patronage dividends back from the selling agency to the grain associations to its local member associations, on the ground that this opens the way for some of the most serious abuses that have afflicted the grain trade in the past years; but it suggests that, in order to give essentially the same results to the farmer, the directors of the central selling agency be also, under the plan of organization, a corporation holding in trust the stock of the cooperative member associations, which stock is taken in the ratio of the business furnished for a certain preceding period of time—say, three years. Thus, if elevator A has furnished, during the three preceding years, one eightieth of all the grain handled by the central associations of elevators during that time, it will be represented in the cooperative exchange by one eightieth of the outstanding stock, and will receive one eightieth of the net earnings as its share. It may distribute this dividend on the patronage-dividend basis.

POSSIBLY here is the point of contact that we have all been striving for during the past years; possibly not. Somewhere the coöperator and the coöperate firm must come to an understanding. The plan suggested offers the machinery of the Chamber of Commerce and like exchanges to the co-operators.

To my mind, the question of size is of secondary importance. As soon as we abandon the idea that we are going to corner the grain of the continent and, having done so, to control its price beyond that control natural to collective ownership and sound financing, just that soon do we render all talk of "signing up fifty-one per cent of the crop" wholly unnecessary. "Fifty-one per cent" implies control for purposes of price-fixing, but fifty-one per cent of the crop of

the United States will not give such control, while a much smaller per cent of the crop total would give to the cooperative group owning and marketing it all the sales advantages that lie within the limits of fair and free marketing.

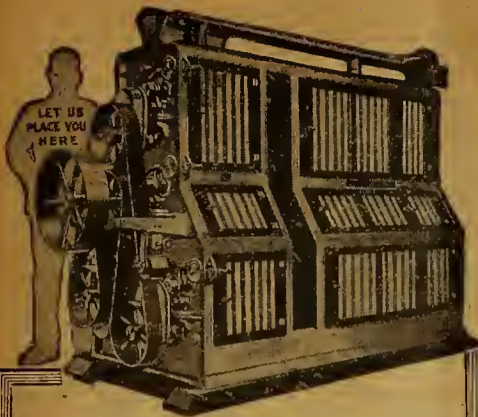
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WHATEVER be the plan first attempted, experience in cooperation inclines me to look for these local federations to spring up about the great terminal market centers, and to prove or disprove, by the measure of their marketing efficiency, the value to the farmer of such self-owned and self-directed sales agencies. Personally, I have no doubt of their value. Their growth will be a measure of their practical service to the farmer.

Whether, when this present problem has been worked out, as I am sure it will ultimately be, to the satisfaction and the welfare of the farmer, he will then take the final step into the field of manufacture of his products, or whether the man who buys flour and pork steak, and all the other products of the farm will organize and beat him to it, is another story; but some day, at some point along the road that connects producer and consumer, these two forces, coöperatively organized, will meet face to face, and in friendship born of respect for each other.

NOTE: One of the best livestock men in the country, who knows the West and Middle West thoroughly, will reply both to Mr. Hughes and Mr. Sapiro in the February issue. THE EDITOR.





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in your community on this New Wonderful Mill—no previous milling experience necessary.

Be a Miller

and have a dignified, permanent business that will earn you steady profits the entire year.

Grind your home-grown wheat, supply your community with flour and feed. You save the freight on the wheat going out, and the flour and feed coming in.

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Maps That Will Tell You About Your Farm

I WONDER if you get as much fun out of maps as I do. My wife says I am a "map crank," because I always get new ones when I go into a part of the country I haven't visited before. I have found the topographical maps issued by the United States Geological Survey most interesting, because they are large enough in scale to show the roads, rivers, lakes, hills, and even houses. They come in small sections that are easy to fold up and put in your pocket, and they show the character of a country almost as well as a photograph would, after you have had a little experience using them.

I learned, the other day, that more than 150 engineers are busy all the time preparing these maps, and that nearly three thousand of them, representing about 43 per cent of the area of the United States, have been published. These maps are, virtually, accurate relief models of the areas covered. From them you can learn the altitude, longitude, and latitude of any point on your farm, if it has been mapped.

It costs from \$3,000 to \$15,000 to collect the material and prepare each one of these little maps. However, if you wish to buy some, you can get them at the nominal cost of 10 cents each from the United States Geological Survey, Washington, D. C. Before ordering, it is best to inquire if your locality has been surveyed or not. If you do get the ones for your section, I am sure you will find them most interesting and valuable.

ANDREW S. WING.

To-day is none too soon to start making up your list of seeds, bulbs, and nursery stock for spring planting.

The County Agent's Week

His Life is Joy, His Years Are Play, His Week a Happy Roundelay

THE county agent's life is joy. His year is filled with play. His weeks a happy roundelay— But just to keep himself in trim He works a bit each day.

MONDAY he tells what plans are good To make a fertile farm; He tries to make it understood What keeps the crops from harm; He holds three meetings in the fields— But finds life all a charm.

TUESDAY he helped to drain a field, Showed where the tiles are led; Gave suggestions for increased yield, And told how stock is fed; Organized a breeding club— But spent some time in bed.

WEDNESDAY he brought a specialist To help a man with sheep; Got figures for a census list; Arranged to purchase cheap A lot of lime in carload lots— But got a chance to sleep.

THURSDAY he gave some blueprints out For a barn from ridge to floor; Showed how to ring a porker's snout, And how to keep a score Of points in judging purebred stock— Then slept a little more.

FRIDAY he helped to spray some trees; He told which spuds are best; He showed the way to hive some bees, And how to kill a pest; He warned against three wildcat schemes— But got a bit of rest.

SATURDAY, like the rest of the week, He made an early call; He planned the use of a rapid creek For power from its fall To light farm homes for miles around— But did no work at all.

SUNDAY he washed the flivver clean, Then sat within his pew, Thankful that on this day serene He'd rest, like me and you— Except to write reports and such He had no work to do!

—Bristow Adams, in "New York Extension Service News."



The Handy Man needs Boss Work Gloves

FOR heavy work on the farm, for odd jobs around the house and barn, the farmer needs Boss Work Gloves to protect his hands from dirt, grease, and minor injuries. Women need them every day to dust, sweep, black the stove, oil the floors and for many other odd jobs.

Boss Work Gloves are tough enough to insure long wear—and flexible enough to allow the free feel of any job. They are made of the finest quality white canton flannel. In ribbed, band, and gauntlet wrists. Sizes for men and women, boys and girls.

Ask your dealer for them by name.

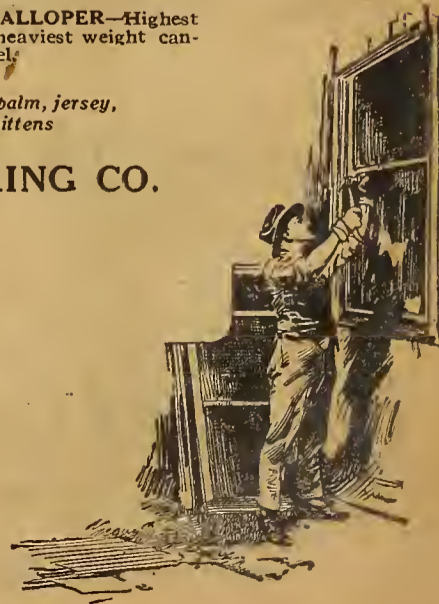
- THE BOSS MEEDY—Best quality, medium weight canton flannel.
- THE BOSS XTRA HEVY—Finest grade of extra heavy canton flannel.
- THE BOSS HEVY—Very best quality, heavy weight canton flannel.
- THE BOSS WALLOWER—Highest quality, heaviest weight canton flannel.

The Boss line includes highest quality leather-palm, jersey, ticking, and canton flannel gloves and mittens

THE BOSS MANUFACTURING CO. Kewanee, Ill.



Trade Mark This Trade-mark identifies genuine Boss Work Gloves. Be sure it is on every pair you buy.



Low Farm Land Values Not a Thing of the Past

Why did farm land values during late war conditions increase from 200 to 400 per cent? Undoubtedly because of the high price of agricultural commodities, chiefly. Since in the main only the most productive of those lands situated in the vicinity of the larger centers of population and transportation facilities were wholly thus affected, good land at reasonable prices may still be had along the Nashville, Chattanooga & St. Louis Railway in Kentucky, Tennessee, Alabama and Georgia that will produce per acre, per year, from 4 to 6 tons alfalfa, 30 to 40 bushels wheat, 12 to 20 barrels corn, 80 to 100 bushels oats, clover, pea and other hays in proportion, and \$10 to \$20 per month per cow; and other lands that will produce profitable crops at from \$5 to \$20 per acre.

For descriptive literature address

L. P. BELLAH, General Agent, Dept. B, NASHVILLE, CHATTANOOGA & ST. LOUIS RAILWAY, NASHVILLE, TENNESSEE

10c to 25c a Day Pays For the Symphonola

Beautiful models in genuine Oak, Walnut, Mahogany—handsomely finished. Compare tone, construction, price, terms, with other higher priced phonographs. See the saving.

Over 2 Years' Time For the beautiful Period Model here shown, 18 mos.-2 yrs. on other popular models. Convenient monthly payments. Enjoy your Symphonola while paying.

Plays All Records Using steel needles, as Symphonola, Victor, Columbia, Emerson, without expensive extra attachments. Pathe or Edison Records played with sapphire or diamond point needles.

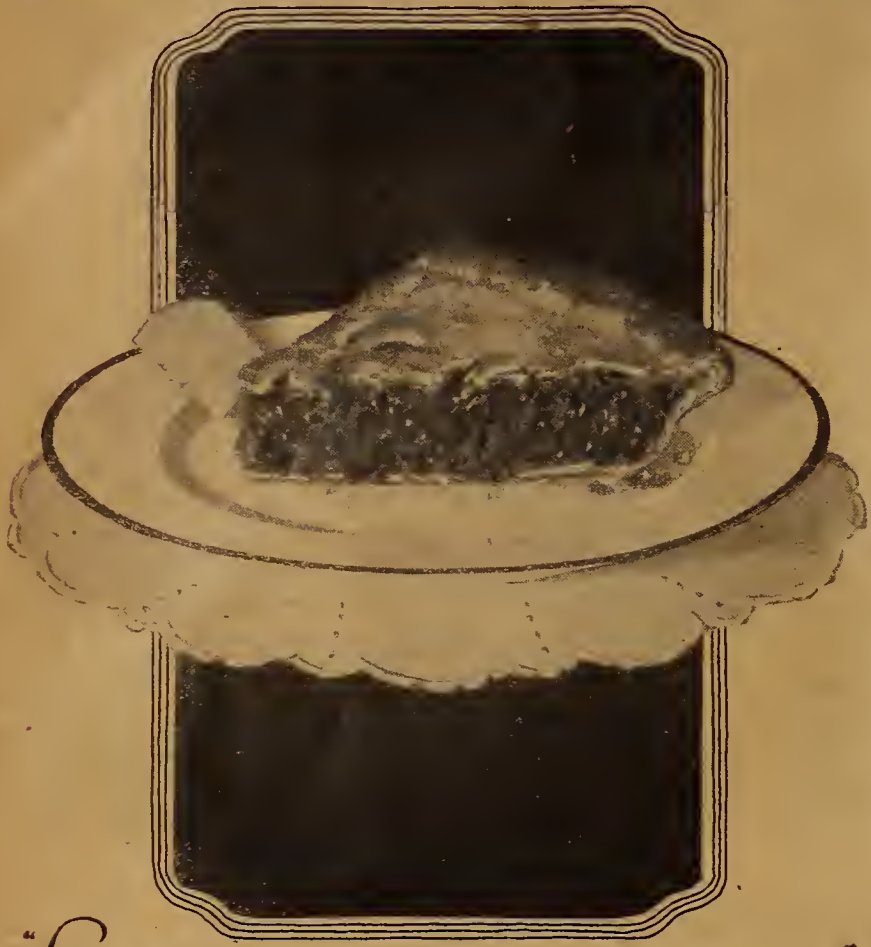
Records 70c Postpaid Symphonola Records playable on any phonograph. Contain best of music. Get our latest Record list, and save money.

Beautiful Book FREE Illustrates Symphonolas in natural colors. Full details, prices, terms, construction. A postal quickly brings it. Get your copy NOW—It's FREE.

Desk SFF-121 Larkin Co. Inc. Buffalo, N. Y.



NONE SUCH MINCE MEAT



Like mother used to make

Even in the days when housewives were forced to make their own mince meat at great expense of time and labor, mince pies were the great American dessert. Now that nine-tenths of the work of pie-making has been shifted from your kitchen into ours, American homes enjoy millions more mince pies than ever before.

There's nothing quite so good as a delicious, piping hot None Such Mince Pie baked in your own oven or by a good baker.

None Such Mince Meat made in our model kitchen of a wide variety of the choicest ingredients, sterilized and protected in every way, is the same wholesome mince meat that our forefathers enjoyed way back in Colonial days.

You add no sugar to None Such—the sugar is in it

*Thursday is None Such Mince Pie Day
and as such is observed nationally*

MERRELL SOULE SALES CORPORATION
NONE SUCH MINCE MEAT, Ltd.

Syracuse, N. Y.
Toronto, Canada



None Such Pudding—Break into small pieces one package of NONE SUCH Mince Meat, and dust lightly with flour; add one cupful suet chopped fine. Sift together one cupful flour and two table-spoonfuls brown sugar. Then use enough milk, about one cupful, to make a thick batter. Place in individual cups covered with greased or waxed paper. Bake slowly one hour or steam two hours. Steaming makes pudding lighter and more wholesome. Serve hot with sauce.



Better Farm Babies

AN OHIO mother of a Better Baby wrote, not long ago: "I'm 'rooting' with all my heart for the Sheppard-Towner bill for maternity aid, but if your letters could reach all women there would not be such a harrowing number of deaths and tales of suffering to be presented to Congress." Mrs. Caroline French Benton, counselor of the Better Babies Bureau, is sending out advice and cheer to hundreds of mothers and mothers in waiting all over the United States. You who have been members of the Circle or the Mothers' Club know that she answers many of the little perplexities that come up from day to day, and continues to guide you even after the baby has safely passed its first year of life.

But FARM AND FIRESIDE cannot possibly reach all of the women and babies who need to be safeguarded. We need also the protection for maternity and infancy which is provided in the Sheppard-Towner bill.

When this bill is passed, there will be consultation centers, medical and nursing care for mothers and infants, either at home or in a hospital, and personal instruction in hygiene and household arts.

Of course, the Sheppard-Towner bill has its opponents, but if it isn't passed at this session of Congress it can be introduced again. It's a bill that is needed, and when its true necessity is realized it will become a law.

I AM enclosing the 50 cents in stamps to cover the cost of sending me the second series of your splendid letters—the Mothers' Club letters. I am not sending the card you sent to me with the last of the other series, as it was left behind, at home, as my baby was born here in Seattle. I will give you the information that was requested on the card, as I remember it, and if it is not enough I'll gladly give what else is required. Baby was born on the third of the month, at the hospital. He weighed six pounds eleven ounces at birth. I believe that is all the information asked for.

I cannot begin to express my appreciation of the letters that came so promptly every month before our baby came. My husband and I read and reread them, and I loaned them to friends and recommended them often.

The Better Babies Bureau is indeed doing a mar-

velous service—no one realizes this more than I. I can never cease being thankful that I had them to refer to. It was all such an easy and delightful experience for me, and I feel the letters helped make it so.

We will soon be at home, and I will need the Bureau's help much more when I have complete charge of this wee man, so please send me the Mothers' Club letters from the start. Mrs. H. B. D., Washington.

EVER hear of an "unconscious picture?" It's one taken when the subject didn't expect it, and so wasn't watching for the birdie. We'd like to have some pictures of your Better Baby taken like that to show other FARM AND FIRESIDE readers.

I HAVE been receiving your good letters for five months now as a member of the Expectant Mothers' Club, and have enjoyed them so much. I still have two months of waiting for the little stranger to come, but felt that I must tell you how much I appreciate your good letters, and with what pleasure I look forward to their coming.

I have been very well all during the past months—have had none of even the small ailments to which some expectant mothers are subjected—and am hoping that all will go well in the future.

Allow me to thank you for your splendid letters of advice and encouragement, and to wish you all success in your splendid work for the betterment of mothers and babies. Mrs. M. E. L., Michigan.

YOUR letters which come to me every month are proving more of a help and comfort to me than anything I could imagine. I look forward to them from one month to the next, and each letter brings something which seems to be a direct answer to some one thing which I would like to ask. I don't believe a prospective mother could have a more personal help.

You may be sure you are receiving my most sincere thanks for each and every letter which you send. Mrs. W. T. L., Colo.

OUR Better Baby arrived September 22d. He is just plump enough, and so perfectly formed! He is so good too, I didn't know a baby could be so little trouble. We think he is perfect in every respect, and you would too.

I am enclosing the card to enroll him as a Better Baby, also 50 cents in stamps for the monthly letters.

I wish I could tell you how much your letters meant to me before baby's birth. Without them I would have been almost helpless, as I knew nothing of how to care for a baby. I shall always be thankful for them, and I recommend them to all mothers in waiting.

Mrs. E. L. Y., Ky.



Her first birthday cake

21 Letters About Your Baby And How You Can Get Them

THE EXPECTANT MOTHER'S CIRCLE: Any woman eligible may become a member, receiving each month a letter of advice on the care of herself and the preparation for her baby. Several practical little pamphlet circulars showing designs for maternity dresses and a common-sense layette are some of the helps sent with the letters. No matter at what period you enter, everything from the first month will be sent. No mention of the Better Babies Bureau is made on the envelopes in which the material is mailed. Enclose a self-addressed envelope with *Fifty Cents* in stamps, for postage, and state what month you expect your baby.

THE MOTHER'S CLUB: Every mother of young children is eligible. Pamphlets, together with monthly letters of instruction on the care and feeding of babies under one year of age (covering such subjects as colic, constipation, weaning, teething, etc.), will be sent to any mother who sends *Fifty Cents* in stamps and states the age of her baby. There are also leaflets giving diet lists, and other helps for babies from one year of age to three years. This literature is all included in the Mothers' Club's monthly service, but if the letters are not desired the additional literature will be sent for *Ten Cents*. A self-addressed stamped envelope will bring a prompt reply to every inquiry. Address all inquiries to

BETTER BABIES BUREAU

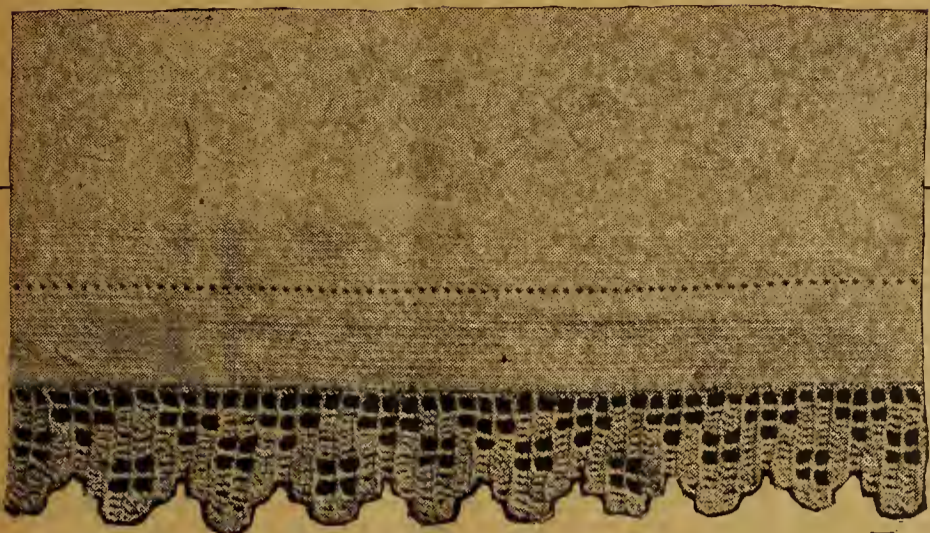
or to Mrs. Caroline French Benton, Counselor

FARM AND FIRESIDE

381 Fourth Avenue, New York City

A Filet Edge Easy to Make

By Ruth A. Bendure



Directions for making this dainty edge will be sent to you on receipt of four cents in stamps, by the Fancy-Work Editor, Farm and Fireside, Springfield, Ohio. Order No. FC-133.

About Things to Eat

Recipes Tested in Farm and Fireside's Kitchen

CAN you imagine anything much nicer than one of these hot chicken sandwiches after a cold drive or a day in the open?

Stew one fowl in an abundance of water until tender. Then cut the meat into bits with scissors or a knife. Grind the giblets, omitting the liver, and the skin in the food chopper. Add enough stock to the meat to make it moist, and season well with salt and pepper. Keep on the stove so it will be warm. Thicken the remaining stock, using three tablespoons of flour for two cups of stock. Boil the stock, and add salt and pepper to taste. Place a thin slice of bread on a plate, and put one heaping tablespoon of chicken on it. Cover with a thin slice of bread, and then place one or two tablespoons of gravy on top. One fowl will make fifteen sandwiches. They are fine for socials. MRS. NELL B. NICHOLS.

Mrs. Nichols has found these two uses for mincemeat especially good:

MAPLE CHARLOTTE

1 cup maple sugar	1/2 cup chopped nuts
2 tablespoons powdered gelatin	1/2 cup boiling water
2 eggs	2 cups milk
1 teaspoon vanilla extract	2 tablespoons sugar
	1/2 teaspoon orange extract

Grate the maple sugar, and dissolve in the hot water. Dissolve the gelatine in the milk. Place the gelatin and milk mixture on the stove; when it boils, add slowly to the egg yolks beaten with the sugar. Stir over the fire until it begins to thicken; then remove from fire, and stir in the stiffly beaten egg whites. Add the dissolved maple sugar, vanilla and orange extract, and the nuts, chopped. Pour into a wet mold, and turn out when firm. Serve with cream. H. H. LYMAN.

MINCEMEAT PUDDING

1 cup mincemeat	1 teaspoon baking powder
2 cups boiling water	1 teaspoon cinnamon
2 eggs	1 teaspoon lemon extract
4 tablespoons butter	1/2 teaspoon ginger
1 cup browned bread crumbs	1/4 teaspoon allspice
2 tablespoons sugar	

Break mincemeat into small pieces, and boil with the water for fifteen minutes. When this is cool, add the eggs, which have been beaten light, the butter, melted, the bread crumbs, and the other ingredients. Bake in a moderately hot oven one hour, or steam two and one-half hours. Serve hot with a sweet sauce.

MINCEMEAT CAKE

1 cup sugar	3 cups flour
8 tablespoons butter	2 teaspoons baking powder
2 eggs	1/2 teaspoon salt
1/2 cup molasses	1 teaspoon cinnamon
1 cup mincemeat	1 teaspoon vanilla
1 cup sweet milk	

Cream butter and sugar, add the eggs, beaten light, the molasses, milk, and the mincemeat, which has been broken into

very small pieces with a fork and sprinkled with a part of the flour, baking powder, and salt. Bake one hour in a moderate oven.

CRANBERRY WHIP

2 cups cranberries	1 1/2 cups sugar
4 cups water	3/4 cup farina

Boil the cranberries in the water until soft enough to mash and strain. Bring to a boil again, and add sugar; then stir in farina, stirring slowly. Place this mixture in a double boiler, and let it cook at least thirty minutes. When cool, whip with a spoon until it looks like strawberry ice cream. The more it is whipped the lighter in color it will be. Put in individual dessert dishes, and serve with cream.

BAKED HAM WITH CIDER

Select a ham of medium weight and fat, and wash well in cold water. Cover with cold water and soak for twenty-four hours; then take out of this water and place in the kettle and cover with fresh, sweet cider. Let come to boiling point, then simmer gently fifteen minutes to the pound, or until perfectly tender. Remove from kettle and carefully take off all the rind. Sprinkle lightly with brown sugar and add raisins and whole cloves one-half inch apart. Place in a baking pan, and cook in a moderate oven until nicely browned, basting with the cider from time to time. Garnish the platter with parsley, and cover the bone with curled lettuce leaf.

MAPLE CUP CUSTARD

1/4 pound maple sugar	3 tablespoons powdered sugar
2 tablespoons flour	1 cup milk
3 eggs	1/2 teaspoon vanilla

Grate the maple sugar, add it gradually to the yolks of the eggs, and beat until light. Moisten the flour with a little of the milk, add to the milk, and strain into the eggs and sugar. Pour the mixture into six custard cups or one large baking dish. Stand in a pan of water, and bake in an oven until the custard is set. Beat the whites of the eggs to a stiff froth, and add the powdered sugar. Cover custard with egg whites, and place in oven a few minutes to brown. H. H. LYMAN.

POPCORN CANDY

1 cup molasses or corn syrup	1 quart popped corn
	1 tablespoon vinegar

Boil the molasses or syrup with the vinegar until the mixture hardens when dropped in cold water. Pour over the freshly popped corn, and mold into balls of fancy shapes for the Christmas tree. Little popcorn men and women will please the children. Mark the features and outlines with melted chocolate.

EDITOR'S NOTE: All of the recipes used in FARM AND FIRESIDE are tested in our experimental kitchen by Mrs. Nell B. Nichols.



Raisins Are a Beauty Food

Due to Their Iron Content

—According to Authorities

RAISINS are one of the richest of all foods in assimilable iron, and it's iron in the blood that brings the pretty, rose-tint to women's and children's cheeks.

So raisins may be called "a beauty food." Served daily they promote the beauty that results from perfect health.

Use raisins in simple puddings, breakfast foods, cakes, cookies, custards and in scores of other dishes which need

only a dainty touch to make those dishes luscious.

Raisins add nutrition, too—supplying 1560 calories of energizing nutriment per pound. Ask for Sun-Maids if you want the finest raisins.

Made from tender, thin-skinned, juicy, California table grapes, kinds too delicate to ship long distances in fresh form. You'll always want these raisins if you try them once.

Have You Ever Tasted Gingerbread Like This?

1 cup SUN-MAID Seeded Raisins	1 teaspoon ginger (or to taste)
1 cup brown sugar	1 cup baking molasses
1/2 cup shortening	1 cup boiling water
3 cups flour	1 teaspoon cinnamon
	1 teaspoon baking soda

Put sugar, molasses and shortening into bowl, mix well, add water and baking soda, which has been dissolved in a little hot water; add ginger and cinnamon. Sift flour, add and beat well; last, add the well washed and dried raisins. Bake in Turk's head or brick pan, which has been lined with paper, in moderate oven 40 minutes.

SUN-MAID RAISINS

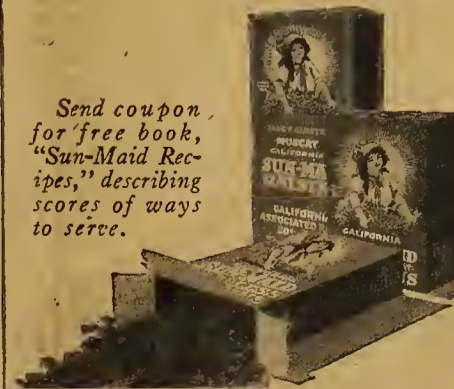
Three varieties: Sun-Maid Seeded (seeds removed); Sun-Maid Seedless (grown without seeds); Sun-Maid Clusters (on the stem).

Send for Free "Sun-Maid

Recipes"; contains suggestions for scores of delicious raisin foods. Send for it. It is free.

Learn what you can do with raisins.

CALIFORNIA ASSOCIATED RAISIN CO.
Membership 10,000 Growers
FRESNO, CALIFORNIA



Send coupon for free book, "Sun-Maid Recipes," describing scores of ways to serve.

California Associated Raisin Co.,
Dept. 50, Fresno, Calif.
Please send me, without charge, copy of "Sun-Maid Recipes."
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A Farm Woman's Tool Chest

By Madge Hueber

THE traditional woman who could not drive a nail without hitting her thumb, and who did not know the difference between a chisel and a screw driver, is no kin to the average farm woman of to-day. She is her own "handy man" on many a light job, and has learned that a screw in time will save a door hinge, and a nail in the loose board on the cellar stairs may prevent a bad fall.

One inheritance, however, has come down from the past; the old tradition no longer holds, but its baneful influence is still to be seen in the tools with which she accomplishes her results. She uses, not the carefully chosen, well-kept tools of her husband and brothers, but a collection of discards from the farm shop that have found their way into her "kitchen drawer."

One of the first and most important things the "handy woman" must learn before she can tackle the simplest job with confidence is that "tools make the workman," or at least a great part of his work. A tool chest of her own, fitted with carefully selected tools of modern design and dependable strength, will save their first cost many times over.

The minimum equipment for efficient work is contained in a household utility cabinet put out by a well-known firm. This is a box about

12 inches wide by 14 inches long, containing a hammer, saw, screw driver, drill, and a pair of combination pliers—the five most important tools in the carpenter's repair kit—and an assortment of nails, screws, etc., in the most useful sizes. This outfit is priced to-day at \$6.50, though present conditions make it likely to vary, and the tools are of fair quality. There are, however, two faults, to my mind, in this set: the size of the box limits the size of the saw (which should be from 15 to 18 inches long for practical use), and does not provide space for the new tools that will probably be added from time to time.

THE ideal household cabinet would be more like the one shown in the sketch—a wall case with sufficient space to hang a larger number of tools, for tools should hang each one in its place, and not be jumbled about in the bottom of a box. Such a tool case can be bought empty for about \$7 or \$8, but could probably be made by a carpenter for less, or, better still, could easily be evolved at home from a good box somewhere near the right size. My own tool case is a converted medicine chest about 24 inches high, 16 inches wide, and 6 inches deep. A small shelf near the bottom takes the place of the drawer for holding boxes of nails, screws, washers, etc.; nails are driven into the back and door—two for each tool at just the right distance to catch the bulge of the handle—and a block of wood with holes drilled through it is screwed to the floor to hold the drill bits.

The first equipment should include, besides the tools shown, sandpaper of various grades, a spool of wire, an oil can, a pot of carpenter's glue, a can of putty, and a three-foot folding rule.

Buying tools, however, is a passion that grows with their use, and the woman who owns the tool chest will soon find that she fairly needs others besides the tools listed here as necessities. A cabinet rasp—a kind of file—is invaluable for filing off the surplus wood when a drawer refuses to close or a door suddenly becomes too large for the doorway. For this class of work a broad chisel, too, is extremely useful, and a small plane is almost a necessity.

A reamer is a useful tool that supplants the drill on many kinds of work. It is used principally to enlarge old screw holes to take larger sized screws, and to start holes for nailing, both necessary operations to keep wood from splitting as nails or screws are driven in. A pair of wire-cutting pliers to bite off the projecting ends of nails and screws are a household convenience, they are so easy to use and so frequently useful. A steel try square is a valuable supplement to the folding rule; it simplifies measuring and marking, and makes it easy to do

accurate work. A pair of clamps—about 10 or 12 inches long—are necessary in repairing furniture or for holding anything that has been glued.

There is more even to amateur carpentry than just owning a good collection of the right kind of tools. There are tricks to all trades, to the carpenters as well as the cooks, and the right way is almost invariably the easiest way to work.

For instance, some people do not know that wood should never be lubricated by oiling. Oil feeds wood and makes it swell, consequently its use will make drawers, etc., stick instead of moving smoothly. Beeswax, paraffin, or common yellow laundry soap is the best lubricant for drawers or doors that stick. Wax or soap rubbed on a screw makes it easier to drive in, and makes it possible to use a slightly rusted screw without danger of its sticking or perhaps splitting the wood.

In driving screws, the carpenter drills a hole first with a drill slightly smaller than the screw he is going to use; if the screw hole is an old one, he may first enlarge it slightly with a reamer in order to enable it to take a screw of larger size. If the old hole is too large for the screw he wants to use, he plugs it with a piece of wood, driving the plug in with a hammer, and then pro-

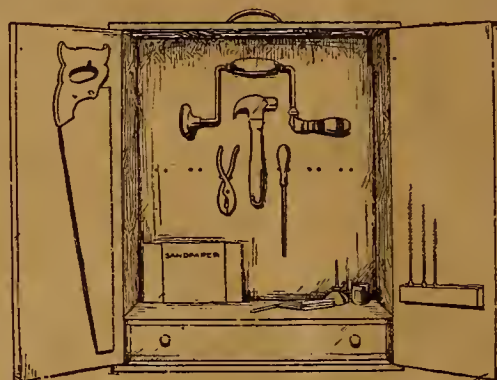
ceeds to drill or ream as for an entirely new screw hole. If the screw head is to be sunk level with the wood, the carpenter enlarges the top of the hole with a bradawl; in this case he fills the hole with putty, covering the screw head, and paints it to match the rest of the wood.

In making repairs of any kind it is well to remember that a screw is of infinitely more value than a nail; it holds more firmly, pulling the parts together, while a nail drives them apart. In any case, it is important that both nails and screws be driven in straight. A screw especially, if driven at an angle, is likely to split the wood, and will not go all the way in. Many amateur carpenters do not know the value, or the existence even, of mending plates, and the part they can be made to play in reinforcing and holding together old pieces of furniture. Mending plates are small flat steel pieces about one-half inch wide and almost any length, from one and one-half inches up. They have a screw hole in each end, and when screwed down firmly over a split in a piece of wood will draw the parts together and hold them as long as the wood will contain the screws. Angle irons are mending plates bent at right angles in the middle. They are special life savers to old chair arms that are breaking loose.

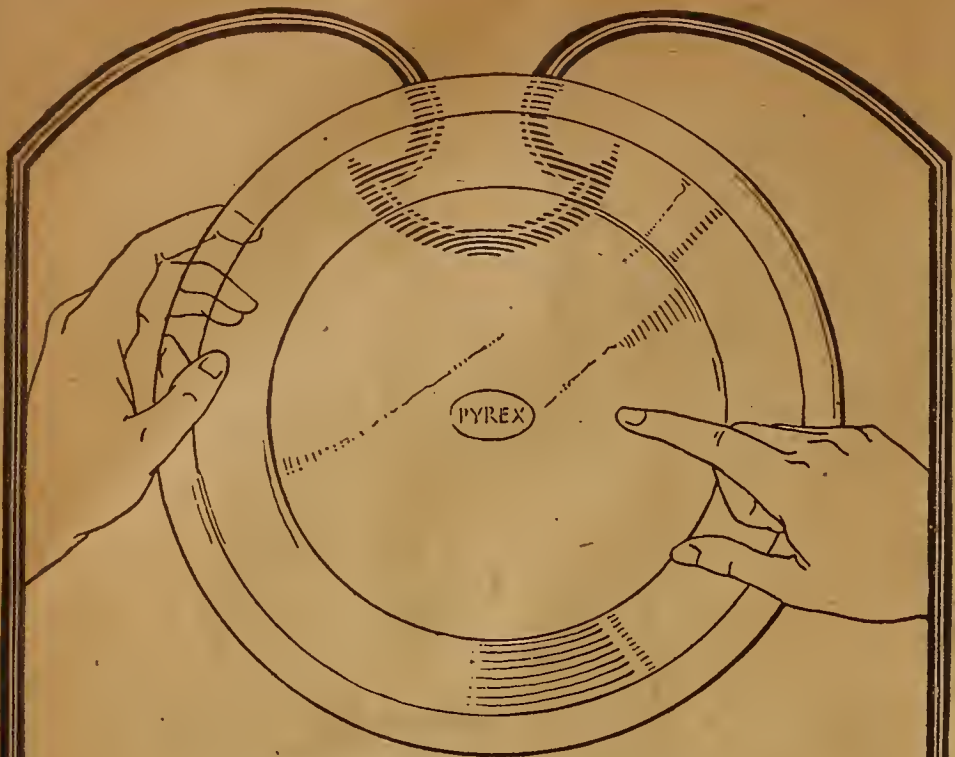
PERHAPS the most important advice the old carpenter could give the beginner would be on the care of the tools he uses. First of all, he would tell her—as we have remarked before—that her tools must never be thrown carelessly into a box to knock against each other and dull the edge of saws, chisels, etc. That is the great value of a hanging tool closet; it gives each tool a place into which it can be easily put. The second rule would be, never to put a tool to any use for which it was not designed. For instance, do not use screw drivers as chisels, or vice versa, and do not use chisels or screw drivers to open boxes, or as can openers. Never hammer with the wrench or pliers—in fact, do not use any tool for hammering except a hammer. Keep your tools sharp, if they should be so, and free from rust. An occasional rub with an oily rag will keep the rust away.

Use your tools carefully but with assurance, let your hammer swing freely, and look at the nail—not your fingers. When you saw, use the whole saw, not just a few teeth in the center of the blade.

In a word, do not have more tools than you need, but try to have all that you need, take care of them, and learn to handle them intelligently. You will find amateur carpentry a sport rather than a chore, and your tool chest as good an investment as your sewing machine or fireless cooker, and will never want to be without it again.



A chest of tools like this will meet your simpler needs



What Pyrex Means

PYREX is the original transparent ovenware that created visible cookery. You watch your baking bake in Pyrex—the sides and bottom as well as the top. You bake and serve in the same golden-hued, easily-cleaned Pyrex dish—saving yourself pan scouring and extra pan cleaning.

Foods ordinarily cooked on top of the stove are better when baked in Pyrex—they are cooked evenly and thoroughly through and through.

PYREX

TRANSPARENT OVEN DISHES

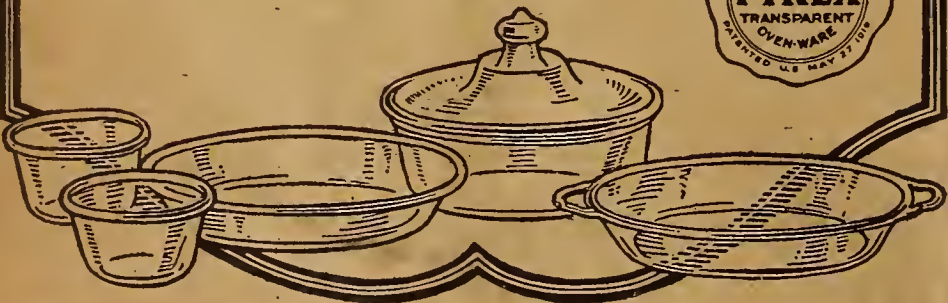
Bake Everything Better

Pyrex is used everywhere for baking purposes. Pyrex does not chip, discolor, nor wear out. Genuine Pyrex is guaranteed against breakage from oven heat. Any Pyrex dealer is authorized to replace any piece of Pyrex that breaks in actual use in the oven.

Pyrex is the original transparent ovenware. Always look for the Pyrex label—and the name Pyrex stamped on each piece.

You don't have to go to the city for Pyrex. Your own storekeeper has Pyrex or can get it for you.

Pyrex Sales Division
CORNING GLASS WORKS
World's Largest Makers of Technical Glass
675 TIOGA AVENUE CORNING, N. Y.



MEN WANTED

The Million Dollar School
Sweeney
AUTOMOBILE TRACTOR SCHOOL
KANSAS CITY, MISSOURI

Mechanically Inclined
—to send for my big illustrated **FREE!** 72-PAGE BOOK—

It tells how in a few weeks you can earn from \$150 to \$400 a month in the Auto and Tractor business.

Be Your Own Boss. At small cost learn to be an expert mechanic by the Sweeney System of working on real cars.

Use tools not books. Simply send your name and address today, a post card will do, for our Free book and 27 photographic reproductions of machine shop work, etc. **Let's Go—Write Now!**

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You want your children to read good books. But to select the best is difficult. For thousands of parents

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P. F. Collier & Son Company, Dept. F2
416 West 13th Street New York City

Farm Bulletins You Might Find Useful

THE following bulletins have been carefully selected as being the most practical, from the large list issued by the Department of Agriculture. They apply to problems of the month, and can be obtained free, excepting those marked, by checking the ones you want and mailing this list to the Division of Publications, U. S. Department of Agriculture, Washington, D. C.

Monthly List of Publications. This circular is issued monthly, and describes all the publications of the Department of Agriculture. It will be sent regularly to all who ask for it.

The Farm Lease Contract. Farmers' Bulletin 1164. If you are either a tenant or a landlord it will be worth your while to read this bulletin. It gives valuable information about the best kinds of farm leases.

Farm Bookkeeping. Farmers' Bulletin 511. An outline of the principles of bookkeeping as applied to the farming business.

Planning the Farmstead. Farmers' Bulletin 1132. Tells how to arrange field and buildings so as to save time and labor. Applies to Middle Western conditions.

Selection and Care of Poultry Breeding Stock. Farmers' Bulletin 1116. Valuable information told in simple language for the beginner in poultry, with especial references to members of boys' and girls' Poultry Clubs.

Common Poultry Diseases. Farmers' Bulletin 1114. Like the one above, this is intended for the beginner. A more complete bulletin on the same subject is Farmers' Bulletin 957.

Forestry Lessons on Home Woodlands. Bulletin 863. This gives the most practical methods for the handling of the home wood lot. Price, 15 cents.

Tuberculosis in Livestock. Farmers' Bulletin 1069. Practical information on how to detect, control, and eradicate the white plague in farm animals.

Effect of Winter Rations on Pasture Gains of Yearling Steers. Bulletin 870. Gives important and interesting results obtained on a West Virginia farm. Price 5 cents.

Citrus Fruit Growing in the Gulf States. Farmers' Bulletin 1122. Contains information on chief problems confronting the prospective citrus fruit grower in the Gulf States.

Squab Raising. Farmers' Bulletin 684. Practical information for the youth or grown-up who wants to enter this profitable business as a side line.



To our Friends on the Farm

FOR 8 cents and the Coupon below, we will send you a package containing generous sample tubes of Colgate's Ribbon Dental Cream and Charmis Cold Cream; and a sample box of Florient Talc.

This package makes a useful gift for mother, wife, sweetheart, or sister. The 8 cents is merely to pay the cost of postage and wrapping.

For the Teeth

Colgate's is recommended by more dentists than any other dentifrice. It contains no harmful acids; it is safe and thorough, and delicious.

For Exquisite Perfume

Florient Talc (Flowers of the Orient) is notable for its velvety

smoothness and delicate fragrance. Notice the color. Florient Talc has a novel color, just off the white, which adds to the pleasure of its use.

For Fair Skins

Charmis Cold Cream, exquisitely perfumed, cleanses and beautifies the skin. Any woman will appreciate its soothing effect after her face has been exposed to raw winds.



COLGATE'S

His Home Orchard Pays

"THREE years ago, spraying looked difficult to me," says Fred Haschel, Jr., a Pulaski County, Indiana, farmer, "but now it is as easy as falling off a log. Then I believed the fellows who said that disease- and worm-free apples couldn't be raised around here. Now I know better. My little orchard was sprayed only twice; but, even at that, my apples were not wormy, while unsprayed trees in the neighborhood yielded nothing but gnarled, scabby fruit."

In Haschel's home orchard there are 18 apple trees of bearing age and 10 young not bearing, making a total of 28 trees that were pruned and sprayed. At the very outside, this orchard does not exceed a quarter of an acre of land.

In spraying, there were used: Lime-sulphur, 15 gallons, \$3.15; arsenate of lead, 6 pounds, \$2.64; "Black Leaf 40," 1 pound, \$2.50.

The barrel sprayer which was used cost originally \$22, and, figuring that it will last five years—it has lasted three already without visible signs of wear—the yearly depreciation cost would be \$4.40.

The labor put on the orchard is as follows: First spray, two men and one horse working six hours. Second spray, two men and one horse working six hours.

The total labor cost of spraying, trimming, and other work was 54 man hours and 12 horse hours, which, calculated at actual cost, makes a total labor cost of \$20.70. Adding to this the costs of material and depreciation, we have a total of \$33.39.

The products of the 18 bearing trees, were as follows: Apples actually sold, \$102.10; given away, 5 bushels; reserved for home use, 37 bushels.

Haschel says: "Of course, it paid me mighty well in dollars and cents to spray, but the 37 bushels in the cellar were really the prizes which came from taking care of the trees. We really never had enough apples to eat before."

I. J. MATHEWS, Indiana.

12 Months to Pay
Enjoy your 1921 "Ranger" at once. Earn money for the small monthly payments on Our Easy Payment Plan. Parents often advance first small payment to help their boys along.
FACTORY TO RIDER wholesale prices. Three big model factories, 44 Styles, colors and sizes in our famous Ranger line.
DELIVERED FREE, express prepaid, FOR 30 DAYS' TRIAL. Select bicycle and terms that suit—cash or easy payments.
lamps, horns, wheels, parts and equipment at half retail prices.
SEND NO MONEY—Simply write today for big FREE Ranger Catalog and marvelous prices and terms.
Mead Cycle Company Special Offer to Rider Agent
Dept. W-21 Chicago

WHITE FLAME
BURNERS make your old kerosene lamps and lanterns give a brilliant white light better than electricity or gas. Double the light. Saves oil. NO MANTLE TO BREAK. Guaranteed Safe and Reliable. Delights every user. Send now for complete sample postpaid 50 cents, stamps or coin, 3 for \$1.25. MONEY BACK IF NOT SATISFACTORY.
Live Representatives Wanted. Exclusive Territory. White Flame Light Co., 87 Clark Bldg., Grand Rapids, Mich.

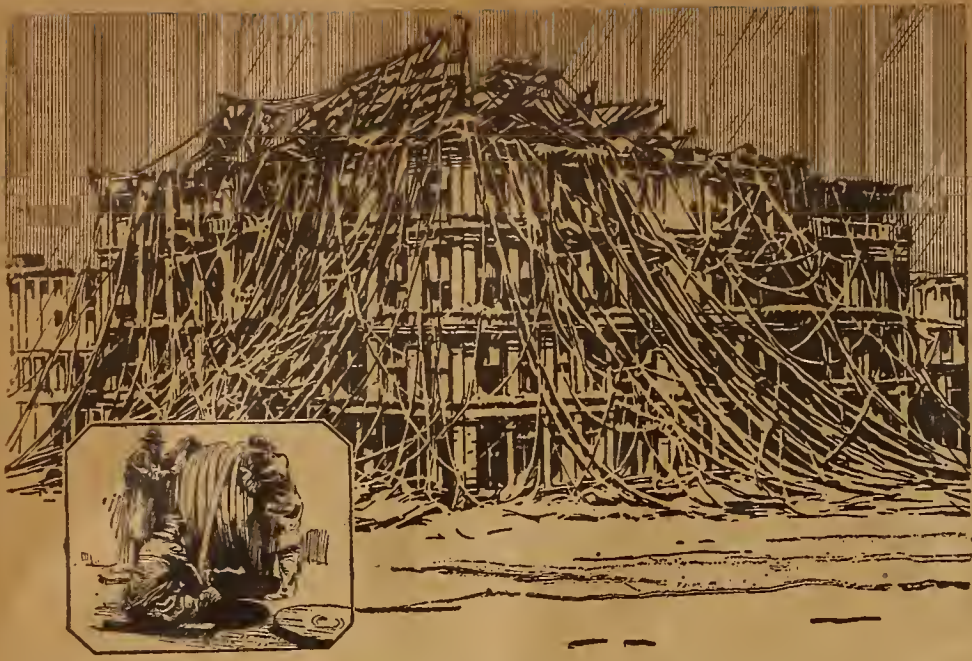
AGENTS: \$72 A WEEK

New Can't Clog Coal-Oil Burner Newest Invention
Most perfect burner ever invented. Intense blue flame. Can't clog up. Turns any coal or wood stove into a gas stove. Heats oven to baking point in 10 minutes. Cheapest fuel known. Low priced. Sells everywhere. Nothing else like it. Not sold in stores. Write quick for agency.
PARKER MFG. CO., 526 Coal St., Dayton, Ohio

Sales Agents wanted in every county to give all or spare time. Positions worth \$750 to \$1,500 yearly. We train the inexperienced. Novelty Cutlery Co., 152 Bar St., Canton, Ohio

MENDETS—WONDER MONEY MAKERS
mend leaks instantly in all otensils, hot water bags, etc. Insert and tighten. 10c and 25c a package, postpaid. Agents Wanted. Collette Mfg. Co., Box 704, Amsterdam, N.Y.

TWICE THE HEAT Without Coal or Wood
INSTANT-GAS Makes Gas in Any Stove
No more coal or wood required. No more kindling and ashes. No dirt to sweep up. No more building of fires, poking, shoveling, fussing with dampers, and working like a slave merely to heat your home and cook your meals. Put the Instant-Gas in your old coal or wood stove. Start your fires with a turn of your wrist, turn high or low to suit, and stop with another turn of your wrist.
HAVE JUST THE HEAT YOU WANT at all times. If required, twice as much as coal or wood can ever give. Heat stays where you want it. No ups and downs to make life miserable and give the family colds. Heats every nook and corner of your home on the coldest winter day. Cooks and bakes better. You regulate oven and cooking exactly as you wish.
FITS ANY COAL OR WOOD STOVE Different models for different stoves. Just set it in firebox. Anyone can do it. Put in or taken out in ten minutes. No damage to stove. Simple, safe, lasts for years. Makes an old stove like new, makes new stove last twice as long. Strong money back guarantee.
AGENTS A Winner—Working spare time, Kapinos sold three in two hours. Many others making big money. Let the high price of coal make money for you. Write for agency and sample.
SAVE MONEY The Instant-Gas Oil Burner makes its own gas from kerosene (coal oil) at one sixth the cost of city gas. Much cheaper than coal or wood. Burns 95% air. Much better than city gas because burned out air goes up the flue. Doctors recommend it. Absolutely no odor. No dust and dirt to carry germs and ruin the wall paper, rugs, curtains and clothing. Pays for itself in short time. Greatest woman-saver in the world.
30 DAY TRIAL The Instant-Gas Oil Burner is absolutely new and up-to-date. Already giving satisfaction to thousands of users. Free literature tells all about it and tells how Uncle Sam burns oil. Write today for special low price offer.
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The Contributions of Science

The greatest material benefits the world has received have come from the laboratories of the scientists. They create the means for accomplishing the seemingly impossible.

Science, after years of labor, produced the telephone. From a feeble instrument capable of carrying speech but a few feet, science continued its work until now the telephone-voice may be heard across the continent.

In February of 1881 a blizzard swept the city of Boston, tearing from the roof of the Bell telephone building a vast net-work of 2,400 wires. It

was the worst wire disaster the Company had sustained.

Now through the advance of science that number of wires would be carried in a single underground cable no larger than a man's wrist.

As the fruit of the effort of science greater safety and greater savings in time, money and materials are constantly resulting.

And never before as now, the scientist is helping us solve our great problems of providing Telephone service that meets the increased demands with greater speed and greater certainty.



AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES
One Policy One System Universal Service
And all directed toward Better Service

BOYS—You can easily earn this HAMILTON .22 RIFLE

The HAMILTON

is a wonderful rifle for hunting small game or for target practice. Shoots .22 long or short and shoots them straight. Barrel is made of blue steel. Easily "taken down" by loosening a single screw. Walnut stock and forearm. Automatic shell-ejector is a great convenience because it kicks out the empty shell in a jiffy. If you want a rifle like this, clip and mail the coupon below to-day. I will send you by return mail complete details of our plan, which has already enabled hundreds of other boys to earn rifles and become full-fledged members in Dan Boone's Rifle Club—a new National Shooting Club for boys.

It's an Honor to Be a Member

Because Dan Boone's Rifle Club stands for manliness, self-control, and expert marksmanship. You get the Dan Boone pin free. You get the bull's-eye-hitting rifle free and the privilege to compete in the big National Shoots and win handsome bronze medals for excellence in shooting—Marksman, Sharpshooter, and Expert Rifleman. All this will be yours without one cent of cost to you. So write to-day. Be the first Dan Boone member in your neighborhood. You can do it. Any real American boy can.

DAVID BLAIR, National Secretary,
Dan Boone's Rifle Club,
Dept. 101, Springfield, Ohio.

Dear Mr. Blair: Please tell me how to earn the Hamilton and join Dan Boone's Rifle Club.

Name _____
Box No. _____
or R. F. D. No. _____
P. O. _____ State _____

Mail
Coupon
To-day

—also a full membership in DAN BOONE'S RIFLE CLUB

A Bad-Manners Social

By Emily Rose Burt

THE jolliest party of the year in one community was a Bad-Manners Social which a small club in a small town managed. The invitations read thus:

Whatever etiquette laws exclude,
Because apparently it's rude,
That very word or deed you're bidden
To carry out, and, quite unchidden,
Be anything except polite,
When at our party Friday night!

Upon entering, some of the guests be-thought themselves to push hastily by the hostess without a greeting. The hostess for her part, instead of saying that she was glad to see her guests, was heard to mutter:

"So sorry you could come."
"How unbecoming that gown is."
"You look as cross as ever, Marie."

Throughout the evening everybody did as the spirit moved. The hostess was discovered reading in a corner of the living-room, some of the guests sang, and nobody stopped talking especially to listen.

However, to help along the fun, there were a few appropriate games and contests. A committee of judges was first appointed. A prize went to the person who could make up the worst face. Another went to the person whose yawn measured most.

A game that caused a lot of fun was called "You Have a Face." Everybody sat down so that all were more or less grouped in a circle. The person who started it, turning to his or her right hand neighbor, said, "You have a face." The neighbor replied, "What kind of a face?" Thereupon the first speaker returned, "An astonishing face, an angelic face, an algebraic face, an awkward face." In fact, so long as an adjective beginning with *a* is used it matters not what it is. The more unusual or uncomplimentary the adjective, the more amusing the game turns out.

The person addressed then turned to his right-hand neighbor and informed him that he "had a face," and so on around the circle, using an *a* adjective. The faster and snappier the answers, the livelier the game, of course. After *a* came *b*, *c*, *d*, etc. Various letters of the alphabet can be selected.

NEXT came a Polly Prim contest. All were allowed a few moments to think up the primmest remark each could imagine, when they lined up in front of the judges, put on the proper expression, and repeated the remark. Some mouths were so puckered from laughing they couldn't be shaped.

A prying contest came in naturally enough, for prying is certainly on the black list of good manners. This contest was a "manners hunt." Every "manner" anybody found was counted on his or her score. Hidden under cushions, in vases, and behind pictures were slips of paper bearing such inscriptions as:

"Take off hat to lady."
"Say please when you ask for something."
"Rise when a lady enters."

When the prying was over, the person who had discovered the most "manners" was given a packet wrapped in pink, and mentioned as "a pink tea." But that wasn't all. The holders of the "manners" slips were asked to illustrate them in person. It was indeed entertaining to see a girl gallantly tipping an imaginary hat, or a man daintily poisoning imaginary sugar

tongs and asking coyly, "One lump or two?" Several clever essays—parodies on etiquette—were read aloud, and afterward the book, bound as it was in rough boards, was presented to the rudest listener.

Everybody in turn was asked to mention the article of food that he or she considered hardest to manage neatly and cleverly at the table. Among those nominated were: Artichokes, plums, green corn, watermelon, club sandwiches.

At supper the lack of manners took on such flagrancy as resting elbows on the table, interrupting, beginning to eat regardless of the hostess. Snatches of song were not frowned down, and there was a strong tendency to eat with the knife. Such proceedings, of course, could be carried too far, but they need not be, and were not at this party.

THE menu consisted of creamed chicken, hot rolls, ripe olives, prune whip, little chocolate cup cakes, and lady fingers. As the hostess said, "You may eat the pudding with your fingers," everybody also thought of prunes and prisms at the same time the "whip" appeared.

The leave-taking was on the order of the arrival, and there was plenty of hilarity as some of the guests slid by the hostess without looking in her direction to say good night. When anyone did shake hands and have a manner or two about bidding the hostess adieu, the remark was likely to be: "Good-by! I've had a perfectly horrid time."

"Good night! I'm glad I'm going—such a dull evening."

Such remarks were entirely belied, however, by the happy voices and faces of the departing guests.

NOTE: A program suitable for a "Bad-Manners Social" will gladly be sent on receipt of a stamped self-addressed envelope. Address—Entertainment Editor, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

POPCORN AND NUT CRISP

1 cup sugar	2 teaspoons butter
1/2 cup corn syrup	3 quarts popcorn
1/2 cup water	1/4 teaspoon salt
1/4 cup dark molasses	1 cup shelled peanuts

Cook the sugar, corn syrup, and water until it forms a soft ball when dropped in cold water. Then add the butter and salt, stirring constantly. When the mixture becomes very brittle in cold water, pour it over the popped corn and peanuts, stirring constantly, so all the corn and nuts will be coated. Spread out on a buttered platter, so it can be broken apart when cool.

TAPIOCA ICE

1 cup instant tapioca	1 cup honey
2 cups cold water	1 egg white
	2 cups shredded pineapple

Cook tapioca five minutes in cold water; then add honey, and cook in a double boiler until it thickens. Pour over the pineapple and stir well, adding the white of an egg, beaten stiffly. Pour into dessert glasses, and serve very cold.

NOTE: These recipes have been tested by Mrs. Nichols in FARM AND FIRESIDE'S Experimental Kitchen.



Some of the guests sang, but nobody bothered to listen

Be Careful What You Wash Your Hair With



MABEL NORMAND

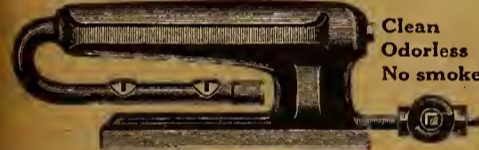
"I never knew a shampoo could be so delightful." Most soaps and prepared shampoos contain too much alkali, which is very injurious, as it dries the scalp and makes the hair brittle.

The best thing to use is Mulsified coconut oil shampoo, for this is pure and entirely greaseless. It's very cheap and beats anything else all to pieces. You can get Mulsified at any drug store, and a few ounces will last the whole family for months.

Simply moisten the hair with water and rub it in, about a teaspoonful is all that is required. It makes an abundance of rich, creamy lather, cleanses thoroughly, and rinses out easily. The hair dries quickly and evenly, and is soft, fresh looking, bright, fluffy, wavy, and easy to handle. Besides, it loosens and takes out every particle of dust, dirt and dandruff. Be sure your druggist gives you Mulsified.

AGENTS: \$60 a Week

taking orders for Kerogas Burner—fits any stove. Burns kerosene (coal oil), cheapest fuel known. Quickly lighted; turns off by valve.



Clean
Odorless
No smoke

Easy to get orders on account of high price and scarcity of coal. Work spare time or full time. Write for sample. Thomas Mfg. Co. B 546 Dayton, Ohio

TELL TOMORROW'S WEATHER

White's Weather Prophet forecasts the weather 8 to 24 hours in advance. Not a toy but a scientifically constructed instrument working automatically. Handsome, reliable and everlasting.

An Ideal Present
Made doubly interesting by the little figures of Hansel and Gretel and the Witch, who come in and out to tell you what the weather will be. Size 6 1/2 x 7 1/2, fully guaranteed. Postpaid to any address in U. S. or Canada on receipt of \$1.25

Agents Wanted
David White, Dept. 15, 419 E. Water St., Milwaukee, Wis.

Dont Send 1 Penny

Just send your name and address, size and color and I will send this sweater to you. You don't pay one penny until it is delivered to your door by the postman.

Army Navy
For Men and Women
This is a real heavy winter sweater, made of heavy mixed merino yarn. Slip-over style with V neck and full length sleeves. Just like picture. Will give excellent wear. Sizes to fit Ladies or Men 34 to 46. Colors, khaki or navy blue.

\$4.50 Reduced to \$1.98

No one has ever reduced price to this extent. It is the highest money-saving bargain ever offered. We will sell only two to a customer and will not sell to merchants or wholesalers.

Delivery Free Just send your name and address, no money. When the sweater is delivered at your door by the postman, pay him \$1.98 for the sweater. We have paid the delivery charges. Wear it. If you don't find it all you expect, return it and we will cheerfully refund your money at once. Order by No. 72

Dept. Z-1046
Walter Field Co. 318 S. Michigan Ave., Chicago



An Ice House You Can Build

EACH year we appreciate more and more the value of ice on our farm. Sometimes I wonder that more general attention is not given to the ice crop. For ice is a crop after all, and a very valuable one too.

There is no one who can use ice to such good advantage as the farmer. All perishable products must be kept for a longer time than in the city, where there are stores to depend upon. And the cellar is not always as clean and sweet a place to keep meat, butter, and fruits as it should be. Consider the possibilities that lie before the farmer who has a small cold-storage plant to enable him to hold his milk, fruit, and vegetables until market prices improve, and we realize better just how valuable ice can become.

I believe many of us can profitably use ice to a far greater extent than we do, and when we put so much labor into harvesting it a little more trouble expended in keeping it is well worth while. A suitable ice house will save half the ice you are accustomed to putting in a shed that has poor insulation.

There are two or three weak points in general ice-house construction. The first is a poor foundation, preventing good drainage. The second is the kind of a roof which absorbs the sun's heat so that the inside of the house becomes like an oven. While there is usually little choice allowed in the selection of a site, there are certain precautions which should be taken.

If a site chosen be on a slight elevation, drainage will give no trouble; otherwise provisions for the drainage of water from the melting ice must be made. In building the floor, which can be placed on stone or cement walls, or on cedar posts set in the ground two or three feet, excavate at least one foot below the sills, and fill the whole of the inside between sills with cobbles or very coarse gravel, smoothing off the surface with fine gravel or cinders.

If the digging shows a clay soil, a drain should be put in to carry off surplus moisture. Scantlings can be bedded in the fine gravel on which to lay the floor of inexpensive lumber, placing the boards one foot apart, in order to permit the water to escape readily.

IT TAKES, on an average, from 40 to 45 cubic feet to hold a ton of ice. A building 12 by 16 feet, 12 feet high, will hold about 45 tons of well-packed ice. For a house of this size use 3x12-inch plank for sills, and for uprights use 2x6-inch scantling 12 feet long, placed two feet apart. On the top, spike 2x6-inch scantling doubled for plates. On the outside of the house nail sheathing of common lumber. On this tack a double thickness of building paper, then 1x2-inch strips, 12 feet long. Over this lay a double thickness of building paper, and finish with matched siding. This gives a hollow space of dead air of one inch to prevent heat of the sun from penetrating to inside lining. Care must be used to see that the space is well cut off at top and bottom.

On the inside, nail sheathing, filling the hollow space with cinders, shavings, or sawdust. Over this sheathing nail a double thickness of building paper, on which again to nail one inch strips, and over this sheathing, thus making two dead air spaces of one inch each, and one six-inch space filled with a good insulating material. For the roof, use shingles or best grade of rubber roofing, and filling in between the roof and ceiling with sawdust or cinders. Put a ventilator in the center, made so that it can be closed inside if desired. Paint the building white, to reflect the heat and help to keep the building cool.

On the north side of another building is a good place for the ice house, or even on the north hillside, or in the shade of some trees.

An ice house of this kind will be as good an investment as you have on the farm, provided you have a pond or river close from which to fill it.

R. B. RUSHING, Illinois.

NOTE: Other good ice houses can be constructed of hollow tile or concrete. For further information about ice houses or any other farm buildings write to our farm engineer. Address, F. W. Ives, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.



How Pretty Teeth are ruined during sleep

When you retire with a film on your teeth, it may all night long do damage.

Film is that viscous coat you feel. It clings to teeth, gets between the teeth and stays. The tooth brush does not remove it all.

That film causes most tooth troubles. So millions find that well-brushed teeth discolor and decay.

How film destroys

Film absorbs stains and makes the teeth look dingy. It is the basis of tartar. It holds food substance which ferments and forms acid. It holds the acid in

contact with the teeth to cause decay.

Millions of germs breed in it. They, with tartar, are the chief cause of pyorrhea.

Few escape its damage. So dental science has for years been seeking a film combatant.

New methods found

Now ways have been found to fight film and film effects. Able authorities have proved them. The ways are combined in a dentifrice called Pepsodent. Leading dentists everywhere advise it. And millions of people every day enjoy its benefits.

Watch it for ten days

This offers you a 10-Day Tube. Get it and watch its effects.

Each use of Pepsodent brings five desired effects. The film is attacked in two efficient ways.

It multiplies the salivary flow. It multiplies the starch digestant in the saliva, to digest starch deposits that cling. It multiplies the alkalinity of the saliva, to neutralize the acids which cause tooth decay.

It also keeps teeth so highly polished that film cannot easily adhere.

These five effects, attained twice daily, have brought to millions a new era in teeth cleaning.

Send the coupon for the 10-Day Tube. Note how clean the teeth feel after using. Mark the absence of the viscous film. See how teeth whiten as the film-coat disappears.

Judge by what you see and feel. Our book will tell the reasons. This is too important to neglect. Cut out the coupon now.



The New-Day Dentifrice

A scientific film combatant combined with two other modern requisites. Now advised by leading dentists everywhere and supplied by all druggists in large tubes.

10-Day Tube Free

THE PEPSODENT COMPANY,
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Mail 10-Day Tube of Pepsodent to

Only one tube to a family

What a Dime Will bring You From the Nation's Capital

The little matter of 10 cts. will bring you the Pathfinder eight weeks on trial. The Pathfinder is an illustrated weekly, published at the Nation's center, for all the Nation; an independent home paper that prints all the news of the world and tells the truth; now in its 28th year. This paper fills the bill without emptying the purse; it costs but \$1 a year. If you want to keep posted on what is going on in the world, at the least expense of time or money, this is your means. If you want a paper in your home which is sincere, reliable, entertaining, wholesome, the Pathfinder is yours. If you would appreciate a paper which puts everything clearly, strongly, briefly—here it is. Send 10c to show that you might like such a paper, and we will send the Pathfinder on probation eight weeks. The 10c does not repay us, but we are glad to invest in new friends. Address: THE PATHFINDER, 299 Langdon St., Washington, D. C.

Ro-San Rolling Bath Tub With Heater

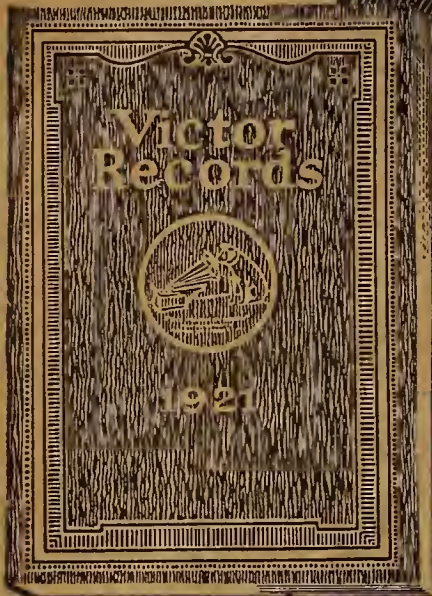
Full size white enamel tub, nicked 12-gal. tank. Closes up in space 3 ft. square. On casters—roll it anywhere. Heater attachment for kerosene, gasoline or gas. Water heats quickly, waste drains through hose attached to temporary or permanent outlet. Simple. Guaranteed. Write for catalog and price. Rowe Sanitary Mfg. Co. 139 Rowe Bldg. Detroit, Mich.

Ask about Ro-San Indoor Closets and Washstands. No Plumbing Required.

30 DAYS TRIAL

The world's best guide book to the enjoyment of music

Entertaining
Instructive
Convenient



Are you familiar with the story of the opera of Rigoletto? Of Faust? Of Pagliacci?

Do you know the national airs of Denmark and China?

Do you know which Kipling ballads have been set to music?

Did you know that Chopin was pronounced a genius at eight years of age?

Information on all these subjects is to be found within the 510 pages of the Victor Record catalog. It presents in alphabetical order, cross indexed, the thousands of Victor Records which comprise the greatest library of music in all the world. But besides that it abounds with interesting information which adds greatly to your enjoyment of all music. It is a book every music-lover will want, and there is a copy for you at your Victor dealer's. Or write to us and we will gladly mail a copy to you.



Victor Talking Machine Co., Camden, N. J.

10 Cents
WORTH OF COMMON ORDINARY KEROSENE or Coal Oil will keep this lamp in operation for 30 HOURS and will produce **300 CANDLE POWER** of the purest, whitest and best light known to science. Nothing to wear out or get out of order. Simple. Safe. Absolute satisfaction guaranteed. Send for catalog showing lamps for every purpose; also special introductory offer and agency proposition. Write today.

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Men or Women can make big money. Heat sold over \$500 a month. You will find this a big, easy seller and a sure repeater. Must satisfy customers or money back. Write for territory and sample outfit. Get a big line of customers. Get repeat orders every month and have a steady income. Write quick.

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Bloom from Bulbs for Winter Days

By F. F. Rockwell

Corresponding Editor Farm and Fireside



Chinese lilies

FOR a good many winters, in addition to the geraniums and other house plants which make up our window garden, we have had quite a variety of winter-blooming bulbs.

We get these ready in early fall, and then force them as we want them, from December to April. Our friends often wonder how we have so many flowers, and almost doubt our word when we tell them how easy it is to grow them. In fact, all the work can be done in a few hours in the fall, and then they can be used as wanted, the process being almost as simple as taking canned vegetables off the cellar shelves. Neither is it an expensive undertaking. It's surprising what a fine showing a few dozen bulbs will make.

The bulbs used indoors are the same that flower out of doors in early spring. Tulips, daffodils, narcissi, hyacinths, and crocuses are the favorites. However, not all varieties are adaptable for inside blooming. Your florist or seedsman will tell you the kind to plant.

IN ADDITION, we always grow some freesias and oxalis. These flower prettily in winter, and are very little trouble, as they do not require any preliminary storing. The oxalis is especially attractive in a window hanging basket.

The first step after buying the bulbs is to get the proper receptacles for them. Ordinary flower pots will do, but bulb pans are much better. These are not expensive, and will last a good many years. They are like very shallow flower pots.

We have found another successful container to be a small wooden box about seven inches wide, fifteen inches long, and five inches deep. We made holders for these boxes out of wood and copper so that the boxes will just fit into them. These hold more bulbs than the flower pots or bulb pans, and they can be stored away in a small space. Drainage holes are bored in the bottom of each box. Two iron crosspieces hold the box off the bottom so that surplus water can drain off readily.

We prepare the soil for the bulbs by mixing the richest garden dirt about two parts to one, with well-rotted manure which has been rubbed through a coarse screen. This makes a light, spongy mixture which holds moisture but will not pack hard around the bulbs. The screenings from the dirt and manure are put in the bottom of the bulb pans to assist drainage. We fill the pots to within two inches of the top, and then plant the bulbs an inch or so apart, according to variety and size. It takes at least five bulbs to make a showing in a flower pot, and proportionately more for a bulb pan or a box. As a general rule, we only put one kind in a pot, although we sometimes mix them to get different color combinations. We fill in with soil, and pack it gently and firmly around the bulbs so the tops of the latter are just even with or slightly below the surface.

AND now comes a very important point. And that is to label carefully each pot or box.

The great secret of getting bulbs to flower well is to get them to make a strong root growth before top growth begins. They must be kept where it is moist, cool, and dark—conditions which duplicate those out of doors. We dig down about eighteen inches in one of the cold-frames, and cover the pots and boxes with about twelve inches of sifted coal ashes. The bulbs are given

a thorough watering when put away, and if the weather is dry we give the cinders an occasional watering. On the approach of really cold weather which begins to freeze the cinders, we take out the pots, using a few in the house, and putting the rest in the coolest part of the cellar where they are kept perfectly dark. By this time the pots are full of roots, and the only problem is to keep the plants dormant until we want them.

It takes only a few weeks for the plants to come into bloom after they are taken out of the cellar. They should be kept fairly cool at first, or they will make a rapid, weak growth and have poor flowers.

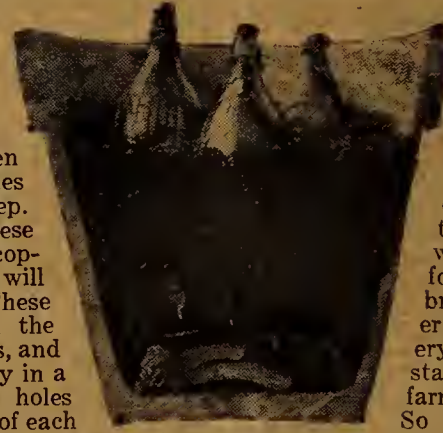
In addition to the above, we often start bulbs of the Chinese sacred lily, both the white and the golden sorts, in a bowl with pebbles and water. These, of course, do not need to be stored away, but can be put right out to bloom. We sometimes plant the old bulbs outdoors after flowering, but they usually do not succeed. It is much more satisfactory to use new bulbs for outside planting. However, freesias and oxalises, making a more natural growth, can be used one season after another.

Shall We Buy Feed?

THERE is a very persistent cry in some quarters that we farmers ought not to buy anything that our land and climate will allow us to produce. This is very good advice, in a way, but I fear that a great deal that has been said in this connection has been ill considered.

Commercial feeds, fed in conjunction with home-grown feeds to provide a well-balanced ration, are at times an economical way of buying fertility. A ton of bran at present unit values of fertilizer elements provides several dollars' worth of fertility, and a ton of cottonseed meal leaves a large amount of fertility after being consumed by farm animals.

On the other hand, when feeds are purchased where help and equipment are sufficient to grow the needed supply, such expenditures must be charged to the loss account. One successful dairyman assures me that the present cost of growing his dairy feeds is practically the same as it was when wheat, corn, and oats sold for half what they now bring, because of the greater efficiency of farm machinery and his better understanding of scientific aids in farming.



The way we pot our bulbs

So I do not believe that it is always economy to buy feeds, but there are certain conditions under which it is surely profitable to do so. Here is an example:

Recently I was in a creamery, and the accountant called my attention to some figures showing that one of his patrons received \$110 per cow last year from a herd of thirteen cows. According to the creamery man, had this man raised his grain and other feeds, he would have cleared up a nice little sum on his thirteen cows.

The conclusion that this farmer ought to have raised all his feed is not by any means sure. My answer was:

"This patron of yours is probably doing most of his own work. He is able to milk his thirteen cows, take pretty fair care of them, and, in addition, grow a patch of potatoes and a garden without much outside help. His feed bill may run \$15 to \$30 per cow per year, but probably he is saving more money than he could if he kept a hired man and tried to grow all his grain and roughage. He can buy feeds very well where he is located, and as his farm is small he cannot very well raise enough at home for his cows."

The creamery man thought that the hired man could be made profitable, but I must insist that he hasn't had experience in trying to get good farm help lately.

I am a strong believer in growing all the feeds possible at home, but I also believe that when a man is making good money and buying a great part of his feeds, it is a wise thing. R. B. RUSHING, Illinois.



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To Prevent Potato Wart

IF YOU want to be sure of having healthy tubers, use disease-resistant varieties, advises the Department of Agriculture. The spread of the potato-wart disease, one of the worst that affects Irish potatoes, has been slight during the past season. With watchful care it should be entirely cleaned up within a few years. Carelessness, however, may result in its getting a firm foothold in this country.

Its principal stronghold, at the present time, is in certain counties of Western Pennsylvania and West Virginia, where every effort is being made to stamp it out. In some cases it has been found profitable to fumigate infected areas, although this method is quite expensive. The varieties that have proved to be immune are: Irish Cobbler, Johnson's Flour Ball and Early Petoskey of the Cobbler group, and the Spaulding Four of the Rose group. A number of English varieties are immune, but their adaptability to American conditions is still in doubt. Your state experiment station or the Department of Agriculture will gladly give you further advice and information.

D. O. A.

Ada Jones

[CONTINUED FROM PAGE 16]

like a banjo. Even when Len and I sang together—he died only four years ago—about all the few instruments did was to ‘play us on’ and ‘play us off.’ Now they have a complete orchestra playing practically all the way through the number.

“Every effect has to be just right. Take a knock on a door, for instance. That might seem a simple thing, but to get it to sound exactly right, often requires experimenting. The drummer tries it on all sorts of knickknacks—the little Chinese-wood box on the side of his drum, on a cigar box—till at last he finds a first-class knock. A Christmas selection generally calls for chimes, and tubular chimes are about the peskiest things in the world to manage. They're apt to sound off key or blur, or cut up in some unaccountable way.—Sheelah knows how hard a Christmas number is to record. “Don't you, dear?” She said this to a lithe, graceful, half-grown girl who appeared at that moment. “This is my daughter.”

Amused at my surprise, she explained: “In private life I'm Mrs. Flarity. My husband is a professional dancer. I think Sheelah wants to be a dancer too, rather than make records. She took part in this Christmas sketch I spoke of, with Cal Stewart and me—thought it would be a regular picnic. But it took most all day to get that one number ‘put in.’ That was enough for her.

“Old Cal Stewart was a wonderful comedian. He and I recorded lots of skits together. And Steve Porter was another fine one. With him I did character numbers like ‘Flannigan's Night Off’ (he was Flannigan and I was Mrs. Flannigan) and ‘A Backyard Conversation.’ In these I had to put on a regular rough flannel voice—like this. [She gave a ludicrous sample of the tone.] And Porter and I did a piece called ‘The Golden Wedding!’ that I had done years before with Len on the old two-minute cylinder.

“I'VE done quite a bit of re-recording. I Some of those old songs and skits are brighter, to my way of thinking, than most of the stuff being written nowadays. They are more human. Broadway numbers about prohibition, and the like, don't get that sort of welcome with the folks I like to sing for. Give me good old-fashioned heartiness!

“Occasionally, though, new songs do appear that are honest-to-goodness fun. ‘Oh, Lawdy!’ for instance, which I recorded not so long ago, was a first-rate negro character piece.

“The phonograph companies keep tab on all the new songs, and when they find one they want me to sing they send me word of it, and I go to the music publisher and learn it there.”

“You do that so as to get the composer's own interpretation?”

“Yes, and to learn the tune. The truth is—and this is an awful thing to confess after making records for twenty years—I don't know one note from another.”



Born Cooks and Others

Until recently the woman on the farm, though a born cook and a peerless housekeeper, has often been handicapped by a lack of information concerning certain new methods that have been adopted in the cities.

To some extent this has been true in the case of Jell-O, which in the cities has for several years been the most popular preparation for desserts and salads.

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Necessity and Soy Beans

[CONTINUED FROM PAGE 7]

I have found that the seed cures best in the pod on the stalk. Of course, when this system is practiced it requires a seed like our Hollybrooks, which retains the seed in the pods very well at maturing.

I allow my beans for seed to mature until the pods are brown, and practically all of the leaves have fallen. I then harvest with a sweep rake, cutting early in the morning when the pods are tough because of the dew. Often I get up as early as two o'clock in the morning, and start cutting, because later in the day, when the sun dries up the dew, the pods become very dry and will shatter when hauled.

If enough can be cut in the morning so as to keep a thrasher going in the afternoon this is the best way of doing it, because it avoids so much exposure to the ground and, if the weather is rainy, damage to the seed. When the stalks are more than two feet tall, a grain binder may be used to good advantage in harvesting, but the sweep rake is the safest.

When beans are not threshed right away, and are placed in a stack, they should be covered with a canvas or some sort of roofing to shed the rain, because some moisture is bound to filter through the stack and hurt the seed.

THRASHING may be done with an ordinary separator, when the regular concave is removed and a blank, made of a piece of board, is substituted. The speed of the machine should be reduced so as to just run the blower efficiently and avoid cracking many beans. Of course, a special sieve is best, but the ordinary separator equipment may be used. When sufficient beans are grown in one locality, it is best to get a bean-threshing machine.

I find that the bean straw makes ideal roughage for my stock during the winter. It is really more valuable and palatable than any of the cereal straws or shredded stover, for sheep, horses, and cattle.

After threshing, the beans should be spread out on the floor of the barn or loft and allowed to cure. I find this is a better system than putting them in a bin right away, because, if not threshed immediately they contain too much moisture.

For pasturing, corn and soy beans make a combination which cannot be beat. For economy and quickness of gain I have been unable to find any ration of grain or purchased feed which anywhere near compares with them. I place both lambs and hogs in different fields, and they get fat very quickly. The only trouble I find with this system is with the hogs. They get fat about the time the market is low in the winter, and the price is not very good.

However, I have planned to get around this by having my pigs come late in the summer, and about weaning time they will be ready for the corn and beans, and then I can take them in and feed them until after the first of the year.

MY PLAN is to buy Western feeding lambs from the first to the middle of September, and after getting them home put them on blue grass for a day or two until they get over the excitement of the trip from market. Then I turn them into the corn and beans for about an hour the first day.

The second day they are allowed to remain longer, and inside of four days I open the gates and let them have a free range until they are fattened. After that, all that is necessary is to keep the salt boxes and water tanks filled; the sheep will do the rest. I have watched the lambs, and find they first eat the bean foliage and then the corn blades, gradually getting into the bean pods and later the corn ears.

In 1912, to satisfy a curiosity, I made a test with lambs. I divided two carloads into two equal bunches, making a sort as they came along. The first bunch I allowed to run over blue-grass pasture and a corn-field. The others were kept in a field of soy and corn.

At the yards, the bunch which had been in the corn and beans weighed eight pounds more than the other band, and sold at the top of the market. It took thirty-five days longer for the other load to get fat enough to ship, and they didn't bring the top. In handling hogs, we merely turn them

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for 1921

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into the beans, after a few days' getting them used to the new feed, and take them out when they weigh 250 to 275 pounds. Generally they are turned into the field when the beans are still green and the corn is starting to dent. They readily attack the bean leaves first, and the corn afterward.

A short time in the field and one notices the improving luster of the hair and the increasing curl in the tail—both signs that hogs are doing well.

I also tested the hogs, but in a different manner. What I did was to turn 99 Duroc-Jersey pigs into a field of corn and beans, estimated to make between 50 and 60 bushels of corn to the acre. When they had cleaned up in good shape, the scales showed they had put on 961 pounds of pork per acre. At present prices this would mean more than \$125 an acre. Even at that, the hogs did not eat up all of the feed in the field. Old sows and small pigs found plenty of roughage to keep them going for a while after the test was completed.

For silage I cut the beans and corn about the time the corn is ready to put into the silo. They go through the ensilage cutter together, and I will say that I never had better success in feeding lambs than when I gave them this silage. I have found it to be much better than silage made from corn alone, and I believe I get at least two tons more of silage per acre when the beans are grown with the corn.

When soy beans are introduced into a new field, it is best to inoculate the seed with soy-bean bacteria, to insure the presence in the soil of nitrogen-gathering nodules, as seen on the roots. This can be done by mixing with each bushel of seed, before planting, two or three quarts of soil known to be alive with bacteria. The mixings should be done so thoroughly that every bean is dusty. Perfect inoculation of the field cannot be expected the first year, but soon after that the ground will be alive with bacteria, and it is a source of great inspiration to realize that on every side, as one walks into the soy-bean field, there are millions of those wonderful organisms building up soil fertility while the plants are maturing a valuable crop. Set soy beans right.

My Big Litters

THERE were ten sows in my herd, and I succeeded in raising 76 pigs from them in a grassy lot, large enough to give plenty of room for exercise. Almost a pint of oilmeal and twice that amount of shorts were mixed with water to a thick-slop consistency, and fed early in the morning. Clean, fresh water was put in the trough after feeding.

No noon feed was given, although the sows had access to a self-feeding rack of second-crop alfalfa, and wood ashes, mixed with salt, were available at all times to guard against abnormal heat, throw off wastes, and act as a general tonic.

The evening meal was just enough of the slop to give them a good appetite, and a couple of ears of corn were given to each sow. For a change I sometimes gave a half-gallon of oats to each sow, the grain being scattered over the clean grass.

A month before farrowing time I put the sows in separate quarters, with a south-side pen. A large flap door, two feet wide and eight feet long, admitted the sunlight during the day, but was closed at night. Clean, fresh bedding was supplied, and changed as often as it became foul—usually about once a week.

The same feeding methods were practiced till farrowing time, the alfalfa being tossed into the pen each day. The corn part of the rations was decreased somewhat as farrowing time approached, to minimize body temperature and guard against complications. At farrowing time I was in attendance every time a sow dropped her pigs, and found it paid me well in practically every case.

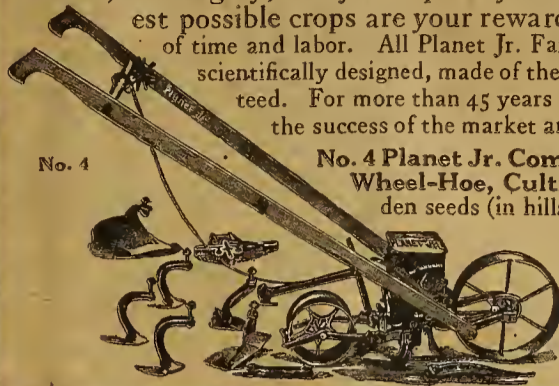
After delivery of the pigs, I gave the sow a drink of water, with the chill removed. Don't be in a hurry to feed the sow at this time. The first feed consisted of the slop above mentioned, rather thin—if slightly warm, so much the better. This slopping, with a wisp of alfalfa hay, was all the sow got for several feeds, then a small ear of corn was given. At the next feed a couple of ears were added, the amount being gradually increased until the sow was eating from four to eight ears of corn—depending on her weight, number of pigs, etc.

These methods yielded me a pig crop of 79 husky little fellows, 76 of them being raised to the weaning period—an average of almost eight pigs to the sow.

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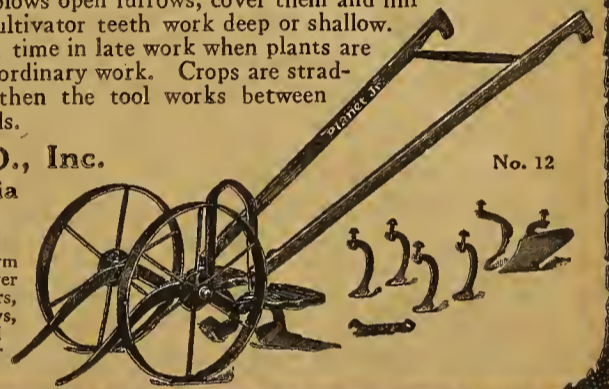
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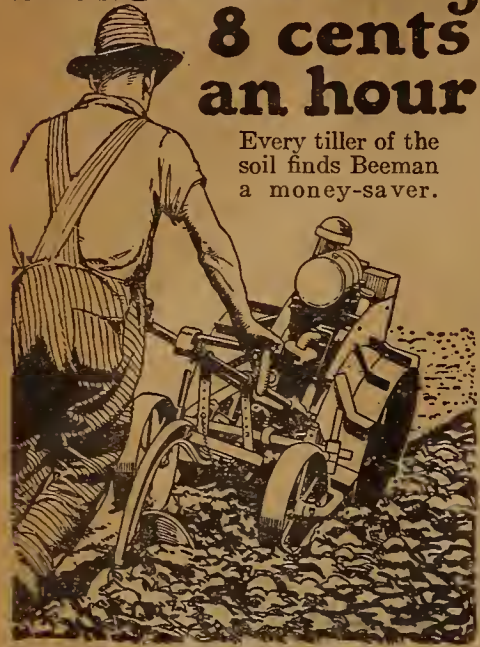
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Black Prince and His Doddie Daughters

(CONTINUED FROM PAGE 15)



This is Queen Milly of Sur Dance 3d, who was acclaimed grand champion Aberdeen-Angus cow at the 1919 International. She is owned by G. C. Parsons of Louisville, Kentucky

she died of old age was to ascertain how long an animal of this breed, with a fine constitution, could be profitably kept, and to what age it would live in its natural state, no well-authenticated record of these facts having been previously preserved regarding the domesticated cow. Grannie was the dam of 25 calves, 11 of which are registered in this herdbook. She gave up breeding in her twenty-ninth year, and yielded no milk after nursing the calf of the previous year.

And speaking of Hugh Watson brings us right back to the beginnings of the breed in Scotland. Mr. Watson lived in Forfar. During the year when George Washington was being inaugurated as first president of the United States, Hugh Watson was born. When nineteen years old he rented the farm of Keillor, and was its tenant for fifty-six years. When he moved to the farm his father, William Watson, gave him six cows and a bull. From these cattle sprang the Aberdeen-Angus breed as we know it to-day. Old Grannie was one of his most famous cows, and he produced a noted line of bulls named Jock—such as Tarty Jock, Gray-Breasted Jock, Old Jock, Young Jock, and so on. Hugh Watson's son William came to America, and for years was a familiar figure as herdsman for T. W. Harvey, whose herd at Turlington, Kansas, was the breed's great stronghold on this side. As "Uncle Willie" Watson he became dean among the herdsmen of America.

WHEN Hugh Watson was through, his mantle fell on the shoulders of William McCombie, who lived at Tillyfour, in Aberdeen. He was born in 1805 and died in 1880. He must have been an astute man to acquire two such famous matrons as Queen Mother and Pride of Aberdeen, foundresses of two of the best lines of the breed.

At Ballindalloch Castle, in Banffshire, Scotland, lived Sir George Macpherson Grant. He died only thirteen or fourteen years ago. Sir George has well been called the "refiner" of the breed. He refined the cattle, and he laid emphasis on family lines of breeding.

Technically a family of Aberdeen-Angus descends through the dams from a certain famous cow which is regarded as its foundress. Thus we have the Queen Mother family, all tracing back, always through the mothers, to William McCombie's old Queen Mother, just as the Prides of Aberdeen go back to his Pride of Aberdeen cow. Albert Pulling, the British authority on the family business, recognizes more than fifty distinct families, not to mention the various branches and sub-branches. And Pulling was, of course, not interested in the family nomenclature in vogue in America. What he calls the Lady Ida family we know as the Blackbirds.

Perhaps we can use these Blackbirds to show how the family idea works out. Lady Ida was a famous brood cow in Scotland. A prize winner herself, she gave birth to

15 calves in nineteen years, and nearly all of them were prize winners. Among them was Blackbird of Corskie, which in turn had three daughters—Blackbird of Corskie 2d, Blackbird of Corskie 3d, and Blackbird of Corskie 4th. Blackbird of Corskie 4th was imported to America, and produced such famous animals that she became popular.

There arose a great demand for Blackbirds. But Blackbirds from the two sisters of

Blackbird of Corskie 4th were also Blackbirds, and there arose need for differentiation. It was finally solved by calling those descending from Blackbird of Corskie 2d, Second Branch Blackbirds, or Blue Ribbon Blackbirds; those from Blackbird of Corskie 3d, Third Branch Blackbirds, or Blackcaps, and those from Blackbird of Corskie 4th, Fourth Branch Blackbirds.

A SIMILAR story could be related about the Ericas, descended from Old Erica, a cow owned by Sir George MacPherson Grant. There are the popular Eisa Trojan Ericas and Enchantress Trojan Ericas, and the unpopular Kildonan Ericas—depending on whether the animal descends on the dam's side from the mating of old Erica to Trojan or the bull Kildonan.

Among other families besides those mentioned whose names you will hear in an Aberdeen-Angus sale ring to-day are the Heatherblooms, the Jilts, the Coquettes, the Miss Burgesses, the Georginas, the Zaras, the Sybils, the Barbaras, and others.

When one is somewhat familiar with family nomenclature, the name of the animal will usually tell him the family to which he belongs. All the Ericas are given names beginning with "E," the Blackbirds with "B," the Jilts with "J," and so on. But remember that the family name always descends through the cows. If you want to find the foundress of any Aberdeen-Angus family you must trace back the pedigree on the bottom line until you come to her. Thus a Blackcap bull may be sired by a Jilt bull, and his mother (a Blackcap) may be sired by a Queen Mother bull, and his maternal grandmother (a Blackcap) may be sired by a Westertown Rose bull.

Some of the sale prices announced for Aberdeen-Angus have been quite startling. From January 1 to June 22, 1920, 86 public sales of the breed were reported, in which 4,264 animals sold for \$3,226,689, an average of \$756.73. On May 27th, P. J. Donohoe & Sons sold 51 head at their farm at Holbrook, Iowa, for \$271,100, an average of \$5,315.69—a breed record. The highest priced bull on record is Blackcap Bertram, which C. D. & E. F. Caldwell of Missouri sold to L. B. Canam of Illinois for \$45,000.

The affairs of the Aberdeen-Angus breed are in the hands of the American Aberdeen-Angus Breeders' Association, organized in 1883. The secretary is Charles Gray, a native son of Scotland, who came to America, and went through Iowa State College at Ames. Mr. Gray's office is at 816 Exchange Avenue, Union Stockyards, Chicago, Illinois.



Idolmere was the grand champion bull at the 1919 International. He was exhibited there by his owner, Dr. J. I. Huggins, Dandridge, Tennessee. He didn't live long to enjoy his honors, for he was burned to death while on his way home from the show in a fire at the Nashville stockyards

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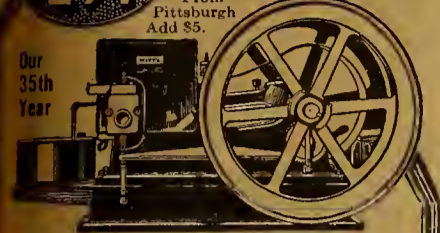
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The Rattletrap Gun

[CONTINUED FROM PAGE 6]

sometimes he had to wait until the ten-o'clock passenger; sometimes he had to work over his yellow express book until midnight. Her hand slipped into her bosom and closed over the note that an old negro had brought her secretly that morning. Somebody had told Ben her father had gone to town, and he was coming out after supper. He wanted to talk to her, he wrote about the cottage he had bought near the station. She could see it now, with the small barn behind, the trim garden palings, the cool water oak in the front yard. Ben was going to paint the house and barn white—if she liked white.

There was another note, too, hidden in her dress—the note she had written in answer begging him not to come, telling him that it would only make things harder, that her father would never give in, that he must never come any more. All day she had watched the road, sure there would be someone who could take it in to Ben. But nobody had passed, and the day had worn away, and then her father had driven into the yard.

He had been worse than he had ever been, since he had the quarrel with Ben at the station about some express. She had not heard it, but neighbors had told her. It was terrible, they said. Ben had lost his temper at last.

"Get out of this station, you soak!" he had cried. Men had rushed between them and dragged her father away. But at the door he stopped.

"If you ever step foot on my place, young man," he said, "I'll kill you!" She would never forget his face when he came home that day.

"Don't you never let him come on the place again, Tess," he said. "Never again!"

THE distant puffing of the train as it pulled out from the station startled her. If Ben left now he might be here in half an hour. Sometimes he came on horseback, sometimes he walked. If she knew when he was coming she would run out and warn him. But he might be detained at the station; her father might come up here while she was gone, looking for her.

The night had grown silent, the roar of the train died away. Ben might be on the road now, swinging along happily in the moonlight; maybe he was singing. He thought her father in town, and there he sat on the porch in his tilted chair watching.

She could not stay here. She jumped to her feet. A sudden dryness in her throat gave her an idea. Her father was thirsty when he was this way. She tiptoed down the narrow stairs, into his room. She picked up the pitcher from the washstand, and hurried out by the back porch, across the yard, to the well.

The screaming of the chain as her white arms pulled hand over hand in the moonlight filled the air with an alarmed scream, made the night alive. Maybe Ben, if he had reached the woods, would hear this, would come to the edge; then she would run to him quickly, warn him, run back.

She waited in the stillness that followed the screaming of the chain. No sound. She filled the pitcher and hurried up the back porch. A moment she stood panting, looking toward the woods, then she went in, the water splashing on the floor of the hall. She hurried into her father's room, set the pitcher in the basin, and turned.

The moonlight falling at a sharper angle through the window than it had done formerly shone on her father's new double-barrel shotgun. It leaned against the wall, near the bed. Her father would come after this, if he saw Ben. It glowed dull, satiny, sinister, there against the wall. She ran out as if she had seen a snake.

Her father still sat glowering on the edge of the porch. He looked up at her under-

neath his eyebrows, and she tried to smile. It was too hot to sleep, she said, and leaned against the wall.

"I fetched some nice cold water in yo' room, Pa."

He filled his pipe and lit it. "Bring me a drink."

He gulped down the water she brought him, then handed her the gourd.

"More," he said.

He was holding the dipper out to her, his big, blunt face raised to hers. She could touch his bristly hair, thin at the top; he must hear her heart pounding above his ear. She brought him another drink, then she walked over to the steps and sat down, her head against the post, her hands clasped about her knees. Breast rising and falling, she studied his face furtively. She would tell him boldly Ben was coming, she would plead with him, if only he were not as he was tonight. He had liked

Ben, at first, had bragged of him to her. "He's a fine, sober young feller, Tess," he had said, "without no bad habits." She knew, everybody knew, that her father was a kind enough man when he was right, too generous for his own good, impulsive, hospitable.

But, better than anybody else, she knew how far to go with him when he was like this. She knew how the animosities of one drunken spell remained stubbornly on until the next, how more and more, since her mother died, his worst moments guided his life. She had tried every way she knew to help him. Just once he looked at her with strange eyes. "I get lonely, gal," he said.

Everybody was afraid of him when he looked as he looked now, sullen, heavy, flushed. She was seized with a sudden loathing of him as he sat there, his sock feet up on the rungs of his chair.

A match was struck in the edge of the woods opposite them. It flared quickly up, it was jerked quickly out, but it seemed to light the whole side of the house and her own face like the flaring-up of a rocket. She looked at her father. He had not stirred. Perhaps, if he had seen, he thought it was a smoker passing along the road on the other side of the pines. They were thin here. But around them the road turned at right angles and passed in front of the house. Her father would watch for the appearance of the smoker.

SHE sprang up—sprang up too quickly, and remained standing. She must not seem to hurry; she must not make any more mistakes; but Ben must not strike another match. She must warn him—now. She crossed the porch, her eyes straight ahead. When she spoke her voice was unnaturally calm.

"Guess I'll turn in. Good night, Pa." She ran up the stairs, pressing heavily on them so they would creak. At the top she paused, sick with fear. Then she tiptoed back down and stopped, out of breath, in the hall.

Through the window of the front room she could see his broad heavy back into which the head was sunk without a neck. The back was moving. Deliberately he was easing himself to the floor. He held his pipe in his hand as if he had just taken it guardedly out of his mouth. He was leaning forward, like a man about to spring.

She went swiftly down the hall and stopped at the bedroom door. Her father would come after that new gun, glistening there against the wall. She darted into the room and grabbed up the new gun. She left the old one, the rattletrap, on the table where she had placed it. After she had run out of the room she wished she had hidden that other gun. But it was too late now; he might be coming; she had thought she heard him rise.

She darted out on the back porch, across

[CONTINUED ON PAGE 41]

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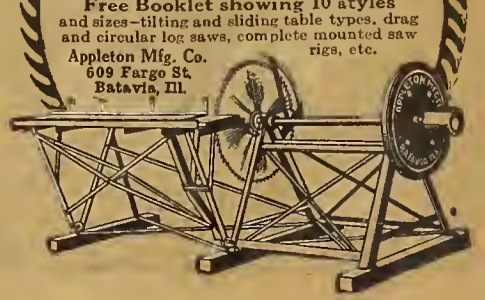
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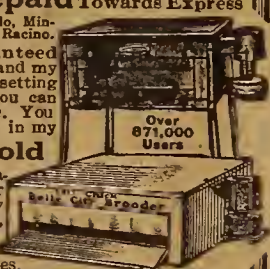
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She Knew Her Man

BULLET WHEY was late, very late, one morning, and the teacher asked him how come.

And Bullet explained: "Maw heard that the sheriff arrested a man at the creamery this morning fer cruelty to animals, fer keepin' a dirty stable, fer waterin' his milk, and fer burnin' his barn to git the insurance, and maw sent me to the jail to see if it was paw."

James' Magazine.

How You Can Get Good Hatches

IT IS easy to forget that hatching eggs are really living objects, and must be cared for as such. Most people are very careful with eggs under a sitting hen or in an incubator, because they realize that there are delicate, living chicks inside. But they will handle eggs, before starting incubation, with no other thought than "an egg is an egg," and that breaking them is the only way they can be harmed.

It is true, before the hatching egg is heated, that the germ in it is more hardy than after hatching has started. In this respect egg germs are like buds on a tree. Buds will stand a lot of cold and weather changes during the winter when they are dormant, but after a little warm weather has awakened these buds, and they show signs of life, we know that a cold spell means disaster to them.

So it is with the germ in the hatching egg. It is dormant when laid, but a little heat will start it growing. Then it is very tender, and a changing temperature will either kill it or materially weaken it. A great many eggs get heated in the laying nest. An egg laid in the morning might be under different laying hens continually, until late afternoon. The heat from these hens would be enough to warm up the egg and start germ growth. This very tender germ may be seriously weakened or even killed before it reaches the incubator. It is therefore important to keep hatching eggs in an even temperature.

There is no more important factor in successful hatching than that of moisture. If you have ever operated an incubator you doubtless know this, and provide moisture when needed. But did you ever think of providing moisture before putting the eggs in the machines? The egg shell is just as porous before it is in the machine as afterward, and it will lose moisture just as quickly if we are not careful. Once the moisture has left the egg, it cannot be replaced, so that if this factor is not considered we start off with an egg much too dry for best hatches.

Warm, circulating air is more thirsty than cool, moist air, and will absorb water from an egg ever so much more quickly. So when hatching eggs are to be held for a day or more they should be placed in a cool, damp place. The cellar is often the best place, and the kitchen the worst.

If you will gather your hatching eggs often, if you will keep them from getting heated enough to start germ development, and will place them in a place which is neither too warm nor too dry, you will get good results. In doing this you eliminate two factors—heating and drying, which spoil more hatching eggs than anything else.

VICTOR G. AUBRY.

NOTE: All kinds of poultry questions are welcomed, and will be promptly answered by Mr. Aubry. Address: V. G. Aubry, FARM AND FIRESIDE, 361 Fourth Avenue, New York City.

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New York Agrigraphs.

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James' Magazine.

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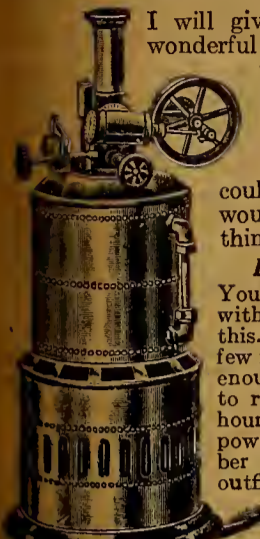
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The Rattletrap Gun

[CONTINUED FROM PAGE 39]

the sandy yard, white as if snow had fallen, along the lot fence, into the shadow of the barn. She looked across the fields between her and the woods, white with a weird secret brilliance.

Once out of the shadow of the barn, the moon shone on her with bald brightness, revealing her flight. The cotton was up to her waist, and the open bolls scraped her free hand like fuzzy worms. She hugged the gun to her body; it stood no more ready to her father's hand. As for the rattletrap gun, probably he wouldn't see that. It lay in the shade, and her father didn't see very plain when he was as he was to-night.

She ran into the shadow cast by the pines, then stopped and looked back toward the house. She could see the end of the front porch. Along the straight edge where it joined the house she made out a protuberance. Her father had risen and was standing there against the wall.

SHE started to scream, but that would bring Ben running. She could only wait panting here. A stick cracked in the woods, and her father jumped off the porch. She could see his burly body above the hip-high cotton, his white shirt, his hair in the moonlight, white like an old man's hair. He broke into a crouching run toward the match that had struck and the stick that had cracked. He looked like a white ape, bent forward, running.

It would not stop him to scream. He would understand, he would rush on at Ben. She pointed the gun at the moon, shut her eyes, and pulled convulsively. Both barrels went off. In her excitement she had pulled both triggers. The kick staggered her, the echoes rolled from the amphitheatre of woods like an army firing. When she opened her eyes her father had stopped. He could not see her here in the shadow of the woods. He turned and ran toward the house. She heard him stomp up on the porch, down the hall, into his room; she heard his muffled, maddened voice calling her up-stairs. She looked at the gun in her hand and smiled.

Somebody was running along the edge of the woods toward her. She could see him brushing through the cotton, see his white shirt, then his white face, then her shoulder, his eyes burning down into hers. "Ben?" she whispered.

"Are you all right, Tess?" She nodded and smiled.

He straightened up with a profound breath, brushed his hat off his head, ran his hand over his hair.

"I thought you had shot yourself!"

"I stole the gun," she said.

He was looking toward the house, his head and shoulders rising above the shadow into the moonlight. He seemed to swallow something hard down his throat.

"Here," he said quickly. "Give me the gun." He unbreeched it. "It's dead," he gasped, and drew out the empty shells. "Stand aside, Tess—there, toward the woods."

She backed away, her eyes on his face. "Here, Ben?"

"Yes."

HE STEPPED boldly out into the moonlight. He was looking toward the barn, as if he were trying hard to see something.

"It'll be all right, Tess," he said. "Sure it'll be all right. Just don't move."

His gun flashed an arc through the air as he waved it toward the barn.

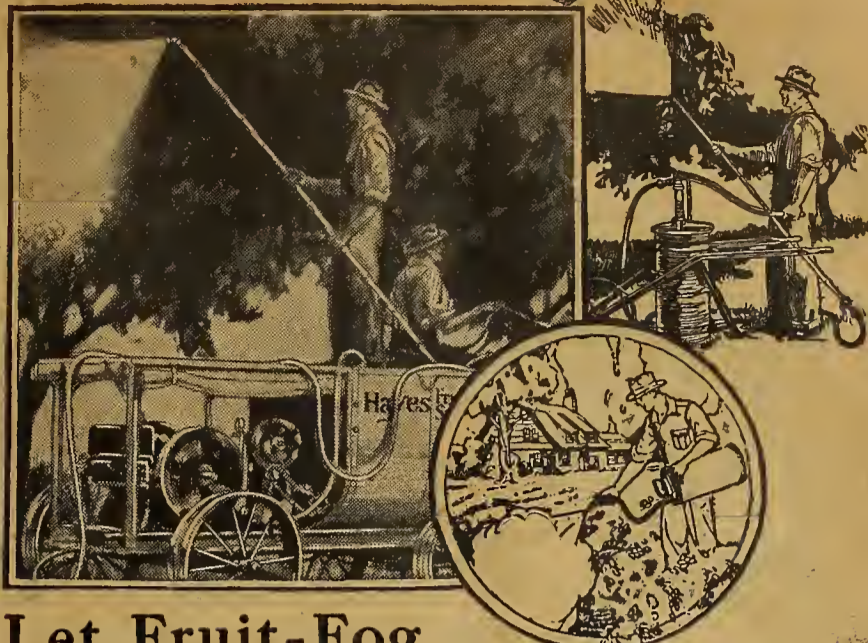
"Stop, Bill Simpson! Stop, man!"

Out of the shadow of the barn her father had burst and was hurrying toward them, as she had seen him hurry toward cotton pickers when they were loafing. There was something in his hands, thrust forward at the hip. The moonlight flashed on it—the rattletrap gun she had put in his room.

She smothered the cry that came to her lips; she fought down the momentary dizziness in which the silvery field of cotton swam round and blurred. Just a wistful glance at Ben standing there bareheaded, terribly tense, terribly watchful; just a longing in her soul that he might go back to his yellow express papers, to his cottage that he wanted to paint white—and the girl had darted out of the shadow ahead of him and was running toward her father.

"Git out o' the way!" he yelled. "You fool!"

He went on filling the night with his yells. He raised the gun—she was in front of it, and he lowered it with a choking oath. For all his bulk, he jumped aside like an athlete and raised it again.



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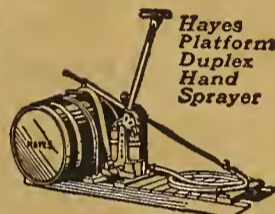
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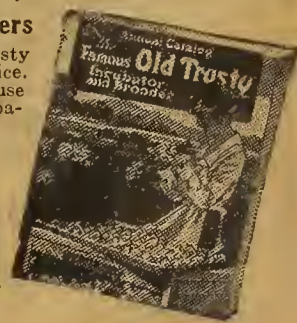
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She sprang suddenly forward and caught the barrel with both hands. Clinging to it, she was jerked powerfully back through the cotton. He was twisting and turning the barrel viciously through her hands, his face horrible with its effort. The muzzle was pressed against her body below her breast.

"I ain't goin' to turn loose!" she panted. "Never—never!"

She closed her eyes—she heard steps running up behind her. Again she was jerked back; again the barrel twisted this way and that. Then he had stopped still, and she opened her eyes. He stood panting above her, his protruding eyes on her hands clenching the barrel, on the muzzle pressed into her breast.

"Hit's the rattletrap!" he gasped. He choked and swallowed.

"Hit'll go off!" he roared. "Hit'll shoot you!"

"I don't care, Pa."

He was shaking all over; his soaked shirt was clinging to his arms and shoulders.

"Look, gal—into yo' pa's face! You remember—the ol' gun! Won't you turn loose? Turn loose for your pa, like a good gal?"

He was looking above her now helplessly.

"Hit's a old gun, Ben," he was panting. "Hit's cocked. I'm all shakin'—I'm afeerd to let the hammers down. They're wore out. Ben, you want to see her blowed all to hell? Don't touch her, man!" he screamed.

"She might jerk! Here gal—see? I turn loose. Easy, gal, easy! Throw it away from you. Thataway! God A'mighty!"

THE stock had come heavily to the ground. With a convulsive shudder she threw the muzzle away from her. A moment it pointed uncertainly at the sky, and Ben sprang forward. Just in front of his grasping hand it tottered and fell; a flame shot along the cotton rows, the cotton mowed down tumbling in after its passage; the roar shook the ground under them.

Off there her father stood, chest heaving, face flabby with sobered horror.

"Ben," he choked, "I might-a killed my little gal. Ben—I ain't a soak no more."

He turned and stumbled through the cotton toward the house, wiping his face on his shirt sleeve.

"Pa!" cried the girl, and started to run after him.

But Ben caught her by the shoulders and turned her round, his face stern, his eyes blazing.

"Not yet," he said. "Let him study about it. It won't do him any harm!"

They stood side by side, looking in the direction of the house. When at last Ben spoke, the anger had gone out of his voice, the terrible look out of his eyes.

"We'll go now, Tess."

They did not find him on the porch; there was his empty chair, and beside it on the floor his pipe and his shoes. Alone the girl went softly down the hall to his room door, and looked in. When she came back to the porch where Ben waited, her eyes were swimming.

"Ben," she whispered, "he's sittin' by the window in the moonlight—an' Ben—he's cryin'!"

Then she too began to cry softly. But out in the border of the woods, where a match had been struck, a mocking bird, perched lightly on the topmost twig of the loftiest pine, was filling the brilliant night with song. [THE END]

Unwelcome Farm Guests

DID you ever stop to consider where all the bugs and pests originally came from? Not always have the San José scale, the pink bollworm, the European corn borer, and their pestiferous friends and relatives been natives of the United States. According to a recent announcement of the U. S. Department of Agriculture, most of the serious insect pests and diseases that cut into the profits of the American farmer came originally from foreign countries.

It is estimated that the damage caused by these parasites to field crops, orchards, and gardens is about \$500,000,000 yearly, or more than \$1,000,000 a day. This damage would be much larger were it not for the quarantines and control work conducted by the U. S. Department of Agriculture through its Bureau of Entomology and its Federal Horticultural Board. It will be to your advantage to report immediately the presence of any new pest. Tell your county agent, your agricultural college, or the Department of Agriculture, in Washington. Or if you have any doubts as to what to do about it, write to FARM AND FIRESIDE.

J. R. F.

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you and the other men like you who were in the service. If you don't belong, go around and look in at one of their meetings some time. They will be glad to see you. And if you haven't a post in your town, and want to learn about starting one, write to me.

Perhaps you have a claim against the Government for bonus, clothing, insurance, or compensation. If there is anything of this nature you want to know about, we will try to help you. Write, enclosing self-addressed envelope to Andrew S. Wing, American Legion Column, FARM AND FIRE-SIDE, 381 Fourth Avenue, New York City.

Ways to Catch Skunk

SKUNK and civet cat are not hard to trap. Once you become familiar with their habits, you will find that they will spring even naked sets occasionally. Covering is not absolutely necessary. Yet, if you take pains to conceal your traps, you are almost sure to catch wandering mink or raccoon, which otherwise you would miss.

The simplest way to catch skunk and civet cat is to arrange traps at the den entrances. No bait of any kind is needed. When it is doubtful whether or not a burrow is occupied, you have but to examine the interior for black, white, or black and white hairs. When these are seen, furs are almost certain. Of course, other signs are helpful, such as tracks, droppings, etc.

Skunk and civet cat live in colonies. It is not unusual to find a number in a burrow. Remembering that these animals do not move about freely in cold weather, you can realize the necessity of getting as many skins as possible during the warm nights. Pen sets near the burrows are best.

To make these, employ boards, rocks, or stakes. Form a U-shaped pen for each trap. Put a piece of bloody meat in the back part. Several such pens near a hole will often yield a number of pelts in one night. With only a set at the entrance, but a single skin can be obtained at a time.

Good catches often may be made along hedge fences, where the animals travel, hunting food. Small pieces of meat hung about a foot from the ground, with traps under each bait, will bring success. It is best to tie the decoy.

Sets concealed under hedges often prove effective. Trails must be discovered, however, otherwise the traps will not get many animals. Traps placed at the entrances of small, dry culverts will often get fur.

Some trappers object to taking these animals because of their odor; in fact, I used to avoid them until I learned that the smell can be dispensed with, in most cases, where care is used. While there are many so-called methods of killing—to my sorrow I experimented with them all—the best seems to be shooting. Use a small caliber rifle or pistol, approaching the quarry so as not unduly to excite it. When within five or six yards, shoot the animal just back of the head, so the bullet cuts the spine. This instantly paralyzes it so it cannot eject its smell. Remember, that holes in the body of a pelt damage it for manufacturing purposes, so try to have the bullets come out under the jaw or in the throat.

However, if some of the smell does get on you or the skins, it may be removed by a thorough washing in gasoline. It is safest to do this outdoors, to avoid danger from fire. You will get into difficulties if you forget that the scent glands lie at the root of the tail. I have always found it best to skin around these glands, leaving a small patch of fur. Pelts so removed bring full value, and are much more pleasant to handle than smelly ones.

Skunk and civet cat begin to shed very early in the spring. Just as soon as you notice signs of deterioration, stop trapping them. It does not pay to get poor quality hides. Besides, we must give the fur bearers a chance to multiply.

GEORGE J. THIESSEN.

NOTE: I wonder if you are familiar with the laws regulating trapping. If not write to U. S. Department of Agriculture, Washington D. C., and ask for Farmers' Bulletin 1165. Remember, too, that we will take care of your trapping inquiries.
THE EDITOR.

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Those Very Deadly Weapons— the Knife, the Fork, and the Spoon

By Bruce Barton

YEARS ago I used to spend an occasional Sunday with a farmer and his family.

He lived out of doors working hard all day; his food was fresh from his own garden; there was every reason, apparently, why he should be the healthiest man in the world.

As a matter of fact, he was unhealthy all the time, and especially so on Monday after his day of rest.

Receiving no benefit from the doctors, he took patent medicines of various sorts without result; and as the years went by he grew more depressed, supposing himself to be the victim of some obscure and incurable malady.

I said to him one day: "I think you eat too much;" at which he became quite exercised, and retorted that if I had ever done a real day's work in my life I would eat a great deal also.

It was a fair enough answer; but my diagnosis was right, just the same. I have proved it since by my own experience. For I have a place up in the country where we live a simple, healthful life, and for years I used to wonder why I always felt worse on Sundays up there in "God's out of doors" than I ever felt in the noisy, crowded streets of New York.

I found out the reason. Because vegetables from our own garden tasted so good I was eating twice as much as I would ordinarily eat; and adding to the vegetables a box of Sunday candy. I was clogging my furnace with extra fuel at a time when I needed less steam, rather than more, because both my muscles and mind were at rest.

The Journal of the American Medical Association had some startling facts to present on this subject in a recent editorial.

"It will come as a surprise to most persons to learn on reliable authority that a single caramel, a nougatine, or a penny's worth of



Drawn by F. C. Cooper

candy may furnish sufficient energy to supply the extra heat needed for walking a mile or more," it said.

"We are informed that for a man of average weight to walk from the bottom to the top of Washington Monument would require an extra heat production of 80 calories. The energy expended in this not in-

considerable effort may be completely replaced by the consumption of less than half a doughnut, six walnuts, five large olives, or four pretzels."

A mile's walk on a caramel! Up Washington Monument on four olives! Consider those medical facts and then think what crimes are committed in every American household by the time-honored, murderous stuffing contest known as Sunday dinner.

That the average man eats himself to death is no new discovery. Edison discovered it long ago. The reason he can work so many more hours than the rest of us, he says, is because he loads his body with so little food. Both his father and grandfather were very long-lived, and both were very light eaters.

Luigi Cornaro, the famous Italian, discovered it. The doctors gave him up for dead in his forties, but he lived to be a hundred and two. And his only remedy was to cut his eating to a minimum.

And Nature discovered it, and confided the discovery to the whole animal kingdom. You can't induce a sick dog to eat, or a sick cow. Only man crams himself, sick or well, regardless of the amount of work he has to do.

Liquor was a poison, and is gone. Too much tobacco or too many late hours will do for a man in the end. But the deadliest foes of human weal are the simple, harmless-looking domestic instruments—the knife and the fork and the spoon.

How We Plan to Cut the Cost of Dairy Feeds

By C. R. Eastman, Editor "The Dairyman's League News"

ASK any Eastern dairyman what the two great problems of his business are, and he will tell you that they are: Selling his milk at a fair price, and buying his cattle feeds without paying exorbitant profits on them.

Eastern dairymen say that, while their organization has forced up milk prices, feed prices have advanced faster. There has been for some time an insistent demand on the part of milk producers that farm organizations do something to relieve this situation. For several reasons, cooperative feed-buying attempts have not been successful. In almost every case this has been due to the neglect or ignorance of certain fundamental principles without which no cooperative effort will succeed.

In the first place, farmers must recognize that the buying and handling of dairy feeds is a trade in itself, requiring ability and experience, with a natural gift for interpreting market conditions, and for buying at the right time.

The second principle involved is that of size. The cooperative feed business, to bring the largest returns, must do a large enough business to be a factor in the market, and to keep down overhead expenses. It is difficult, if not impossible, for a single community to "go it alone" successfully, because its purchases are not large enough to make it worth while for manufacturers to give it any consideration over regular dealers. But if twenty-five communities will pool their buying, their combined trade will be a power in the market, and will be eagerly sought.

Perhaps the thing that has most discouraged cooperative feed efforts is lack of constant local service to members. It is obviously unfair and uneconomic for a farmer to buy part of the time coopera-

tively, and then, when he cannot get cooperative service, to go back to his dealer.

The feed business cannot be handled successfully without a local warehouse. Many farmers, because of the small size of their business or lack of capital, must buy their feed in small quantities. They cannot take this from the car door at uncertain times when the cars arrive.

Then there is the problem of capital. A

survey in one of the dairy counties showed that the farmers of this county owed the feed dealers over a million dollars. With better prices for milk, and with better knowledge of how to use bank credit, the money owed to feed dealers has been greatly reduced. There is still, however, a big problem to be worked out in any cooperative plan of finding working capital. Perhaps the solution lies in doing a strictly cash business.

This practice is growing, but there are still a number of men in every community who cannot, or think they cannot, pay cash, and who will patronize any dealer who extends them credit.

Another thing which has discouraged cooperative feed enterprises is that of too optimistic expectations. It costs money to transport feeds from the farms of the Western producers to the farms of the East, and to prepare these grains for feeding. We do not think it costs as much as farmers are now paying. There are profits to be saved, but probably not as large as many think exist.

Perhaps the greatest reason for the past failure of cooperative feed-buying has been the antagonism of the established trade. Farmers have found it difficult to buy feeds direct from the manufacturers. There has been evidence that the trade was organized against the feed cooperative enterprises. It is only by organization on an efficient basis that this problem can be handled and the dealers met on their own ground.

I believe that the Cooperative Grange League Federation Exchange is organized to meet these problems which are fundamental to success in handling the feed business cooperatively. The exchange recognizes the necessity of hiring men experienced in the feed business. Their plan recognizes the necessity of using the experience and knowledge of at least one local feed dealer, but it guards against trouble by providing for the full

control by farmers, of the representatives who handle their business.

The board of directors of the exchange have announced that they will have two prices, one of them known as the "card-door price," and the other the "warehouse price." The first price will be made on wholesale quantities of goods to any one, anywhere, at any time. Care will be taken to announce these prices regularly to a number of leading farmers in each community, so that all may know what they are. There will be one agency in each community which must provide a warehouse and keep a stock of goods on hand. The agency

must be certified to the county exchange committee by local league grange and farm bureau officers, and the county committee certify to the exchange itself. The plan is to build up a permanent warehouse connection in every community. The agencies may be local cooperatives or local dealers.

With the tremendous buying power the exchange will have, it can do business on such a large scale that it can keep its overhead expenses down, and can be a great factor in the grain markets of the country. By its warehouse policy, the organization can render constant, year-around service. With its million-dollar capital stock and its ability to raise more if it is necessary, it is in position to finance itself adequately.

This whole problem is well sized up in a letter which I received a short time ago from a local feed dealer who had the correct spirit and attitude toward the whole question. He said:

"Somebody must render the service that the so-called middlemen are now rendering. If the middlemen are eliminated, it simply will be a question of substituting some other kind of system. If there is some other kind of system that will render this service, at less cost to the dairyman than we are now rendering it, we should step gracefully down and out, for a job of this kind must always go to the one or the system which can give the most return for money received."

Personally, I believe that some readjustment must be made in the feed business. I believe, however, that there is a place for a feed dealer who has honestly tried to render value received, and I believe the solution of the whole problem is along the line proposed by the Grange League Federation Exchange.

For You, Too

THE problem of buying feeds economically is one of the dairyman's biggest problems. Cooperators have found many thorns in the path of the local feed association. Mr. Eastman, who has led Eastern dairymen in their fight, tells how they are solving this problem.

THE EDITOR.

Cornell

Wood Board

Takes the place of lath and plaster for walls, ceilings and partitions

I can tell the "Triple-Sized" wallboard by this name "Cornell" on the edge

Because I've constructed walls, ceilings and partitions with about every brand of wallboard on the market—and checked the results three or four years later—I've now adopted the rule of picking out Cornell Wood Board for every job. I find that Cornell doesn't warp or buckle because it is "Triple-Sized."

Every man and woman I've worked for admires Cornell's handsome "Oatmeal" finish.

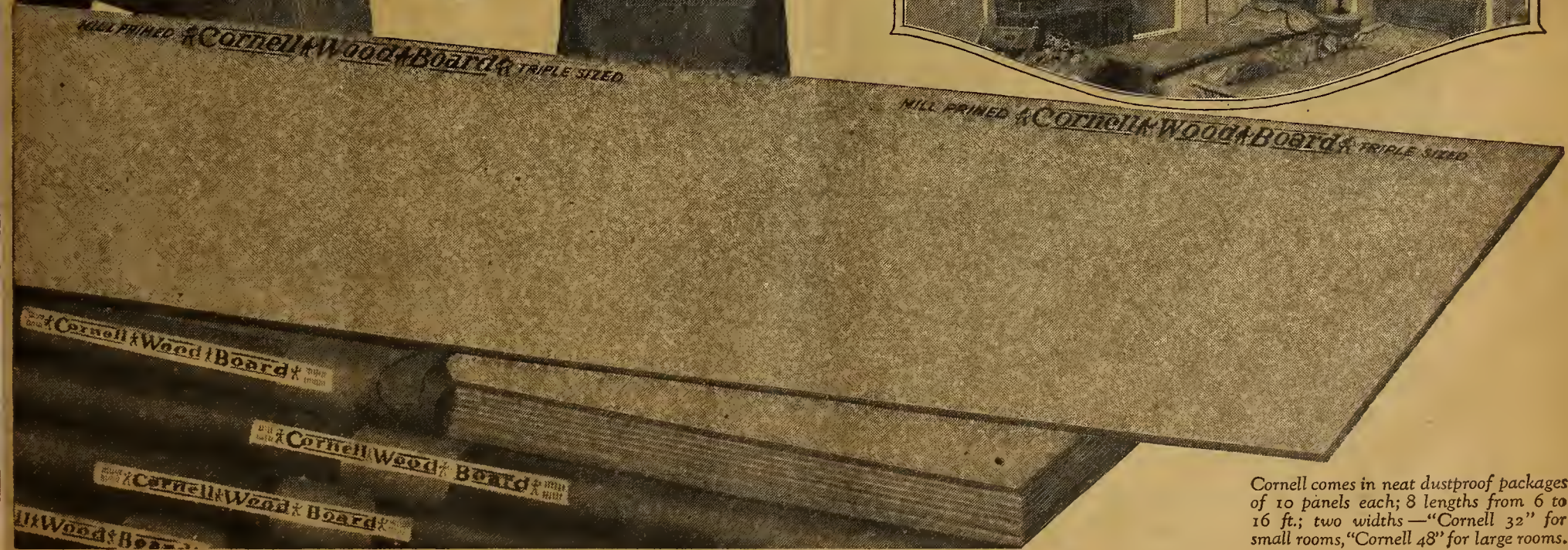
My painter friends say that Cornell's "Mill-Primed" surface takes a perfect spread of paint or calcimine without priming. So they always figure to paint a Cornell job for less. Leading lumber dealers everywhere supply Cornell Wood Board.

Send for Sample and Booklet No. 12 of Cornell Interiors

CORNELL WOOD PRODUCTS COMPANY

General Offices, Chicago

Water Power, Mills and Timber Lands in Wisconsin



Cornell comes in neat dustproof packages of 10 panels each; 8 lengths from 6 to 16 ft.; two widths—"Cornell 32" for small rooms, "Cornell 48" for large rooms.

Famous Lion Brand Shoes



Now Sold Direct From Maker to Wearer

During the past fifteen years, 10,500,000 pairs of Lion Brand and Steven Strong work shoes have been sold through fifteen thousand stores. Last year the shoe buying public bought over \$6,000,000 worth.

From coast to coast, men and boys who appreciate extra value in work shoes, have come to these stores again and again to buy these shoes.

From the day the first pair of these super-work shoes was made, we have left nothing undone to make Lion Brand and Steven Strong stand for the finest work shoes in the country.

It has not been easy to do this. It has meant the building of our own tannery, the buying and tanning of hides—as we could find no leather in the open market good enough to go into Lion Brand Shoes.

Pay Only One Small Profit

But we are not satisfied. We want thousands upon thousands more satisfied customers and so we are cutting off all unnecessary profits, not only the profit of the tanner, the salesman, the jobber and the store keeper, but limiting our own profits to from 10 to 25 cents a pair. In this way we can offer you Lion Brand Shoes at from one dollar to three dollars less per pair than you have paid at the stores.

It has taken us fifteen years to build up business through thousands of stores. We believe

our action in turning direct to you is more than justified by the ever-increasing need of fewer profits between the producer and the buyer.

Lion Brand policy on quality of Lion Brand Shoes will be kept up absolutely—a half million dollar factory is behind them. The only difference you will find between buying from the store and direct from our factory will be a big cut on the price of your work shoes.

Catalog picturing and pricing Lion Brand Shoes for men and boys is being printed. A post card request will bring it to you. You will be delighted with the saving offered. You will be more than delighted with the quality of the shoes themselves. Write TODAY.

HARSH & CHAPLINE SHOE CO.

DEPT. A-4, MILWAUKEE, WISCONSIN

Financial reference—ask any banker to look up our standing



No. 76 Men's Brown Hardy-Hide (our own tannage), Hard Cap Toe Blucher, Whole Vamps, Ooze Gussets, Nail fastened Half Double Soles, sizes 6 to 11. Wide widths only. Well shaped, well made, durable and comfortable—in every respect a better shoe than we have ever known to be offered at anything like this price. This shoe has sold at retail as high as \$6.00.

WE PAY POSTAGE

Send money order, draft or your own check. Be sure to mention size.

Write for catalog showing many styles and grades, some of which may please you better.

PRICE

\$3.70

FARM & FIRESIDE

The National Farm Magazine

FEBRUARY 1921

5¢ A COPY



More Than 800,000 Circulation



Mrs. H. H. Johnson

Write and Get These Ideas That Make Money

If everybody were millionaires we would sell mighty few Old Trusty Incubators and Brooders. We wouldn't need to, nor would people need to raise poultry to help meet expenses.

Farm and Fireside readers are as well off as anybody, and I expect much better of them than lots of folks, but know-

ing that this year is the farmer's opportunity to make money with poultry I asked my husband to let me write this page in Farm and Fireside. I invite you to send for our book filled with poultry ideas that make money. Poultry develops quickly. Six months from hatching time pullets are laying. Roosters can go on the market in three to four months and more than pay cost of a good incubator, the eggs and oil. Raise several hatches this season and see the profits pile up. We have just heard from a young farmer who made \$406 in less than nineteen months after his first investment of less than

Annual Catalog
The Famous **Old Trusty**
Incubator and Brooder



Make Incomes Like These

Miss Dora Young of Holden, Mo., says: "We sold \$3,000 worth of eggs the local market of our town during the past three years." That's \$1 per year, in addition to the other regular family income. *Mrs. Maud Iman of Eagletown, Oklahoma,* says: "While my husband works I run expenses at home with Old Trusty."

Thos. Ashley, Kimball, S. D., with one Old Trusty sold \$350 worth of \$200 worth of pullets, \$200 worth of roosters and has 50 hens left and not count what the family used. *H. F. McDonald of Manchester, I* using one Old Trusty, says: "My poultry sales for 10 months are \$1,084

Suppose you owned a hundred-egg size Old Trusty. Make a few hatches during the next several weeks. Next spring you should have a large sized flock. In a few months you will have laying hens and plumpers ready for market or your own table. Do you know of any business that can turn so big a profit so quickly? A profit many times the amount of your original investment.



Harry Johnson
"The Incubator Man"

I want to give my hearty endorsement of all that Mrs. Johnson has written here and add my invitation with hers for you to send for our big poultry annual. We are glad to mail it free to any address.
HARRY JOHNSON
"The Incubator Man."

Here's One Secret

Folks who make the most money with chickens own a good incubator. There is no argument about that. The secret of getting high-priced broilers and high-priced eggs is in the time when the chicks are hatched. That means hatches before hens usually get broody. Hatch eggs in an incubator and hatch them early. Let the hens keep a-laying. The hatch usually pays for the incubator and setting of eggs.

Everybody likes to make money with poultry, and nowadays every dollar to the family income is worth while and I know of no more pleasant and easy way of bringing in these dollars than with a lively flock of good chickens.

Chickens turn table scraps into eggs and meat and never go on strike. Don't raise more chickens yourself and get started right now for 1921?

Write and Get Our Book

It Is the A B C on Poultry Profits

This, Reader, is exactly what we would like you to do. We are always glad to send a copy of the Johnson catalog. Really, this book is more than a catalog. It is the most helpful book ever written on the subject of profitable poultry raising. Harry and I wrote it ourselves out of our own experience, and the combined experience of thousands of Johnson customers, and our object in writing it was to not only tell you about Old Trusty Incubators and Brooders but to give you practical suggestions on how to use them to get the best results. The greatest part of this book, therefore, is given over to the subject of poultry raising.

Mail the Coupon I am making this a special invitation to Farm and Fireside Readers to send for this book. At present every home should have a money-making flock of chickens and I am sure that our new book will give you helpful ideas.

I'll be glad to hear from you. Use the coupon or mail a postal or letter as you prefer. We shall also be glad if you will tell us about your poultry when you write, as we may be able to offer helpful suggestions to you personally.
Yours truly,
MRS. H. H. JOHNSON



We Pay the Freight

and make quick shipment from factory at Clay Center or warehouses at St. Joseph, Mo. We build Old Trusty in four handy sizes. With or without the metal cover. Write for our catalog M-15.

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Please send me your 1921 Old Trusty Book, No. M-15. I will pay your ad in Farm & Fireside.

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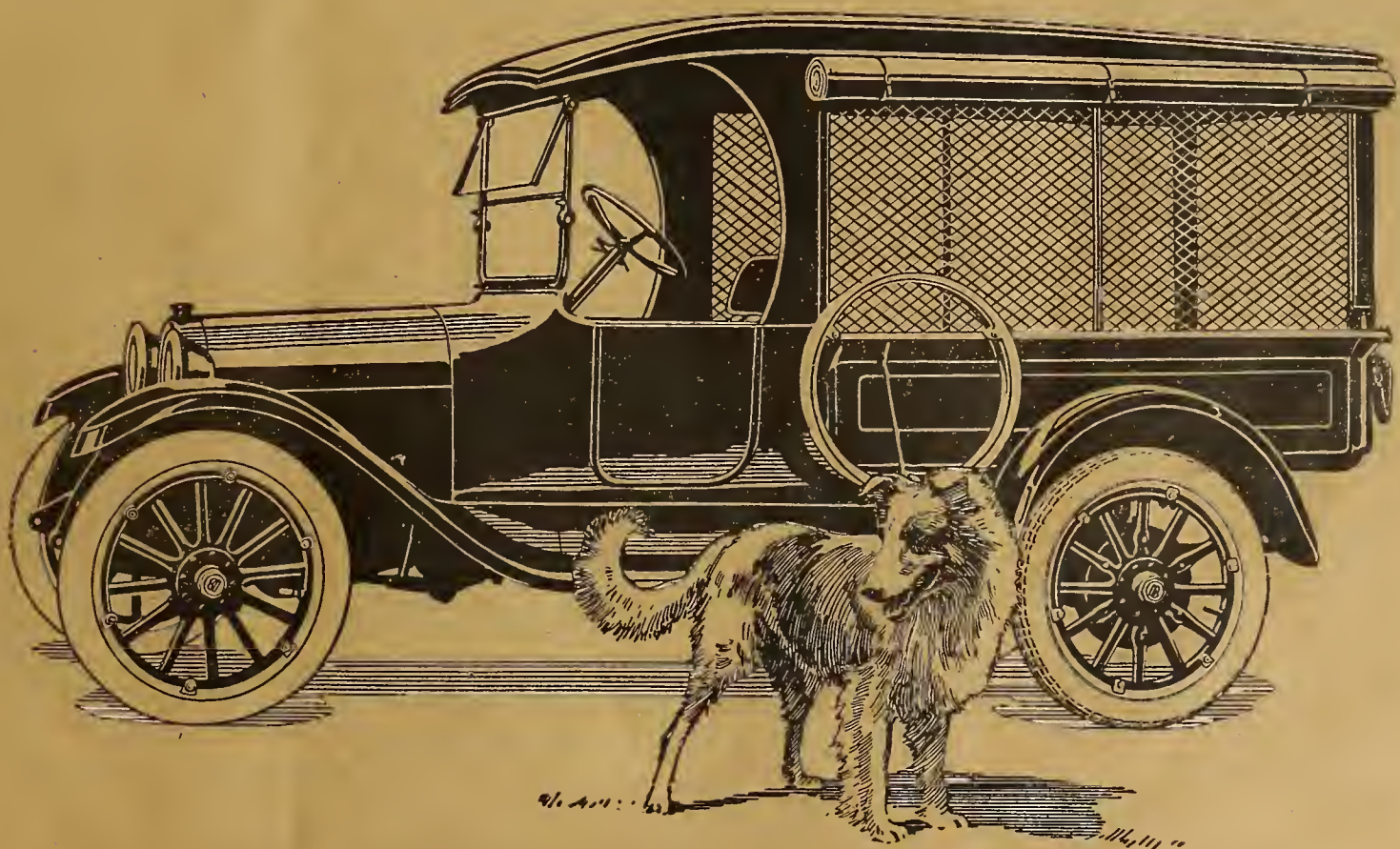
DODGE BROTHERS BUSINESS CAR

The utility value of a motor car is nowhere shown more convincingly than with a Dodge Brothers Business Car on the farm

Strong and sturdy and powerful, it is a hard, loyal worker at all hours and at all seasons of the year

Haulage costs are consistently low, and repair costs for the car itself are almost unheard of

DODGE BROTHERS, DETROIT





The "U. S." Bootee

The protection of a boot— the comfort of a shoe

*A miner's rubber shoe that is becoming
popular among farmers everywhere*

IN wet weather—over muddy ground—you can keep your feet as dry as in boots, and yet have all the light-weight comfort of a shoe.

Farmers everywhere are buying the new U. S. Bootee—a water-tight *rubber shoe* that is just the thing for everyday service around the farm.

It was first designed for miners, who *must* have a waterproof shoe that will not tire their feet. Today it's fast becoming popular all over the country—with all men who have to work much out-of-doors. Worn right over the sock like a leather shoe, the U.S. Bootee gives perfect protection always—whatever job you have to do. Its light weight and its smooth, easy fit will give you a new idea of real comfort in rubber footwear.

Ask your dealer to show you a pair of the new U. S. Bootees. Note their smooth rubber surface—feel how pliable and comfortable they are. They have the same built-to-wear construction which character-

izes the whole U. S. line of rubber footwear.

*Other types of "U. S." Footwear—built
for rough service*

The U. S. line of footwear has a type for every need—arctics, rubbers, "overs"—all built in the same, rugged, reliable way.

They all have tough, heavy soles—special reinforcements at every point where the wear is hardest—and the highest quality rubber from our own plantations.

Ask your dealer to show you his U. S. line. Pick out the models best suited to the work you do. Every one has been designed by experts—every one is backed by over half a century of experience.

Always look for the "U. S." Seal—it means solid wear and long service for your money.



*"U. S." Boots—Reinforced where
the wear is hardest. Made in all
sizes and styles—Hip, Half-hip, and
Knee. In red, black, and white.*

United States Rubber Company

Look for this seal



on all "U.S." Footwear

What Coöperation Can, and Cannot Do for You

By Herbert Hoover

WE HAVE made a good deal of social progress in our economic system since the start of our industrial era. Fifty or seventy-five years ago our fundamental economic conception was everybody for himself and the devil take the hindmost.

The system we have arrived at is not perfect, and probably will not be perfect this side of the millennium; nevertheless, there has been great progress, and this progress is going on at an accelerated pace. The three main directions of progress are:

First, the gradual regulation of natural monopolies and the prevention of combinations so as to protect an equality of opportunity to all.

Second, the growth of group action in great sections of the community to protect and foster group interests.

Third, the growth of coöperation in buying and selling, in the reduction of costs in marketing commodities.

These directions of advance are not toward socialism or communism—which would replace individual initiative by the action of the State. We have indeed had some application of socialistic ideas of government operation, many of them imposed by the war, but the profoundly disappointing experience of the Shipping Board will probably convince most thinking people that there is no way out in that direction.

Group action, such as our farmers' organizations represents, is directed in large degree to coöperative efforts to effect improvement in our economic structure, as well as to coöperative buying and selling. The distinction is important, and it goes deeper than the question of the actual handling or not handling of money.

THE great concern of the American farmer to-day is with the problem of marketing produce. In the violent readjustment from war, he is selling most of his produce below the cost of production, and he is obviously warranted in examining the whole system.

In a few hundred words one cannot compass this great subject, but some points

for consideration are worth advancing. The price of farm produce is practically determined at the receiving door of the retailer. For example, a retail dealer in butter in New York has offered to him Danish,

mined, every cent that can be saved between the farmer and the intake door of the retailer means increased return to the farmer. Therefore, the farmer is vitally interested in such improvement in the sys-

ernment, through constructive coöperation with such powerful groups as chambers of commerce and bankers' associations, and to some extent it can be diminished by actual coöperative marketing by the farmers.

Where products have a positive, assured quality, the risks of marketing immediately decrease. The facility of sale increases, the spread diminishes in favor of the farmer. The difference in the margin, or spread, of wheat and beans is a good instance—the former being greatly reduced through the operations of the Federal Grading Service. Such saving, due to standardization, may logically be expected through coöperative selling by farmers. The success of the apple growers, certain Western breed-stock growers, the farmers' grain elevators, and many other coöperative efforts is to a considerable degree the result of actual standardization, and it illustrates the return to the farmer of the spread due to this factor. There is a great field for extension of standardization in many prime bas-

IN THE marketing of food commodities, a scientific, accurate system of distribution would save great losses due to deterioration and spoilage. Even assuming perfect storage, when food commodities have left the warehouse for distribution they are all subject to deterioration—perhaps to a maximum degree in eggs and a minimum in wheat. Deterioration is, in the main, a time factor, and can be decreased by rapidity of turnover; and there are many elements that contribute to time delay. Some can be remedied by coöperative action among producers, as has been shown in the case of Western fruit.

Under the old method of distribution, fruit was handled in one of three ways: by direct shipment from the producer to a commission agent at a consuming center, by the producer through his local commission agent to an agent at a consuming center, and by sale directly to a local buyer who himself consigned to various consuming centers. Under this system there could be no regulation of the [CONTINUED ON PAGE 31]

Things Hoover Says You Can Do to Get Better Prices

THIS is what Herbert Hoover says you can do in your local farm-bureau meetings to insure better prices to yourself for the things you grow on your farm.

Urge your state and national organizations to work out a plan whereunder all farmers will grade and standardize and pack their products *uniformly*, thus insuring a dependable uniform *quality* to the jobber, wholesaler, manufacturer, and consumer who buys them from you. *Uncertain* qualities and grade now adds one of the big slices to the marketing cost of your products that *could* be saved and put in *your* pocket.

Urge a faster system of distribution for the marketing of perishable products. This will cut the dealer's loss from deterioration, thus enabling him to do business on a smaller margin, thus enabling him to pay *you* a higher price. Better transportation and storage are the things that will help to reduce this margin of wasteful marketing cost on both perishable and staple crops.

Urge the establishment of a system by the Farm Bureau that will gather facts the world over and predict to *you* the probable consumption demand of the coming year or two for your farm products. This will enable you and your fellow farmers to produce a supply somewhere near the demand, thus preventing overproduction and consequent low prices. This was done by the Food Administration, and *can* be done by your organization.

THE EDITOR

Dutch, Siberian, American, Canadian butter. He naturally buys in the cheapest market, and the price established by his purchase is reflected backward from New York to all of the more remote dealers, less transportation costs. The farmers' price, therefore, in the short view, is not the result of the cost of production plus a fair return to the farmer, though in the long view this is so, because the volume of production must ebb and flow on the basis of such a return. If, for any considerable period, he obtains a return below cost of production and a fair profit, he will cease to produce, and prices will go up.

If we are correct as to the point where price is deter-

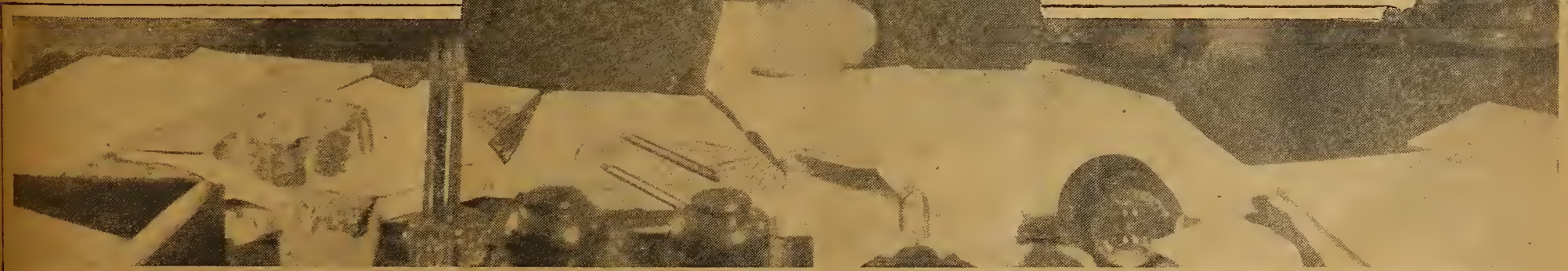
tem of markets as will reduce this margin, or spread. Let us call the difference between the farmer's price and the price at the intake door of the retailer the marketing spread. Its size depends on a great many factors. One is the amount of *risk* involved, against which dealers will protect themselves in fixing their prices. This risk is made up of the dangers of price fluctuation, the dangers of waste through perishability, and variation in the quality of commodities purchased from a number of different farmers. It also depends upon transportation, upon taxes, upon interest, and upon the profits made by the handling trades.

The cost of some of these items of service can be diminished by joint action of the farmers, through legislation, through administrative action of the Gov-

ernment, through constructive coöperation with such powerful groups as chambers of commerce and bankers' associations, and to some extent it can be diminished by actual coöperative marketing by the farmers.

Here is a characteristic photograph of Herbert Hoover. By profession Mr. Hoover is an engineer, and when he reasons out a problem he does it by charts and graphs. When deeply absorbed, he also has a trait of drawing squares on scraps of paper and filling them in with straight black lines. If you will look closely you will see some of these "Hoover hieroglyphics" on his desk

Photo by Underwood & Underwood, N. Y.



We Got \$336,000 More for Our Potatoes the First Year We Organized

By George V. Brown

Secretary and General Manager of the Aroostook Federation of Farmers, Caribou, Maine



George Brown is one of that kind of men intensely interested in whatever they have to do. Since he has become secretary and general manager of the Aroostook Federation of Farmers he's not only anxious to grow good tubers himself, but he likes to see everybody do it. This picture was taken at the beginning of the digging season last fall, and Mr. Brown is seen here giving a wagon load of potatoes an unofficial inspection

IN THE fall of 1918 we potato farmers of Aroostook County, Maine, were confronted with failure through bad marketing and high production costs. We had vaguely known for a long time that all was not well with our marketing system and method of buying fertilizer. But, like a lot of other folks, we kept putting off our search for a solution until the worst happened.

How we solved our drastic problem is the story I'll try to tell you here. I tell it in the hope that it may shed a little light or lend a little encouragement to you and your neighbors, if you are confronted with a similar situation in your kind of farming. You can dig out of the difficulty if you'll study your problem and fight it through.

This is the story of how twelve hundred of us got together in desperation and organized what in less than two years has become the largest farmers' cooperative association in the county. Through it we cut one link from the chain of middlemen, and took profits for ourselves which netted us an average of 30 cents a bushel more on potatoes, and saved us \$10 to \$35 a ton on fertilizers. Moreover, we made a net profit of \$30,000 in our first fiscal year on a gross selling business of over \$2,700,000.

Aroostook County, which is about as big as the State of Massachusetts, grows more potatoes for its size than any other section of the country. Potatoes are our big money crop. Within the last six years our annual output has been increased from twelve to twenty million bushels. Yet, while we worked hard to increase production, we practically ignored our real problems.

It does a lot of good to double your crop if you can't find a profitable market! Yes, it does—not! And it's equally useless to increase production if it takes more fertilizer to force growth than the larger crop is worth.

In the early days we drained our soil's natural fertility by growing potatoes continuously. Then we started using 200 or 300 pounds of fertilizer to the acre. And, although systematic rotation followed, we had to keep on increasing the fertilizer until in the spring of 1918 we were applying from a ton to a ton and a half.

That fall the fertilizer companies raised their prices. At the same time our market,

never dependable, dropped below the profit point.

Most of us had been selling to independent shippers, representatives of big Boston and New York commission houses. We hauled to the nearest town, where these "street buyers" bid on what we had. There never was any frenzied raising of bids.

We knew we weren't getting full value on our crops. Our share was about 30 cents of the consumer's dollar. But so long as we were able to make a little something we didn't get riled up enough to more than "discuss" the question. We did have the Potato Growers' Association and several small farmers' unions, but they weren't very aggressive.

That fall we found fertilizer prices \$90 to \$95 a ton. Labor had gone up accordingly. But our prices! Ninety cents to a dollar a barrel was all we could get. Moreover, the fertilizer, instead of increasing our yield, in many cases killed our seed almost before it had a chance to sprout.

We found the potash ingredient carried enough borax to make growth of any kind impossible. Thousands of acres grew nothing but a few sickly plants and no tubers. Some of us refused payment, but when we tried to buy of other companies we ran into: "Pay your old bills or do without."

Few of us had enough ready cash. Something had to be done.

Around Caribou little impromptu gatherings sprang up. Strong, real cooperation was the only way we could see out. But we didn't make any progress until we decided to get the advice of O. B. Griffin, a fellow farmer and now president of our association.

We selected two Caribou farmers, John Seymour and Cyrus Maxwell, who went to Mr. Griffin and told him we were contemplating a cooperative movement.

"Why don't you rent a hall," he asked, "and see what the rest of the county thinks?" That struck us as good, and we did it. Our local newspapers announced our intentions, and one day in January, 1919, Caribou found itself the center of county-wide interest. Over 450 farmers were on hand.

MR. GRIFFIN outlined a plan of organization that we liked, and then said: "Before we take the jump, let's get the advice of men who have been through this before. Let's hold similar meetings over the county and find out how the rest of Aroostook's six thousand farmers feel." So we formed a temporary organization, with Griffin temporary president and myself as secretary.

Following this meeting, Griffin appealed to John A. Roberts, then Commissioner of Agriculture for Maine. He sent us Frank Adams, chief of the Maine Bureau of Markets, who secured us the services of Theodore Wade of the Bureau of Markets, Washington, and our county agent, John L. Scribner.

With their help we held fourteen big meetings, and had the farmers appoint delegates to a big meeting for final action. This was at Caribou, February 11, 1919, and lasted two days. Those were red-letter days for Aroostook, for we organized the Aroostook Federation of Farmers, and incorporated it for \$100,000 under the laws

of Maine. Griffin was our first president, and I was made secretary.

That spring we purchased nearly 2,000 tons of unmixed fertilizer, and sold it to members at \$30 to \$35 under prevailing market prices, each member doing his own mixing.

This first step was encouraging, but our success that autumn in marketing members' crops assured the practicability of our venture. That year we handled about one-fifteenth of all the potatoes grown in Aroostook, or a little over 1,600 carloads. In all, we paid our members \$2,700,000 for crops.

WE KEPT no comparative figures, but our sub-association at New Sweden tried out a plan of its own. It sold its members' crops through the federation, but, instead of paying federation prices, turned over the price being quoted on the street at the time of shipment. At the end of the season it paid each member an average of 80 cents a barrel premium.

That average is low for the entire membership, however. John McElwain, a director of the Caribou local, tells me he gained at least \$1.00 a barrel. And he shipped over 3,000 barrels. A very conservative estimate, I believe, would place the average at about 30 cents a bushel. On 1,600 cars of 700 bushels each, a total gain of \$336,000.

But take the individual member: Being conservative, let us say he had 60 acres in potatoes. If he had any luck his crop averaged about 90 barrels to the acre. Perhaps it totaled something like 5,400 barrels, or 12,150 bushels. Thirty cents a bushel over street prices meant \$3,645 which he otherwise would have lost.

In the spring of 1920 we bought 9,500 tons of chemicals for cash. With help from our local banks we made cash payments of over \$500,000. Our saving was from \$10 to \$15 a ton. This spring we hope to have erected at Caribou a plant with the capacity to mix 25,000 tons of fertilizer. We are selling \$50,000 worth of federation stock to finance it.

We realized we'd never be able to handle the crop of the entire county from a central distribution point, so we arranged local subsidiary corporations at the local shipping points.

We now have 23 locals, the majority incorporated at \$50,000 though there are several at \$100,000, and some below the first figure. Each one is incorporated separately from the main "overhead"

federation, but all are affiliated with the overhead through their by-laws. Each has its manager and officers, but the locals sell through the overhead sales manager, Guy C. Porter, at Houlton.

Mr. Porter is not an officer of the federation. He was hired to find markets for our crops. Much of our success is due to his knowledge of markets.

Under our plan each farmer gets the money for his crop two days after shipment. As soon as a car is loaded at the local, the local manager notifies Porter, who sells the car by wire, gives shipping directions to the local manager, and tells him the sale price. The manager sends Porter a bill of lading, on receipt of which a draft on the consignees is banked. A check is then mailed the local manager, who deducts the federation commission and turns the balance over to the shipper. We started charging a commission of five cents a hundred pounds on all goods shipped and five per cent on all goods purchased. This just paid operation expenses, no insurance; then the street buyers said:

"If you join the federation what guarantees you the price promised? Suppose your crops freeze or the market drops before your shipment gets there? You're responsible until the buyer gets the goods. Sell to us and your responsibility ends with the delivery to us here."

TO GET around this, we added an extra charge of \$5 a car for insurance. That stumped the street buyers.

The federation operates and is operated for and by its members only. To become a member, a farmer must buy one share of stock in the overhead and one share in his local—at \$10 each. He may buy more, but regardless of how much stock he owns he controls but one vote. If he isn't a real farmer, he can't enter at all. Seven per cent is the highest dividend we pay, but if there is more surplus it is divided pro rata.

Each member votes for a board of nine directors on the overhead. These directors choose from among their own number four officers to operate the business. This holds true in the locals also.

Our first sale of stock in the overhead was just 59 shares. Since then our membership has climbed to over 1,200. We absorbed the old Growers' Association and settled its financial deficit of \$3,000. Many of the small farmers' unions have reorganized and been absorbed by us as locals.

Try as we did [CONTINUED ON PAGE 18]

Fear and Laziness Are the Things That Hold Us Humans Back

THE human animal hates to bestir himself. He is lazy, and he is afraid.

Take any problem you ever confronted. Strip away all your self-pity, all your excuses. Be honest with yourself. Now analyze the problem and your treatment of it, and see how much of shiftlessness and fear there was in your attitude toward it.

Fear and laziness are the two worst enemies of success.

A man will twist a problem into more shapes than a pretzel ever dreamed of, rather than meet it, and solve it.

These Maine potato growers *knew* they were being robbed and cheated. But they just grumbled, and "got along." Then up hopped Old Man Disaster, and said:

"Here I am, boys, to wipe you out!"

Then they moved! You bet! They could shuffle through on half a loaf, but no loaf at all was too much. So they studied the problem, and solved it.

Now, this little statement is interesting, and it is true. But I do not flatter myself that it will do *you* any good. You will pity *others* who are so shiftless and cowardly, and go sublimely on until that problem *you* are dodging belts *you* in the back and knocks you out.

That's human nature.

Sad, but true.

THE EDITOR.



"I guess we must a bin three feet ahead, with a hundred yards to go. Split was a-cussin', and an' spurrin', an' whippin'. I jes' whispered, 'Now, Stud! Now! Now!'"

"Old Granpa"

One of the greatest racing stories ever printed

By Frank S. Hastings

Illustration by Frank Tenny Johnson

ON THE way over to Flat Top Ranch, one day in June, 1906, I stopped at headquarters, and asked Mage, the foreman, to meet me in town at 7 P. M., and we would drive through to Throckmorton, a night's drive, with Beauty and Black Dolly, two spanking mares which he had bought for me. They could take their ten miles an hour steadily for hours, and I threw them in as a bait to tempt Mage against any local duty which he might urge. Mage stood 6 feet 5 inches in his socks, every inch of it cowman and horseman. He came to the ranches at thirteen years of age—a much misunderstood kid. But he had grown into a manhood of sweetness and strength, which had surrounded him with the love and respect of every man, woman, and child in the country.

Mage was a dead-game sport, a rider whose skill and daring are still traditions in the big-pasture country. His stories and personal reminiscences, told with rare humor and dramatic force, made a journey with him a real entertainment. I always sparred for an opening to get him going when we made drives together. At seven o'clock he was on hand to the minute, talking to the mares as though they were human. We were off—"heads up and tails

over the dashboard." As we swung into the main thoroughfare the people on the street turned round to watch Mage handle the mares. They were having their little fun before settling to the steady distance-killing gait, and they were a pair to look at: Beauty a deep chestnut, both wilful and beautiful, and Black Dolly, with her sleek sable coat, still at the giddy age. Mage had the stage driver's trick of coming into town or going out in style. The mares knew his voice and hand, and the light that shone in his eyes told where his heart was. For two hours we chatted or were silent by spells, as is the habit on long drives. The moon came up in her soft fullness—one of those Southern moons like the ripeness of love, a perfect heart full. The cool night air was stirring caressingly, and we were both under the spell of it all. The mares had steadied down to normal. We were crossing a prairie near Rice Springs, once a famous round-up ground in the open range days. Mage raised his six-foot-five up in the buggy, looked all around, and, as he sat down, said: "This here's the place; here's where me an' Old Granpa won our first ditty."

The moon had risen high enough to flood a great flat until we could see a mile or more. I saw just a beautiful expanse of

curly mesquite grass, blending its vivid green with the soft silver moonlight; but Mage saw great crowds lined on either side of a straight half-mile track; two riders—the one on a midnight black, and the other on a speed-mad sorrel, in deadly contest for supremacy. The stillness of the night—which to me was the calm benediction of peace and rest—was broken for him by the wild cheers as a boy and sorrel horse crossed the line, victors. His face was tense, his eyes shone with the fire of strain and excitement, and then slowly he came back to the stillness and to the moonlight, and to me.

I WAITED a minute, and asked, "What was it, Mage?" He did not answer until we had crossed the flat. Then, with a little short laugh, peculiar to him before telling a story, he began: "As fur as that's consarned, it was this-a-way—"

But here let me tell some true things I knew about Old Granpa: He was a famous cow pony, originally known as Sorrel Stud. Mage broke him as a three-year-old, and had ridden him some eighteen years. The last few years of that time Stud had come to be known as Old Granpa. He was still alive, but had been turned out under good keep, winter and summer, to end his days

in peace. He was very fast, and was considered among the top-cutting horses of his time. Mage's worship of this horse is only typical of every cowboy's love for his pet horse. But to his story:

"It was this-a-way: We hed fenced some, but allus hed lots o' strays out on the open range, an' Shorty Owen (who, by the way, stood 6 feet 6 inches) tole me early in the spring he was a-goin' to send me out to gather strays when the big round-ups begin, an' 'lowed I best be gittin' my plunder rounded up. That was afore you cum, but you know he was the S. M. S. range boss, an' mighty nigh raised me. He tuk to me the day I hit the ranch. 'Kid,' he says, 'you ain't never had no chanct, an' I'm a-goin' to giv you one.'

"Shorty taught me to ride—hobbled my feet under a three-year-ole steer onct, an' turned him loose. We hed it roun' an' roun', with the hole outfit hollerin', 'Stay with 'im, Kid!' I staid all right, but when he pitched into a bunch o' mesquites I sure would aleft 'im if these here preachers is right 'bout 'free moral agency,' but them hobbles helt me back, and I staid fer the benediction. Since thet time I never hev seed a hoss I was scairt to climb on.

"SHORTY cut Sorrel Stud out to me when he was a bronc, an' said, 'Break him right, Kid! I think you got a cow hoss if he ain't spoilt in the breakin'. An' I done it without ever hittin' him a lick. As fur as thet's consarned, I never did hit him but onct, an' thet was the time him an' me both failed, only Shorty said we didn't fail; we jes went to the las' ditch. But thet's another story.

"I wisht you could a-seed Sorrel Stud in his prime. He was a hoss! I thought 'bout it to-day when you hed yore arms round his neck an' a-talkin' to him 'bout me, an' I wondered if anybody 'cept me could understand thet Sorrel Stud and Ole Granpa was the same hoss. But when I got up an' thumbed him, an' made him pitch me off jest to show you what a twenty-year-ole hoss could do, did you see the fire come into them eyes, an' them ears lay back? Hones', Frank, he was a hoss!

"I know I was jest a tough kid when I come, but atween Shorty Owens an' maybe a little doin' right fer right's sake I tried to live an hones' life. But they's two things me and St. Peter may hev to chew 'bout a little at the gate. You know what a fool I ain 'bout tomatoes? Well, onct I stole a dozen cans from the chuck wagon, and hid 'em out in the cedar brakes. But the boys at the wagon hed me so plum scairt 'bout Injuns thet I never did git to them tomatoes. Well, Ole Granpa is jest as plum a fool 'bout oats as I be 'bout tomatoes. I'll admit I stole this here outfit's oats fer him fer ten years, till the High Boss was out onct from New York and seed Ole Granpa go to a fire. Of courst I was up, an' he sed he guest he could pay fer Granpa's oats the rest o' his days. Joe was mighty perticular 'bout company oats. We hed to haul 'em sixty miles, but I think he slipped a mess to White Pet onct in a while hisself. I used to wait till the boys hed hit their hot rolls, then I'd slip out to the barn, get my big John B. full o' oats, steal to the corner o' the hoss pasture, an' Ole Granpa was allus waitin' fur me, an' he'd never leave a stray oat to give us away.

"THEY called me 'the S. M. S. Kid.' I was 'bout sixteen. I could ride some, an' I allus had a little money back from my wages. So when Shorty Owen tole me I was a-goin', I used thet an' all I made up to goin' time fer an outfit. I hed a good season saddle, a Gallup; but I bought a bridle with plenty o' do-dads on it. Then you know my Injun likin' fer color: I bought a yaller swe't blanket, an' a top-red Navajo blanket fer Granpa. He kinda leaned to color too. I set up all night with Swartz, an' made him finish a pair o' top-stitched boots, an' I hed enuff left fer new duckin' pants, red flannel shirt, an' a plaid fer change, shop-made bit and spurs, both in-laid, a yaller silk hankerchief, a new hot roll, an' a twelve-dollar beaver John B. Then Shorty Owen cut out my mount. In course I hed Sorrel Stud; he was six years old, right in his prime, an' I kep him shinin'. Then there war nine more, all good ones—Blutcher, Alma, Polecat, Tatterslip, Bead Eye, Louscage, Possum, Silver Dollar, an' Badger, three of 'em from Shorty's own mount.

"'Kid,' says Shorty, 'you got as good as the best o' 'em. I wants fer you to mind thet on this here work you're representin' this here outfit. Keep yore head, an' come back with it up. But I'd bet my life on you, an' this here outfit is trailin' you to the last ditch.'

Mage's voice was getting low here, and he swallowed on the last words, paused for a moment, then [CONTINUED ON PAGE 28]

What I Have Learned from My Experience as a Country School Teacher

By Lottie E. Hart

MISS HART, I've followed that old plow for thirty miles to-day and I'm not going to keep that up all my life. I'm going to get out of this when I'm a little older or know the reason why."

It was a seventeen-year-old boy that made that statement to me. It was early in the spring, and, although the district in which I was then teaching had only five months of school, that boy's father had taken him out as soon as the ground was ready to plow and put him to work. The boy had kept track of the number of times he had been up and down the field, and knowing how many rods long it was he had figured up how far he had walked that day behind the plow, which was a little over thirty miles.

After following the plow that thirty miles he had come to the schoolhouse in the evening and practiced for the entertainment which we were going to give on the last day of school. Although he had been forced to leave school before the term was up, he wanted to take part in the entertainment, and so, after the hard day's work was over, he came to take his place with the other scholars in the closing day's program.

That boy's statement made that night was a prophecy. He left the farm a year or two later with his brother, and to-day they are owners of a thriving electrical business in the second largest city in America.

"I'm not going to sit in that old cow barn all my life!" stormed one of the girls in the home where I boarded in that same district, and that girl's statement was also a forecast of the future, for she left the farm and went to doing housework in a near-by town, later marrying one of the town's leading young business men. There were nine children in that family, six boys and three girls, and to-day there are only two of them following the life of the farm. One boy is operating the old home farm, and one girl married a farmer and is a farm-wife. The remainder of the family drifted away to the town or city.

WHEN I hear farmers to-day talking about the shortage of labor on the farm, the high wages demanded, and the general rush of farm boys and girls to the towns and cities, I think of those and scores of other instances like them that I met in my experience as a country school teacher. And the thought flashed into my mind that the cause of present conditions on the farms is not due to the lure of the cities because they are cities; is not entirely due to the higher wages paid in the cities, but a great deal of the fault lies right back there in those little country schoolhouses and country school districts. "Whatsoever a man soweth, that shall he also reap."

In the district I just mentioned the directors allowed only five months of school. We started in November and closed the last of March. The late start and early closing were arranged so that the children of school age would be available for farm work as late in the fall as there was any to do, and as early in the spring as work could be done; and even then some of the farmers took their children out of school before the term closed, particularly if it happened to be an early spring and the plowing and seeding could be done early.

For the term of five months I received the huge salary of \$35 a month—\$175 for the term. In another district I received \$37.50 a month for a six-months term of school.

I have always found that children in the country schools are hungry for education; they go at their studies with a zest and determination that is quite often lacking in the graded schools, and the reason for that condition is, I believe, that the school is the center of their life. They have not the many diversions of the children of the towns and cities; they think more of their school and their school work. In fact, school is the one subject uppermost in their minds during the school term.

Not only are they hungry for an education, but the enthusiasm with which they go about getting up any sort of school entertainment is wonderful to see. They seem to live for that entertainment, and strain every nerve and thought to make it as great a success as possible. I have always found

the children of the country schools willing and eager; they are groping for education; they are starving for light on many subjects, and their school terms are the brightest spots in their lives.

With that condition of affairs existing, it was always a wonder to me that the school boards of those rural districts should act as they did in the conduct of the country schools. In many cases the school boards seemed to look upon the schools as a useless expenditure of money, as something they did simply because they had to do it, not because they wanted to do it. In some districts, of course, there were cases where the directors took a keen interest in the schools, and wanted to do all they could for the school and the children, but such cases were the exception and not the rule. The general policy of the directors seemed to be "Get it over with as soon as possible

he will be ready to follow the plow that thirty miles or, rather, he will be able to ride that distance on a sulky plow or a tractor hauling a gang plow. Give him a chance, let him be educated to meet his man's job; don't try to cram that job down his throat while he is still a boy. If you do, it won't be his job when he does get to be a man.

And give the country girl her chance. If you try to cram that woman's job down her throat as a girl, or attempt to have her "spend her life in a cow barn," without giving her a fair chance at an education, you will find that her job isn't on the farm at all. She will find a new sort of a woman's job in the town or city.

To my mind, the most pitiful and hopeless situation with which I had to deal as a country teacher was the attitude of so many of the farm parents toward giving

truth than fiction in the boy's characterization of Mr. Blank. He evidently had absorbed more personal knowledge from his newspaper than he had imparted to the scholars from their books. Of course, a teacher has to start *somewhere*. Not everyone can afford a college or normal-school education, and it is in the country schools that they usually start. In many cities a teacher must substitute for a certain length of time before getting a regular assignment. In the graded schools of many towns no teacher is accepted that has not had at least two years' experience. Where is such experience to be gained? Usually in the country schools.

I remember an assistant county superintendent of schools who during his visits to the country schools kept his eyes open for desirable candidates for good positions in the graded schools of the towns in the county. The same thing applied to the county superintendent of schools—he was always on the lookout for good teachers to advance. Of course, from the standpoint of the teachers, that was a fine system. When we had won our spurs in the country, good positions were open to us in the graded schools of the country towns. But at the same time that system was rather hard on the country schools. It kept them a continual training ground for new teachers, or a continual dumping ground for incompetent teachers; for if a teacher failed to make good in a graded school it was "back to the country" for more experience, and if the teacher never could make good in a graded school, it meant that an incompetent teacher was shunted out into the country schools for an indefinite stay.

To my mind, it requires a better teacher to make a real success in a country school, with its grades running all the way from primary to high school, than it does to make a successful teacher in a graded school where one can specialize in one or two grades. A successful country school teacher is usually a success as a graded school teacher; but an unsuccessful grade teacher is usually a worse fizzle in the country school than she was in the grades.

THE prevailing system of making the country school a training camp for the graded schools is one evil which to my mind greatly hinders the proper development of the country school. I believe the country school is entitled to just as good teachers, if not better, than the graded schools. I think the influence of the country school teacher's work makes a more lasting impression on the minds of the country children than does the grade teacher's on the minds of his pupils.

Country children, as a rule, have fewer teachers, therefore the impression left by each is more vivid, and we should take every step possible to see that the impression left is a good one.

The last few years have made quite a change in many country schools. The problem of low wages has largely disappeared, but the great trouble of getting good teachers is becoming more acute all the time. Even now the wages offered are so much lower than other lines of work offer, that the towns and cities are having trouble in securing teachers. In the country districts in some cases it is impossible to get teachers.

An assistant county superintendent of a certain country school asked a friend of mine last fall if she knew of any girls who could teach—"If they can teach, or even have taught and want a job, tell them I've a lot of them open, and I'll see that they get a certificate without an examination or any other bother." That sort of a situation doesn't argue very well for the country school.

One reason, I find, for the teachers wanting to get away from the rural districts is the conditions under which they have to live. I have heard many teachers complain, and I know it to be true, that in many districts the best families will not board the teacher. This forces the teacher to live under more or less undesirable circumstances, and no teacher can do her best work when her home surroundings are not pleasant.

I have found some very fine boarding places among the [CONTINUED ON PAGE 32]



This is Miss Hart. Her home is at Palatine, Illinois, and she spent many years teaching in the country schools in Cook County, that State. She is a sister of T. C. Hart, who contributes to Farm and Fireside

The Children Get Plumb Disgusted, and You Can't Blame Them

FARMING people have done a great deal of good work in building up the consolidated school idea, and that work is being extended right along. But we are not working fast enough.

Government figures collected this year show that of the nearly 8,000 schools now closed in this country because there are no teachers for them, practically all of them are rural schools. It is estimated that these closed schools are keeping about 50,000 country boys and girls from being educated.

Now consider that fact in the light of what Miss Hart—who has given the best years of her life to country school teaching—says happens when country youngsters are denied an education.

This school problem is not a national problem—it is an individual problem, *your* problem; and it affects *your* children. You can have good schools and good teachers in your community if you will get together, stick together, put up the money, and *insist* on having them. THE EDITOR.

and as cheaply as possible!" The children were always glad to see school open and sorry to see it close.

With such conditions prevailing in the rural schools, is it any wonder that the children left the farms as soon as possible?

I do not mean to say that all of the country children who leave the farm for the city could be saved to the farms, but it is my sincere belief that a large percentage of them can be, and it is also my firm belief that the place to lay the foundation for the future that will keep them on the farms is right in those bleak little one-room schoolhouses at the crossroads, up on the hill, and standing out there alone on the wind-swept prairies.

Education, knowledge of life—that is what the children of the country districts are crying for; that is what they get too little of. Give them an equal chance for education and knowledge with their town and city cousins, make life to unfold before them—all that it is and means to them, and there will not be so many leaving the farm.

What chance has a boy who should be in school getting an education, out following a plow for thirty miles a day? Give that boy the education he is entitled to, let him spend the time in school that he should while a boy, and when he gets to be a man

their children a chance, toward an adequate education.

The natural result of that condition was that as soon as the children got old enough they took the matter into their own hands and made their own chances, and the farm saw them no more. It has made me sad, and a hopeless sort of feeling has often come over me, when I have realized the great field for work which lies before the country school teacher and the short time in which to accomplish even a small fraction of that work, and against obstacles imposed upon them by some country school directors who should be giving their most loyal support.

THE foundation of the country child's entire life is often laid in those little one-room country schools. What sort of teachers have been engaged in laying that foundation? In all too many cases the country school has been made the dumping ground for inefficient apprentice teachers. In one district, on the first day of the term, one of the older boys came up to me and said, "Miss Hart, Mr. Blank all the time sat with his feet on the stove and read his newspaper."

Mr. Blank had taught the school the year before, and I had not gone very far before finding out that there was more

A Failure at 42, I Learned to Think and Plan—and Succeeded

By N. P. Hanson

ALTHOUGH I only started in pure-breds twelve years ago, when I was forty-two, I believe the real foundation of my success as a breeder of pure-bred Holsteins was laid about thirty-eight years ago, shortly after I came to America from Denmark.

I was only sixteen years old, and went to work for a Minnesota man who spent more time trading than farming. I worked hard, learning as I went along. One day my employer, watching me a while, called me over to him, and said:

"Hanson, you work too hard. Spend a little more time planning your work, and you will get along better."

I didn't pay much attention to his advice at the time, because I was too young. Twenty-six years later, however, I realized the value of what he told me, and since I have been using my brains as well as my muscle I have got ahead.

I adopted the habit of "thinking years ahead" twelve years ago, when I was dairy farming at Detroit, Minnesota, my present home. For ten years I had been milking scrub native cows, and I thought I was doing well. Testing and scales were unknown to me, so I didn't know what I was doing.

At the end of the tenth year, breeding time came. I had no bull, so I went to a man and bought a Shorthorn sire, which he said was for dual-purpose breeding. It was a poor buy, because when the heifers freshened they would not give as much milk as their dams.

I was very disgusted, and threatened to throw the whole herd off my farm. I didn't know such cows were called bums, but I believe I said as much. They had me working for them, not they for me.

ABOUT this time I began reading in farm magazines about purebred men making money. The calves were valuable, and the milk production of the cows was high.

I knew I wasn't getting anywhere, and that set me to thinking. While puzzling over my experiences I recalled what my employer had said to me. I decided to study the possibilities of pure-breds, and put it up to my wife. She told me to try it, buying a few animals at first, and gradually increasing the herd as I found them better than the stock I had.

I took all of my money—\$1,000—and went up to Northfield, Minnesota, a Holstein center, and bought three heifers and a young bull. I got them home, and had bad luck with them. Two of the heifers died after breeding, leaving me with a two-year-old, DeKol Alban Princess. That was a hard blow, for this animal, which proved the real foundation for my success, at that time looked anything but a real buy. She was beefy and lacked dairy type. She was the cheapest of the bunch, costing but \$175.

She had good breeding behind her, but then I didn't know that was the thing to look for. Her grand dam, I learned later, at the age of thirteen years, had made a world's record.

The bull wasn't much good, but I used him three years, because I couldn't afford to buy another. The one heifer gave me a nice female calf, and another the next year. Then I went out and bought two cows and two heifers, giving me a nice little foundation herd.

I had been saving a little money for another bull. In these three years I had been using my head a whole lot. The Holstein breed papers and the herdbooks were like Bibles to me. I spent hours looking through them, studying the various families.

My idea was not only to familiarize myself with pedigrees, but also to learn things about my business which would help me. I had worked out a plan by this time to buy young bulls from good but unrecognized breeders, who were working hard to develop a name for their cattle.

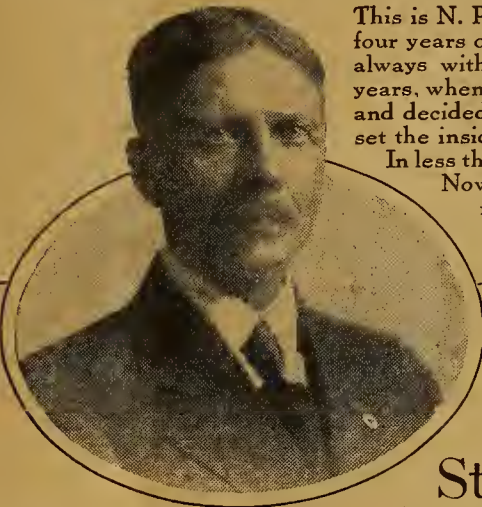
I learned from the breed paper that E. C. Schroeder of Moorehead, Minnesota, was doing a lot of work on the Ormsby strain,

for which Minnesota is famous, and upon looking up his cattle in the herdbook I saw they were by Sir Pietertje Ormsby Mercedes, who was making quite a name for himself. I believe this old bull was one of the greatest Holstein sires of all time.

I went over to Schroeder's place, and bought from him Sir Pietertje Ormsby Mercedes 13th, a bull calf, for which I paid \$125. Buying him as a calf, though

With the exception of a few business men every man in the vicinity thought I was crazy. Even my sons thought so. One of them asked me if I wanted to lose every thing I had because of my crazy ideas. I knew what I was doing, so I said nothing.

Within a year, this calf's brothers and sisters were making records which brought my calves up to \$300 and \$400 from \$200. I sold the bull in two years, Mr. Schroeder



This is N. P. Hanson of Detroit, Minnesota. He is fifty-four years old, he has been farming for thirty-eight years, always with cattle. At the end of the first twenty-six years, when he was forty-two, he counted himself a failure, and decided to think it over. Then, for the first time, he set the inside of his head to work and thought out a plan. In less than five years that plan was making him money. Now, at the end of twelve years, he has plenty of money and a famous purebred herd. He says that "thinking years ahead" did it all.

Nine Things That Helped Hanson Get Started With Purebreds

HERE is my policy for any poor man who wants to get into purebreds. It helped me and it will help you:

1. A house, to stand, must have a strong foundation, so must a paying herd. Get foundation stock.
2. Buy cattle with records—plus individuality. Then both features will show in your calves.
3. Buy young stuff and develop it. It is slower, but cheaper. Ready-made stuff is high. When you buy it you are buying for another man's work in building a reputation. Make your own reputation, and let the other fellow pay for it.
4. Buy from breeders who are "coming up." When they become successful their records will add value to your herd.
5. Study pedigrees and production records before you buy anything. Know what you want and why you want it.
6. Put your females in official test. If the records are good, so will be the sale price.
7. Build for the future; think and plan years ahead.
8. If you have little money and experience, go slow. It may take a few years to build up a big money herd, but when the time comes the money will come.
9. Not enough men will follow this advice to crowd the field. This is your chance.

risky, was cheaper, and I hoped by careful handling to develop him into a good bull. Then, too, any reputation Schroeder made meantime would help me.

Right here I want to say that it was this plan of operation, and this line of thinking—*thinking years ahead*—that got me somewhere. It changed me from a producer of \$100 stock to a producer of \$12,000 stock.

AT TEN months I bred the bull to my small herd, with good luck. I had a few bull calves, and sold them to neighbors. I kept the heifers, and added a few more I was able to pick up. I bought young stuff, of the same blood I had. It was slow work, with little coming in from the sale of animals; but I was building for the future. My idea was to get *quality*, not *quantity*.

As fast as the heifers freshened I put them in official test. In two years they were making creditable showings, one making 28 pounds in seven days.

Now I had to have new blood, so I sold the bull. Then I bought Sir Pietertje Ormsby Mercedes 41st for \$1,500. He too was a calf, and from Schroeder, who now was making quite a name for himself. Everything he did helped me, for the herdbooks told other breeders that I had this strain.

I didn't have the \$1,500, but went to the bank to borrow it. When I told the banker what I wanted the money for he gave me \$1,500, and said there was more there if I wanted it. I brought the calf home, and of course the neighbors knew the purchase price, much to my discomfort.

Talk about being insulted!

buying him back for one third more than I paid for him as a calf; and two years later the animal was sold by M. L. Enright of East Grand Forks for \$65,000.

The neighbors had nothing to say. This sale jumped my cattle again, although I had sold most of his calves. However, the next sale of his daughters, instead of \$300 and \$400, was recorded at \$1,200, and I have one of his daughters at home for which I refused \$12,000 the other day. He and the daughters of my old cow, the one that remained from the first purchase, proved a great combination, one daughter being made grand champion female at the 1920 Dairy Congress at Waterloo, Iowa. She died en route to the National Show at Chicago.



Here is Hanson's son Ray, with Hanson's De Kol Alban Princess, one of the prize females of his herd, on the Hanson farm near Detroit, Minnesota. Ray is one of the boys his father has started in purebreds for himself, on an interesting plan Mr. Hanson tells about in his article

The cow for which I have been offered \$12,000 is DeKol Lillian Korndyke 3d. She is out of DeKol Alban Princess, and is just turning four years of age.

In buying the bull calf for \$1,500 I thought a few years ahead like this: There was a chance that he would prove a bloomer, but his blood counted for a lot, and I believed he would add at least \$100 to the sale price of every one of his calves. He added two and three times this figure before he became known, and then the price jumped a hundred times. And since I had 22 cows and heifers to breed to him as soon as he became serviceable, the buy was not such a big risk after all.

I now have a herd of 30 cows and heifers, and am getting \$1,000 to \$1,200 for the ordinary stuff I sell. I am trying to sell around home, to build up the industry in my locality. It will be better for my boys, and then later, if the community gets a reputation for good cattle—but that again is *thinking years ahead*.

I own 337 acres near Detroit, Minnesota, my present home. I have owned this place for twenty-two years, and it was here, twelve years ago, that I started in the purebred business.

LATELY I have bought 100 acres closer to town, it being a better location for a purebred farm. The other place I gave to my six boys on contract. I also bought them a herd of purebred Holsteins to start with. The terms of the contract are that I get half the breeding stock produced during the life of the contract. The idea of this agreement is not to make any money by their work, but to keep them in line. I don't want them to get the impression that they are getting anything for nothing, and that they can take life easy.

I didn't have the chance that I gave them, and I want them to make good. I believe they will. They didn't take much interest in the business until they saw me getting \$1,000 for calves. Then they perked up, and showed a desire to get into the game. Result—that's what kept my boys on the farm.

Finally remember this: Success does not "happen"—it is *built*. And the only place that your success can be built is inside of yourself. My success—if success it is—cannot help you, except in so far as it shows you that a man poor in money and in ideas can take himself in hand and get somewhere if he makes up his mind to it.

My success as a breeder is the result of the thinking and planning I did. And the habit of thinking and planning was forced on me by the mistakes and failures I made in seventeen years with scrub cows.

More Fakes

SOME wonderful claims that are not at all hampered by facts are made by a number of manufacturers of so-called insecticides and plant remedies. One preparation, analyzed by the U. S. Department of Agriculture, was sold as a remedy for all diseases of trees. This "magic" substance proved to be nothing more or less than 80 per cent table salt combined with equally "powerful" ingredients.

But the man who invented the poultry "remedy" that was quaranteed to kill all kinds of vermin by feeding it to the chickens through their drinking water really deserves honorable mention. It neither harmed the vermin nor the fowl, which was lucky for the unsuspecting purchasers.

There are of course many really trustworthy preparations. In order to make sure, better write your agricultural college or the Department of Agriculture before trying something that you don't know anything about.

F. R. S.

Country Girls in the World's Best Books



Painting by W. T. Taylor

WHAT American does not know the story of the beautiful Evangeline, the heroine of Longfellow's poem—how the peaceful French farmers in the settlement of Arcady, now known as Nova Scotia, were scattered by the British, and their homes burned; and then Evangeline's famous seeking for her lover, across the wilderness of America; then their meeting at last, when she was an old woman and he is on his deathbed? It is a great romance—one of the great romances of early American literature.



Painting by W. T. Taylor

VERY different from Lorna Doone is the demure Priscilla of Puritan New England, whose story is told in "The Courtship of Miles Standish." Miles Standish is the strongest man in town, but he doesn't dare speak to Priscilla—which is awkward, since he wants to marry her. So he sends his best friend, John Alden, around to explain the situation. This is not at all a good plan, it turns out, for what does Priscilla answer but, "Why don't you speak for yourself, John?" A more daring remark than Lorna ever thought of. These Puritans, you know!



Painting by Wintner

PERHAPS the greatest romance in English is the story of Lorna Doone, who as a child was stolen by the robber Doones of Exmoor, and brought up by them until John Ridd, the huskiest farmer in the country, sees her and rescues her, and at last marries her. There is an amazing villain, too, Carver Doone, who also loves Lorna so much that when she is married to Ridd he shoots through the church window and almost kills her. All the highly colored spirit of the England of Stuart days is in this book.

TESS, of the D'Urbervilles, the heroine of Thomas Hardy's novel of the Wessex country people, is probably the most unhappy woman ever imagined by an author, not excepting even Juliet, who, after all, had one balcony scene with her Romeo. Tess, being far too beautiful to rake hay and milk cows, gets in so much trouble that she finally commits murder to get out of it, and then has only a day or two with the man she really loves, before the law finds her.

From "Tess of the D'Urbervilles," Harper & Brothers, Publishers



Painting by Bodenlauser

NYDIA, the blind flower girl of Bulwer Lytton's novel, "The Last Days of Pompeii," left the farm lands of Thessaly to sell flowers in the profligate and lovely town of Pompeii. The story ends with the burial of the whole city by Vesuvius, but Nydia, for whom the streets had always been dark, alone is able to find her way through the storm of ashes. And she guides the man she loves and the woman he loves to the sea, where they escape. At dawn next day, to leave the lovers happy in each other, she flings herself into the sea.



From the "Legend of Sleepy Hollow," illustrated by Arthur I. Keller. Copyright 1908. Used by special permission of the Bobbs-Merrill Co., publishers.

THIS is a sketch of that delightful Katrina Van Tassel who unsettled half the Dutch settlers in early New York days. Old Ichabod Crane, the county school teacher, hangs around her too much to please the worthy young fellow, who knows he loves Katrina, if he doesn't know book learnin'. So one night Ichabod is terrified out of his wits by the Headless Horseman, the ghost of the place, who chases him forever away from Katrina. Ichabod thinks the phantom threw his head at him, and several people find a pumpkin in the road next day. But Ichabod never comes back to Katrina.

How Rothamsted, Birthplace of Modern Farming, Got Its Start

By Charles E. Thorne

Director Ohio Agricultural Experiment Station, Wooster

NOTE: This is the second of a series of articles by Director Thorne, written from material gathered on his recent visit to the agricultural experiment station at Rothamsted, England, exclusively for FARM AND FIRESIDE. His first article appeared in the January issue. In this second article Dr. Thorne tells something of the history of Rothamsted to show the importance of the experiments and discoveries there to the individual American farmer. Just what he found there of interest to you on your farm he will tell in future issues of this magazine. He will answer such questions as, "Why does the English wheat yield per acre so far exceed the per-acre yield in America?" Dr. Thorne is director of the Ohio Experiment Station at Wooster, and Rothamsted, the place he visited, is the oldest agricultural experiment station in the world.

THE EDITOR.

IN 1834 a young Englishman, John Bennet Lawes, began the personal management of his patrimonial estate of Rothamsted, located at Harpenden, in Hertfordshire, twenty-five miles northwest of London, an estate on which his ancestry had lived for nearly two hundred years.

Born in 1814, an only son, he had lost his father when eight years of age. He had been sent to Eton and Oxford, but he apparently took little interest in the classical education of his time, as he did not complete the college course, but returned to his farm, and there, in a bedroom of the manorial dwelling, he fitted out a chemical laboratory and began the study of medicinal plants and drugs.

This was the birth period of agricultural science. Between 1802 and 1812 Sir Humphrey Davy had given lectures on agricultural chemistry, which were published in 1813, forming the first textbook on the subject. Davy, however, had but an imperfect vision of his subject, for he taught that plants generally absorb their carbon through their roots, and believed that oils and other carbonaceous matter had fertilizing value.

Theodore de Saussure, a native of Switzerland and a contemporary of Davy, had a clearer vision on this point, and demonstrated the fact that the carbon of plants is derived from the carbon dioxide of the atmosphere, and that a relatively small, though indispensable, part of their tissues comes from the soil.

Davy's conclusions seem to have been based chiefly upon chemical analysis of plants, but de Saussure grew plants in pots under conditions of control, and thus opened the way for the study of plant and soil in their normal relation to each other.

In 1834, J. B. Boussingault, born in 1802, began on his farm at Bechelbronn in Alsace, France, the first systematic attempt at the study of nutrition of plants under the conditions of actual farm practice, by the institution of a series of field experiments on crops grown in rotation. In these experiments both fertilizing materials and crops were weighed and analyzed, and the

results were published in 1841. Previous experiments in pot culture, made by this investigator, and published in 1838, had shown that peas and clover were able to obtain nitrogen from sources unavailable to wheat, and his rotation experiments confirmed this distinction.

In 1840 there appeared an epoch-making publication in the field of agricultural science, namely, "Chemistry in Its Applications to Agriculture and Physiology," by Justus von Liebig.

No name stands out more prominently in the history of the science of chemistry than that of Liebig. Born at Darmstadt, Germany, on May 12, 1803, the son of a color manufacturer, a failure as a student in the local gymnasium or high school, with its so-called classical education, he was apprenticed to an apothecary at the age of sixteen, from which work he was liberated to become a student at the newly established University of Bonn, whence he followed Kastner, the professor of chemistry, to Erlangen, where he obtained a degree at the age of nineteen. He then went to Paris, and after two years spent in the laboratory of Gay-Lussac, on the recommendation of Humboldt, he was appointed in 1824 to the professorship of chemistry at Gies-sen, where he remained for twenty-seven years.

Liebig laid the foundations not only of the modern science of chemistry, but also of the modern method of laboratory teaching. His investigations on plant nutrition, however, seem to have been confined to the chemical laboratory and to generalizations from observations of farm practice, and he concluded that the growth of plants is controlled by the available supply of mineral elements in the soil; that all plants derive their carbon from the carbon dioxide of the air, but that this gas, circulating in the soil, may be absorbed in part by the plant roots; that all plants are able to obtain their nitrogen from the ammonia of the atmosphere, and hence that it is only necessary to add to the soil in fertilizers or manure the mineral elements that are found in the plant upon analysis.

ALTHOUGH some of these conclusions have been overthrown by later investigations, conducted under more exact methods than were possible in his time, yet the fact remains that Liebig's work introduced a new era in the science of chemistry, and especially in the relations of that science to agriculture.

In 1837 Mr. Lawes commenced experiments in the growing of plants in pots, to which different chemical substances were added, one of these substances being spent animal charcoal, which he found to be much more effective if previously treated with sulphuric acid. This led to the use of sulphuric acid on apatite and other mineral phosphates, the results of which were so encouraging that in 1842 he took out a patent for the manufacture of superphosphate, and in 1843 he began the manufac-

ture of this material, which we now know as acid phosphate, thus starting an industry the annual out-turn of which, over the world at large, has grown to more than ten million tons, and is adding each year the bread for millions of people to the world's production.

In the same year, 1843, Mr. Lawes called to his assistance a young chemist who had studied

was extended to other lines of chemical manufacturing besides fertilizers, claimed a large share of Mr. Lawes' time and attention, and for a time involved residence in London; but he continued and expanded the investigations at Rothamsted, maintaining the work there out of the profits derived from his manufactures.

MR. LAWES and Dr. Gilbert were knighted by Queen Victoria, in recognition of their great service to agriculture, and in 1902 and 1903 they passed beyond, the one nearly eighty-six years old, the other nearly eighty-five, after having worked hand in hand for more than half a century.

Before his death, Sir John Lawes made provision for the permanent continuance of the experimental work at Rothamsted by setting apart for that purpose certain areas of land on which were several laboratories and other buildings, as well as the field experiments, and establishing an endowment fund of half a million dollars. This fund is now supplemented by grants from the national treasury and a number of private donations, and the government of the station is administered by a committee consisting of four members nominated by the Royal Society of England and one each by the Chemical and Linnæan societies and the owner of Rothamsted.

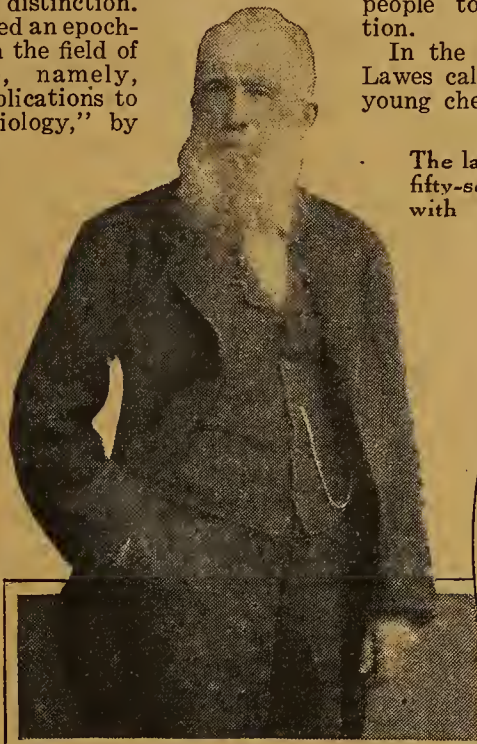
After the death of Sir John Lawes, Mr. (now Sir) A. D. Hall was appointed director, and he was succeeded later by the present director, Dr. E. J. Russell.

The investigations on soil fertility at Rothamsted have not been confined to field experiments. From the beginning the work of the chemical laboratory has constantly accompanied that of the field. In 1857 a very thorough study of the assimilation of nitrogen by plants was made by Dr. Evan Pugh of Pennsylvania, working in the Rothamsted laboratories,* by which it was shown that the higher plants, including the legumes, have no power to assimilate the free nitrogen of the atmosphere. The hard fact, however, that the legumes do somehow obtain nitrogen from sources inaccessible to other plants caused this study to be continued, and finally Dr. R. Warrington, working under Dr. Gilbert in the same laboratories, confirmed the discovery published in 1886, by Hellriegel and Wilfarth, that the superior ability of the Leguminosæ to obtain nitrogen is due to the agency of the nodule-forming organisms found on the roots of plants of this order, these organisms having been excluded by the rigorous experiments of Pugh.

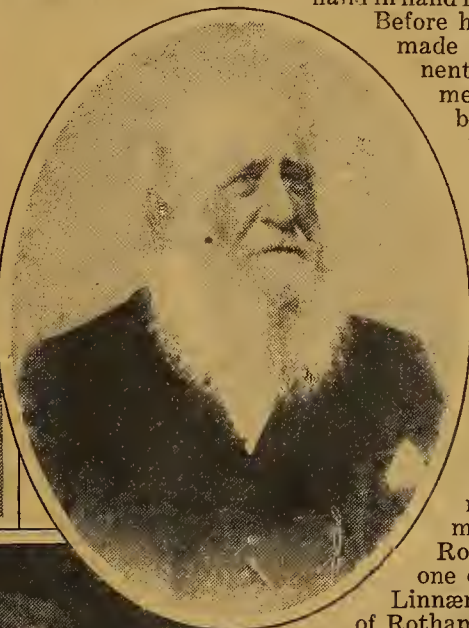
ALTOGETHER, this story of the pursuit and discovery of the mechanism of nitrogen assimilation is one of the most romantic episodes in the history of science, and the revelation which it has made of the vast importance of the invisible inhabitants of the soil has led to the present devotion of the larger part of the laboratory work at Rothamsted to the study of these organisms, and also of their kindred forms, which have been found largely responsible, not only for the growth of our crops, but also for most of the diseases which attack them.

Another problem that received a large share of attention at Rothamsted in earlier days was the effect of different foods upon the composition of the animal. In this work the entire carcasses of a considerable number of cattle and sheep were subjected to mechanical and chemical analysis to determine the proportions of bone, flesh, and internal organisms, and the chemical composition of each part. [TO BE CONTINUED]

*On inquiry respecting Dr. Pugh's work, the writer was shown pieces of apparatus etched with his initials and the American flag, and still in use in the laboratories.



The late Sir John B. Lawes, founder of Rothamsted Experiment Station who, with J. H. Gilbert, conducted, for fifty-seven years, a series of field experiments on the same plots. These plots are still in operation, and were inspected by Dr. Thorne on his trip to Rothamsted for Farm and Fireside



The late Sir J. H. Gilbert, for fifty-seven years associated with Lawes at Rothamsted



Dr. E. J. Russell, the present director of the experiment station at Rothamsted

under Liebig—Dr. J. Henry Gilbert—and together they began, and for fifty-seven years continued, the series of systematic field experiments that have made the names of Lawes and Gilbert and of Rothamsted famous wherever the science of agriculture is studied.

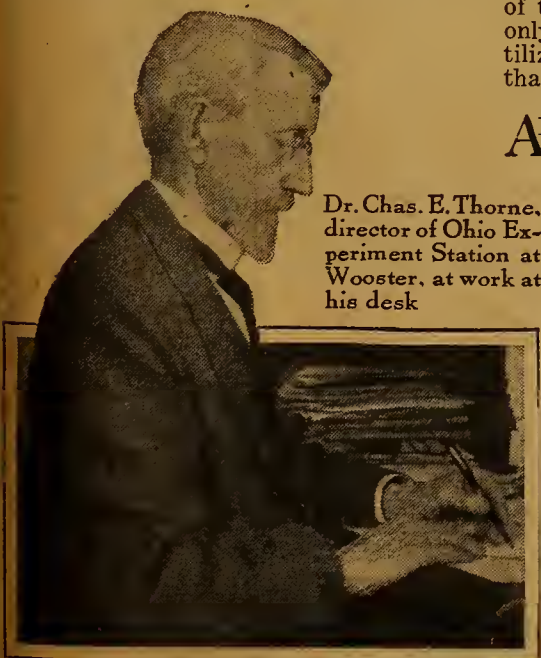
It would seem that in the original planning of these experiments Davy's theory of carbon nutrition was in mind, as well as Liebig's theory respecting the sufficiency of the mineral elements without nitrogen, for during the first six years several applications of tapioca and rice were made, while from the outset some land was left without any fertilizing material; some received the ash only of manure or straw, and some received these reinforced with nitrogen.

The experiment of greatest interest to the American farmer is the one on the continuous growth of wheat in Broadbalk Field, which started in 1843. This experiment was rearranged in 1852, and has been continued without material change since.

Experiments were begun on beans in 1847; on clover in 1848; on wheat, and other crops grown in rotation, in 1851; on barley in 1852, and on grass land in 1856.

During the period of 1848 to 1850 extensive experiments were also made in animal feeding, in which the whole bodies of oxen, sheep, and pigs of various ages and conditions of fatness were analyzed.

From the first establishment of his manufacturing enterprise, that work, which



Dr. Chas. E. Thorne, director of Ohio Experiment Station at Wooster, at work at his desk

Why Handling Hatching Eggs Carefully Gets You Bigger Profits

By Victor G. Aubry

AS POULTRYMEN, you and I want as near 100 per cent hatches as we can get. It is a big step toward bigger profits, therefore good business.

If you are like I am, you get a lot of free advice on this point, which you ignore because you don't know *why* it is good advice.

For instance, we are told that we must use fresh hatching eggs. But *why*? Also that we must gather them as soon as they are laid, that we must turn them often, and keep them cool and moist. But *why*?

From study and experience I have learned the answers to those questions. And here they are for you, if by any chance you do not already know them:

1. Why must we use fresh hatching eggs?

Because the life germ in the egg grows weaker the longer it is kept without hatching, and a weak life germ means that you will get no chick. That means a poor hatch, lost time, and lost money.

2. Why must we keep hatching eggs cool and gather them as soon as laid?

Because warmth starts the life germ growing before we are ready for it, and exposes it to quick death from change in temperature—just as an unseasonable spring day will start tree buds, with the danger of later being killed by frost. We must gather eggs often to keep the sun and other influences from starting the life germ to growing.

3. Why must we turn eggs often?

Because if the egg is left too long in one position the yolk, containing the life germ, tends to float to the top. If it is allowed to remain there, the germ, because of the evaporation of air that is going on in the egg, will adhere to the shell and die.

4. Why must we keep hatching eggs moist?

Because the porous egg shell absorbs the necessary moisture to keep the egg healthy; and if it cannot get that moisture from the air about it, it is weakened and ruined.

Every egg is fertilized before it is laid, while still in the yolk stage, before the white is formed, and while the yolk still clings to the yolk cluster. As soon as fertilized, the egg germ, after a little growth,

becomes dormant, goes to sleep, so to speak, and in a normal fertile egg the germ is still dormant at the time of laying.

This fertilized germ remains dormant until warmth is applied to the egg. The amount of heat necessary to "wake it up" varies, depending on the length of time the warmth is applied, and the age of the egg. Even in an egg handled under the best of conditions, the germ continues to grow weaker until it is so weak that it will never develop, and sooner or later dies. The fresher the egg the better for hatching.

The dormant stage in the egg germ is much the same as the dormant stage of tree buds. In this stage both can stand abuse, but the minute they wake up, look out, conditions must then be about right.

Eggs to be hatched should never get warmed up after they are laid, until placed in the incubator or under the hen. The amount of heat necessary to wake them up varies, so that we are on the safer side to be sure they never get any heat.

The sources of premature heat most common are the sun, heated cellars, or egg-rooms. The kitchen is perhaps the worst place on the farm for them. The factor most harmful is that eggs are gathered only once a day, in the late afternoon. Many of these eggs were laid around ten o'clock in the morning. Most of the eggs are found in a few favorite nests. In these nests often ten or a dozen eggs are found. Those laid in the morning have been under a hen three, four, or five hours, one hen going on after another. Naturally, the first egg laid is stimulated by this heat, and its germ leaves its dormant stage. It is often an hour before the eggs are picked up after the last hen leaves. The eggs cool down, in the early hatching season, almost to freezing. The result is an egg in which the germ has either been killed or weakened so that the chick dies during hatching, and an egg which deteriorates very quickly.

Gather your eggs for hatching often—three or four times a day. Keep in a cool temperature, from 40 to 60 F.

The third big point is moisture. The egg

shell is very porous, and the moisture readily evaporates.

Nature provided a sufficient amount of moisture in that egg, and it is up to us, especially if we are going to hold these eggs for any length of time, to maintain that moisture and give the hatching egg a chance.

The rapidity with which moisture will leave the egg depends on three conditions of the air surrounding that egg. The drier the air, the faster and the more moisture it will suck from the egg. The warmer the air, the more moisture it will suck from the egg; and the more the air circulates, the quicker it will take out the moisture.

Watch your moisture *before* hatching, and you won't have so much trouble *while* hatching. They will stand a quite moist atmosphere. Our ground bird or a hen,

when she steals her nest, finds one on the damp earth, protected from the drying sun.

Our fourth important point is to turn eggs often. During the actual hatching time frequent turnings are helpful. A hen sitting on eggs turns them dozens of times every day. It is well to turn eggs being held for incubation at least once every twenty-four hours. *Don't jar them.*

A large number of our poor hatches, both under hens and in incubators, are not due entirely to faulty incubation or poor machines, but to a large extent to careless handling before setting, and no amount of care during incubation can remedy the harm already brought about by these conditions.

Remember, the egg is a live object, and should be treated as such.

The Man Who Gave Grimm Alfalfa Its Start

By A. B. Lyman

(In an interview)

BACK in 1857 a neighbor of my father's, Wendelyn Grimm, sent to Germany for some "everlasting clover," as he called it. Grimm planted this on his farm in Carver County, and saved some of the seed, so that in spite of winter-killing he always had a stand of the new crop.

Father and I visited a Mr. Ottinger, a neighbor of Grimm's, when I was about ten, and we talked about the new clover. Ottinger told Father that most of his neighbors had it, and that it was superior to the common red. The next summer Father bought a few pounds of alfalfa from a seed house, thinking that he had the same kind of seed, and was disappointed that it all winter-killed.

Nine years later, in 1890, I was teaching in the western part of Carver County, and there I saw fields of alfalfa on many farms. The German farmers there all called it "everlasting clover," after the name given it by Grimm.

Father was then raising red clover, but I took home a sample of the new alfalfa to show him how much better it was. Again Father bought some alfalfa from a seed house, and sowed it with barley as a nurse crop. That winter there was plenty of snow, and it came through in perfect condition. Imagine my surprise when the second spring showed our entire two acres killed out.

I used to talk so much about this "everlasting clover" that the family now felt that they had the laugh on me. For that summer I

met an old German and asked him how his "everlasting" got along, and told him what had happened to ours. His reply was, "I

lose me no one plant!" What he said set me thinking. The next summer I took dinner, one day, with a man by the name of Bahde, and he said: "Lyman, tell me why my neighbor Kemke gets a stand of 'everlasting' while I get nothing?"

I looked, and on one side of the fence was a thick stand of alfalfa, and on Bahde's side, the same sort of land, there was not a sign of alfalfa. That knocked out any notion that there was something peculiar to Carver County

soils favoring the growing of alfalfa. The light began to dawn a little. I asked Bahde if Kemke got his seed from Peterman. Peterman, I knew, had got his seed from Grimm. "Yes," replied Bahde, "but I got mine from a seed house." Then we both realized that Bahde's failure and his neighbor's success was due to the kind and quality of seed each man used and to nothing else.

At a farmers' institute that summer in Carver County, one of the speakers, in reply to a question, said he could not give the feeding value of alfalfa because it could not be grown here in Minnesota. The man who asked the question had a barn full of Grimm alfalfa at home, and he and his neighbors had grown it for years.

That question and answer solved part of my puzzle. The institute lecturer had said that alfalfa could not be grown in the North because of lack of hardiness. But alfalfa was grown there. The



This is A. B. Lyman, the man who discovered Grimm alfalfa, and made a fortune out of growing pedigreed seed of it

Keep Looking!

THE man who gave Grimm alfalfa its start discovered it as a school-boy in Carver County, Minnesota. He is Arthur B. Lyman, a man still on the sunny side of fifty, and a splendid example to the farmer boys of America of what you can do by keeping your eyes open.

Ask anybody who knows alfalfa, and the chances are he will tell you that for Northern States the Grimm variety is the best.

He will explain that, probably because of its branching root, it withstands freezing and thawing of early springs, resists winter-killing remarkably, and meets satisfactorily all other crop conditions of nature and man.

The other day I got A. B. to tell his story. As you read his account of how Grimm alfalfa "made good," notice also how Lyman "made good." It will tell you that the way for a young fellow to get ahead in the world is to go out and find something he can do a bit better than anybody else has ever done it.

HUGH J. HUGHES.

One Tiling Failure Didn't Discourage Him

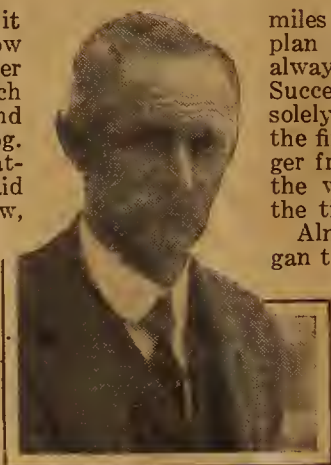
By James Eby

DRAINAGE has made it possible for me to grow 70 bushels of corn per acre on a 10-acre field which two years ago was eroding, and was nothing but a springy bog.

This is the second tiling attempt. The first tile was laid years ago by my father-in-law, but the three-inch tiles were not large enough to handle the water, and the only outlet was the natural ditch which emptied the water onto the next farm. The tiles choked with dirt through the joints, and cattle broke down the narrow ditch and filled it up.

My relative lost faith in drainage after that, and his wife, after he died, would not listen to my arguments against his poor methods. When my wife rented the place later, she did not believe in tiling either. Finally I took her over the next farm, and showed her how our neighbor, by tiling correctly, grew crops in the field on which our field water flowed. Then she was convinced.

I got him to let me use his big main as an outlet, thus piping my overflow to the creek on the opposite side of the next farm. Then I had the tile factory, a few



James Eby, who wrote this article, has been farming since 1887. He was born at Alexandria, Ohio, December 2, 1862. He has two children—a boy and girl. The boy is married and a farmer, and his daughter is still at home. He got his first lesson in draining as a boy when he saw two near-by duck ponds drained and tiled, and big yields of corn grown in their place. In both cases the tiling was done wrong, and had to be done over. The second time it worked

miles away, send an engineer to plan the laterals and mains. (I always get expert help if I can. Success or failure often depends solely upon a thing being done right the first time.) I hired a ditch digger from town to come out and do the work. He and I put down the tile.

Almost immediately the field began to look dry, and by fall it was in good shape. The next spring I plowed for corn. The crop did well, the dry weather never seeming to bother it a bit. In the fall from this 10 acres, I harvested 700 bushels, an average of 70 bushels per acre. This I hauled to the elevator, and sold it at \$1.62 a bushel, or \$1,124—almost three times what the drainage cost.

The tiling cost somewhere near \$45 an acre, or \$450 for the job. The first crop did the work, and now I have 10 acres of land which will produce more than the rest of the field. The value of this drainage has also added to the value of the farm.

This year that field is in wheat. Next year, I will have it in clover and timothy. From what our county agent has told me, I have the best patch of wheat in Fayette County. Tiling pays if you do it right.

the best patch of wheat in Fayette County. Tiling pays if you do it right.

because of lack of hardiness. But alfalfa was grown there. The [CONTINUED ON PAGE 33]

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And I Say Unto You—the Doom of the Scrub Bucket is Sounded

By Nell B. Nichols

THE doom of the scrub bucket is sounded. More than a million housekeepers, wearied by the back-breaking method of scouring, have spoken fond farewells to the old, old custom of scrubbing. And this is how it happened: a discovery was made. In a kitchen somewhere a woman was frying doughnuts. More lard was needed in the kettle, so she reached to a shelf near-by to take a cupful of grease. Then the tearful tragedy occurred. First there was a slip of the hand and a falling cup; then the melting lard was absorbed by the floor just as spilled ink is taken up by a blotter.

What did the woman do? Visions of scrub brushes appeared to her. Then questions, hosts of them, came. There was but one to which she could find no satisfactory answer. Why scrub? Of course she knew, as all women do, that floors become soiled, and that it takes the scrub brush, plus elbow grease, to make them clean. She sat down in a comfortable chair to think about it—to find out why floors become soiled. If wood were non-porous, she reasoned, how easy the task would be. "I'll make the floors in my home repel dirt," she said. And she did.

The stone started to roll. When this wise woman gave the floors in her house a finish which filled the pores of the wood so they refused to hold dirt with bull-dog tenacity, scrubbing was eliminated from her household. Her neighbor told a cousin in a different community, miles away. And so the news spread from fireside to fireside. Now everyone is talking about it—no more scrubbing.

Just what you choose to use on the floors in your home to make them more sanitary and easier to clean depends largely on personal preference. One of my neighbors, for instance, believes nothing excels water-

proof varnish, while another thinks wax cannot be equaled. In my home I have found a use for six different floor finishes; all are giving satisfactory service.

There's linoleum, a floor covering which wears indefinitely, if properly laid. Combined with its excellent wearing qualities is its wide range in color and pattern, which makes it suitable for every room in the house. Then, too, it can be used on almost any floor, old and new, provided it is smooth. Perhaps its greatest recommendation is the ease with which it can be kept clean.

If linoleum is to live up to its reputation, it must be put down properly. First of all, the floor needs attention. If knots or nails protrude, they are smoothed down. Then a heavy layer of felt paper, sometimes called builders' felt, is pasted to the dry floor. If one wishes linoleum to appear attractive and be serviceable, the use of felt paper is essential. Ordinarily, wood floors will expand and contract according to the temperature; the felt takes up this expansion or contraction, and prevents the breaking and cracking of the linoleum.

AFTER the paper is pasted down smoothly and allowed to dry for a few hours, the widths of linoleum, cut to fit the room, are placed on the floor, care being taken to fit them snugly. The linoleum is rolled up at one end, and a thick coat of paste is applied to the upper side of the felt, except at the edges of the room and where the seams will be. Then the linoleum is unrolled and pasted to the paper; the seams and edges are cemented in place with a high-grade water-proof cement which keeps the water and dirt from getting under the linoleum and rotting it.

Weights are needed on the edges and seams to hold them firm until the cement

dries. Merchants selling linoleum usually put it down; they have special equipment for the work, such as a heavy roller to press the linoleum on the paste and cement. A home-made device, consisting of a wooden box filled with stones or bricks with a rope attached for a handle, can be pulled over the linoleum in the place of a roller, while

TO BE a good farmer you must feed your mind, your body, your soil, and your soul. They are merely engines that will run if you give them enough of the right kind of fuel, and will stop and rust if you don't.
THE EDITOR.

bricks or bags filled with sand make excellent weights to place on the seams and edges for two or three days, or until the cement is thoroughly dry.

One old-fashioned scrubbing—an energetic scouring—is necessary to remove the soil which has accumulated on the linoleum while it is being laid. Difficult as this is, there is a satisfaction in doing it, for one knows that it is the last time this floor covering will be scrubbed. The easiest way to scrub new linoleum is to take a pan filled with warm soapsuds, a brush and a cloth for scouring, and another cloth to dry the floor. By washing a small area and drying it at once, the liquid wax which is used to fill the pores can be rubbed in with a flannel cloth while the linoleum is slightly warm. It is the wax which repels the dirt. If the linoleum has painted figures and finish instead of being inlaid, it may be varnished instead of waxed. Once waxed or varnished, it is never to be scrubbed again. True, spots will be found on it now and

then; but I do not consider it necessary to scrub or mop a floor to remove a few spots. A cloth dampened in a little water will wash up the spots quickly. Of course, there are times, particularly in the kitchen, when stubborn stains will not yield to the treatment of a damp cloth. When this occurs, I rely on steel wool to do the work. It is dampened in soapy water, a cloth is placed over it next to the hand for protection, and then the steel wool is rubbed back and forth over the persistent stain until it is removed.

WHENEVER water is used on linoleum for removing spots or for an occasional mopping, wax is added afterward to replace that which the water takes out. To clean after sweeping with a soft broom, a waxed mop is used. Mopping with water is permissible once a week, but it is not necessary; it is never advisable to use water when wax will do the cleaning, for wax protects, while water, if used excessively, may destroy the fiber. Varnished linoleum is best cleaned with the oiled mop, but oil and wax cannot be used together with success on any floor, so if one prefers to use wax on the varnished surface, oil must never be applied.

Paint makes an excellent floor covering. Two or three coats of porch or deck paint will make wood quite non-porous. I prefer tan or gray shades for painting floors, since neither of these colors show dust readily. An application of liquid floor wax helps to preserve the paint and to fill the pores of the wood. The painted floor is cared for just as the linoleum is; the waxed mop does most of the work.

Shellac is an inexpensive finish which is suitable for use in the upper hall or any place where there is not much wear on the floor. Two coats of [CONTINUED ON PAGE 30]

Just Suggestions—By Miss Gould

HAVE you ever thought that clothes, like some of our acquaintances, becomes monotonous if we see them too much? Well, it's true. So I say, keep something in reserve, if for nothing more than variety's sake. If an unexpected guest drops in for the evening, or some friends motor over and you want to invite them for supper, there's a lot of comfort in knowing you have something fresh and different to slip into in a hurry. The good-looking blouse shown in the picture is the next best thing to having in your closet a new silk dress.

The design shows the best of the fashion features in blouses for the spring. It's an overblouse with the front in bib effect.

The material may be transparent or opaque—either is equally good style. In the transparent materials there is georgette crêpe, chiffon, and silk voile—all adapted to this model. If you want something not so light and airy, canton crêpe is my first choice. Then crêpe de chine, taffeta, or one of the new sports silks such as HarmOnee and MelOdee. If you decide to make the blouse of any of these fabrics, excepting the last two you want to embroider it in silk floss in the easy-to-work running stitch. A transfer pattern is given for the embroidery design.

Just a word about using the transfer pattern. The best way to do is to finish the front panel of the blouse first. Whether you hem, picot, or roll the edge, get it all done before you stamp the design. If you use one of the transparent materials, put transfer on right side of material and lay the raised side against the fabric. If you use an opaque fabric, put transfer on right side instead of on wrong.

Inquiries promptly answered



HERE is one of Farm and Fireside's patterns, an embroidered overblouse, complete even to the detail of trimming.

No. FF-4006—Overblouse with Bib Front (including transfer pattern for embroidery). Sizes, 36 to 42 bust. Price of pattern, twenty cents. Send order to Pattern Department, Farm and Fireside, 381 Fourth Ave., New York City, or Springfield, Ohio.

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Looking Your Best

Don't Clog Your Skin, It Needs to Breathe to Keep in Good Working Order

DON'T bundle up your face every time you go out in the cold. Let it breathe if you want glowing cheeks and a skin of satiny texture. You know many secretions of the body are thrown off through the skin. If the skin isn't breathing as it should, it will look oily, enlarged pores will come, and unsightly blackheads will be the result.

Now, don't let this happen. Every night thoroughly cleanse the face by massaging into the skin a good cream. Do it with vigor, too. Friction, you know, is good for the circulation. A special cream for this purpose not only gets every bit of dirt out of the pores, but also whitens the skin and softens it at the same time. It is a cream with lemon as its principal ingredient. If you have ever cleaned a straw hat with a lemon I don't need to say anything more about how well this cream does its work.

Then there's a lotion to use that acts directly on the pores of the skin, and helps to make it breathe as it should. It's well to use it in the morning every few days. If you do, you are apt to be well pleased with your appearance the whole day through.

Be sure to select the powder that isn't going to undo all the good work of the massage. Too often we carefully cleanse our skin, we stimulate it into activity, and then, just when we have it where it is beginning to feel and look well, we undo the whole thing by dusting on a coarse clogging powder. So choose a powder that will help along the good work—one that is healing and soothing and protective. There are such powders, several of them. One of them is best suited to the thin dry skin, the kind that wrinkles and ages early; while another is better for the thick oily skin that doesn't seem to hold the powder so well.

Inquiries promptly answered

To Help Out

IF YOU make your own clothes, here's a suggestion I want to pass on to you. It will help you to have more "best" gowns than usual. Add to your wardrobe a soft black satin slip. You can use it as a foundation for so many different dresses—a black net, georgette, or silk voile—and in this way reduce the cost of each. Let me caution you, however, not to make it in the old-fashioned way—seamed and tight-fitting. Nowadays the slip must follow straight lines. Make it in chemise style, just like you have been making your straight-hanging chemise dresses, only wider at the hem. You can bring it into the figure a little by having a dart at the shoulder or dart plaits under the arms. I think you will like it best if you make it with a camisole top—that is, a straight-around top—and have straps over the shoulders. The best place to open such a slip is under the arms as here the opening is not so apt to show.

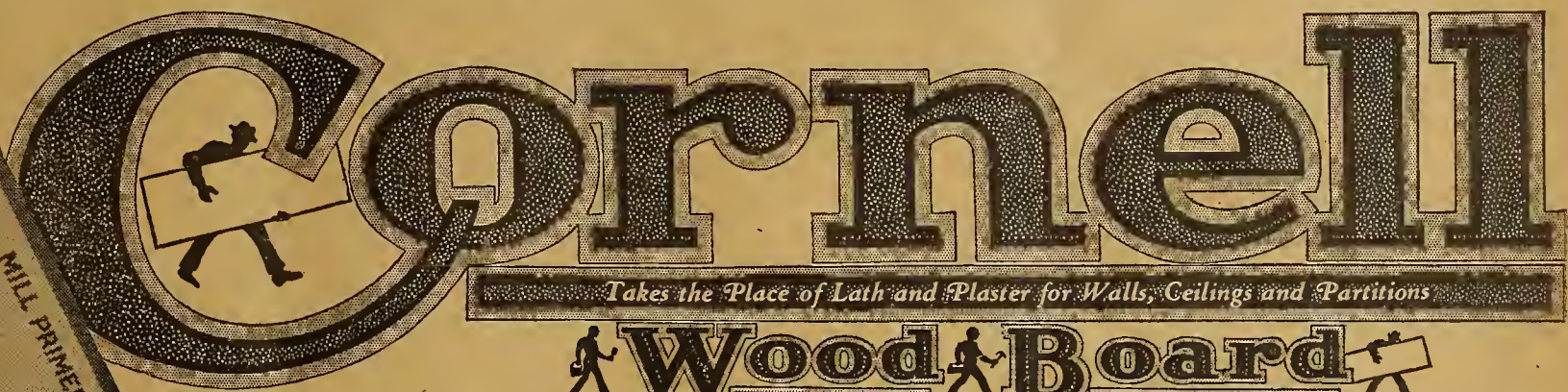
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Your Chance to Do the Children a Mighty Good Turn

By Eugene Davenport

Dean of the Illinois University School of Agriculture

I SHALL try to tell you in this article how you, as a farmer, can do something to bring about better education for your farm boys and girls in their local schools.

We now have the national Smith-Hughes Act for encouraging secondary education in agriculture and in home economics, by which the local high schools are assisted in adding departments to teach these subjects.

The first responsibility of the farmer under the new conditions is to get his local high school into condition to benefit by the terms of this act with as little delay as possible.

Thousands of farmer boys, and others who ought to be farmers, are in our high schools trying to get good preparation for life. How can they be expected to become successful farmers if the schools teach everything else but are silent about farming? The same question can be repeated about housekeeping, only with added force.

Quite aside from the need of prospective farmers and housekeepers for technical instruction, it is in every way good that our future lawyers, physicians, merchants, bankers, manufacturers, teachers, and laborers be educated in schools where agriculture and housekeeping are taught as respectable occupations.

The next obligation of the farmer under the new order of things set going by the Smith-Hughes Act is more personal and direct. The administration of the act provides that some portion of the instruction, both in agriculture and in home economics, shall be carried on by the project

method. This is similar to the case method in law, and it means that the boy and girl will bring home some project or definite undertaking to be carried out on the farm or in the house.

It may be that the boy is to raise a tenth acre, or perhaps a full acre of corn, or feed a calf or a pen of pigs. The girl may desire to raise a plot of tomatoes or sweet corn for sale or for canning, or she may wish to take the responsibility for some definite portion of the work of the household. This is the project method of instruction in which the student teaches himself many things.

At least, we have the schools headed in the right direction—that is, toward real life and teaching through doing, and from now on everything will depend upon the spirit with which the young people are met when they bring their projects home.

The farm and the home are now made parts of the real school, and if the farmer and his wife meet the situation halfway, welcome these young people with their projects we shall have here the most successful teaching ever known.

Of course, it is within the power of the parents to throw cold water upon the whole thing by ridicule, or slowly to strangle it with indifference and opposition. Such experience as has accumulated up to date, however, indicates that

farmers and housekeepers may be relied upon to do their share of the job.

Back of all this, however, the farmer and his wife have an obligation and a responsibility for the final and proper working out of these two forms of vocational education in the secondary schools, and to discuss this point briefly is one of the chief purposes of the author at this particular time.

At present the administration of this new fund is in the hands of a federal board of vocational education, which sits in Washington and has practically unlimited powers. It works through state boards of vocational education, also without limitation as to authority, except under the general lines of the original act.

This act provides as one of the conditions under which the citizens of any State may enjoy its benefits that the State must duplicate the fund, and the State in turn requires at least a fifty-fifty contribution on the part of the school that is to be helped.

The whole enterprise is co-operative because it has been found unhealthy and unprofitable to give public money even under the most strenuous provisions, and because the best way to insure good faith and progress in all matters stimulated by outside funds is to require local cash contributions at least equal to the subsidy.

But, obviously, all this gives the state

and federal boards a strangle hold upon the local policies of the high schools if they choose to exercise it, because the conditions that must be met in order to benefit by the public funds rest with these boards, from which there is really no appeal.

In these early days the personnel of all these boards, certainly of the federal, is safe because it is made up of individuals who have given their lives to promoting these special lines of education.

THERE is, of course, no guaranty that such will always be the case, and at this point the farmer will need to exercise watchful care. The form of administration is certainly bureaucratic, and necessarily so, and once becoming political, rather than educational, the harm that would be worked upon our schools would be incalculable.

The question which is raised by this fund, and the necessary manner of its administration, is no less than whether and to what extent our schools are likely to pass from local control to federal dominance.

The influence of an outside "inspector," who holds in his hands the power to say "yes" or "no" when an item of several hundred dollars of public appropriations is at stake, is enormous; and when one of the conditions is that certain local funds shall be raised for certain specified purposes, and be spent in ways to be approved by the outside inspectors, it can be readily seen that through state and federal subsidy the outside is bound almost unwittingly to exercise a controlling, if not a dominating, influence over our schools.

You!

IF YOU don't get good fun out of farming, you won't have enough interest in it to be a good farmer, which is necessary to get good profits, without which you cannot have good money, with which to have a good time.

G. M.

"What! Little Johnny Dugan?"

By Bruce Barton

I VISITED once the boyhood home of a great man.

His name will not go down in the histories, but he has made a high place for himself in his profession, and in every city important people are glad to be counted among his friends.

I spoke of this to one of the residents of the village who occupied a reserved seat in front of the livery stable.

"It must be a matter of great pride to your town to have produced a man like that," I said.

"You mean Joe Hinkle?" he answered.

I nodded, and he uttered a scornful little laugh.

"Folks hereabouts don't think so much of Joe Hinkle," he commented. "We never supposed he'd amount to anything. Why, gosh, I knew him when he was runnin' around with his pants held up by one suspender!"

I found more than one man in that community to echo the sentiment. They could not quite reconcile themselves to the thought that a boy who had been one of themselves should have traveled so far beyond them.

Some years ago a song was popular in the vaudeville houses. It recounted the achievements of a certain John Dugan, and after each stanza the chorus broke in with an incredulous exclamation, "What! Little Johnny Dugan?"

"Little Johnny Dugan—that little fellow who used to be around here, you don't mean to tell me that he has been nominated for governor, or elected president of a bank, or called to the pastorate of a great church! Not our little Johnny Dugan! It can't be! Why, we knew him when—"

The song reflected accurately the attitude of too many home towns toward their boys. Many great men have suffered from that attitude: Jesus of Nazareth suffered, perhaps, most keenly of all.

After He had begun His ministry, after He had performed a few



The "home-town folks" prepare to welcome "Little Johnny Dugan"

miracles in the cities near at hand and gained a considerable reputation, "He went back to Nazareth, where He had been brought up."

One can picture the anticipation with which

He turned His face in that direction. He could imagine the warmth of His old neighbors' greeting, the pride they would feel in His success which had brought credit to the town.

But there was no warmth. Only skepticism and jealousy and scorn. It was as if their faces cried: "We know you. Why, you're only the son of the carpenter, Joseph! You may have fooled them in Capernaum, but you can't fool us."

And there were those among them whose envy and bitterness would have led them to hurl Him to death.

There are two ways to look at the folks around us, and particularly the younger folks:

One is to get into the habit of regarding them as just common people, destined to failure or to only mediocre things, and to be surprised when they exceed our expectations.

The other way is to form the habit of thinking of them in the biggest and best possible terms, of holding up the vision of large achievement before them and letting them understand that we expect them to climb high.

Whichever attitude we adopt we're bound to suffer certain disappointments, but personally I prefer to be disappointed by news of failure rather than by news of success.

When I hear that Johnny Dugan has been sent to jail for forgery I expect to exclaim, "What! Little Johnny Dugan?"

But when they tell me that the Republicans have nominated him for governor they needn't expect me to express surprise, even though he has red hair and never owned two suits of clothes as a boy.

Governor Johnny Dugan—of course: I always said you couldn't keep that boy down.

Things You Can Do to Insure a Big Lamb Crop

FLOCK increase has much to do with the profit of the sheep owner, so a great deal depends upon the care given at lambing time.

Many a lamb have I saved by a kitchen stove, and many an orphan lamb have I raised by hand. The greatest danger in hand raising is in overfeeding, but this can be guarded against by using a bottle and nipple as for a baby, and by giving only two or three tablespoonfuls of high-testing cow's milk every two hours. As the lamb grows, the intervals between meals may be lengthened and the quantity increased. It is needless to say that nipple and bottle must be kept clean and sanitary to prevent bowel disorders.

If the mother sheep has had plenty of succulent feed and some grain, in addition to good hay or forage, during the last few weeks before the lamb was expected, the chances are that she will give birth to a strong, healthy youngster. Lambs that have not had such favorable condition may come so weak that they must be given warm milk and nursed carefully to keep them alive. Chilled lambs may often be revived by placing them in a tub of warm water, in a room of moderate temperature. They should be dried thoroughly, and given warm milk before being returned to the mother ewe.

Some ewes are not very solicitous of their young, and others will disown their lambs entirely. I find this can be avoided by placing ewe and lamb in a small pen. Then if the mother is fed on grain and roots, or silage, if it is not the season of grass, she will make plenty of milk, and will be glad to be relieved of it, and will thus come to own her lamb.

Such shelter as the season demands must be provided if loss at lambing time is to be avoided. My observation has been that the flockmaster who can show a 100 per cent increase is not the one who trusts to luck. He watches the ewes closely, and when by unmistakable signs he sees that lambing time is only a few days away they are confined in comfortable quarters away from the rest of the flock. If necessary, he remains near to assist at the birth of the lamb, but he relies most on judicious care during the gestation period to make both lamb and ewe safe.

SHOULD a ewe die, the orphan lamb may be given to a lambless ewe if she can be made to own it. This can usually be done if the ewe has lost her lamb and has milk. In cases of this kind I place the ewe in a dark part of the barn, tying her so she cannot smell the lamb and refuse to let it suck. By putting the lamb to the ewe every two or three hours, the ewe will soon own it, particularly if she is young. Older ones are often obstinate, some taking a week before adopting a strange lamb. I know one sheepman who has another plan which worked successfully. This is to place the skin of the dead lamb over the other lamb for the mother ewe to smell. Usually she will own it almost immediately. I have tried almost every way except this, but have no doubt that it will work like a charm with most ewes.

Lambs are too valuable to lose, and if you are like me you need the cash there is in them. I raise sheep for two reasons: First, I like to handle sheep—just have a natural love for them. Then I have found that they can always be relied upon to help me out with profits of the farm. Ready both spring and fall to make their contribution, I have come to depend on them.

R. B. RUSHING.

Do You Raise Hay?

IF YOU live in the northeastern section of the United States, there are many valuable tips for you in a bulletin recently issued by the U. S. Department of Agriculture.

In this section of the country, north of and including Tennessee and east of central Nebraska, Kansas, and the Dakotas, is found 83 per cent of the tame-hay acreage of the nation. Eighty-eight per cent of this acreage is seeded to timothy and clover mixed. While these two plants undoubtedly merit continued popularity, there are many others that are more desirable for certain conditions of soil and climate, and which are described in this bulletin.

You can get this information by writing to the U. S. Department of Agriculture, Washington, D. C., and asking for Bulletin 1170.

M. R.

"The whistling wind and driving storm,
The great Eternal's will perform,
And nature dormant lies.
When drifted snows obstruct the way,
When long the night and short the day,
The diligent are wise."

From "The Farmer's Almanac" February, 1828



LEE Puncture Proof Tires



LEE tires smile at miles



Section showing LEE Puncture-proof construction

THESE long evenings are the farmer's thinking time—planning time—his opportunity for retrospection and anticipation.

'The wise are diligent' in discovering ways and means for the saving of time, labor and money during the busy seasons.

And, because *tire troubles* have represented a considerable *expense* item, this is a splendid time for you to analyze the *puncture-proof tire* field.

There is, admittedly, but one successful *puncture-proof pneumatic*—the Lee Puncture-proof tire, which comes in either fabric or cord construction.

In the Lee Puncture-proof you get, at small addition first cost, everything that is best in pneumatic tire construction with the added advantage of *guaranteed freedom from punctures*.

The farm truck or passenger car, equipped at the start of the season with Lee Puncture-proof pneumatics, gives best service, experiences least delays, and saves most tire money, the whole year through.

Nine years of surprising mileage records are back of Lee Puncture-proof tires which are also covered by our cash refund guarantee against puncture.

Lee tire dealers—located everywhere—are glad to demonstrate the entire Lee line of pneumatics—Fabric, Cord, Puncture-proof Fabric and Puncture-proof Cord.

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Clear your stump land cheaply—no digging, no expense for teams and powder. One man with a K can rip out any stump that can be pulled with the best inch steel cable.

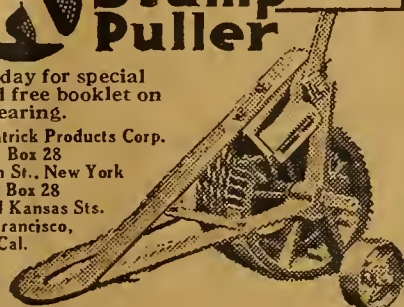
Works by leverage—same principle as a jack. 100-pound pull on the lever gives a 48-ton pull on the stump. Made of the finest steel—guaranteed against breakage. Endorsed by U. S. Government experts.



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Learn the Facts About Western Canada

—low taxation (none on improvements), healthful climate, good schools, churches, pleasant social relationships, a prosperous and industrious people. For illustrated literature, maps, description of farm opportunities in Manitoba, Saskatchewan and Alberta, reduced railroad rates, etc., write Department of Immigration, Ottawa, Canada, or

M. J. JOHNSTONE, 202 W. Fifth St., Des Moines, Ia.; W. V. BENNETT, Room 200, Bee Bldg., Omaha, Neb.; R. A. GARRETT, 311 Jackson St., St. Paul, Minn.; W. S. NETHERY, 82 East Rich St., Columbus, O.; M. V. MACINNES, 176 Jefferson Ave., Detroit, Mich.

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HERE is a grain drill that never skips, or clogs, or bunches; leaves no spots of bare unseeded soil or other spots over-seeded. A drill that seeds evenly and at an even depth all the time. Buying a Superior Grain Drill is the best long-life implement investment you can make. Built for good work and long, hard service. Light of draft and easy on team.

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16 Bulletins We Think Are Worth While

THE following bulletins have been selected as practical and timely, from those issued by the U. S. Department of Agriculture. They can be obtained free, excepting those marked, by checking the ones you want and mailing this list to your congressman, to the Division of Publications, U. S. Department of Agriculture, or to the Superintendent of Documents, Government Printing Office, Washington, D. C.

It is better to send your request to a congressman, for the reason that they receive a larger supply for distribution than do the other offices.

Monthly List of Publications. This circular, which is issued monthly, describes all the publications of the Department of Agriculture. It will be sent regularly to all who ask for it.

Essentials of Animal Breeding. Farmers' Bulletin 1167. A practical treatise on this important subject told in understandable language.

Influence of the Tractor on Use of Horses. Farmers' Bulletin 1093. If you are thinking of buying a tractor, or if you are already operating one, it will pay you to read this.

Coöperative Bull Associations. Farmers' Bulletin 993. Tells how to organize a bull association, and the benefits derived from those that are in operation.

Farm Slaughtering and Use of Lamb and Mutton. Farmers' Bulletin 1172. Discusses methods of butchering lamb and mutton at home. Also recipes for preparing tasty mutton dishes.

Feeding Cottonseed Products to Livestock. Farmers' Bulletin 1179. Gives seven points to follow in feeding cottonseed products.

Harvesting and Storing Ice on the Farm. Farmers' Bulletin 1078. This bulletin will help anyone who puts up ice or who is thinking of building an ice house.

Care of Mature Fowls. Farmers' Bulletin 1105.

Brood Coops and Appliances. Farmers' Bulletin 1107.

Management of Growing Chicks. Farmers' Bulletin 1111. These three bulletins were written for the beginner in poultry, and especially for members of the boys' and girls' poultry clubs. Lists of other bulletins for experienced poultrymen are also given.

A System of Farm Cost Accounting. Farmers' Bulletin 572. If you are interested in finding out what it costs to produce your crops, this bulletin will be found helpful.

A System of Field and Office Records for County Extension Workers. Department Circular 107. County agricultural agents and home demonstration agents will find in this many useful suggestions.

Tree Surgery. Farmers' Bulletin 1178. With the aid of this bulletin you will be able to undertake practical tree surgery or intelligently supervise the same.

Forestry and Farm Income. Farmers' Bulletin 1117. Care of the farm wood lot pays. This bulletin tell how to do it.

Round-headed Appletree Borcr. Bulletin 847. A scientific treatise of this important pest, giving means of control. Price, 15 cents.

Raising Guinea Pigs. Farmers' Bulletin 525. These little animals make fine pets, and are useful for food and for scientific purposes. Brief but plain directions for raising them are given.

\$336,000 More

[CONTINUED FROM PAGE 6]

to just cover expenses, the federation in its first fiscal year, ending June, 1920, showed a net profit of over \$30,000 to its stockholders. That isn't so bad when you consider that our organization is still in its infancy.

We're still small compared to our possibilities. Our membership is about one sixth the total farm population of Aroostook. The other five sixths still pay high prices for doubtful fertilizer, and sell their crops to street buyers.

But every now and then, one by one, or in small groups, they join the federation. When you read this we will most likely have more locals, for other sections have recently indicated their willingness to organize under us. We feel that it won't be many years before the farms of Aroostook are a solid organized unit. Too bad we had to be driven to it. I hope other groups won't wait that long.

If you need it, do it now.

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\$44 Buys the New Butterfly Jr. No. 2 1/2
Light running, easy cleaning, close skimming, durable.

NEW BUTTERFLY Separators are guaranteed a lifetime against defects in material and workmanship. Made also in four larger sizes up to No. 8 shown here; sold on **30 DAYS' FREE TRIAL** and on a plan whereby they earn their own cost and more by what they save. Postal brings Free Catalog Folder. Buy from the manufacturer and save money.

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BEATS 15c GASOLINE
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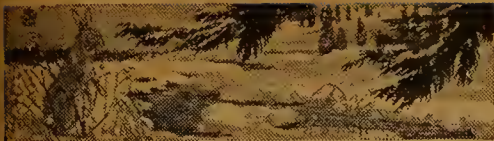
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What Do You Do With Your Old Machinery?

THE present almost prohibitive price of farm machinery emphasizes the importance of taking the best possible care of what we have and, when practicable, of repairing machines which may appear hopelessly dilapidated.

Three years ago a neighbor "junked" his old grain drill and bought a new one. A farm boy with a passion for machinery was examining the old drill one day, when the owner said: "If you can do anything with that, you can have it."

The boy thanked him, and lost no time in getting the drill home. The seed tubes and shovels were worn out. The rods and springs for holding the shovels in the ground were too weak to be effective, one axle bearing was loose, the top was off, and bolts were missing; but it still "looked good" to the boy.

A new top was made from a single board that he found around the home place. Two pieces of strap iron, which he shaped at the forge, reinforce the top, hold it in place, and form a single hinge at each end.

He took off the loose boxing, and had it rebabbitted at a cost of 75 cents. This made the wheels solid and smooth-running. He refitted the machine with new shovels, heavier springs, strong tubular rods and new feeding tubes—eight of each—at a cost of 80 cents for rods, \$2 for springs, \$1.65 for tubes, and \$2 for shovels. Replacing missing bolts cost 50 cents. Total cost of repairs, \$7.65.

The catalogue price of this drill, when new, is \$60. The old machine repaired for \$7.50, and the work which the boy put on it does just as good work as the new disk drills which cost \$150. In the past three years it has drilled the grain on the home place and those of two neighbors, aggregating a total of 250 acres. Owing to intelligent usage and plenty of oil on the bearings, it is still in perfect working order.

Maybe there's a hunch in this for other owners of discarded farm machines.

JESSIE I. CARPENTER, Colorado.

Lime Did It For Us

FOUR years ago we limed half of a 10-acre field on our farm with hydrated lime at the rate of about 500 pounds per acre, just to see what effect lime would have on our soil. This is little compared with what our sandstone soil needed, but was all we could get on easily at the time, during the rush of crop work. This was done before wheat was sown, and the entire field was seeded down to clover.

The half not limed didn't produce much hay, so the following fall it was plowed and put to wheat again, and after harvest the ground was plowed and stubbled out for wheat. It was fertilized with about 300 pounds of acid phosphate to the acre, and the wheat was top-dressed during the winter at the rate of from 4 to 6 tons an acre. The yield was about 28 bushels to the acre, and we could easily see that it was the limed half of the field which yielded heavier.

When in wheat the last time, the same field was again seeded with clover, to be cut for the past harvest. But last spring we discovered the limed section was the only one that had grown any clover, and that at the rate of about 2½ tons to the acre. We were able to cut a seed crop that brought about 10 bushels, or two additional bushels per acre.

As we threshed we turned the blower of the machine into one of the mows of the barn, and kept the clover straw. This is valuable for feeding cattle, almost as good as second crop hay, and in finer condition. From these results we will base our plans to carry out a liming program for our entire farm.

The unlimed half of the field we plowed up and put to corn. We believe the extra amount of hay over our usual yields on the limed portion will pay about 400 per cent on the investment for lime. In addition, we have a good crop of clover seed, which is worth as much as a second crop of hay, and we were able to get 80 per cent feeding value out of the second crop by threshing for seed and feeding the straw to the stock.

C. M. BAKER, Ohio.

TITAN 10-20

With a Year to Pay—At Next Spring's Lowest Price

IN ORDER to place International Harvester tractors within the reach of every farmer, arrangements have been made whereby the Titan 10-20 may be purchased on time-payment terms.

And you may have a year in which to complete payments for the machine.

The plan enables you to get immediate delivery on a Titan 10-20, break it in thoroughly on belt work during the winter, get some good tractor experience in the meantime, and be ready to jump into the rush of spring work without a moment's delay.

You can buy the Titan 10-20 tractor today at absolutely the lowest price that will be quoted before May 1, 1921, because a guarantee goes with every Titan 10-20 purchased at the present price between now and May 1, by which, if the International Harvester Company of America reduces its price on or before May 1, 1921, you will be refunded the amount of such reduction.

The Titan 10-20 has led the three-plow tractor field for the last five years. Farmers have bought over \$70,000,000 worth of Titans. See the International dealer and join those who are making the most of this opportunity and buying Titans now.

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WE PAY THE FREIGHT
save you money on every rod and sell you a better fence. Write us today for Free Catalog and money-saving prices on Farm, Poultry and Lawn Fence, Gates and Barb Wire.

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Questions We've Been Asked

The answers might help you, or perhaps you also have a question to ask

I HOPE to raise quite a lot of tomatoes, and would like to grow my own plants. What are the best dimensions for hotbeds, and how should the soil be prepared? Is it possible to raise lettuce and radishes in the beds before planting the tomatoes?
H. C. C., New York.

REPLY BY F. F. ROCKWELL: Hotbeds for the growing of plants are usually made six feet wide and of any length desired. Early in the spring, while the ground is still frozen, it is necessary to build a temporary frame on top of a heap of fresh manure. This manure heap is usually made about nine feet wide, and long enough to extend two or three feet beyond each end of the frame. The frame is placed on top of this, and more manure packed around it on all sides. If possible, soil that is not frozen should be procured, and put into the frame, but it can be supplied by putting frozen lumps of good garden soil into the frame as soon as it is made and keeping the glass on tight until the soil has thawed out.

If a frame is started early enough, you might get a crop of radishes off before planting the tomatoes, but there would hardly be time for planting the lettuce. As a general rule, you can get better sash from one of the regular greenhouse concerns than from a local mill, special machinery being required to construct the best sash. It would probably pay you to get quotations from these firms before buying locally.

This material comes only in a powdered form. Acid phosphate is very valuable to use in connection with manure. You should use about 25 pounds of acid phosphate with each ton of manure. The acid phosphate can be scattered over the manure as it is made in the barn, or it may be sprinkled over each load of manure just before it is hauled to the field. You should have no difficulty in securing acid phosphate from your local dealer.

Home-Cured Meats

Please give me a recipe for curing meat?
W. B. K., Ohio.

REPLY BY H. H. KILDEE: A brine that has proved itself capable of keeping meat in good condition, without making it too salty to be palatable is recommended as follows: For each 100 pounds of meat use 12 pounds of salt, 3 pounds of sugar, 2 ounces of saltpeter, 6 gallons of water.

It is important that the salt, sugar, and saltpeter be thoroughly mixed. Then rub each piece with the salt mixture, and pack in a barrel, placing the skin side down except on the top layer. Care should be taken to have pure water, and usually it is safer to boil it. After the water has cooled, dissolve the salt left from rubbing the meat, pour into the barrel, making sure that all the meat is covered.

After seven days repack the meat, and scald the brine or add fresh, which need not be so strong as the first. On the twenty-fourth day repack the meat again, and remove hams and bacon that are to be smoked. Oak barrels or large jars are best for packing; never use pine barrels or covers, as it gives a bad flavor to the meat. All meat must be thoroughly cooled before packing, but never allowed to freeze.

Tell Us Your Problem

THE questions on this page are fair samples of the thousands we receive from readers in every corner of the country. Letters are always welcome in FARM AND FIRESIDE'S office. We like to feel that we have the confidence of our 800,000 subscribers, and that we can be of some real service to them. Questions are turned over to the corresponding editor under whose department they come, and they are answered by mail direct.

You've no doubt heard about our corresponding editors. Why not try them out some time? Being practical experts, they like to hear what other farm folks are doing.

If you have a question, write it plainly and mail it, enclosing a stamped self-addressed envelope, to Service Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

THE EDITOR.

Bermuda as a Lawn Grass

I find that my lawn grass, composed of Kentucky blue grass, etc., dies out in the dry summer weather. I have a grayish, gravelly soil. Is there any variety of grass that you can recommend? Would Bermuda grass be suitable for a lawn, and, if so, where can seed be obtained?

R. J. A., Tennessee.

REPLY BY J. F. DUGGAR: Bermuda grass is a perennial, enduring for an indefinite number of years. It is entirely suitable for sod and for mowing with a hand lawn mower. While your section comes within the region within which Bermuda grass grows, it is so near the edge that you would be safer if you consulted your local authorities, such as the extension service of the University of Tennessee, Knoxville, before attempting to use it as a lawn grass.

Tuberculosis Symptoms

I have a Jersey cow that has a dry, harsh cough, and a lump under her throat, about the size of a walnut. This lump is soft, and it has been there six or eight months. The cow is fat and seems to be in the best of health otherwise.

W. E., Texas.

REPLY BY DR. A. S. ALEXANDER: In all probability your cow is afflicted with tuberculosis, and if that is the case her milk is dangerous for use by persons or animals. You should at once have the cow tested with tuberculin, which will determine the matter one way or the other inside of forty-eight hours. It can be applied by any trained veterinarian. If the cow reacts, she should be disposed of according to the state law. The veterinarian will instruct you regarding the matter. Meanwhile, keep the cow isolated and do not use the milk.

Roup Caused by Dampness

H. B. of Illinois has a damp poultry house which causes roup, and asks how to remedy it.

REPLY BY V. G. AUBRY: You are up against one of the most difficult problems in the poultry business. Hens must have absolutely dry quarters. Surface drainage running in on the floor of the house can be easily remedied. But I know of no way in which poor air drainage can be remedied. I feel very certain that as long as your house is in this place you will always have trouble. If there is any possible way to get this house higher up, so as to keep your chickens out of this low, damp, foggy place, you can get rid of this trouble.

Power from the Wind

I have an ideal location for a windmill, and would like some information as to the amount of work that could be done with different sizes and types of windmills. I have had eight years' machine-shop experience, and would like to build my own plant.

R. E. B., Kentucky.

REPLY BY F. W. IVES: For power work, a windmill of 16-foot diameter is generally used. These mills are now made in ball and roller bearing construction, so as to utilize the force of the wind to best advantage. The normal wind velocity in your section is about 12 miles per hour. At this wind velocity a 16-foot wheel will give you about 1½-horsepower. At 25 miles per hour 6½ horsepower may be expected. The lowest effective wind velocity is six miles per hour, at which about one-third of a horsepower would be available.

Reinforcing Manure

I read that to sprinkle acid phosphate, in liquid form, over manure in the barn will cause the manure to retain its ammonia. My problem is where to get the acid phosphate, and how much to use of it.

G. A., Massachusetts.

REPLY BY L. E. CALL: It is impossible to obtain acid phosphate in liquid form.



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If you have any questions to ask about insurance, bonus, clothing, or anything connected with your war service, I will be glad to take care of them. Your letter will be treated confidentially, and will receive prompt and careful consideration. Write, enclosing self-addressed envelope, to Andrew S. Wing, American Legion Column, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

What's Its Name?

"THE good a man does lives after him." Nowhere is this truer than on the farm. But man's memory is short and for that reason it is very important that your farm have a suitable name.

Sometimes very original combinations of the owner's name are used; for example, the farm of Dean L. H. Bailey of Cornell, which he called Bailiwick. One man was so overjoyed at the prospect of farming his own land that he called his place Iona Farm. Names such as Barren Run should be avoided, as they may give the stranger an unfavorable impression. It is also well to avoid names like Woodlawn and Shady Grove, which are already in common use in many parts of the country. Facetious names such as Dew Drop Inn do very well for summer bungalows, but do not possess the dignity which your farm name should carry.

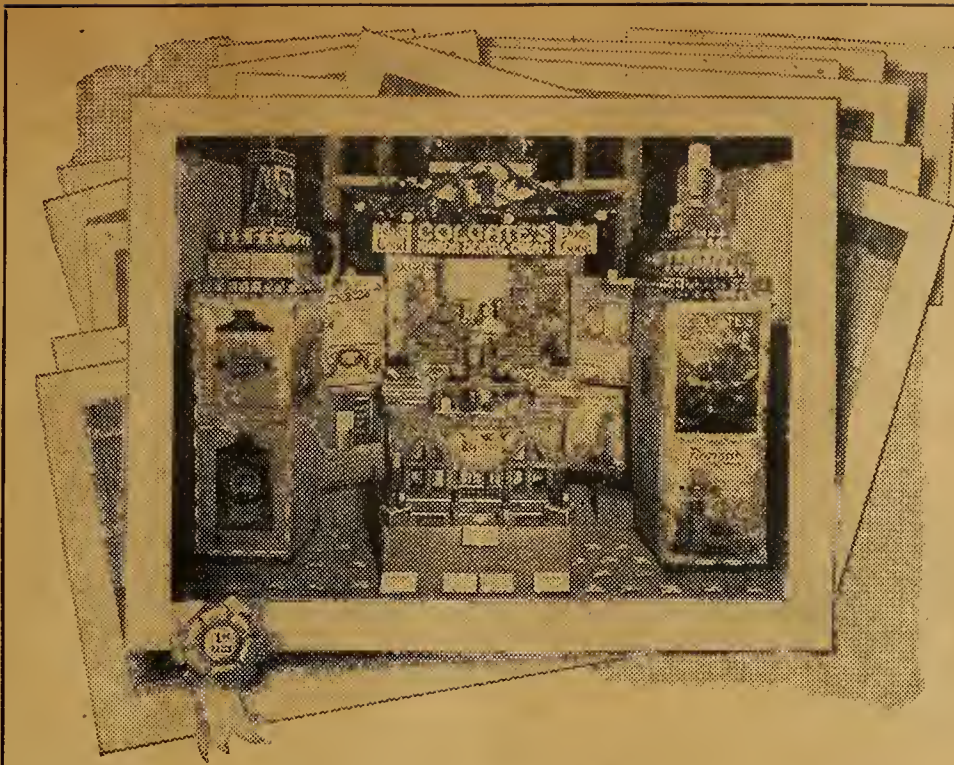
Supposing you are a breeder of a famous strain of cattle: Your own renown and personality may be sufficient to bring buyers from all parts of the world. More often, however, the successful breeder has a distinctive title for his farm which he invariably links up with his farm paper and catalogue advertising. When you sell out, your farm name may be worth a great deal. In business it is called good-will. The president of the world's largest mail-order house declared that his firm's good-will was worth more than all the other assets of the hundred-million-dollar business.

But just as important is the satisfaction which you and your family will get out of an appropriate name for your farm. Morale is a favorite word in military circles. An army with morale is usually a victorious army. Having a farm name to work for, and to live up to, will give you morale to win your farm battles. It gives a certain distinctive tone to a place that otherwise is "just a farm." It implies a home, efficient production, better livestock, permanency, prosperity, success, and contentment. Look around your community at the farms that have names and see if this is not true. I think you will find most of the farmers who are achieving the unusual are justly proud of their farms. They show that pride by naming them appropriately.

It is very important that the farm name be distinctive, and that it fit the farm. There are many ways of christening a farm. Perhaps the most common is to select some outstanding feature as "Hillcrest," "Valley View," "Meadow Brook," etc. Others are named from the kind of trees which surround the farmstead, such as "Oak Grove," "Maple Dell," "Pine Ridge," and so on. Another favorite form of name is pointed out by the New York State College of Agriculture. It is derived from a combination of the old English words "hurst" and "croft," which mean homestead. This is the way such names as Applecroft and Ellenhurst are formed.

If you and your family can't decide on a name, ask your neighbors or your county agent to help. A successful Kansas apple grower held a contest and paid a goodly sum for the best name submitted, which he has since made widely known through his apple advertising. You owe it to yourself, your family, and the man who buys your place to give your farm a suitable name.

A. S. W.



\$1005.00 Awarded in Colgate Photographic Contest

HUNDREDS of boys and girls entered the Colgate Contest last October, and from near and far sent in Kodak pictures of their local dealer's Colgate window displays.

Very interesting these pictures proved to be, although many windows displayed different Colgate products in addition to Ribbon Dental Cream, Shav-

ing Soap, Talc Powders, Soap, and Face Creams—instead of using one product at a time to gain the greatest decorative value.

The editors of St. Nicholas cheerfully undertook the task of judging the entries, and the result of their judgment, based on photographic values, is given in the following list of prize winners:

First Prize, \$100.00

Vera Rogers, Saginaw, Mich.

Second Prize, \$50.00

Cortland Griswold, Brooklyn, N. Y.

Normzo E. Finch, Fremont, O.

Third Prize, \$25.00

L. C. Gould, St. Charles, Mich.

Helen Detwiler, Hamilton, Ont.

Lydia Ford, Nevada, Mo.

John P. Manning, Highland Park, Mich.

Charles Stewart, Ithaca, N. Y.

Thelma Miller, Three Forks, Mont.

George G. Chain, New Haven, Ct.

Fourth Prize, \$5.00 (101 Prize Winners)

- Merle K. Ohle, Oakland, Cal.
- James Wiles, South Bend, Ind.
- Emma Batic, Stony Brook, L. I.
- Louis C. Moran, Lockport, N. Y.
- Adelaide Levy, New York City
- Carleton Green, Troy, N. Y.
- Catharine B. Ward, Baltimore, Md.
- Rosemary Gaumond, Worcester, Mass.
- Julia E. Sheedy, Salem, Mass.
- Henry Scibetta, New York City
- Betty J. Kuder, Parsons, Kans.
- Mildred B. Mueller, Woodhaven, N. Y.
- Samuel Kessler, Mr. Vernon, N. Y.
- Agnes Norton, New York City
- Elizabeth F. Bartlett, Philadelphia, Pa.
- Joe Cummins, Flagstaff, Ariz.
- Margaret Larson, Cheyenne, Wyo.
- Florence Youngs, Toledo, Ohio
- Herbert Heyel, E. Fortchester, N. Y.
- Harold Adair, Elwood, Ind.
- Carolyn Hull, Troy, N. Y.
- Cora Johnson, Northford, Conn.
- Edward J. Aitken, E. Boston, Mass.
- Gilbert Haus, Baltimore, Md.
- Leslie Davis, Perry, Mo.
- Nan Williams, Philadelphia, Pa.
- Elizabeth Kendall, Covington, O.
- Katherine Burton, Cleveland, O.
- Beatrice Satterlee, Stockton, Cal.

- Robert S. Jordan, Charlotte, Mich.
- Ruth Grayson, Brooklyn, N. Y.
- Clarence Girard, St. Paul, Minn.
- David Bob, Buffalo, N. Y.
- Thomas Conway, Seattle, Wash.
- Mildred Phillip, Dayton, O.
- Anna B. Taylor, St. Paul, Minn.
- Edward Zaleski, Toledo, O.
- John A. Shipley, Baltimore, Md.
- Doris G. Robison, Glendale, L. I.
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- Wm. Deaver, New York City
- Lois Posey, Sheridan, Ark.
- Dorothea Kichline, Lebanon, Pa.
- George Stockvis, New York City
- Richard Lewin, Camden, N. J.
- Marion L. Van Doren, Fremont, O.
- Charles W. Zimmerman, Phila., Pa.
- Henry Perlmutter, Philadelphia, Pa.
- Perry Irwin, Fillmore, Calif.
- Pauline Irwin, Fillmore, Calif.
- Leo J. Lawler, Niagara Falls, N. Y.
- Elizabeth Demurjian, New York City
- Selma Jones, Clinton, Mass.
- Wildridge C. Cannon, Oakland, Calif.

- Anna Trail, Baltimore, Md.
- Julia Pelletier, Utica, N. Y.
- A. Hamilton, Strathcona, Albt., Can.
- Robert S. Smith, Pawtucket, R. I.
- Elaine McDermand, Manitowoc, Wis.
- Helen Barker, Plymouth, Ind.
- David Reifman, Brooklyn, N. Y.
- Carl Crabb, Los Angeles, Calif.
- Allan B. Morse, McCook, Neb.
- Max Newman, Bronx, N. Y.
- G. L. Halstead, Kansas City, Mo.
- Charles F. Feast, Jr., Baltimore, Md.
- A. H. Middleton, Jr., E. Oak'd, Calif.
- Elmer Morris, Shreve, O.
- W. T. Metzger, W. Arlington, Md.
- W. C. Butler, Jr., Washington, D. C.
- Gerald Felger, Hillsdale, Mich.
- Edith B. Emery, San Francisco, Calif.
- J. F. Welch, Binghamton, N. Y.
- K. E. Ergood, W. Collingwood, N. J.
- Helen E. Crum, Louisa, Va.
- Mildred A. Thompson, New Phila., O.
- Malcolm W. Jones, Winchester, Mass.
- Alice McNett, So. Philadelphia, Pa.
- Florence Parker, W. Collingwood, N. J.

- V. Middleton, Grand Rapids, Mich.
- Richard T. Mannon, Anderson, Ind.
- Ben Delralle, New Orleans, La.
- Jack Taylor, Seattle, Wash.
- Walter Dill, Detroit, Mich.
- John M. Bissell, Germantown, Pa.
- Foster Niles, Cheyenne, Wyo.
- I. J. Barber, Clark's Summit, Pa.
- Betty Hall, Tarrytown, N. Y.
- Angelo Pisarra, Jr., Brooklyn, N. Y.
- Dorothy Sell, Wausau, Wis.
- Caroline Cantor, Philadelphia, Pa.
- Bennie Lowrey, Red Bluff, Calif.
- Gladys L. Corl, Fillmore, Calif.
- Michael Friedlein, St. Louis, Mo.
- Josephine W. Boylan, New York City
- Norman E. Rogers, Montrose, Pa.
- Roy Wirth, New Orleans, La.
- Betty Davis, Detroit, Mich.
- Rosa Jackson, New Orleans, La.
- Harold J. Dunn, E. Lynn, Mass.
- Mary M. Smith, W. Collingwood, N. J.
- Alice Kimmel, New York City
- Alvin G. Buderer, Sandusky, O.
- Francis J. Morley, Chelsea, Mass.
- Gale Klein, Greeley, Colo.

We regret that every contestant could not receive a money prize, but we were glad to mail to each one a trial tube of the safe, sane, and delicious—

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Things Other Mothers Do

That may help you with your Better Baby

I HAVE enjoyed your letters very much and, thanks to the suggestions in them, combined with my natural good health, I am in excellent condition.

You asked me to tell you any ideas I may have worked out which might help others. Several things have helped me. In planning each day's work about the house or elsewhere, I recognize my limitations, and do not plan too much. It is so much pleasanter to end the day feeling that I have done all I have planned, rather than only half of what I expected to accomplish.

I find that a short rest when I begin to feel tired is worth three times that much rest when I am overtired. I find in planning my work that if I alternate the work which requires standing with that which I can do sitting down I am less tired at the end of the day. Of course, the rule under which all these may be put is to use ordinary, common horse sense. Mrs. D. K. L., New Jersey.

Expectant mothers. Perhaps my experience will help someone else. At a time like this most of us feel the pressure on our pocket-books. I found maternity raiment exceedingly high in price, so, to economize, I adjusted shoulder straps to all my skirts, sewed buttons on the skirt waistbands, and made buttonholes in the straps. For the house I wear various colored crêpe smocks; for going out, pretty colored silk ones. Everything hangs from the shoulders, and is very comfortable.

Mrs. O. C. W., California.

WOULDN'T you like to have other mothers see that Better Baby of yours? We would like to have them. Won't you send us a picture you have taken yourself when the youngster knew nothing about it? To get a good picture in the magazine photograph must be clear.

IN YOUR first letter you asked me to send some suggestions to help other members of the Circle; I do hope these will be of use. All along I fussed with the usual flavored tooth powders, my mouth felt uncomfortable and the highly flavored tooth powders too sweet. Our dentist suggested chalk mixed

with the powder to neutralize the taste, and the regular use of a mouth wash. That solved the problem. I also use a pinch of baking soda in cold water after meals; it is a slight laxative and relieves indigestion.

Our doctor advised a breakfast of toast and tea in bed, but getting up and eating as usual seems to be what I need. Graham bread and butter agree with me far better than toast, and boiled eggs are easily digested.

For anyone disliking milk in the liquid state, maybe cornstarch puddings, custards, and creamed toast would be easier to digest. I can eat these with pleasure, but a small amount of plain milk or cream on cereal or to drink does not agree with me at all. A light lunch at night, and something between meals during the day, helps me so much.

I have had rubber heels put on my shoes. I did not imagine the little rubber pads would make such a difference; now I would not do without them. One's heels are always straight, and the hard, uneven pavements are no longer tiresome when I go in for a day's shopping.

I expect to make baby's things in the fall. Just now I am out every pleasant day, and go to bed each night long before nine.

Mrs. W. G. T., Can.



This is the way one mother bathes her baby. She has fixed a platform to go over the bathtub, as you see, giving a surface just the right height so she can sit down to do her "lively" task

I APPRECIATE your letters and the advice they contain so much. In one of them you asked whether I had any little help to pass on to other ex-

Mrs. O. I. G., Washington.

21 Letters About Your Baby And How You Can Get Them

THE EXPECTANT MOTHERS' CIRCLE: Any woman eligible may become a member, receiving each month a letter of advice on the care of herself and the preparation for her baby. Several practical little pamphlet circulars showing designs for maternity dresses and a common-sense layette are some of the helps sent with the letters. No matter at what period you enter, everything from the first month will be sent. No mention of the Better Babies Bureau is made on the envelopes in which the material is mailed. Enclose a self-addressed envelope with Fifty Cents in stamps, for postage, and state what month you expect your baby.

THE MOTHERS' CLUB: Every mother of young children is eligible. Pamphlets, together with monthly letters of instruction on the care and feeding of babies under one year of age (covering such subjects as colic, constipation, weaning, teething, etc.) will be sent to any mother who sends Fifty Cents in stamps and states the age of her baby. There are also leaflets giving diet lists, and other helps for babies from one year of age to three years. This literature is all included in the Mothers' Club's monthly service, but if the letters are not desired the additional literature will be sent for Ten Cents. A self-addressed stamped envelope will bring a prompt reply to every inquiry. Address all inquiries to

BETTER BABIES BUREAU

or to Mrs. Caroline French Benton, Counselor

FARM AND FIRESIDE

381 Fourth Avenue, New York City



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EACH package of "Diamond Dyes" contains directions so easy that any woman can dye all articles of wool, silk, cotton, linen, or mixed goods. Beware! Poor dye streaks, spots, fades, and ruins your material by giving it a "dyed-look." Buy "Diamond Dyes" only. Druggist has Color Card.

A Redskin Social

By Emily Rose Burt

A FAT little red apple face, with annexed arms and legs, grinned gayly from every invitation. These were his own words:

Kwitcherkicken—that's my name.
Do you know the redskin game?
Yes or no—come just the same—
Times, we promise, won't be tame.
Wear red.

Now, as you may not know, a touch of red in the decorations is always certain to inspire unconsciously the spirit of fun, so the hanging of red paper lanterns over the electric-light bulbs paved the way for a wonderfully jolly time.

Pretty nearly everybody responded to the invitations and wore red in some form. The men boasted red ties and, in some cases, red socks. The feminine guests showed more variety in costumes—the touch of red appeared in a scarlet scarf, a blouse, a hair ribbon, a sash, a string of beads, even red slipper heels.

Anyone who arrived without the requisite red was treated to a bright red bow of crepe paper, to be pinned on appropriately.

Kwitcherkicken himself was in great evidence in the shape of a little creature constructed from four huge red apples and four red pencils, used arm- and legwise. He bore Indian features and wore a tall chicken quill in his yellow headband. He it was who presided over the various games and contests like a veritable mascot. He was supposed to be at the bottom of selecting ten persons for The Laughable Moment. They stood in a row—men and girls alternately—and each in turn, at a signal, was expected to laugh for a minute by the clock. Laughs that began artificially ended in spontaneous roars of mirth, and, moreover, the interested audience got into the proverbial "stitches" over the contest.

The most successful laughter was awarded a squeaking rubber clown doll, which he straightway christened Kwitcherkicken.

Feathers, because they are related to both redskins and ticklesomeness, were deemed appropriate for the next stunt. Two of the ordinary chicken-yard variety were produced, and there was a feather race—made very amusing for the spectators by the two lively contestants. They started at opposite ends of the room with their respective feathers, and the aim, of course, was to blow them to their respective goals across the room from each other.

PRESENTLY the company formed into a circle, and played the game of Apple Pie. The leader began by saying, "I made my apple pie with Greenings." The next player in turn repeated, "I made my apple pie with Greenings and Snow apples." The third, repeating what the other two had said, added "Winesaps." And so the apple pie proceeded around the circle, accumulating Snow apples, Sheep's-noses, Spitzenburgs, Baldwins, and Golden Sweets. And quite a trick it is to get them all in, in their right order.

From Apple Pie to Indian Tribes the fun turned next. They chose sides as for a spelling match—the Kumbakwickens against the Kwitcherkickens. Out came a basket of real apples, and hilarious sport followed as apples were tossed back and forth down the two lines, from Kumbakwickens to Kwitcherkicken.

Apples came so fast that the less expert catchers were in self-defense forced to drop out. The tribe which ended the contest with the most members surviving was triumphant, and proceeded to take the scalps of the other tribe. This was not done so

painlessly as you might expect, for the scalps consisted of round pieces of tissue paper upon which each loser was obliged to indite two lines of poetic praise to the victors. These were read later to the edification of the scalpers and scalped.

Another way of conducting such a contest is to make a relay race out of it, each side passing apples from hand to hand down its own line. The first line to finish its quota of apples would naturally be allowed the privilege of victors.

The attraction of the evening was the Medicine Man's tent. In a wigwam sat the wise man wrapped in an Indian blanket, a black befeathered wig on his head. From time to time he beat on a tom-tom, and it drummed up trade surprisingly. You see, he sold totems at the sign of silver on his palm.

The totems were in the nature of symbolic names, and every person on receiving one was expected to take on the character that it denoted, for the remainder of the evening.

Supper was served buffet style from the dining-room. The table held as a centerpiece a basket of beautiful polished apples, red, green, and yellow skins blending.

There were apple-butter sandwiches, and others of minced chicken, which were announced as made from Rhode Island Reds. These were served with cider, and followed by little hot apple saucer pies, the air holes cut on top representing folly faces.

And when a platter of dripping red candied apples-on-sticks was passed,

everybody was quite in the mood to recall childhood days by means of them.

Last of all, "redskins" were offered in their shells, and nobody failed to recognize them as the peanuts were passed.

NOTE: Totems for the Medicine Man will be sent on receipt of a stamped self-addressed envelope. Address, Entertainment Editor, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

COOKIES DISGUISED

1 bar sweet chocolate (3/8 lb.) 1/2 cup milk
4 cups cookie crumbs

Cut the chocolate into small pieces, add milk, and melt over the flame. When melted, let it stand until cool. Break any kind of cookies into small pieces, and pour over them the chocolate and milk mixture. Place in the refrigerator or any cool place, and let stand an hour or several hours. Serve as a pudding with plain or whipped cream. Vanilla wafers used in this way are delicious. **NELL B. NICHOLS.**

PRUNE TAPIOCA

2 cups milk 1 tablespoon butter
2 tablespoons minute tapioca 2 tablespoons sugar
1/8 teaspoon salt 2 egg yolks
1 cup prune pulp

Cook milk, tapioca, and salt in double boiler fifteen minutes. Remove from fire; add butter, sugar, and egg yolks. Pour into a greased pan, and bake half an hour. Rub stewed prunes through a sieve until there is one cupful. Spread this pulp on the tapioca, and cover with meringue.

MERINGUE

2 egg whites 4 tablespoons sugar

Beat whites until stiff; add sugar. Pile roughly on top of the tapioca pudding, and brown in a very slow oven.

EDITOR'S NOTE: All of the recipes used in FARM AND FIRESIDE are tested in our experimental kitchen by Mrs. Nell B. Nichols.



The aim, of course, was to blow the feathers to their goals across the room



Rosy Cheeks and Raisins

Go Together—Note the Reasons
According to Authorities

THERE are other reasons than luscious flavors for the serving of delicious raisin foods.

One is the raisin's natural iron content.

Raisins, in truth, may be called "a beauty food," for it is iron in the blood that brings the tint of roses to women's and children's pretty cheeks, and is necessary to ruddy health in men.

One needs but little iron daily in his food, but that need is vital. Raisins fur-

nish more assimilable iron than fruit in any other form.

Use raisins in plain foods like boiled rice, oatmeal, simple puddings, cakes, cookies, custards, ready-cooked cereals, et cetera.

Learn how much better everybody likes these foods with raisins. The luscious fruit-meats are like natural confections. They tempt the appetite. Increase nutrition, too, for raisins furnish 1560 calories of energizing nutriment per pound.

Delicious Raisin Roly Poly—Try It

1 cup SUN-MAID Seeded Raisins	1 teaspoon baking powder
1 cup flour	2 teaspoons shortening
1 teaspoon salt	1/2 cup milk
1 teaspoon butter	2 tablespoons sugar

Sift flour, baking powder, and salt into bowl, add shortening and rub in very lightly with tips of fingers, add milk enough to make dough to roll out 1/4 inch thick. Cover with raisins, which have been stewed, thickened and sweetened with one tablespoon sugar, roll the same as jelly roll; place in bake pan which has been brushed with a little butter; sprinkle top with one tablespoon sugar and dot with the balance of butter. Bake in moderate oven 35 to 40 minutes. Serve warm with lemon sauce or milk.

SUN-MAID RAISINS

Use Sun-Maid Raisins, made from thin-skinned, juicy, tender, fragile California table grapes—kinds too delicate to ship fresh many miles.

You may never taste these grapes, but you can buy the raisins anywhere.

Once know them and you'll always get this kind.

THREE VARIETIES: Sun-Maid Seeded (seeds removed); Sun-Maid Seedless (grown without seeds); Sun-Maid Clusters (on the stem).

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Then see how your teeth improve

This offers you a ten-day test of a new teeth-cleaning method—enough for 20 uses.

Each use will bring five much-desired effects. See how your teeth conditions change after ten days' use.

A film combatant

The great object is to fight film—the cause of most tooth troubles.

Film is that viscous coat you feel. It clings to teeth, gets between the teeth and stays. The tooth brush, used in old ways, leaves much of it intact. So millions of teeth are dimmed and ruined by it.

Film absorbs stains, making the teeth look dingy. It is the basis of tartar. It holds food substance which ferments and forms acid. It holds the acid in contact with the teeth to cause decay.

Germs breed by millions in it. They, with tartar, are the chief cause of pyorrhea.

Now a new era

Now dental science, after years of research, has found ways to fight film. Able authorities have proved their effi-

ciency. And leading dentists everywhere now advise their daily use.

The methods are combined in a dentifrice called Pepsodent. Millions now employ it. And to their homes it has brought a new era in teeth cleaning.

Watch these five effects

Each use of Pepsodent brings five desired effects. The film is attacked in two efficient ways. The teeth are so highly polished that film cannot easily adhere.

Then it multiplies the salivary flow. It multiplies the starch digestant in the saliva, to digest the starch deposits which cling. It multiplies the alkalinity of the saliva, to neutralize the acids which cause tooth decay.

Thus it increases, in a natural way, Nature's teeth-protecting forces.

See what this means. Send the coupon for a 10-Day Tube. Note how clean the teeth feel after using. Mark the absence of the viscous film. See how teeth whiten as the film-coat disappears.

This ten-day test will show the way to whiter, safer teeth. And it may mean their salvation. Cut out the coupon now.

10-Day Tube Free 557

THE PEPSODENT COMPANY
Dept. 443, 1104 S. Wabash Ave., Chicago, Ill.

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Pepsodent PAT. OFF. REG. U.S.

The New-Day Dentifrice

A scientific film combatant combined with two other modern requisites. Now advised by leading dentists everywhere and supplied by all druggists in large tubes.

Some Unusual Designs in Tatting

By Evelyn Davis



A DAINTIER medallion than this tatted butterfly for tea cloth and napkins is hard to find. Either white or dull blue thread might be used in working up the design. The cloth is charming if finished with double hem-stitching.

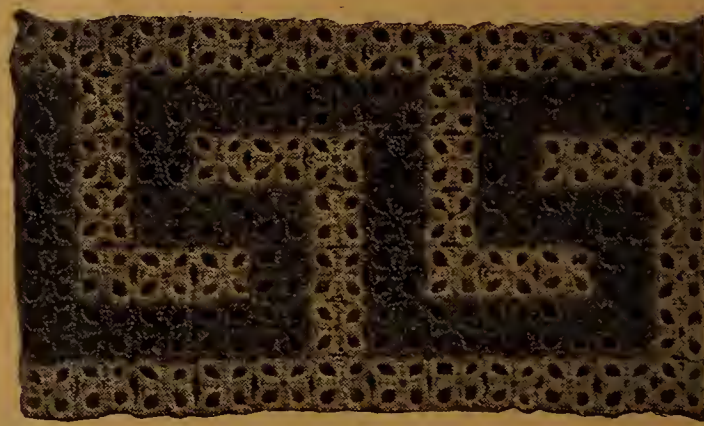


THIS DAISY medallion will be a delight to the experienced tatter and puzzle the uninitiated. When developed in white it is equally nice for pillow case or luncheon cloth. In ecru thread the medallions seem to have been created especially for a tan table runner.



THE Grecian key design in tatting is distinctly new, and is very effective for your large guest towels when developed in soft colors.

EIGHT CENTS in stamps will bring you directions for all of these designs. Address Fancy-Work Editor, Farm and Fireside, Springfield, Ohio. Order No. FC-133.



Why I Like to Be My Own Boss

By Mrs. M. A. Thomas, California

FIRST, let me say that what I earn is my own to do as I like with. My husband does not dictate—"it's just understood"—yet he knows he could have every cent if he really needed it. We have lived on the "ranch" three years, after years of town life, nine miles out and with few neighbors. I thought at first that my chance to make money away out here would be limited to poultry-raising. I have always raised enough for our own use and a few for sale, but have never tried it on a large scale. In town I did dressmaking, raised vegetables and flowers, and always managed to keep myself in pin-money.

I find, however, that I can make more and like the work better here than in town, by raising lambs, pigs, kids, and sometimes a calf.

My husband makes hog-raising a side issue with farming, and often, in a large litter of pigs, there will be one or more small ones—"runts" he calls them—that would probably die if left with the others. I rescue them, raise them by hand, and by giving it extra feed and care the runt is often the best hog in the lot at selling time. I have three now, two months old, out of a litter of twelve, that cannot be classed as runts by any means. I sold one last year for \$10 at nine weeks old.

Last spring a large band of sheep was near us at lambing time. The herders gave me several orphan lambs, which I raised on bottles. They are such cunning, playful little fellows, and are so easily raised. They sell at good prices too, when they are from ten to twelve weeks old. I enjoy raising lambs and kids more than anything I ever did, and the returns are worth while. I have raised five kids which were given to me when only one day old. Three of these I sold for \$10 each when they were five months old, have two ready for market now which are twelve weeks old, and I will get at least \$5 each for them. Lambs bring about the same.

Sometimes I raise a calf. If I hear of one I can have for taking it away, I surely go get it. One such calf I sold for a veal at seven weeks, and got \$15.30 for it. Another

from good stock I am keeping. She is a fine heifer, six months old.

Next spring I mean to take all the orphan lambs I can get, and buy as many others as I can care for. I will keep the best ones to add to my small flock, kept from last spring, and will soon have a real band of sheep of my own.

Last month I earned \$78 in cooking for a threshing crew. I helped out a neighbor in distress, as well as adding a neat sum to my purse. I did not seriously neglect my home or my husband, as I was home nights and part of every afternoon. I would not care to do that for long, however, as keeping two houses going is not easy.

I AM forty-seven years old, and have two lovely children—a son, married, and our daughter, "the baby," though past nineteen, is away in a position. I have a piano and numerous other things for the house which I have paid for myself; I also paid about half on our car. Husband is paying for the ranch, while I add the "trimmin's."

My outdoor work makes for better health, and does not interfere with household duties as sewing for others did. I am my own boss, with no one to find fault with my work. I can go calling or to town with no one's gown to finish up by a certain time.

MRS. M. A. THOMAS,
Turlock, California.

UNCOOKED FRUIT CAKE

- | | |
|--------------------------|---------------------------|
| 1/2 pound nuts | 1/4 pound citron |
| 1/2 pound dates | 4 tablespoons lemon juice |
| 1/2 pound figs | Grated rind of one lemon |
| 1/2 pound raisins | |
| 1/2 cup shredded coconut | |

Put the nuts, dates, figs, and raisins through the food chopper. Add the grated rind of the lemon. Then add the lemon juice, and blend with a wooden spoon. Pack closely into an oiled tin, alternating layers of the fruit and nuts with the coconut and citron, which is cut in long strings. Press down closely, weigh, and leave at least twenty-four hours. Keep in a closed cake box, and slice as needed.

GET THIS SUIT

made to your own measure. It won't cost you one single cent. We will give it to you so you can show it to your friends. It will be a big advertisement for us.

You can easily make from **\$35 to \$50 EXTRA Every Week** and besides that be the best dressed man in your town. It's an opportunity you cannot afford to overlook. Even if you only want to order a suit for yourself, don't fail to

Write for Our Big Offer
Don't delay a minute. Drop us a line or send us your name on a postcard, and we will send you, absolutely free, our wonderful style book, containing 64 beautiful samples to choose from. Write now.

The Progress Tailoring Co., Dept. 501, Chicago



Ro-San Rolling Bath Tub With Heater

Full size white enamel tub, nicked 12-gal. tank. Closes up in space 3 ft square. On casters—roll it anywhere. Heater attachment for kerosene, gasoline or gas. Water heats quickly, waste drains through hose attached to temporary or permanent outlet. Simple. Guaranteed. Write for catalog and price.

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239 Rowe Bldg.
Detroit, Mich.

Ask about Ro-San Indoor Closets and Washstands. No Plumbing Required.

30 DAYS TRIAL

Short Cuts Other Women Use That May Help You

I HAVE always enjoyed candlelight, but have neither the money to purchase "dripless" varieties nor the time to clean my candlesticks every time I use them. I was delighted when I found that by painting the ordinary candle with varnish it would burn without even a suggestion of a drip. The varnish is both colorless and odorless. *Miss J. L. K., Philadelphia.*

* * *

When cleaning woodwork, there is ever present the danger of soiling the wall paper with the cleaning cloth. This is especially true when washing the mopboard. A good way to avoid the somewhat unsightly streak on the paper at the top of the board is to use a stiff piece of cardboard. Hold the cardboard flat against the wall and tight against the mopboard. The wall will be protected and the cardboard will receive the streak. It is really much easier to use this precaution than not. The strain of preventing the damp cloth from touching the wall is removed, and one works with greater freedom and ease.

Mrs. C. H., Indiana.

* * *

When preparing cornmeal mush to fry, pour it into jelly glasses, first wetting the glasses in cold water to prevent sticking. The mush cools quickly, and is in good shape to fry when sliced, as there are no corners to break off. Before frying I dip each slice in flour, and find that it fries quicker and browner.

Mrs. T. M. S., Iowa.

* * *

My home-made medicine cabinet is very convenient. In it all the household remedies are assembled, within reach of the older members of the family and out of the reach of the youngsters. We partitioned off an ordinary box, and then gave it three coats, inside and out, of white enamel paint. To improve the appearance I stenciled a small design in blue on the outside, and hung a little blue curtain in front. In the back of the cabinet are two gimlet holes for hanging upon nails driven in the wall. In the different partitions I keep different things—boxes of pellets in the smaller top partition, boxes of salves in the other. In the shorter

of the two lower partitions I keep short bottles, tall ones in the other.

Mrs. F. E. H., Ohio.

* * *

A small scrub brush as a part of my laundry equipment has been found of great value in washing overalls and badly soiled collars and cuffs of men's work shirts. I lay the wet article on the washboard, rub laundry soap on the brush, and brush the soiled article vigorously, often dipping the brush in water. This is much easier than scrubbing, and saves wear on clothing as well.

M. E. G., Connecticut.

* * *

In emptying the pillow ticks to be laundered this spring, try my way of keeping the feathers from wasting and flying all over the house. I take a flour sack (one with the starch still in it is best), turn it wrong side out, then rip an opening in the end of the pillow tick, and sew this opening to the mouth of the flour sack with a strong thread. Invert the tick, and shake the feathers into the sack; tie securely, and rip the sack loose. After laundering, sew it and the tick together again, and shake the feathers back into the tick.

Mrs. I. W. J., Iowa.

* * *

I had a georgette waist that needed washing very badly, but I was afraid to attempt to wash it for fear it might fade. It was made of two-colored georgette, and embroidered in a different shade. One day I made suds of warm soft water and white soap shavings, and added a large tablespoon of salt. I soused the waist until all of the dirt disappeared, then rinsed it several times in warm soft water to which salt was added. I then squeezed it as dry as possible, and, taking Turkish towels, "wiped" it until it was much drier. Next I took a piece of clean blotting paper and absorbed all of the moisture where the two colors of materials joined, and about the embroidered place. I then hung it in the shade to dry, and pressed it with a warm (not hot) iron when slightly damp.

C. S., Montana.

* * *

Try flouring your cake tins after having thoroughly greased them, and you will have no more trouble with your cakes sticking.

Mrs. P. H. W., Illinois.

* * *

BUTTER FOR THE TABLE—To make a good appearance on the table, butter squares should be even and smooth. One way of insuring this is to cut the butter with a knife covered with oiled paper.



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LLEFT-OVERS never look warmed over in Pyrex. The farm woman who owns these transparent oven dishes is never puzzled how to make her left-over foods look fresh and appetizing.

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Some Real Farm Chickens Join the Movies

WHEN real farm chickens not only get into the movies, but also have a picture named after them, they have a right to feel proud. That's why the 200 chicks, hens, and roosters on Harvey Esselman's poultry farm at Sawtelle, California, are glad to lay claim to their distinction of being the first to break into the game.

Here is Douglas McLean holding one of the members of the cast which supported him in the picture "Chickens"

In the filming of the new photo-play "Chickens," featuring the Ince-Paramount stars Douglas McLean and Gladys George, Esselman's \$2,000 flock of White Leghorns was chosen for the background. They wanted to get the real farm atmosphere, so no one would be able to pick flaws in their technique.

The picture relates the trials and tribulations of a young fellow, who has inherited a flock of "Yanconna Yillies," and a farm to keep them on, from his grandfather. Since he hasn't much else to do, and since there is another poultry ranch right next door, owned by the "prettiest pair of blue eyes in the world," he gives it a try.

He has his troubles—with his chickens, a loan shark, and Blue Eyes. His hens won't lay, and their ingratitude haunts his sleep. It surely is surprising how trouble will magnify a barnyard flock when they force their way into one's dreams.

But trouble, like everything else, has an end, and so it does with the young poultryman. His chickens come to his aid at the last minute and—well, see the picture when it comes your way, and find out for yourself what happens.

ROBERT D. DUMM.

We've heard of people having nightmares, but never before have we seen one ridden



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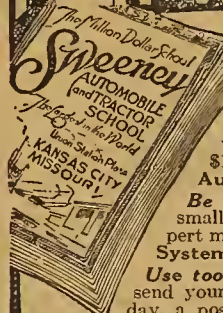
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Brer 'Coon and 'Possum Are Sly, But You Can Fool Them

By George J. Thiessen



"Ow-o-o-o! Here's that 'possum we've been trailing"

THE raccoon and opossum are sly "critters," and give most trappers trouble. However, it is not hard to get them, provided care is used. These fur bearers will not spring uncovered traps. It is a good idea to confine their sets to water, as these seem to be more successful. The raccoon is more cunning than the opossum. But he has a ravenous appetite, and good baits will help us get him.

Do not make the mistake of using too small traps. The 'coon is very strong. No. 1 1/2 trap is generally used. A good many animals will pull out of staked fastenings unless in deep water. Even then it is best to use hard wood. Perhaps the best way to hold Brer 'Coon is with stones weighing from 20 to 25 pounds. Such a fastening can be moved, but not any great distance, by the captured fur bearer.

Try traps at the entrances of hollow logs in shallow water. Raccoons have a great curiosity. No bait is necessary; in fact, the use of one, unless a good scent, is liable to hinder rather than aid you. When the water is too deep, a foundation of mud or sod can be built. It is easy to scoop out excavations where the place is too shallow. Always remove, so far as possible, boot tracks and other man signs.

Never overlook small streams, especially the mouths. 'Coons frequent these in search of food. Where there are distinct trails, concealed sets are best. If the signs are scattered, bait should be used. Comb honey, canned salmon, or smoked herring are effective attractors.

It is easy to identify raccoon tracks. They look very much like the imprints of a

baby's foot. Opossums leave sharp, claw-like tracks. Many times it is hard to tell them from the muskrat's. Only practice will enable you to distinguish which is which.

Some build small V-shaped pens in shallow water, not too far from shore, for the raccoon. These are made of rocks, stakes, or anything handy. The bait is placed in the back part above the water. The traps are concealed with moss or leaves. Land sets are useful too, but are harder to make. The same principles apply as were outlined for the other sets, changes being made according to conditions.

Opossum may be tracked along small ditches. I have found it a good plan to bait with sardines, tying them, about a foot above the water, to overhanging weeds or brush. The traps are placed under the attractors.

Some trappers prefer to dig pockets in the banks, putting the bait in the back part, and protecting with sets. Either way is good.

When land sets are necessary, make them in leaves if possible. Sardines make excellent bait, especially if the oil is sprinkled about. If the traps are concealed carefully, this method is quite dependable.

This Whitewash Lasts

WHITEWASH made by the following recipe, as issued by the Lighthouse Board of the Treasury Department, will be found to be very satisfactory; it is quite durable and gives a dead white:

Slake half a bushel of unslaked lime with boiling water. Keep covered during the process, as this keeps in the steam. Strain it, and add a peck of salt dissolved in warm water, three pounds of ground rice put in boiling water and dissolved to a thin paste; one-half pound of Spanish whiting, one pound of clear glue dissolved in warm water. Mix these well together, and let stand for several days. Keep the wash thus prepared in a kettle or portable furnace, as it should be applied as hot as possible.

Either paint or whitewash brushes may be used for the application of the wash. It may also be applied by spraying. Coloring matter may be added to suit. If desired, the wash may be made antiseptic by the addition of crude carbolic acid, chloride of lime, or creosote.

F. W. IVES.

FARM AND FIRESIDE

The National Farm Magazine

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How We Give Our Garden an Extra Early Start

By F. F. Rockwell

Corresponding Editor Farm and Fireside

IN THE last few years, since we've been paying more attention to our garden, we've learned two important things:

The first is that garden success depends very much on getting an early start; and the second is that we can grow better plants than we can buy, with which to get that early start. Moreover, we get exactly the varieties we want, instead of having to take what the plant seller gives us. So for three years we have grown all our own plants.

For starting the plants I use earthenware seed pans, such as florists use. These may be bought at most any hardware store. At first I tried small wooden boxes, but these warped and dried out. Seed pans are much better. Enough seed for several hundred plants may be started in each pan.

I find that it makes a great difference what kind of soil is used. When possible, I get black, rotten wood from the heart of a hollow tree. Being light and spongy, this holds moisture for a long time, and is free from weed seeds. If I can't get this, I use leaf mold, rubbed through a sieve. A little sandy soil which has first been baked in the oven to kill all weed seeds is mixed with the wood or leaf mold to give it more body.



Some of our young plants in a seed pan

I sow the seed very thinly, so the little seedlings will not touch when they come up. Cabbage, lettuce, beets, onions, and kohlrabi are started in February or early March. Tomatoes, peppers, egg plant, and celery are started in March or early April.

The soil in the seed pans is given a thorough watering before the seeds are sown and they are thinly covered. Then each pan is covered with a pane of glass, leaving a small crack for ventilation. The pans are placed in a warm bay window, where they get plenty of sun and a night temperature of 45 to 55 degrees.

As soon as the seeds are sprouted, I take off the glasses, and give them all the sunshine and fresh air possible, to keep the seedlings growing short and stocky. Each pan is thinned out to about twice the number of plants we will need. *This is very important, as it keeps them from crowding.*

As soon as the weather gets warm I put the plants outside in a hotbed, which is covered with double-glass sash. Before they begin to crowd they are again transplanted to flats. This is usually four to five weeks after sowing the seed.

NOTE: How these plants are handled in the hotbed, will be told next month.

Our Tractor Saves Six Horses

By Fred W. Hawthorn of Iowa

TWO years ago my brother, H. B. Hawthorn, and myself, who work a 320-acre farm, decided to use a tractor for cultivating. Here in Iowa the labor situation has been bad for a number of years, and during the busy season it is almost impossible to hire good men and teams, regardless of the wages offered. But we not only were successful in using the tractor outfit as purchased, but also improved on it so that we could cultivate four rows at a time. Four men are needed. One drives the tractor, giving his entire attention to it; another man drives the two-row cultivator directly back of the tractor; and each of the other men drives a one-row cultivator at each side of the two-row machine.

Our corn planter puts in the corn 3 feet 8 inches apart, and the tractor follows the corn-planter row. Sometimes, however, the other rows are irregular, and vary from two to four feet apart. But as the men on the single-row cultivators have nothing to do except watch their rows, our corn this last year was the cleanest of any we have ever raised. With the outfit described, we have cultivated 40 acres in a ten-hour day. One of the fields is 80 acres, another is 60 acres, and there are two smaller fields, one containing 15 and the other 10 acres.

THE clearance of the tractor is higher than that of the cultivators, and we cultivate as late in the season as any of our neighbors do with horses. Furthermore, the cultivators can be set to stir the soil as deeply as desired, since there is plenty of power. During the past spring we had a good opportunity to test the ability of the tractor to operate in soft ground. The river flowing near one of the fields overflowed twice. As soon as the water was off and the ground was slightly dry, we attempted to disk it with horses, but the disk balled with mud.

As we were anxious to put the corn in early, we went to the field with the tractor and a 14-inch bottom plow to which a harrow was attached. The soil turned nicely, and the following day we planted it to corn, using the two-row planter. In three weeks from the time we planted the land we were cultivating the corn by means of the tractor outfit.

Our consumption of fuel has averaged 3

gallons of gasoline and 15 gallons of kerosene a day. That is for cultivating. Plowing requires about 20 gallons of kerosene a day, in addition to the small amount of gasoline needed to start the motor.

During harvest time we pulled a six-foot binder, back of which is an eight-foot disk harrow. Since we have had the tractor we keep six horses less than formerly, and only one hired man.

Now's the Time to Overhaul Your Tractor

REPAIRS and adjustments made now on your tractor will save time during the rush season.

First drain out all oil from crank case, transmission, and differential housings. Then remove all cover plates, so that all parts may be inspected. Badly worn parts should be replaced, or at least the new parts should be on hand. Remove the pistons and rings to see that they are working freely in the grooves. It is important that all carbon deposits be cleaned from rings and grooves. Wrist-pin bearings can be taken up or rebushed. Crank-pin bearings should be taken up or relined, and scraped in if necessary.

After cleaning the carbon from the cylinder walls, head, and valves, carefully grind the valves. Adjust valve push rods so that valves open with proper clearance. Valve guides may be bushed to save compression. Examine valve springs for wear, and replace if tension is weak or wear is excessive. Go over the ignition system and repair all breaks in insulation on wires; test magneto for strength of spark. Adjust breaker points. Test spark plugs after cleaning them.

Adjust thrust bearings in differential, if any. Adjust all main bearings of axles and transmission. Be sure that all oil openings are clear and free. Clean fuel lines and fuel tank and carburetor. Examine radiator, and rinse out thoroughly. Go over entire machine for loose bolts, nuts, and rivets. Give all exposed parts a coat of good paint. Last, but not least, refill all grease and oil cups and oil reservoirs with the best lubricant you can buy.

F. W. IVES.



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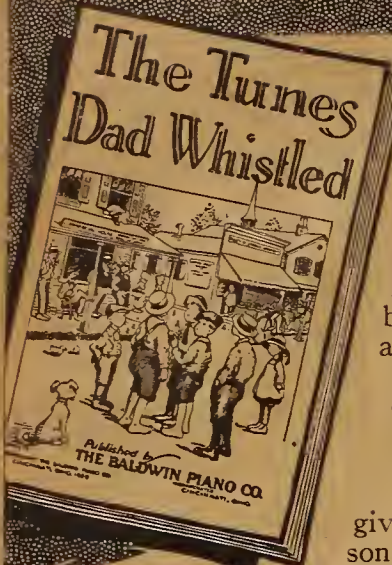
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3030 American Bldg., CINCINNATI, OHIO

with that laugh of his: "Well, I'm stringin' 'em out a mile here, when I ought to have 'em bunched. That wus a great summer. I worked in the big outfit with men an' hosses that knowed how to turn a cow, an' the captain o' the round-up got to puttin' me an' Stud into the thick o' it purty regular. It allus seemed thet, when I rode Stud, Split Miller rode a little hoss called Midnight, an' he sure wus a hoss—black as midnight, 'cept fer a white star in the forehead, short-coupled, an' quicker then forked lightnin'. He would cut with the bridle off—and fast? He was a cyclone. Every night round the camp fire Split kep' pickin' a load in to me 'bout the Stud. Onct it wus, 'Well, Kid, I seed you hed the little scrub out watchin' Midnight work.' Or, 'Say, Kid, I believe if you hed somethin' to ride you'd be a hand.' I swelled up some, but I 'membered what Shorty Owen sed, 'Keep yore head an' come back with it up.' An' Split wusn't mean. He jes loved to josh. Two or three times the captain said, 'Split, let the Kid alone!' But he'd shoot one at me as he rode by in the work, and wus allus badgerin' me fer a race.

"Then I kinda fell into watchin' Midnight run somethin', an' I'd start Stud in the same direction to pace him. An' I cum alive; the Stud was full as fast. I jes' naturally supposed thet Midnight could beat anything, but I kep' a-tryin' an' my eyes kep' a-openin'. One night Split got mighty raw, an' finally ses, 'Kid, I'll jes give you twenty dollars to run a half-mile race, standin' start, saddle agin saddle.' An' then I fergot Shorty's instructions, an' lost my head.

"Split, I ses, 'you been pickin' on me ever sinct I cum to this here work. Me an' Stud don't need no twenty dollars to run you. An even break's good enuff fer us, saddle fer saddle, bridle fer bridle, blanket fer blanket, spur fer spur.'

"Good enuff, Kid!' ses Split. 'Got anything else—eny money?'

"No,' I ses, 'I ain't got no money, but I got sum damned good rags an' a new hot roll.'

"THEN the captain o' the round-up tuk a hand. But my blood was up, an' they put cash allowance on all my plunder, an' I bet it 'gainst money. They give me \$12 fer my Swartz boots, \$8 fer my John B., \$5 fer my cordaroy coat, \$4 fer my shirts, an' \$2 fer my duckin's. It war Wednesday an' the race wus to be pulled off Saturday evenin', straight half-mile, standin' start at the pop o' a gun. The captain tuk the thing in charge, an' sed he'd lick eny damned puncher thet tried to run a sandy on the Kid. It wus all settled, but by the time I hed crawled into my hot roll thet night I 'membered the talk Shorty Owen give me. Stud wus kinda mine, but he war a company hoss arter all, to work on an' not fer racin', an' I sure wus in a jack pot fer losin' my head. Well, the nex' day I tuk Stud off to practice fer a standin' start. You know how I say 'Now!' when I'm workin' on a hoss, and jes' as I want him to do somethin'. Well, Stud he'd been trained thet way, with jes a little touch o' the spur, an' I figured to say 'Now!' as the gun popped an' touch him thet-a-way, an' he got the idee.

"Thet night I tuk him to the track an' put him over it four or five times. An' onct when we wus restin' atween heats I says to him, 'Stud, if me an' you loses this here race looks like we'd hev to steal off home in the night, an' both o' us mighty nigh naked. Everybodyknocked off work Saturday. You know how even in them days word gits 'bout by the grapevine. Well, by noon they wus ridin' and drivin' in from all directions. The wimmin folks brought pies and cakes. The cusey cooked up two sacks o' flour, an' we hed to kill two beeves. Everybody et at the chuck wagon, an' it wus sum picnic. I tole the fellers not to bet on me an' Stud, but they wus plenty o' money on both sides. An' a girl with black eyes an' hair, an' jes as

"Old Granpa"

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purty as a bran'-new red wagon, ses, 'Kid, if you win I'm agoin' to knit you sum hot roll socks.' An' Ole Pop Sellers ses, 'Better look at them feet an' begin figurin' on yarn, 'cause the Kid's a-goin' to win.' But Split hed a girl too, an' she up an' ses, 'If the Kid's dependin' on them there socks to keep warm he's mighty apt to git frost-bit this winter.'

"Well, you know the josh thet goes round when a big bunch o' cow people git together. An' they wus a-plenty, until I wus plumb frustrated. When the time cum, a starter on a good hoss wus to see thet we got off fair, an' then ride with us as sort o' pace-maker an' try an' see the finish. But his hoss wusn't in Midnight's an' Stud's class.

"SPLIT hed seemed to figure thet Midnight didn't need no trainin'; he hed run so meny races an' never been beat. So all Split did wus saddle Midnight an' stan' 'round an' josh. But me an' Stud wus saddled, an' I warmed him up a bit, talkin' to him all the time. I wus worited 'bout urgin' him in a tight place. I hed played with my spurs on him, but he never hed been spurred in his life 'cept a signal touch to turn or jump. I allus carried a quirt on the horn o' my saddle, but 'cept to tap him in a fr'en'ly way, or in work, he hed never knowed its use. What wus I a-goin' to do in a pinch? I knowed he would use his limit under my word, but what if he didn't? Did I hev to hit him? If I owned this here ranch I'd hev give it all to be out o' the race an' not look like a quitter. Well, the time wus cum. Stud hed been frettin', an' I wus stewin', but when we toed the line sumthin' funny happened: We both seemed to settle down an' wus as cam as this here night. I jes hed time to give him one pat an' say, 'Stud, I'm glad I got you!' when the starter hollered, 'Git ready!' An' the gun popped! I yelled, 'Now!' at the same time, an' we wus off.

"Midnight wus a mite the quickest, but Stud caught his neck in the third jump, an' I helt him there. I wanted Midnight to lead, but kep' pushin' him. We didn't change a yard in the fust quarter, an' Split yelled, 'Kid, yer holdin' out well, but I got to tell you farewell.' An' he hit Midnight a crack with his quirt. Stud heard it singin' through the air an' jumped like he wus hit hisself. In thirty yards we wus nose an' nose; ten more, a nose ahead. Then I knowed we hed to go fer it. I wus ridin' high over his neck, spurs ready, my quirt helt high, an' I kep' talkin' to him an' saying, 'Good boy, Stud.' The crowd wus a-yellin' like demons. We wus in the last eighth, nose an' nose, an' I let out one o' them Injun yells an', 'Now, Stud! Now!'

"It seemed like he'd been waitin' fer it. I could feel his heart beatin' faster. There wus a quiver wint through him like a man nervin' hisself fer some big shock. An' I could see him gainin'—slow, but gainin'. The crowd hed stopt yellin'. It cum sudden. They wus so still you could hear 'em breathe. I guess we must a' bin three feet ahead, with a hundred yards to go. Split wus a-cussin', an' spurrin', an' whippin'. I didn't hev no mind to yell in all thet stillness; I wus ready to spur, ready to whip, an' my heart wus a-bleedin'. I don't think now I could 'a' done it to win, an' I jes whispered, 'Now, Stud! Now! Now!'

"I thought he was a-runnin' afore, but he shot out like a cry o' joy when a los' child is foun'; an' we crossed the line a length an' a half ahead. I seed the blackeyed girl with her arms round Pop Sellers' neck, an' a-jumpin' up an' down. Pop wus jumpin' too, like a yearlin', an' the crowd wus doin' an Injun dance generally. Stud didn't seem to sense the race wus over, an' wus still hittin' the breeze. I checked him in slow, patten' him on the neck an' talkin' to him like 'a crazy man, till he stood still, all a-quiver, his nostrils red as fire an' eyes still blazin'. Then I climbed down an' throwed my arms round his [CON-

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Four Facts Every Farmer Ought to Know About Seeds

By W. S. Andrews

I HAVE always wondered why some farmers are content to use cheap seeds. Poor stands, weedy crops, and scanty yields usually result, and yet, judging by the way some of the cheap seed dealers are prospering, someone must be planting these guilty seeds.

Before taking up other agricultural work I spent several interesting years with one of the leading seed houses of the Middle West. Thinking there might be something helpful in the experience I gained there, I will tell you some of the things which every seedsman knows, and which every farmer ought know about seeds.

If I were to list the four most important things to consider in buying seeds they would be:

1. High germination or vitality.
2. Freedom from weed seeds and impurities.
3. Correctness of variety.
4. Breeding for high yields and disease resistance.



A champion farm girl and her purebred corn

I assume that you, like most farmers, buy most of your seeds for field and garden. Of course, there are many that you can profitably save yourself, such as corn, wheat, oats, occasionally clover, soy beans, and a few of the garden seeds. If you do save your own, the most important things to watch are germination and purity. It is very essential to clean the home-gathered seeds properly, so that all weeds are eliminated. The storage place must be favorable as to temperature and moisture, so that vitality will not be lost. A cool, but never freezing, temperature is best, and dry air is much better than moist.

BUT no matter how carefully you have kept your seed stocks, do not trust them. Every lot should have a germination test rather close to planting time to make sure that they haven't "gone bad." Seeds have a tricky habit of doing that. The best of them will sometimes become absolutely worthless from no apparent cause. On the other hand, many seeds are commonly kept by seedsmen for several seasons without the slightest loss in growing power. The main thing is to "feel their pulse" before planting them, by means of the germination test.

There are many kinds of germinators. Perhaps the simplest method for small seeds is to place the sample between two sheets of blotting paper, in a plate, keeping it moist and in a warm place. The "rag baby" is probably the best to use for corn-testing. (If you want to make one of these, ask your county agent or write to Farm and Fireside for directions.) After a reasonable length of time, count the number of seeds that do not sprout, and figure your germination percentage. Really good seeds will often test 98 per cent or better. Anything over 90 per cent will do; 80 to 90 per cent is fair. If they test under 80 per cent, I would seriously consider the extra cost necessary to get a perfect stand and the chances of losing the crop before planting them.

Of course, a good deal depends on the nature of the crop. It would not be serious if radishes, for the home garden, only germinated 60 per cent. You could simply double the amount of seed used and expect to get a normal stand. Corn is costly to replant, and so it doesn't pay to trifle with seed corn that falls much below 95 per cent. Remember that field conditions are much more severe than test conditions. A cold wet spell in early spring might rot seeds that germinated very high in a test. It pays to be on the safe side. Replanting is almost always more costly than the extra price necessary to get seeds that will grow.

Many things have been done to protect seed buyers. Every reliable seed firm tests all its seeds, and many of them mark the guaranteed germination percentage on the seed label. In some States this is required by law, and, in addition, the amount and kinds of weed seeds must be indicated. The U. S. Department of Agriculture and all of the state experiment stations and agricultural colleges test thousands of seed sam-

ples every year in an effort to protect growers. But the only way to be absolutely safe is to deal with a firm that you know is not only honest, but also trying to give you the best that the seed grower's skill can produce.

I could cite numerous examples of the harmful results caused by the introduction of dangerous weeds such as dodder, Canadian thistle, etc., in seeds of unknown quality. But, doubtless, you know of as many as I do. Quality in seeds, like quality in anything else, can seldom be bought at bargain prices.

It is quite possible to buy seeds that are free of weeds and dirt, perfect in germination, and yet it would be poor economy to use them even if they were bought for a song. Perhaps you live in northern Michigan. Would you want corn that was raised in Virginia and that took 140 days to mature? Taking an even more striking example, there was the Minnesota farm-

er who wanted to grow alfalfa, and who planted some seed from far-off Turkestan. His alfalfa killed out the first winter.

Bringing it even closer to home, would you want seed wheat at \$2.50 a bushel which wouldn't yield over 25 bushels to the acre on the richest land, when \$3 a bushel would buy pedigreed wheat that would yield 30 to 40 bushels to the acre on good land? Germination and mechanical purity wouldn't show the difference in these two wheats. Their difference goes deeper—it is due to purity of strain. One has been bred for high yields, the other is a scrub. *There are robber seeds just as there are robber cows.*

I have given very briefly the important things to consider when selecting your seeds for spring planting. If there is anything else you would like to know, write to FARM AND FIRESIDE, and they will try to give you their best thought in answering your questions.

"Old Granpa"

[CONTINUED FROM PAGE 28]

neck, and ses, 'Stud, I didn't hev to hit you!' Stud's eyes seemed to soften, an' he laid his head down over my shoulder. I wus cryin' like a baby, huggin' him hard. The boys wus ridin' to us, an' Stud raised his head an' whinnied. I guess it wus jes the other hosses comin', but I thought he sed, 'Didn't we raise Cain with 'em?' An' I ses, 'You bet we did, Stud; but it wus you done it.'

"News travels fast, an' long afore I got in with my strays they knowed all 'bout it at headquarters. I kep' thinkin' 'bout what Shorty hed sed, 'Come back with yore head up!' but I hed mine down when he met me at the corral. I knowed we hadn't no hosses to race fer money. He looked kinda hard at my extra saddled hoss an' roll o' plunder, and ses: 'Kid, this ain't no racin' stable. This here is a cow outfit, an' our best hosses is fer cuttin', not racin'. I didn't say a word, jes unsaddled an' started fer the dog house, when I herd him cumin'. He caught up with me, grabbed me by both shoulders an' turned me round. I saw a great big tear stealin' down his cheek an' he ses, 'Kid, I wisht you wus my boy!' Then he turned away, quick, an' wus gone, while I set down on the groun' an' blubbered in my ole fool way thet I hev never got over. When pay day cum, Shorty handed me my wage check, which had growed sum, an' sed: 'Kid, when a boy does a man's work he gits a man's pay. You begin doin' a man's work when you went to gather them strays, an' you cum back the same way.'

"Then he started to go on, but turned and sed: 'Say, Kid, if I owned this here S. M. S. Ranch, hosses an' cattle, I'd a' give the whole damned outfit to 'a' seed you an' Stud cum over thet line.'"

Reprinted by permission of "The Breeder's Gazette," from "A Ranchman's Recollections," by Frank S. Hastings.

Pretty Styles Mark the Return of Normal Prices

FASHION has been reborn with the return to lower prices. Never before have styles been so charming. Not for years have they been so reasonably priced. Both style and low prices are temptingly combined in "New York Styles," the new Fashion Catalog. Here are a few models typical of the many new creations it contains. Send today for your copy. *It's free.*



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When Johnny Whipped His Dad

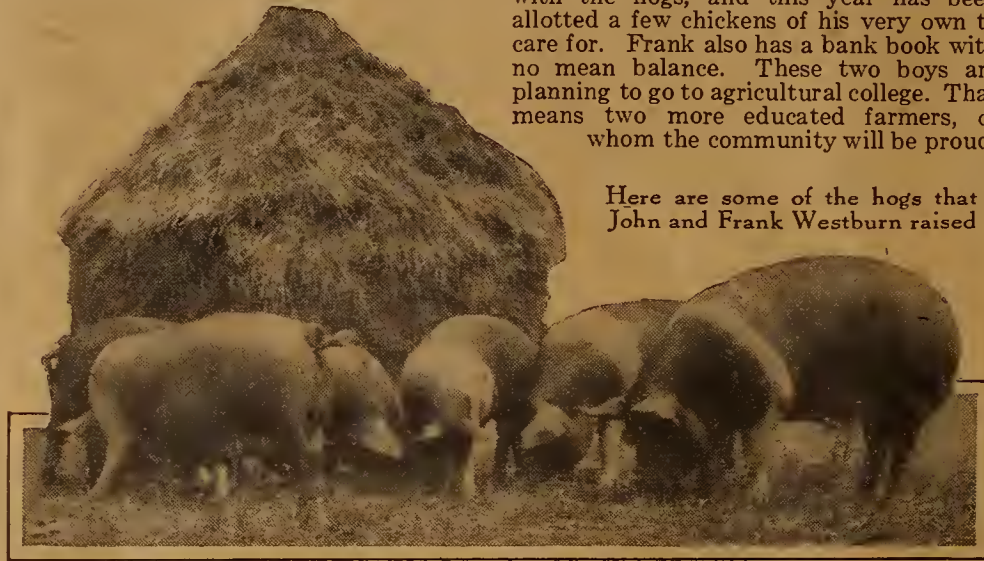
By L. B. Kilmer of Indiana

DOWN in Lake County, Indiana, twelve-year-old John Westburn, whose father had made him a present of a pig, got hold of some pamphlets issued by the Department of Agriculture, giving instructions on hog-raising. John's father laughed at him for "fussing" with the pig. But John followed the government bulletins—gave his pig plenty of green fodder, and kept it clean.

John's father raised the rest of the litter in the usual way, feeding them whatever

he happened to have, and keeping them in a dirty pen. In the fall John's pig weighed 285 pounds, and it brought \$60. Only one other pig survived. It weighed 65 pounds, and sold for \$10.

Last year Mr. Westburn took John into the pig business with him on equal shares, securing the pigs and providing the feed, but letting John care for them. John buys all his clothes out of his share, and the balance goes into his bank account. His eight-year-old brother, Frank, helps him with the hogs, and this year has been allotted a few chickens of his very own to care for. Frank also has a bank book with no mean balance. These two boys are planning to go to agricultural college. That means two more educated farmers, of whom the community will be proud.



Here are some of the hogs that John and Frank Westburn raised

The Doom of the Scrub Bucket

[CONTINUED FROM PAGE 14]

shellac are given. If one desires, either wax or varnish may be applied later. Shellac protects the wood, and is kept clean easily with the oiled mop.

For hard-wood floors, filling and waxing makes a beautiful and serviceable finish. Sometimes a coat of shellac is put on for the filling; it is made smooth with sandpaper, and then wax is added. The waxed mop cleans the floor better than any scrubbing could.

I find water-proof varnish a satisfactory floor finish, particularly for bedrooms. One or two coats of shellac are put on, and then two coats of varnish. Such surfaces are cleaned with an oil mop. One may wish to mop the varnished floor with water three or four times a year; but if this is done, oil is added after the mopping to help the wood in repelling dirt.

One of the most common distresses of the housewife after the floors are varnished is the appearance of white spots on it when the stray raindrops come in at the window or the children spill water on the floor. This is not of serious consequence, for the spots can be taken off easily. I take a basin of cool water, add a few drops of household ammonia, dip a cloth in this, and hold it on the spot until the original color of the varnish is restored. In the same way I treat the white spots on furniture, taking pains to add a little oil to the place where the spot was.

Another floor treatment which stands hard wear is the oiled surface in which boiled linseed oil mixed with turpentine is put on with a brush. When the oil is absorbed by the pores of the wood, and before it is thoroughly dry, it is rubbed with a flannel cloth to remove the black scum in the oil and to polish the surface. This type of floor is cleaned by brushing with a mop dampened in boiled oil and turpentine. Occasionally a few stubborn spots will need to be wiped up with soapy water.

KEEPING floors clean without scrubbing is no longer a myth. It requires no unusual skill. The floors are first swept. I find the use of two brooms more satisfactory than the use of one. A coarse one is needed for gathering large pieces of trash, such as leaves and scraps of paper; it is always used in sweeping porches. A soft, brush-like broom is excellent for gathering small particles of dust and dirt. I use a short-handled dustpan and a soft brush for sweeping the collected dirt into the pan. Unfortunately, I have never found a dustpan with a long handle which would not bend at the edges in time, making it almost impossible to sweep all the dirt into it.

After the floor is swept, it is dusted with a dustless mop. I never use the mop in the place of a broom. When there are large pieces of dust the broom is the tool needed

first, but when there is nothing but minute particles of dust on the floor the dustless mop will remove them just as the dust cloth removes the dust from furniture.

When the floor is swept and dusted, I look for spots. If there are any, I wipe them up with a damp cloth, then I use a waxed mop on waxed surfaces, and an oiled mop on varnished, shellacked, and oiled floors. The oiled and waxed mops are used once or twice a week; if used more frequently, a black gum-like appearance will be the result.

There are times when a mopping, not scrubbing, is necessary. The greatest mistake made in mopping is the use of too much water. A cloth dampened in water and fastened to a long-handled mopstick will accomplish better results than flooding the floor with water. Water causes the best of wood to become porous and to splinter. That's why scrubbing is detrimental to the floor.

WOODWORK and furniture are kept clean in much the same way as floors. Usually they are dusted with a cloth on which a little furniture polish has been sprinkled. The greatest difficulty is that too much polish may be used. When this occurs, the wood looks foggy, finger prints show, and it catches the dust, thus forming a gummy mass. To regulate the amount of polish on the dust cloth, I pour one or two tablespoonfuls of polish in a fruit jar, turning the jar so the polish will cover the sides. Then I pour out the polish and put the dustcloth in the jar, leaving it at least twenty-four hours to absorb the polish.

Furniture and woodwork cannot be scrubbed with success any more than floors can. A little water, however, is very effective in cleaning furniture, woodwork, wooden picture frames, and papered walls. A cloth is dampened in water, and wrung until quite dry; then it is rubbed over the surface of the wood with an up-and-down movement. A circular motion always gives a smeared appearance. I put a little friction soap on a damp cloth, and rub it on the papered walls with an up-and-down movement; it cleans them beautifully. Water is a good cleanser if used sparingly; the evil of scrubbing is that it requires the use of too much water.

Housekeepers look forward to the coming of winter months with enthusiasm, now that the floors repel dirt and the walls, woodwork, and furniture are cleaned easily. What if the stove does smoke? What difference will it make if the family is in the house most of the time in cold weather? Keeping the house clean can be accomplished without drudgery. With scrubbing a thing of the past, and all housecleaning simplified, the new housekeeping is in sight.

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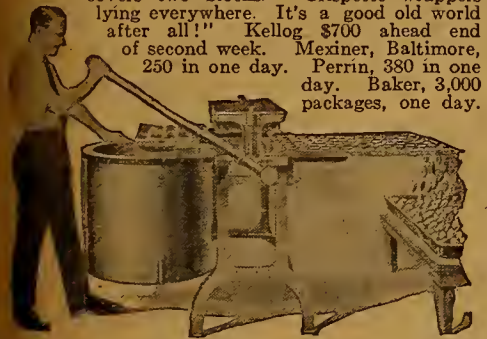
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LONG EAKINS COMPANY

218 High Street Springfield, Ohio

Coöperation and You

[CONTINUED FROM PAGE 5]

volume of shipments to any special point. If, for any reason, a dozen shippers coincidentally picked upon a given city for destination, there resulted immediate congestion of supplies at that market and a great drop in price. With a perishable commodity, there resulted also a great loss from wastage, and fine opportunities for manipulation were afforded the dealers. Wastage and loss in the shipment of fruit under this old system amounted to perhaps 20 to 30 per cent of the product.

Under the coöperative system, however, with agents at every consuming center, distribution can be made in accordance with the demand of consumers. Wastage can be largely eliminated, and the producer will no longer suffer from the misrepresentation of the occasional dishonest middleman at the point of consignment.

Any wrong incident of taxation which throws an unjust burden of taxes upon distribution will unduly increase the spread; an investigation of the excess profits tax, for instance, would prove that its burden is largely shifted to the cost of distribution. Thus, economy in government is a factor of the problem.

Any increase in rates is a charge directly upon the farmer. He is, therefore, primarily interested in the economical handling of our railways. He is also vitally concerned in the improvement of transport, both as to better car service and new water ways, where bulk freight can be transported at much lower rates. No better example of unnecessarily widened margins could be cited than that arising from car shortage; in a period of acute stringency in transportation during the war the difference in the price of corn between Iowa and Massachusetts rose to 60 cents a bushel.

Generally, car shortages produce gluts to the farmer and shortages to the consumer, and no one benefits except the few lucky middlemen who get the cars. The supply of refrigerator cars to all comers and an open market at the stockyards are essential; they must be guaranteed by any proper settlement of this transport question. In such larger measures proposed to cut transportation cost as the Lakes to the Sea Ship Canal along the St. Lawrence River, there is in sight a saving of from 8 to 10 cents a bushel from present rates for carrying grain from the States contiguous to the Lakes to Liverpool—a sum greater than all the middlemen's profits combined.

Transportation problems are for farmers' associations to deal with. They, of course, do not come within the province of selling coöperatives.

THERE is, I believe, more emphasis put upon the increase of spread due to the number of men engaged in handling than the facts warrant. I do not believe any system will greatly decrease the number of men necessary in the chain between farmer and retailer, though there are too many retailers. As for the others, some of them make more than their services are worth; but they are not numerous, and a better system generally would cut out the disciples of profiteering. Assuming that these minor, though irritating, ills can be cured, I do not believe that a complete system of coöperative marketing would make much saving in this item. Men must be used—and must be paid.

Our farmers are the only great producers in the United States who have statistics of production only, and none of consumption. Any merchant who conducted a business without a knowledge of his market would be bankrupt in a month; and yet our food producers go forward with the greatest of all of our industries, lacking adequate information as to the demand for the supplies that they sell.

It is of the greatest importance to the American farmer, not only that we should

have the consumption statistics of the United States, but also the consumption and production statistics of the rest of the world; that we should have these forecasted and interpreted in such a manner as to give proper guidance.

Information of this kind was supplied during the war, for in that terrible crisis we had to provide amounts of foodstuffs to meet a definite knowledge of consumption. The information was indeed extremely difficult to get; but a careful study of the guidance given to the producers in the United States during the war will disclose that although our production was increased enormously in certain directions, it was increased in those directions where consumption was clearly seen in advance. We reached the end of each harvest year in 1917 and 1918 with our surplus sold, and at prices very

much fairer to the producer than have been his returns from the crop of 1920.

Again, this is a question for discussion by, and regulation through, farmers' associations.

There is, and must be, a great conflict of opinion as to whether or not through coöperation there can be a control of prices. My own view is that prices cannot be controlled over a long term of years by any form of organization. If every grain of American wheat were in the hands of one coöperative agency, it would nevertheless have to meet world competition, and the volume of production would ebb and flow with the rise and fall of prices over long periods. Such an agency would at some time find all the other wheat in the world being marketed at just below the price that it endeavored to establish. If its price were maintained at a point high enough to stimulate production, it would ultimately become the sole holder of an unmarketable surplus, and it would face bankruptcy.

PRICE fluctuates over two ranges—the slow movement over terms of years, and the intermediate daily fluctuation. It is in the influencing of this daily fluctuation that the speculator has his opportunity, and out of it frequently arises a great increase in the spread, or margin. It can be to some extent stabilized by coöperative selling—to a lesser extent, and indirectly, by distribution of accurate market information. In my belief, the most effective influence for stability would be a bold handling of the whole problem of national markets.

Our boards of trade and produce exchanges perform in part the functions of great national markets, though they are occasionally subject to manipulation by persons who interfere with the free flow of the law of supply and demand for their considerable personal benefit. However, cure does not consist in killing the patient. Unless we put the farmer absolutely in the hands of the middleman—to take what he can get—we must have national markets where a daily price can be fixed and made known to all.

In considering methods of diminishing the spread, we must bear in mind that our situation in the United States is different from that in practically any other country, in that our production centers are so widely separated from the centers of consumption that there is no hope of drawing the actual individual producer and the actual individual consumer into contact without the intervention of some extensive machinery. There is no hope of marketing more than a very small per cent of our farm products in so-called municipal or public markets. What we must have is a bold conception of national markets, and these national markets must to a great extent deal in contracts rather than in the actual commodities. To illustrate: It may well prove highly advantageous to make a contract in New York between a potato dealer in Wis-

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Financial Reference—"Ask the Man Who Wears Them"

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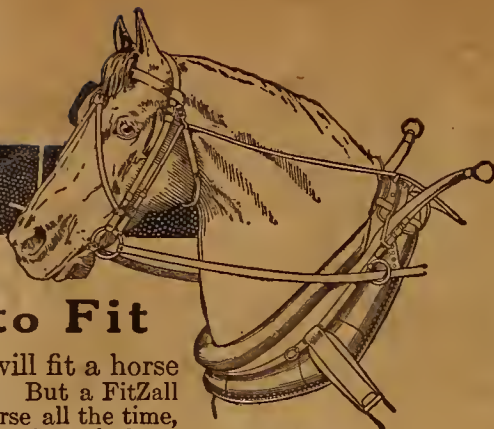
Herewith \$4.85 for which send me, postage paid, a pair of No. 963 Lion Brand Work Shoes, as described in your ad, size..... If these shoes are not in every respect a better quality than I can buy anywhere at anything like the same price, I can return them and you will immediately return my money. For same shoe, Brown Leather, order No. 902; for extra heavy sole, send \$4.95.

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17 to 20
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consin and a potato distributor in Boston, and the commodity, in order to move on the most economical lines, would not pass through New York at all.

The subject is too extensive for full discussion here, but it is my belief that if we would stabilize prices, eliminate speculation, simplify distribution, we must develop a great system of national markets dealing in produce by contract. I believe that we could thus assure our marketing system stability, honesty, and service to the whole community. I believe that it must be done by the same constructive processes that we have gone through in forcing our railway, insurance, and banking systems into serving the community. At the same time, we must preserve individual initiative—the basis of our whole economic system. Here, again, the cooperative action in its wide sense of the farmers' associations is vital.

IN DIRECT cooperative selling of produce, in buying of supplies—that is, pooling of products—there is, indeed, a great field of benefits to the farmer. Farmers' associations must grow from modest beginnings, just as business organizations grow, if they would avoid pitfalls. They require not only to proceed slowly in the province they would invade, watching every step, but they also must develop personnel in leadership. They must grow from foundations composed of the local cooperative in each locality, which will gradually be welded together into larger units. (Just what your farm bureau is doing.)

Such has been the foundation of all the successful cooperatives just as it has been the foundation of all successful business. A cooperative is a business, subject to the same laws of cause and effect. I believe that the high intelligence of our agricultural communities insures for their successful development the greatest promise of any country in the world—provided they are dominated by practical men, not by dreamers.

A School Teacher

[CONTINUED FROM PAGE 8]

country people, while others were simply "awful." I have boarded in a home where toast and tea were all we had for breakfast; where there was but one fire in the house, and that in the kitchen and it went out at night; where I could not wash in the morning because the water pitcher held a solid cake of ice instead of water; and where many other things made life a burden. A country school where the teacher must live under such conditions cannot hope to keep one who is competent very long. Education in such a school is bound to suffer.

To my mind, one of the gravest educational problems is that of the country school. I believe there is nothing in the line of education that our country children are not entitled to, and I think the time is coming when the people of the rural districts are going to realize that fact. They are realizing it now. Much improvement is being made—longer school terms, consolidated schools, better wages and better living conditions for country teachers, are all helping to bring better educational advantages to the farm children, but there is yet room for vast improvement in most places.

THE question of education for country children is not one of to-day only, but of to-morrow as well. We are laying a foundation for the future. Are the farm children going to stay on the farms, or are they going to the towns and cities? The answer to that question depends a great deal upon the foundation for the future that is laid in our country schools of to-day.

Like the question of farmers' organizations, it must be solved "from the ground up." The farmers themselves must solve it. We are facing a grave shortage of farm labor. The country children have left the farms in great numbers for years past. Why? Whose fault is it? What foundation was laid for their staying in the country, in those bleak little one-room schoolhouses, with their underpaid, often incompetent, teachers and their half-length terms?

Is it the children's fault that education and knowledge called them and they went? We are looking forward to the future and wondering what that holds for the farm children. What sort of a foundation are you laying to-day in your country school to build that future on?

We Americans consider ourselves an intelligent people, but we are not meeting our big national problems, among them agriculture, intelligently. A. R. MANN.

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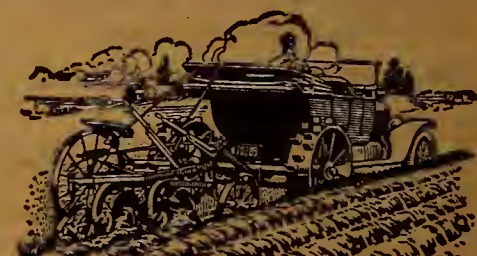
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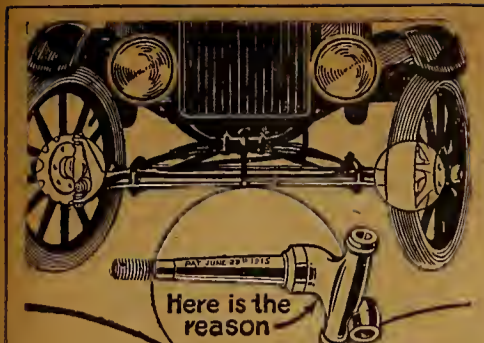
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L. P. BELLAH, General Agent, Dept. B, NASHVILLE, CHATTANOOGA & ST. LOUIS RAILWAY, NASHVILLE, TENNESSEE

Which Way Are Prices Headed?

EVERYONE is concerned with prices. Each of us wishes to obtain as high a price as possible for the services or commodities which he has to sell, and to pay as low a price as possible for those which he buys. Each exerts his bargaining power to obtain prices satisfactory to him. This bargaining power is exerted individually or collectively. Farmers have been inclined to remain in the market as individual bargainers.

As a result, the complaint is frequently made that the farmer has no part in determining the prices of the commodities which he sells or buys. His individual bargaining power has little effect on market prices. Combine the bargaining powers of farmers in effective organizations and they will be more effective. The farm-bureau movement is a progressive step in this direction. Other farmers' organizations also give promise along these lines. More effective and inclusive organization is needed for the best results. When farmers support thoroughly the agencies that are promoting their interests and striving to perfect their organization, then their bargaining power will be felt, and they will know that they are a factor in determining prices.

W. M. JARDINE, President,
Kansas State Agricultural College.
(Courtesy Kansas Industrialist)

Cheaper Fertilizer Coming?

YOU will be able to buy your fertilizer at a lower price this spring if the recommendations made by the U. S. Department of Agriculture go into effect. An investigation by the Department of the fertilizer industry, with special reference to fertilizer costs and the prices set for the spring trade, showed that fertilizer manufacturers were not planning to reduce prices in common with other manufacturers. The Department said in part:

"The indications are that we are on a continually falling market with certain of the materials. Therefore the Department is strongly of the opinion that prices fixed for the entire spring trade to July 1, 1921, on the basis of present values, are not justified. Your prices for spring delivery should be lowered now to the fullest extent."

It will be wise to make a careful study of the fertilizer situation before filling your spring needs. Your county agent will help you, or if you will write to FARM AND FIRE-SIDE we will give you the best information that we have.

F. R. P.

Grimm Alfalfa

[CONTINUED FROM PAGE 12]

answer must be that an alfalfa, to master the climate, *must be hardy!*

I began telling around that we had, in Carver County, a new alfalfa that would stand our cold winters as no other alfalfa could, and in 1900, nineteen years after I went visiting Ottinger's farm with my father, I got Prof. Willet M. Hayes of the Minnesota Experiment Station to drive over to our farm. He said:

"Do you realize the importance of what you are saying about this alfalfa?"

With Prof. Andrew Boss, Prof. Hayes spent three days in our neighborhood investigating for themselves. The third day Hayes remarked to Boss:

"I am satisfied that this marks the beginning of alfalfa in the West!"

Later, in 1903, at my suggestion, he named the new alfalfa "Grimm," in honor of the old German who had imported the original seed from Germany forty-six years before.

Once we had made up our minds that it was the seed that originated with old Wendelyn Grimm that counted, we secured two bushels of seed that we knew came at second-hand, and with no mixture, direct from the original Grimm field. This seeded eight acres, and we cut from it three crops a year, for fourteen years, before plowing it up.

It was this seed that gave me my start in the business of growing and marketing alfalfa seed.



Cut the Costs—Swell the Profits

The stock-grower who keeps his cost of production low enough is safe on any market. Selling on a high market he gets big profits—on a low market he gets some profits instead of facing a loss. And whether you produce dairy products, beef, pork, mutton or wool you can surely reduce costs by regularly adding to the ration the tested, dependable stock tonic—

Pratts Animal Regulator

It helps build and preserve stock health—that means work animals in the harness every day, steady milk production from every cow, rapid growth of young stock. Its aids digestion—that means a saving of food, all used, none wasted. It strengthens and tones up the whole system—that means strength, vigor and vitality without which any animal is of little value. Cut costs, too, by checking contagious diseases which may kill some of your stock and seriously injure the rest. Use, regularly, and freely,

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There's a Pratt Dealer near you.

PRATTS FOOD CO. Philadelphia Chicago Toronto

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64 BREEDS Most profitable chickens, ducks, turkeys and geese. Choice, pure-bred, hardy, northern raised. Fowls, eggs and incubators at low prices. America's great poultry farm. 28 years in business. Send 5c for large valuable poultry hook and catalog. A guide to success.




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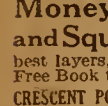
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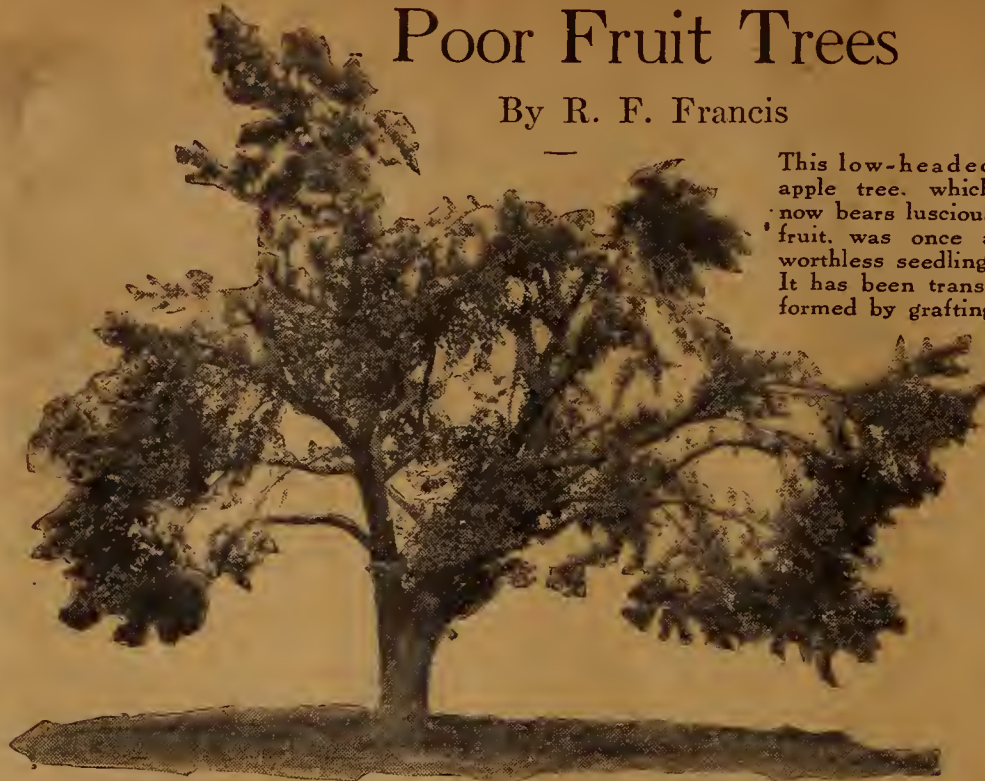
Low steel wheels, wide tires, make loading and handling easier. We furnish Steel Wheels to fit any axle, to carry any load. Plain or grooved tire. Catalogue sent free.



EMPIRE MFG. CO., Box 368, Quincy, Ill.

Simple Ways to Transform Your Poor Fruit Trees

By R. F. Francis



This low-headed apple tree, which now bears luscious fruit, was once a worthless seedling. It has been transformed by grafting

ALMOST every farmer will find a knowledge of budding and grafting helpful. It may be to make over an apple tree from an inferior variety, such as Ben Davis, into a palatable and salable sort such as Delicious or McIntosh. Or it may be to add a few new varieties by putting two or three kinds on one tree.

A peach may come up from a stray pit, that you will want to change to a luscious juicy variety. If you know how to bud and graft, you can easily do these little tricks.

To describe the operations of budding and grafting, it is necessary, first of all, to get straight on the meaning of the terms.

"Budding is accomplished by taking a bud from one tree and inserting it in another tree, which is spoken of as the "stock." The stock is usually only one to three years old, and in good growing condition.

"Grafting" consists in taking a small branch, which is spoken of as the "scion," from one tree and fastening or grafting it onto another, in such a way that it will grow. The scion is generally cut from active young growth, about the size of a lead pencil. It should be cut during winter or in very early spring, while the buds are still dormant. The scions may be kept in sand or soil, in a cellar, or in an ice house.

I like to do my grafting just after the buds begin to swell in the spring, so that scions will start to grow as soon as possible after grafting. Budding may also be done at that stage, but I prefer doing it in late July or August, after the buds for the next season's growth have matured. Of course, such buds do not start to grow until the following spring, but they should unite with the stock in three or four weeks.

IN BUDDING there are three distinct steps:

First, make your bud. This is done by cutting a dormant bud, of the variety wanted, with a little strip of bark three fourths of an inch to an inch long. A sharp knife should be used, to make a clean cut, and a little sliver of the wood may be left in the curve of the bark.

Second, make a T-shaped slit in the bark of the stock, and slip the bud into this so it fits snugly under the bark.

Third, tie the bark firmly over the bud with raffia or soft twine, to hold it secure without cutting it.

In a few weeks, or as soon as the bud grows fast, cut the tie to prevent its binding the growing stock. The following spring, when growth starts, the stock is cut off clean, just above the growing bud, which forms the new leader, making a new tree on the old roots.

Grafting is of two kinds. If you have a small tree or branch to make over, say as big as your finger, you can use a "whip" graft. This consists in cutting off the stock with a long, slanting cut, and cutting a scion of the same size, and in the same way, so that the two pieces will exactly fit together like a splice. The inner bark, or cambium of the two pieces must just fit together, as this is the part which will form the adhesion. A split or tongue in both pieces will serve still further to hold them in exact position.

Where I have to make over larger trees,

or add new varieties to a bearing tree, I select a number of strong new branches, an inch to two inches in diameter. These are cut off clean and square instead of slanting. Then they are carefully split across the middle so that two scions can be inserted. The end of the scions are cut to a slim, tapering wedge, so that they will fit snugly in the split, care being taken to place them flush with the outer edge of the split, so that the inner bark of both stock and scion will come together.

In both whip grafting and cleft grafting, the scions should be firmly bound in place as soon as inserted, and the entire joint well covered with grafting wax. If both scions take, in a cleft graft, one may be cut off later. As the scions grow, the top branches of the tree are removed; in the case of an older tree, a few each year, until the new growth replaces the old after three or four seasons.

If there is anything that I haven't mentioned here that you want to know about, consult a good book on horticulture, or write to your agricultural college for bulletins. Or, if you will send me your questions, I will try to help you.

What a Country Dinner Costs in Town

I WONDER how many of you farmers realize how lucky you are when it comes to this very important and enjoyable business of eating. I wonder if you experience a feeling of satisfaction when you dig potatoes from your garden, coax a pail of fresh milk from Bossy, or capture a broiler out in your back yard for to-morrow's dinner.

City life is mine. When I want potatoes I buy them by the pound, and pretty poor specimens they are at that. Milk I buy by the quart or pint—at least, what I get is labeled milk. A broiler is a luxury, served only when I get reckless with my money.

That's why I completely enjoyed myself when one day I was fortunate enough to partake of a real farm dinner.

My host was an average Eastern farmer with a family of four. Another visitor and myself completed the company. It seemed to me as if I had never sat at such a bountiful table as the one spread before us.

In the center of the board was piled, in tempting array, a heap of fricasseed chicken—three of them—the edges of the platter banked with great feathery dumplings. Near-by stood a small mountain of savory mashed potatoes, flavored with honest-to-goodness country cream and butter. This was flanked by a pile of more than a dozen steaming roasting ears, fresh picked.

At each plate were side dishes of beets, sliced in vinegar, sliced cucumbers, stewed apples, and generous rolls of butter to spread on the expansive slices of home-baked bread. In addition there was coffee and a big pitcher of thick cream.

When we had eaten until we were near the bursting point, generous V's of well-filled blackberry pie were passed around. That we were too full even for speech made no difference. My host declared there was always room for pie, and we proved it.

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When you buy an Ironclad Incubator and Brooder you take no risk. You get machines which have been on the market for years. Machines made of the very best material—by expert workmen—machines that give high percentage hatches and stand up for years. You simply can't go wrong in buying Ironclads. We give 30 days' trial. Money back if not satisfied, and we pay return freight charges.

150-Egg Incubator 150-Chick Brooder

Incubator made of genuine California Redwood, covered with heavy galvanized iron, triple walls, asbestos lining, deep chick nursery, hot water heat, copper tanks and boiler, self-regulating, Tyco thermometer, glass in door, everything complete and built to last. Shipped set up, all ready to use. Ten Years guarantee. Catalog free on order direct from this ad. You take no risk.



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Foy's big book tells all about it. Contains many colored plates—an encyclopedia of poultry information, poultry houses, feeding for eggs, etc. Written by a man who knows. Sent for 5 cents. Low prices, fowls and eggs.

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GREIDER'S FINE CATALOG of fine-bred poultry for 1921; all choicest breeds illustrated and described; information on poultry, how to make hens lay, grow chicks—all facts. Low price on breeding stock and hatching eggs. 30 years in business. This book only 12c. **B. H. Greider, Box 48, Rhoads, Pa.**

POULTRY Miller's GUIDE

tells all about raising chickens, care, feeding, etc. Contains beautiful colored pictures of best paying varieties and best layers, sent absolutely FREE. **Eggs and Poultry for hatching at special low prices. J. W. MILLER CO., Box 75, Rockford, Illinois**

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We furnish Pure Bred Chicks of the finest quality from high egg-producing stock. Flocks built directly from laying contest winners. We have seventeen breeds. Write for our free illustrated catalogue and price list.

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East of Rockies Towards Express And allowed to points beyond. I ship quick from Buffalo, Minneapolis, Kansas City or Racine.

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The Old Reliable Hatcher with a record better than ever and sold at lowest factory price under strong guarantee. Built of best material, all latest improvements, has redwood case, triple walls, hot water copper tank, double heating system, self regulator, large oil tank, one fitting to hatch, safety lamp, automatic ventilation, etc. Most simple, durable and successful machine. All set up ready for use. 27 years experience building incubators and raising poultry. Largest factory in Northwest. Big incubator book and catalogue free. Mankato Incubator Co., Box 708, Mankato, Minn.

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Big husky fellows from pure-bred, vigorous flocks. Eleven popular varieties. We sell only Quality Chicks, no unsatisfactory second or third graders. Attractive catalog FREE. Safe delivery guaranteed by prepaid INSURED parcel post. Fifth season. Our customers reorder. Murray McMurray, Box 90, Webster City, Ia.

GRAPE VINES

Gooseberries Currants Raspberries Strawberries Best varieties. Well-rooted and vigorous plants. Catalogue sent to you free. Write for it today. T. S. HUBBARD CO., Box 23, Fredonia, N. Y.

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No ice or sleet on windshield on stormy day by applying our simple wonder to any windshield on any auto or locomotive, trolley car; same can be operated on the most stormy days without sleet freezing to glass. Why run risk to your life and car? Will fit any make of car; can be hung in any corner of windshield and ready for use in one minute; lasts a lifetime. Will send to any address in U. S. for \$1.00.

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To introduce our hardy Northern Grown Seeds, we send the following 10 pkts. for 10c: John Baer Tomato, 1200 to 1 Beans, Beet, Carrot, Cucumber, Lettuce, Onion, Parsnip, Radish and Superb Asters. Due bill for 10c with every order. Money back if not satisfied. Big catalog of Seed Bargains free. Send today. W. JUNG SEED CO., Station 5, RANDOLPH, WIS.

CLOVER

Buy now. Prices now reduced about one-half. We can save you money. Wonderful values in Best Seeds. Guaranteed high quality Iowa grown—re-cleaned and best seed, very pure. Also Timothy, Sweet Clover, Alfalfa, and all farm seeds. Write today. Don't buy until you get our reduced prices, free sample, 116-page catalog. A. A. BERRY SEED CO., Box 642, Clarinda, Iowa

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GRASS SEED

Don't fail to investigate these bargains. Re-cleaned Tested Timothy \$3.95 bu. Sweet Clover unhusked, \$4.50 bu. Alfalfa Clover and Timothy \$5.85 bu. Sudan Grass \$3.00 lb. Pines cover some grades of limited quantities. Clover and other Grass & Field Seeds at low prices. All sold subject to State or Government Test under an absolute money-back guarantee. We specialize in grass and field seeds. Located to save you money and give quick service. We respect higher prices—Buy now and save big money. Send for our money-saving Seed Guide, explains all—Ira. American Mutual Seed Co., Dept. 642, Chicago, Ill.

As I leaned back in my chair at the end of the repast I couldn't help but wonder how much it would cost to duplicate it in the city. The thought stayed with me, and as my host and I wandered in his garden later I tactfully inquired as to the valuation he would place on what we had just eaten.

"Really, I've no idea," he said, surprised at my question. "The vegetables didn't cost much. We plowed and planted this garden, for instance, at odd times, and cultivated it when there was nothing much else to do."

"But the chickens," I said, "the three must have weighed ten pounds. Even if you could get such nice ones in the city, they would cost not less than 50 cents a pound, or about \$5. You used half a peck of potatoes. As I talked I rapidly wrote down the items on a piece of paper in this manner:

3 chickens, 10 pounds	at 50c.....	\$5.00
1/2 peck potatoes	at 80c.....	.40
20 ears of corn	at 10c.....	2.00
3 bunches beets	at 10c.....	.30
4 cucumbers	at 10c.....	.40
1/2 peck apples	at \$1.00.....	.50
2 quarts blackberries	at 25c.....	.50
2 quarts milk	at 18c.....	.36
1/2 pound butter	at 80c.....	.40
Total.....		\$9.86

"There you are," I said, handing the list to him. "Nearly \$10, not including the incidentals, which would make it considerably more. And if you bought it at a restaurant—well, I wouldn't want to even see the bill.

My host was amazed. Never before had he figured the cost of his meals according to city standards. He hadn't realized he was "living high."

"It was a cracking good dinner," he finally asserted, "and worth all it cost; but I'm mighty glad I'm not a city man who has to pay such prices for what he eats. I'm afraid I wouldn't eat so much or enjoy it so well, and I'll bet a big red apple that a lot of farmers would be better satisfied if they realized how much their home-grown stuff costs the city man."

And that's the way it struck me too. R. J. BENNETT.

Score one for junior project work: A New York farmer got up in a farm meeting recently and said: "I'm seventy-one years old, and have fed hogs all of my life; but I learned more last year watching my girl feed her pig than I've learned the seventy years I've lived."

Handy Oil-Can Holder

ALL users of fuel-oil motors, and especially those who operate tractors, will be quick to see the advantage of a light portable rig with which to handle heavy steel drums of kerosene or gasoline. As illustrated, this rig is made from two stout poles, a pair of old wagon tires, and a heavy strap with buckle.

By strapping this securely to the side of the drum as it stands upright, one man can easily tip the drum over on the iron rockers, hold it in any position, and draw off as much oil as he desires. When this is done he easily rocks the drum back to its upright position, in which there is no danger of leakage.

This simple and inexpensive device saves time and money. A. A. JEFFREY.



This simple device for handling an oil drum can be easily made at small expense



Condition Your Breeders Mating Time Is Here

Make sure that the parent stock, your hens and roosters, are in the pink of condition at mating time. Then they will impart health and vigor to the offspring. See to it that your breeders receive in their daily ration

Dr. Hess Poultry PAN-A-CE-A It puts the Breeders in Fine Condition

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The Babcock Tester Who Woke Up Our Town

DOWN here in a little country town, in the "Egypt" of southern Illinois, is a man who has stirred up more interest in dairying than anyone here ever dreamed of.

Our farmers had been shipping a little cream for some time—just taking what milk the calves did not get and selling the cream, and that was about all.

A man here, owning a few acres, decided that he would like to buy cream for some company. He knew a cream buyer in another town, and had learned how to test cream. So he took the examination and got a license to test and buy cream. He made a deal with a certain company, and they sent him an outfit.

The cream station was rigged up, and a little cream began to come in. After a few months a few more buckets came in, and occasionally a whole can. This man (I will call him Smith, although that is not his name), having a pretty keen brain, began to wonder if there wasn't a way to get the farmers to use more and better cows, so there would be more cream to ship. His volume was so small that the business was not paying very well, so he suggested to his patrons that they bring in a sample of each cow's milk and let him test it. They would then know which were their good cows and which were their poor ones. Three fourths of them never had thought of such a thing. But they all gladly brought in their milk samples. Smith tested the milk without charge, and insisted that they bring a sample every week for a number of weeks, so he could get an average for a period of time.

NOW we come to the interesting part: Naturally, Jones didn't like to have his neighbors know what poor cows he had. That is exactly what happened. Smith averaged these tests, giving each patron a sheet with the reports for everyone on it. Every man could see how much butterfat he had sold each week, and how his cow test averaged, and whether his was better or worse than his neighbor. It was also reported regularly in the county paper.

Did they wake up? Well, I guess so. Soon the farmers in bunches began to buy good dairy cows by the carload. Old Brindle wobbled down the lane for the last time, and was shipped to the packer. I wish I could make you visualize the changes that have taken place in that little community. Many farmers now bring in one, two, three, and more gallon cans of cream every week. Smith has a fine business, but the farmers most all have a finer one. Why, a bank has started where one never thought of before! The farms are fairly beginning to bloom since they have been better fed with cow manure. Silos are to be seen on every farm. New barns are common, and not by any means the least are the many new homes built from the proceeds.

There is keen competition between the best farmers to see which one can get the largest cream checks each week. Record-keeping is still the leading feature of interest. It takes a real force to handle the cream books now, where, at the start, Smith could handle it himself. Now he charges a small fee for testing and making reports to each one. They are glad to pay him to keep them posted on what their cows are doing.

I wonder if there aren't other places that need a Smith to wake them up? R. B. R.

E. B. Davis of Toledo, Ohio sends us this picture of his two-year-old son, Mark, and writes: "Mark's greatest pleasure is to feed and play with our hens, which are blooded Barred Plymouth Rocks. They are tame, and allow him to pick them up at will." Truly a born poultryman, we would say!



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Why He Failed

I WAS talking to a man the other day who has farmed for fifteen years, has raised good crops, and has made good money, as people reckon in his neighborhood. But he is doing his work as his father did before him. He is in a rut, and he realizes it. He said to me:

"I could make a better success of my farming, make more money, and have more conveniences, if I wasn't in such a rut. For instance, self-feeders for my hogs would save me an hour a day for extra work in the field, and my seeding and planting could be finished sooner. My ten cows are just paying expenses. If I would put in a milking machine, as I have been advised, I could make a nice profit, because I could take care of six more cows with less work. I have been advised to drill my small grain instead of broadcasting it, and I do not doubt but it would pay me well, because of the extra yield, but I have an old seeder, and hate to scrap it. I could get a nice thing out of my orchard if only I would spray every year."

And thus he named a dozen or more approved practices which, if adopted, would mean more money from his farming. His wife and family could then have more comforts and conveniences in their home.

"But I am just in a rut," he said. "All the people in this neighborhood are in a rut, and satisfied to stay there. Somebody ought to just 'yank us out' and start us on the right road." E. A. KIRKPATRICK.

Creosote Does the Trick

THE fence builder who now uses oak, locust, or chestnut, as his father did, pays handsomely for his fence. These woods are too valuable for other purposes to be used as sentinels around your cow pasture.

But there are other ways. Durability of wood set in the earth depends on our ability to keep out that destructive little parasite, the fungus. When we can do this, soft maple, willow, box-elder, even cottonwood, make good and lasting posts.

Poisoning the wood, killing its food value, has been found by far the most effective discouragement to the persistent fungus. The idea is totally to change the post's composition to such a depth that the rotting germ cannot penetrate.

Painting with creosote, though more effective than the other methods mentioned, is not the real creosote treatment. This latter treatment can be used by any farmer at very moderate expense. A discarded gasoline drum can be made into a satisfactory tank for the creosote. Since this oil is inflammable, you should do the work some distance from the buildings. Set the tank on bricks so that there is room for a good fire beneath it. Connecting a stove-pipe to the firebox will increase the draft and carry off the smoke. Six or eight five-inch posts (the round post is preferable) can be treated at one time. Sometimes it is necessary first to liquefy the creosote by moderate heating. Then place the posts, about 40 inches deep, in the oil, and increase the heat nearly to boiling point. Too high a temperature wastes the creosote by excessive evaporation, and weakens the wood somewhat.

The proper duration of this "bath" depends on the kind of wood. Ordinarily, five hours is ample; with cottonwood, often three is sufficient. Now draw the fire, and leave the posts to cool in the creosote. Some experimenters recommend that the cooling process cover a period half as long again as has been taken for heating, but usually the same time is long enough. Heat dries out the moisture in the wood, creating a vacuum when cooling begins, and the creosote soaks in, by atmospheric pressure, to fill this vacuum. Some men draw out a post occasionally and cut it to see when the creosote has sunk in far enough. Usually, half an inch is desired, though an inch's penetration can be secured by long, thorough treatment. It has been estimated that a pitch-pine post takes up one to eight pounds of creosote, according to length of treatment, thus costing from two to sixteen cents. Ten cents a post, I think, is a safe average figure.

Treatment of posts properly begins six months previous to creosoting. They should be seasoned or air-dried, as much moisture makes it hard for creosote to penetrate. Remove all the bark from the posts, and pile loosely where air will circulate among them, keeping them in the shade, as the sun's heat will season-check the wood. L. F. E.

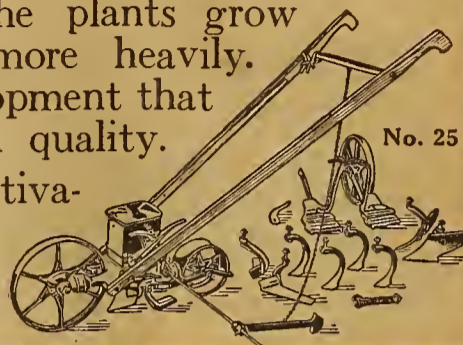
Broken eggs cannot be mended, said Abraham Lincoln. Neither can a weed-grown garden be expected to fill the cellar with vegetables. Agrigraphs.

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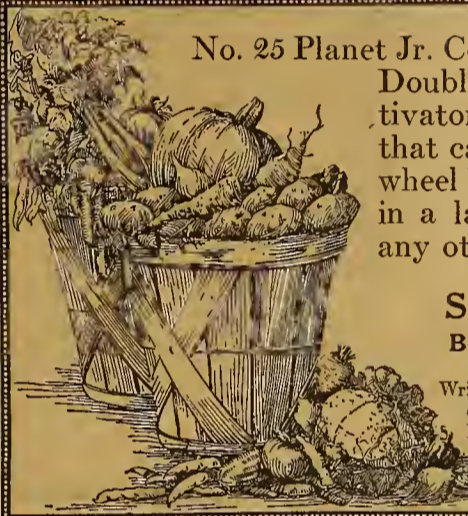


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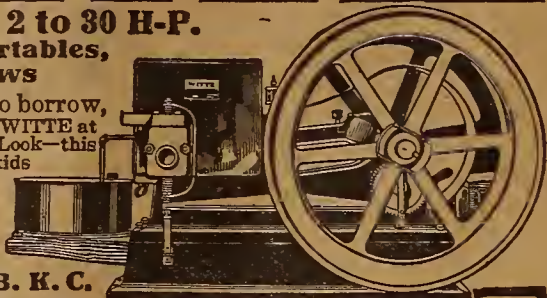
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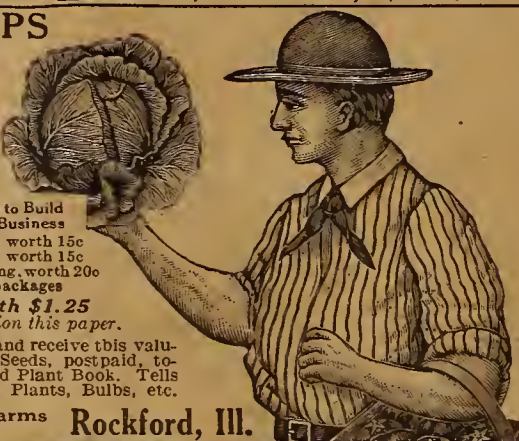
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Fine for windbreaks, hedges and lawn planting. All bandy, vigorous and well rooted. We ship everywhere. Write for free Evergreen book. Beautiful Evergreen Trees at moderate prices. B. Hill Nursery Co., Box 233, Dundee, Ill.



It's Only a Stub Pencil, But It Makes Me Money

A LEAD PENCIL can be bought for a nickel. It will earn dollars if you use it right. Let me tell you something about the value of a lead pencil:

How much of your farm work do you figure out? Never do? Well, I used to be that way too, but I'm getting over it. My wife says I know just what each oat straw costs. That is merely satirical, of course, but it indicates something. Do you really know how much it costs to raise any of your crops, or to feed a horse or a cow?

Get out your pencil and let's see. You can't weigh each feed for a year, of course, nor can you keep exact record of every minute's work that goes into a farm crop, but you can make a pretty good estimate in a few minutes. Do you know about how many pounds of ear corn there are in a bushel basket? What does the measure of oats weigh that you feed two or three times a day? When you find out a few of these essential things it will be time to start using your lead pencil. You may miss it a pound or so, but it won't be much on the average.

My lead pencil is about three inches long. That makes it handy to carry in my overalls' pocket. I figure when I am in the field, or any old place, when I wonder about something. I know it pays me, and that's why I keep it at.

Some of my neighbors tell me that a farmer dare not figure out what any crop costs. If he does he'll find that he is losing on every one. Well, possibly that is true—in fact, I am afraid it is often true—but nevertheless it is time to find out and get away from it. We farmers are entitled to a decent per cent on our investment in land and machinery, besides pay for our labor, equal, at least, to the men we hire. Yet we know we are not getting that. The more and quicker we start using our lead pencil, the quicker we will wake up and start something.

In our county there is a big canning factory. We get \$16 a ton for tomatoes. Yet, on an average of 900 acres grown last year, the men who kept their lead pencils busy found that it cost them a little better than \$19 a ton to produce those tomatoes. We are losing \$3 a ton. With an average of six tons to the acre—which is high for the general run—we're giving the company \$18 for the privilege of bringing the tomatoes in to them.

That's only one crop. Let's find out about more of them. Lead pencils are cheap. Farm fertility carted away in the form of crops is expensive. I'm cutting out some of the crops that are losing me money. Shouldn't they be eliminated on more farms? EARL ROGERS, Ohio.

Webster—Ice-Cream Farmer

A. G. WEBSTER, a farmer, put up his largest crop of ice winter before last. Why? In anticipation of a summer's ice-cream business. Last summer he launched tentatively into ice-cream manufacture. He used eggs hardly a day old, the purest cream, fresh fruits, top-notch flavorings, and his product made an instantaneous hit. He couldn't supply the demand for it. He didn't have to talk about its high quality nor apply a fancy descriptive name—the ice cream spoke for itself to consumers accustomed to the modern type of ice cream in which substitutes figure heavily. Webster makes his ice cream right on the farm. It is sold in drug and confectionery stores. He says that it is possible to make ice cream as efficiently on the farm as anywhere else, producing, moreover, a better quality and at a lower production cost.

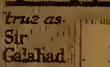
Does it take an expert to make superior ice cream? If so, there is no one more proficient than the farm wife. Pointers for the work can be obtained from a manual on ice-cream making.

The ice-cream route should solve the selling problems of numerous dairymen. If the farmer makes the honest-to-goodness grade of ice cream which he can make if he will, the selling question will ordinarily be settled.

No amount of camouflage in ice-cream making really can fool the consumer. If the eggs and the cream and the real fruit aren't there, he senses it. If he has never tasted anything different he doesn't protest. But let him try some genuine farm-made ice cream—the real thing—and watch what happens.

J. T. BARTLETT.

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Begin improving your farm at once. Start with a windbreak. Prices down to Bed Rock which, due to my method of selling direct from grower to consumer, saves you 50 per cent or more that you would pay others, and you get better stock absolutely guaranteed.



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SAVE \$2 TO \$3 PER BUSHEL High-grade seed such as we offer now reduced almost one-half. Get your seed while you can obtain the best at our low prices. Every lot shipped carries a test tag, giving purity and germination. Buy direct from World's Largest Mail Order Seed House and save money. Have new re-sown Timothy, \$4.05 per bu.; Unhulled Sweet Clover, \$3.90; Alsike and Timothy, \$6.85; Sudan Grass, \$3 cents a lb., and other seeds at prices that are about half of what you have been paying. No risk buying from an old established company. Your money back if you want it. Write today for free samples and big 116-page catalog. **TESTED SEED VERY PURE GUARANTEED SATISFACTORY** A. A. Berry Seed Co., Clarinda, Iowa, Box 842.

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is the title of a beautiful book on the culture of roses and other plants; gives expert experience of a lifetime. It's free. Exquisitely illustrated in natural colors; offers and tells how to grow these famous plants. Write for copy today. HILLER BROS. CO., Box 249, New Castle, Ind.

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We will mail these 22 packets Choice, Fresh Seed for 10 cts. Satisfaction guaranteed. CABBAGE, New Glory, early, aure beader, Large. CABBAGE, Danish Ball-Head, best winter sort. CARROT, Perfect, Half-long, best table sort. CELERY, Brittle Winter, best, crispest. Keepa well. CUCUMBER, Emerald White Spine, great favorite. LETTUCE, Cream Butter, tender, popular heads. MUSKMELON, Sweetest Gem, best garden melon. WATERMELON, Deposit Early, earliest, sweetest. ONION, Prizetaker, weight 3 lbs., 1000 bus. per acre. PARSLEY, Triple Curled, best, most ornamental. PARSNIP, Improved Guernsey, white, sweet. PEPPER, Crimson King, large, red, fine. RADISH, White Icicle, best, early, long, tender. TOMATO, Greater Baltimore, best, large, smooth. TURNIP, White Globe, great producer. ASTERS, Show mixed. PINKS, 50 Grand Sorts. KOCHIA, Grand foliage. POPPIES, Showy Sorts. MIGNONETTE, Sweet. ANNUALS, 500 Sorts. WAVES OF GOLD. Catalog and 10c check free. DEPOSIT SEED CO., Deposit, N. Y. 2710 packets Grand Large Flowering Sweet Peas, 10c

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Do You Get Full Value From Your Hides?

PETER SMALL, Chesterfield, Ohio, as related in the November issue of FARM AND FIRESIDE, had a hide which represented a loss to him of \$10,000. It was from a bull which was sent to the butcher before it had time to prove its worth. He warns others of his mistake. But listen:

Farmers lose many times this amount in cow and horse hides every season. Because the individual never suffers very greatly at a time, but little is done about it. Yet it is an absolute fact that too large a per cent of skins, especially those marketed in warm weather, are fit only for the glue pot. If coats or robes are desired, disappointment often results because of mishandling or poor selection. All these costly mistakes can be avoided, as a rule. No great labor or expense is attached. It is easy to care for hides properly, and the effort means money for the owners. When it is cold, hides do not taint easily, but during warm weather they do, and will not bring enough to pay for skinning. Here are some things I have learned about caring for hides:

First of all remove the hide where the animal lays, if it is possible to do so. Never drag the carcass. If necessary to move it, load it on a low wagon, sled or stone boat. To drag the animal any distance will cause the hair to break off and come out in spots. Such a condition is frequently not noticed until after tanning. Then often the owner feels that the tanner has been careless, where, in truth, it is entirely the fault of the skinner.

REMOVE the hide as soon after death as possible. It is easier to do this while the animal heat lingers. Avoid cutting holes, especially if the skin is to be sold. Scored spots—places where the knife has not gone quite through the skin—also detract from the value. However, if the hide is to be made up, the defects may be patched. Holes add nothing to the value of a robe or coat, but a hide that has been poorly removed can best be utilized by having it tanned.

When the skin has been taken off, spread it out flat and let the animal heat escape. Ten or fifteen hours is not too long. After this, use plenty of salt. Spread on about a peck for the average hide. See that the head, neck, and legs have plenty. Do not roll immediately, for if you do the salt is liable to come off in spots and cause tainting.

Heat is another factor to be avoided. Often a skin is placed too near a fire when being prepared for shipment. If made up, such a hide is apt to be like wet shoes that have been burned. The leather will break. It cannot give good service in a garment. When hides are to be sold, dispose of them through a regular dealer. Never ship by them are usually started to tan as soon as they come in. If you wish to sell, and the tanner has started work upon the hide, there will be a misunderstanding. Some custom tanners do buy various kinds of pelts and skins. Play safe by finding out in advance whether the one you select does or not.

COW HIDES make the best coats; horse hides the best robes. For the former, skins weighing from 60 to 70 pounds are usually necessary. The skin of a horse weighing from 1,200 to 1,500 pounds is required for the average robe. However, if what you have runs slightly smaller, the modern tanner can generally piece out the garment with something he has on hand. Slinks and deacons ought never be tanned. Small calf and colt skins are not suitable for many purposes, although caps, mittens, and gloves may be had from some skins. As a rule, these are treated at the owner's risk.

Coats for women can also be made. These are generally trimmed in beaver, nutria, raccoon, or the like. In appearance they compare favorably with the more expensive fur coats, and for wear greatly excel them. Horse or cow hides make coats that are practically wind-, rain-, and moth-proof.

With hide prices low, and with the moderate cost of custom tanning, you can profitably make up your cow and horse hides. Thin summer skins are not desirable. But in order to get the greatest possible value from skins, remember that they must be handled properly, otherwise loss is sure to result. G. J. T.

More than a third of the 7,500,000 automobiles in the United States are owned by farmers.

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YOU can't expect to make money from your fruit, potatoes, h... and poultry unless you rid them of destructive... Nature fines y... Our new book tells... Fruit-Fog spraying... bring almost unbelievable gains from... ing thing on your place. Send for the book. Read why Hayes Fruit-Fog spraying, because of its vapory fog-like fineness, envelops everything like a mist—penetrates into the tiny, microscopic niches, cracks and crevices—seeks out and kills not only the outside pests but also the hidden pests, which no ordinary coarse spray can possibly reach. The amazing thoroughness of Hayes Fruit-Fog spraying accounts for its wonderful success. Its use will treble and quadruple your profits. WRITE FOR FREE BOOK TODAY—Tell us what you want your sprayer to do, and we will tell you which of the Fifty Styles of Hayes Sprayers is best suited to your needs, and its price. We'll also send our New Book of Hayes Sprayers and valuable Spraying Guide FREE. Write today. Hayes Pump & Planter Company, Dept. O, Galva, Ill.

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Raise Large, Luscious Strawberries from spring to late fall. Set these strong, heavy rooted WHITTEN plants. Then you assure yourself a crop of wonderful berries for your own table and the market. \$500 to \$1500 Profits Per Acre Heavy demand always. You can realize big money, too. Our 30 years of Berry Culture assures you better berries, bigger yields. Write today for Free Catalog and interesting literature about the marvelous EATON and COLLINS Strawberries, and all standard varieties. We also offer Raspberries, Blackberries and other small fruits. C. E. WHITTEN & SON, Box 18, Bridgman, Mich.

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We grow everything for orchard and garden. Highest quality trees on whole roots. Apple, pear, peach, cherry, nut, and shade trees. Gooseberry, raspberry, blackberry and currant bushes, strawberry plants, shrubs, roses, ornamentals. Over 40 years' experience at your service. SYRACUSE, a great, new, red raspberry; CACO, the best new, large, red grape; ROCHESTER peach and HONEY-SWEET, a fine black-cap raspberry are wonderful producers. Send for our free catalogue today. GREEN'S NURSERY COMPANY, Box 19, Rochester, N. Y.

Our Letters to Each Other

I HAVE just suffered a terrific blow to my self-satisfaction. A subscriber, J. C. M. of Nebraska, has written me a cruel and grinding letter, and I print it on the theory that it is wholesome for all of us once in a while to let ourselves be taken down a peg. Says he:

"DEAR SIR: I just received notice that subscriptions to FARM AND FIRESIDE had expired and asking me to remit certain iron dollars in renewal. Do you really believe that it is worth its subscription price?"

"I have been reading it faithfully for a year, and I fail to find where my wife and kids have been able to produce a bit more than they did before. I have urged them on to more work, holding before them the glowing promises that some day, some time, they would make it pay. I have sat in my easy chair and personally directed their labors, and in spite of all my efforts and the valuable advice found in your paper they do not seem to get away with it."

"Now, if your paper would run a series of articles telling the head of the house how he could get more work out of his wife and children, I believe it would be appreciated, and I know I would endeavor to follow it. There is too much stuff in this farm paper telling the man how to do more work to suit me. I am not looking for work, and do not feel like spending the good money my wife and kids produce for a farm paper that does nothing but urge me to greater exertions."

"In fact, the more I think about it the madder I get at your nerve in asking for this money. I am not going to pay it. Your miserable sheet can shut its doors and quit business before you will get this money out of me. That is final. I do not like your policy, and I know your editor is an awful liar."

The gentleman evidently speaks by the card. I admit I am something of a liar. But I submit that it is better to be an interesting liar than to sit in the "easy chair and crack the whip." Which wins, ladies and gentlemen, the liar or the lout?

Is there a hunch for the farmers of other grain States in the following from J. E. McClintock of the Ohio State University News Letter?

"Ohio farmers are now after the scrub

varieties of wheat. They say that the low-yielding mixtures have got to go, the same as the razor-back hog, scrub bull, boarder cow, and hens that won't lay in the winter."

"Through their eighty-odd county farm bureaus, farmers are agreeing to raise one or two varieties of wheat which have proved to be the highest yielders. By eliminating all but one or two varieties, they also avoid the danger of mixing their wheat with inferior strains by neighborhood threshing outfits."

"The varieties selected are the Gladden, Portage, and Trumbull, which are pedigreed strains of other varieties, and have been developed by plant breeders at the Ohio Agricultural Experiment Station. These pure-line selections have given a gain of about 2½ bushels per acre over original varieties."

News from the Department of Agriculture says a method of distilling gas from straw has been discovered. It can be used for illumination or motive power. I can just see Farmer Brown estimating his straw pile about 5 P. M., and saying to himself:

"Confound it! There's just enough there to bed down the stock, drive in to the movies, or light up the front room and read—and I don't know which to do."

However, we won't get excited over that

prospect. The process may eventually work, and I hope it does; but there's many a slip twixt the experiment station and the farmer's field.

Of course, we all want cheaper lights and cheaper motive power, and we are justified in hoping that some process will be discovered to give them to us. That is an intelligent, legitimate hope, because such a discovery would be useful to every one.

The world is already too full of foolish hopes, some of which are not only vain but also mischievous. I recall one that made a millionairess out of a colored washerwoman and didn't help the people who gave up the money a particle.

She was Mrs. C. J. Walker of New York. She died a few months ago. Up to the time she was thirty-seven, she worked as cook, maid, and washerwoman. Then she conceived the idea of putting on the market an anti-kink hair tonic for colored people, to take the kink out of their hair. When she died she was "Madame" Walker, with a \$250,000 home on the Hudson and a million dollars' worth of New York real estate.

Here is a picture from one of our oldest subscribers, Robert Eckhart of Excelsior Farm, Peckham, Weld County, Colorado. You see Miss Ruth E. Eckhardt, his niece, with some potatoes and mammoth gourds, "raised on alfalfa sod."



Now, what does it profit anyone—except Madame Walker's heirs,—whether the black man's hair is kinky or straight? This fortune was built up through the negro's foolish hope that by making his hair straight he would command more respect from the white man, by making himself more like the white man. But the purchasers were denied even that small consolation, for the "tonic" did not work.

Not long ago our daily papers carried this amazing item from Bologna, Italy:

AGRARIAN CLASH IN ITALY
FIVE KILLED NEAR BOLOGNA IN FIGHT OVER MECHANICAL THRESHING

A conflict between members of the Agrarian League and guardians of property at Pertone, near Bologna, over the question of mechanical threshing resulted in the death of one member of the league and four of the guardians. Another league member is dying.

Members of the league tried to disarm five guardians who were protecting a threshing machine. The guardians fired upon them. Pitchforks and other farming implements were used by the league members.

You, as an enlightened American farmer see the childishness of that revolt against labor-saving machinery. Those poor fellows did not see it. It was a very serious matter to them. They thought the machinery was going to beat them out of means of livelihood. And you and I laugh or pity, or sneer at them for it, according as our natures dictate, because we know from experience, that labor-saving machinery is a godsend to all of us, because it enables man to live better with less effort. Those Italians don't know that, and we flatter ourselves that we are pretty smart fellows because we do know it. And yet maybe other farmers are laughing at you and me because we are blundering along with money-losing boarder cows, antiquated equipment, poor seed stock, and the like. If so, we are just as ridiculous to them as the Italians are to us. Let's think that over.

George Martin

The Kind of Stuff Successful Men Are Made Of

By W. L. Nelson

WISDOM is his name, and ever since I have known him he has lived up to the name. J. A. are the initials. Just what these letters stand for I do not know, but they might well stand for "Just Ambition," for this northwest Missouri farm-reared boy has ambition, lots of it, and it is the kind of ambition that makes a fellow "pretty nigh" able to pull himself up by his own bootstraps, without pulling the other fellow down.

Note the latter part of that statement—"without pulling the other fellow down." That's a J. A. Wisdom characteristic. He has never tried to climb by using his fellows as stepping stones.

The first time I ever saw Wisdom was seven years ago, when he entered the Missouri College of Agriculture, entered it just as so many other young men have—practically without money. He came into my office and asked for spare-time work. He was not an especially bright-looking lad, but about him there was something which seemed to indicate that here was a fellow to tie to. I tied to him, and, although he was an office helper until he graduated, never once did I regret having put my confidence in this boy from the country.

Wisdom's collegiate career did not differ greatly from that of many other men. It was what he did with his vacations that most interested me. It was then that he proved he knew how to brush up against the public with a brush.

Four years before his graduation Wisdom signed up with a certain company to sell a combination brush used in housework. During the vacation period he "worked like a Trojan," and at the end of the season had \$250 in commissions to his credit. The next summer he went out again. When he reached the territory assigned to him he bought a spavined horse for \$30 and an old buggy for a few

dollars. On the rear of the buggy he fitted up a chicken coop. When the prospective customer was unable to pay cash Wisdom took chickens instead. By the end of the summer he had cleared a little more than \$650.

The following year, pursuing the same methods, his profits amounted to \$853.40.

In the summer preceding his senior year Wisdom expanded by purchasing a second-hand runabout, on which he fitted a larger coop than the one he had been carrying. With this outfit he averaged more than 100 sales a week for five weeks, and at the end of the vacation period he had made a profit of \$1,075.50. However, all this amount did not come from the sale of brushes. The chickens, which were shipped out early each morning to a large poultry dealer, also paid a profit, though a small one.

I am not writing this to show what a profit there is in chickens and peddling, but to show the ambitious stuff successful men are made of. It can and should be developed if a man hasn't it naturally.

"Those were the happiest and busiest days—yes, and nights too—that I ever spent," said Wisdom, referring to his experiences. "As I look back now I see that I was going to school all the year round, studying books during the school year and folks during the summer. One thing I learned is that just common courtesy and a smile are valuable assets to any man. Tact, too, especially in salesmanship, is required. Some folks are so

gun-shy they are afraid to let you show them what you have to sell."

In one neighborhood lived Mrs. Brown, a wealthy and influential woman, who was reputed to have but little use for agents of any kind. How to reach Mrs. Brown was a problem, yet if she could be induced to buy it was certain that many sales could be made among her neighbors. Leaving the horse tied out of sight behind the orchard, Wisdom finally, after considerable hesitation and with many misgivings, approached the house. He secured an interview with Mrs. Brown, gave a demonstration, made a sale, secured an invitation for dinner, and in the same afternoon, right in the neighborhood, made sales showing a profit of \$14. Yet a less resourceful and less hopeful man would have failed.

Speaking of his work, Mr. Wisdom said: "It never pays to get mad; you must outdo the other fellow with good nature. Satisfied customers who voluntarily called up their neighbors and told them of the brush made scores of sales for me."

My Fence Posts Last

I HAVE been on a farm most all my life, and I have yet to see a fence post that suited me. Most of them break off in time, and the whole job has to be done again.

Building a fence more than once goes against the grain with me. The idea of building a barn or corncrib every ten years wouldn't strike any of us very well. Yet

we continue to use the kind of fence post that need to be replaced every few years.

I intend to have my poultry fencing permanent. So I have been looking into the post business pretty thoroughly. I find that the corner posts are extremely important. I have four of these. The pipes are 7 feet long and 2½ inches in diameter. The braces are supports from a dismantled street-car line. The braces and posts cost 40 cents each, making the pipes for one corner cost \$1.20. Two bolts are needed, which adds a dime. I got this stuff from a local junk yard. An acetylene blow torch heated the pipe so we could bend and flatten the end of the brace pipes. The torch also burned the holes through the posts and braces.

A hole was dug about 15 inches across and the post set in the middle. Grout or rough cement was mixed, and poured around the post. Small stones and nigger beads were used to save cement. Pieces of wire were mixed in, too, to provide reinforcing and to keep the cement from cracking. The cost of the cement was about 5 cents. It took about one and a half hours to set each post.

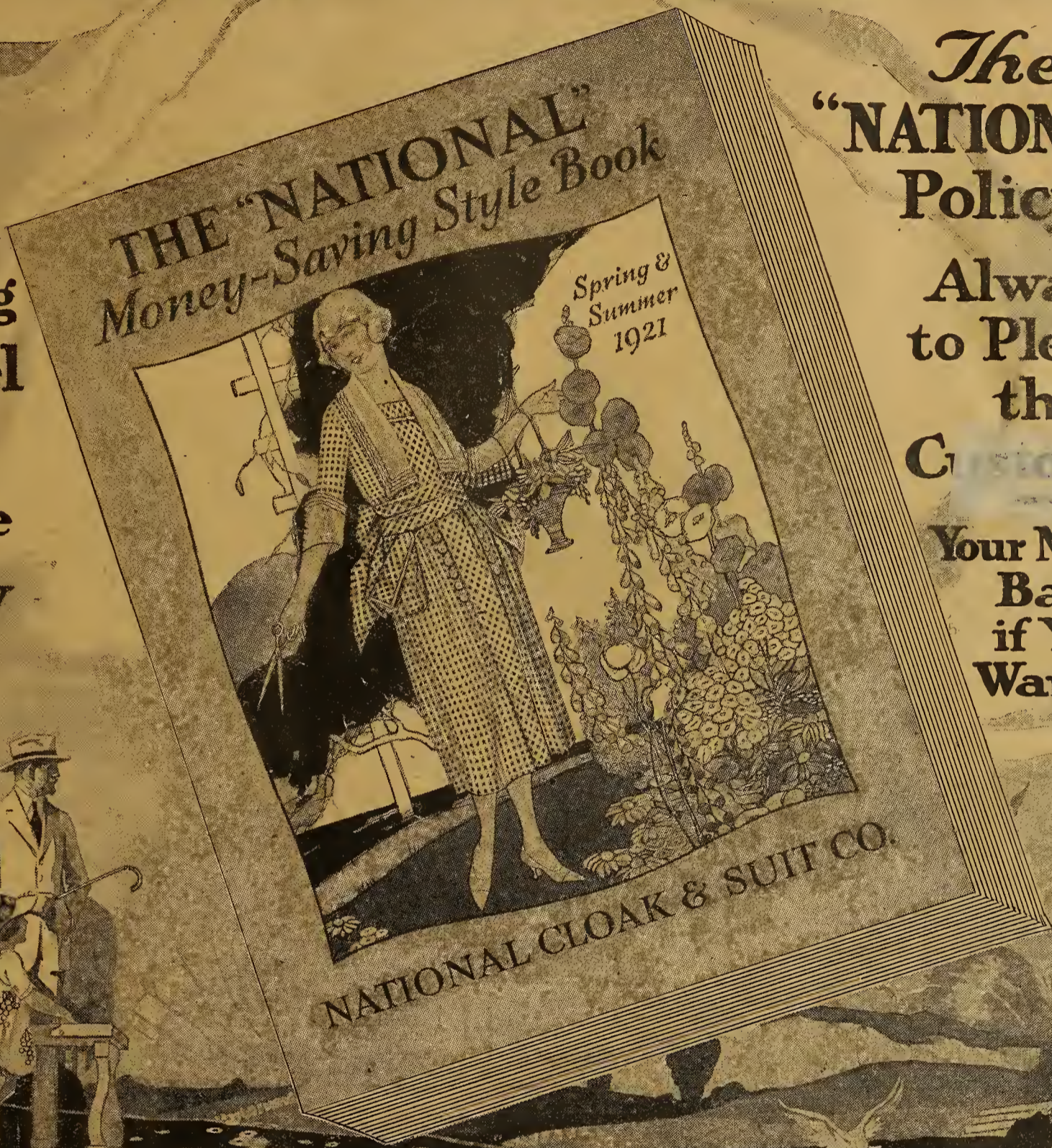
I set these posts with a plumb level, and leaned them a half inch away from the post of the fence, but I think that was unnecessary. The ends of the braces are set in a block of cement and stones about 18 inches square. This block slants with the brace. A double wire of No. 9 size was used to hold the two cement blocks from spreading apart. The fence is stretched on the posts now, and I think they are solid enough to hold four fences.

I smoothed off the cement around the posts and over the end of the braces, so it would shed water. I think I've got a set of posts that will stay. After they are painted and filled inside with cement it will be years and years before I will need to worry about them.

E. R.

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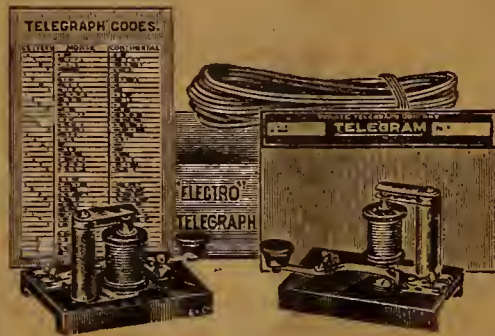
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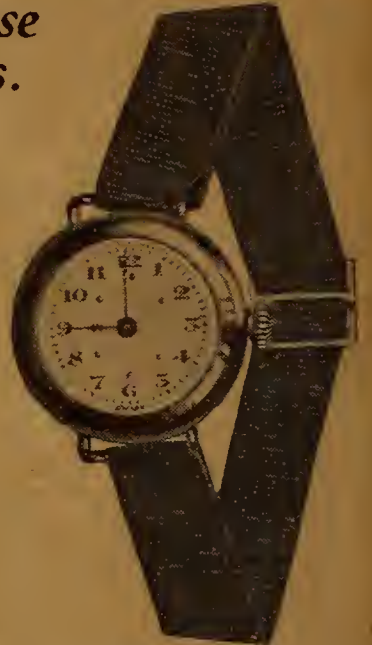
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FARM & FIRESIDE

The National Farm Magazine

75/3
MARCH 1921

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*Frederic
Stanley*

Are Prices Hopeless? — See page 5



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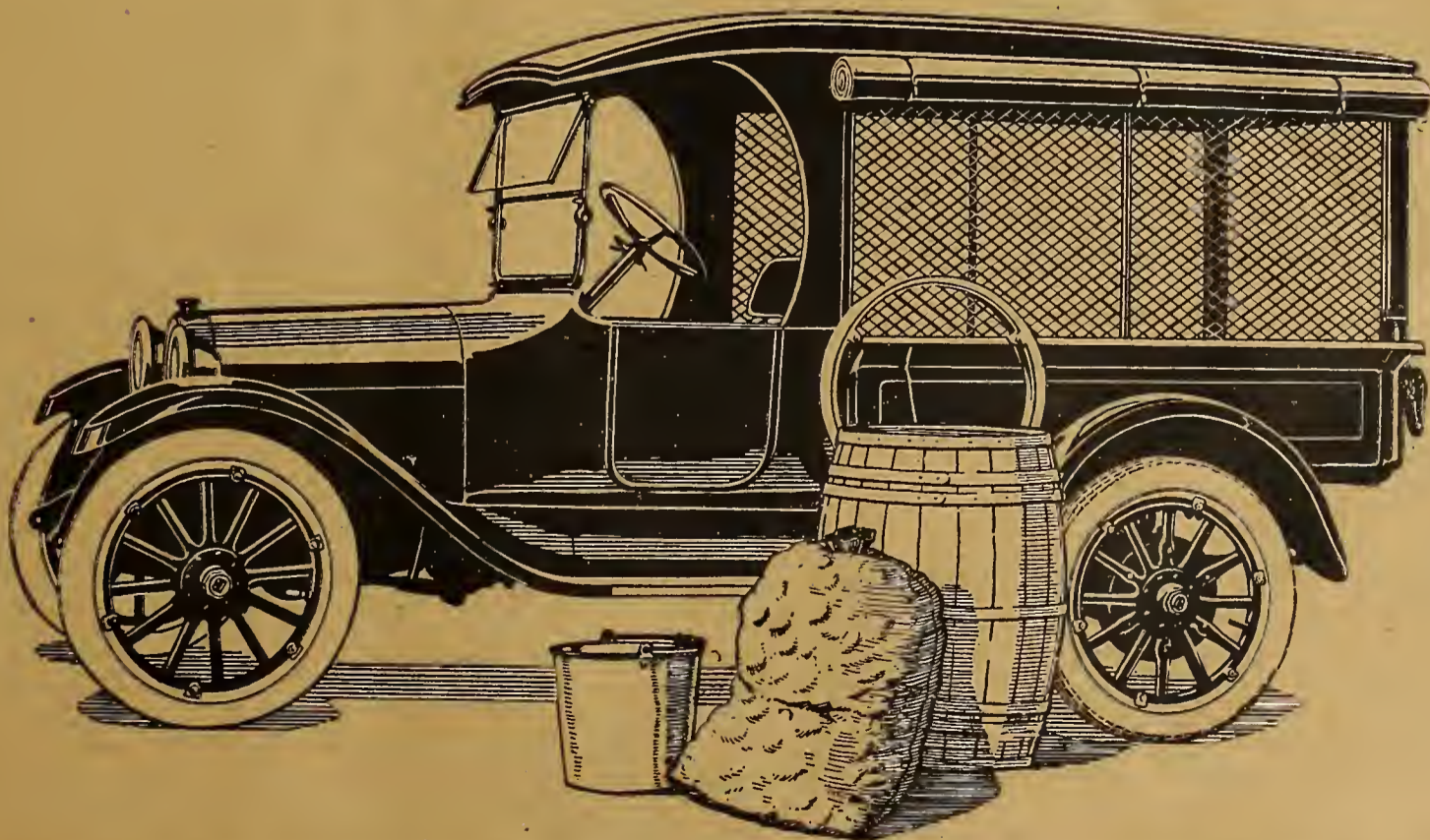
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Volume 45
Number 3

FARM & FIRESIDE

The National Farm Magazine

March
1921

Are Prices Hopeless?

Being a discussion of the causes of the big slump, how long it will last, and what things you can do to make a profit from your farm in 1921

By L. E. Call

Department of Agronomy, Kansas State College of Agriculture, Manhattan, Kansas

WHAT plan shall I follow this year in my farm operations? This is a question every one of us who is engaged in farming is now considering.

Will the old plan that we have followed carry us through the coming year successfully? We are facing new economic conditions on our farms. Since 1896 there has been a gradual increase in the price of farm products. The increase was slow and fluctuating until the outbreak of the war in 1914. Since then farm-product prices mounted until they reached their peak in 1919 and early 1920. During the last months of 1920 our prices came down with a crash. Just how far they will go or how long low prices will continue no one now is prepared to say. But there are forces at work that will have a tendency to stabilize and perhaps increase prices before this is read.

One thing, however, upon which everyone is agreed is that we are facing an era of prices lower than those since 1914, and our farm operations must be adjusted accordingly.

War has always produced high prices, followed by periods of depression. The Napoleonic wars in Europe produced a period of extremely high prices, followed by a period of price decline. Old families in this country have handed down stories of money scarcity following the war of 1812, when every cent of currency taken in was saved to pay taxes which had to be paid in cash. We all know the effect of the Civil War on prices, how from 1862 to 1865 prices mounted, only to be followed by the long period of depression during the eighties and nineties.

The question that you and I want answered now is whether a similar period of depression will follow the World War.

THOSE best prepared to answer this question say no. During the eighties and nineties there was tremendous overproduction of farm products. Farmers received almost nothing for their work. This was only indirectly the result of the Civil War. It was directly the result of the settlement and rapid agricultural development of the great Central West, made possible by liberal grants of land to Civil War veterans and others, together with epoch-making inventions of agricultural machinery. Dr. Warren of Cornell University, speaking of this period says:

"As a matter of fact, the last twenty years of the last century were a period the like of which we never had before and can never see again. The great open prairies were then skimmed. Following the Civil War a large number of persons went into farming, perhaps too many for the old conditions, vastly too many for the new. New kinds of farm machinery came into general use in the eighties that doubled the farmer's efficiency.

"For ages nature had been enriching the

lands of the great Central Grass Belt. These lands had little value, so that land rent was almost nothing. Free land, free plant food, too many farmers, new machinery—a combination of conditions that never before existed and can never come again. These were the days when the Nebraska farmer burned corn because it was cheaper than coal. It is no wonder that our agricultural exports were large, nor is it any wonder that young men went to the cities by thousands because farming did not pay."

At this time we have no longer tracts of fertile land to exploit. Plant food is no longer free. Men have been flocking to the factories rather than to the farms, and agricultural machinery has not been greatly improved, although the rapidly increasing use of power machinery during the war has undoubtedly made possible the more efficient use of farm labor.

THERE is not likely to be any serious overproduction of farm products at this time. The period of low prices following the Civil War is not likely to be repeated for long. Prices cannot be expected to remain at war-time levels; neither should they fall for any period of time below the current prices of the first fifteen years of this century.

During the present period of readjustment there are certain things we can do to better our condition and help stabilize prices. These things fall into three classes: (1) The enactment of useful legislation; (2) greater cooperation in marketing; and (3) more efficient production.

Certain legislation can, and probably will, be enacted that will tend to better conditions. Protection—such as the new tariff legislation—may be given that will prevent to some extent certain agricultural products produced in foreign countries competing in American markets with products produced upon our farms. Adequate credit can be arranged for farmers, both through short- and long-time loans, that will be adapted to the conditions of the farming business which will afford farmers good credit accommodations, and which will enable them to withhold their crops and livestock from a glutted and demoralized market. At the same time we should all recognize that there are conditions that cannot be corrected by legislation. The passage of a law never righted any wrong or bettered any economic condition. It only made possible the use of those forces which would do so. If the present unsatisfactory economic condition of agriculture is bettered, it will not be by the enactment of legislation alone, but by the

united efforts of the farmers themselves working along economic lines.

Our plans for the coming year should include time for the support of some of the cooperative farming movements. The numerous farmers' organizations, and particularly the American Farm Bureau Federation, are worthy of support. If a system of cooperative marketing is practical—and most of those best informed upon the matter say it is—then the American Farm Bureau Federation furnishes the best opportunity we have of bringing it about.

There seems to be no doubt that a saving can be made both to producer and consumer through cooperative marketing of farm products. If so, it is worth our while to support those organizations that are working out plans by which this can be brought about. You ask, "How can I help?" By supporting your local farm bureau if you have one, and, if not, by seeing that a farm bureau is organized in your county.

But if you and I are looking for the greatest opportunity to help ourselves through this period of readjustment, we will find it at home in our own business, on our own farms. When prices are high, and there is a fair margin between selling price and cost of production, it is not so important to see that every operation is essential and every economy practiced; but when prices are low, only those who put into operation the best methods can survive.

There was this last year an overproduction of food products. Some authorities estimated that at the end of last harvest there was food sufficient to last the American people eighteen months, when normally there is less than one year's supply in sight.

EUROPE needs all our surplus food, but lacks money with which to buy. Unless some method is worked out to finance agricultural exports, it is a question whether it would not be advisable to reduce somewhat the acreage of some crops, particularly on the less productive lands. There are crops planted every year on land that has not been properly prepared or is not well suited to the crop planted. Yields under such conditions are always low, and with lower prices now prevailing such land will probably be farmed at a loss.

It is not economical, either, for the farmer to have labor expended for which there is not a profitable return. It would be better to seed such land to grass, and use it for pasture or meadow until prices reach a level that will justify bringing such land again under cultivation.

In making changes in the cropping plans,

judgment must be used. It will not pay to upset long-established, well-planned rotations, but every rotation is flexible enough to allow some change. An extra year of grass can almost always be added. Less productive fields can be added to the permanent pasture, and thus the acreage of cash crops can be reduced and the farm as a whole put into condition to be more productive later, when prices justify expansion.

When the price of farm products is low, only the best methods of farming will pay. It is then that every item of expense will count and may be the deciding factor between a profit and a loss in the farming operations. The best tillage methods should be followed. No unnecessary work should be done. The work should be timely and made to count for the most in the production of the crop. The best seed only should be planted. Many times a few extra cents invested in the price of seed, or a few minutes' time expended in testing and cleaning seed, will make a vast difference in the size of the crop harvested. In periods of low prices it is the fields that produce a big crop that pay the profit. Small crops never do. If we are going to reduce the size of the total crop produced, let us do it by reducing the acreage.

WE MAY think during periods of financial depression that other classes of society suffer less and are not interested in our welfare. Do not forget that prosperous farming lies at the foundation of all progress and prosperity. Agricultural depression always brings commercial depression.

We should also remember that no other member of society is or can be so nearly self-sustaining as the farmer. It was not many years ago that the farmer secured practically his entire living from the farm. Within recent years we have become more dependent upon the rest of society. Can we not afford during this period of readjustment to revive some of the old farm customs of curing a supply of meat for the year on the farm, of giving more attention to the garden and the fruit, to seeing that there is an abundance of such food not only for summer use but also a supply, either dried or canned, for use during winter.

We should remember in sizing up the situation that it has been brought about by an unusual combination of tight money, an abundant harvest, the inability of Europe to finance the purchase of food and clothing, and by highly concentrated European purchasing organizations with which we have been unprepared to cope. As a result we have been hard hit. The world is not oversupplied with food. Some system can probably be worked out to adjust our present financial difficulties, and we must learn to meet organized buying with organized selling. We should plan for the work of the year with confidence, with the knowledge that food will be needed, and that there is not much danger of any long-continued period of overproduction.



How the British Farmer Beats Us On Per-Acre Yields of Wheat

By Charles E. Thorne

Director Ohio Agricultural Experiment Station, Wooster

NOTE: It is interesting to compare Dr. Thorne's estimate of more than 30 bushels of wheat per acre as England's average with the United States' average of 14 bushels per acre. When we mentioned these figures to one of our associates, he proceeded to point out that in England one man farms but 7.1 acres, while in the United States one man cultivates about 27.1 acres; or, in other words, it takes one and three-fourths British farmers to produce the amount grown by one American farmer. However, two hundred years ago the ratio of rural and urban population in England was not so very far from the present ratio in the United States, and Dr. Thorne tells us that two centuries ago England's average yield of wheat was no more than the present-day average in the principle American wheat-growing regions. And, after all, it is not so much the question of yield of wheat per man as it is a question of fertility, for 30 bushels of wheat per acre have been grown in this country at no greater labor cost than it took to produce 15 bushels. It looks as though the British farmer could teach us a few tricks.

THE EDITOR.

THE average yield of wheat in England is estimated at more than 30 bushels per acre, yet the history of English agriculture shows that not more than two centuries ago the English wheat field was yielding no more than the average to-day of the principal wheat-growing region of America. One of the main objects of my visit to Rothamsted for FARM AND FIRESIDE was to study on the ground the methods by which this increase in yield has been attained.

The topography of the larger part of England, considered separately from Scotland and Wales, may be fairly compared with the northern two thirds of Ohio and Indiana—a flat to gently rolling plain, with comparatively small areas of steep hillsides. Like Ohio, approximately half the land lies over limestones, and the remainder over sandstones or other non-calcareous rocks, while the major part of the surface of England, like that of Ohio, has been plowed and harrowed and rearranged by glacial action.

The flat fen lands of eastern England, around the "Wash," remind one of the ancient lake bed of Paulding and adjacent counties of western Ohio and eastern Indiana, the "Black Swamp" of early Ohio history, the Indiana "Limberlost" of Gene Stratton Porter's charming stories. Both regions have been reclaimed from swamps by large-scale drainage, which of course was begun at a much earlier date in England than in America, while, in addition, it has been necessary to dike much of the fen land to keep out the tide.

KINGSLEY, in his fascinating story "Hereward the Wake," the scene of which is laid in these fens, ascribes the beginning of this work to Richard de Rules, and the time to the middle of the twelfth century. As one travels over the fen country now, and sees the land occupied with fields of luxuriant wheat and potatoes and grass, it is as difficult to realize that it was once covered with reeds and other swamp vegetation as it is to realize that Paulding County was in the same condition within the memory of men now living.

In natural fertility of soil, there would seem to be but little choice between England and Ohio, but in England livestock husbandry has occupied a much more prominent position, relative to grain production, than it now does in Ohio, the number of cattle per thousand acres of arable land being approximately twice as great, and the number of sheep three times as great, in England as in Ohio.

This large number of animals has led to the retaining of a relatively large area in permanent pastures, and the British farmer regarded the necessity of plowing up more than a million acres of such pastures, in order to grow more wheat, as one of the serious misfortunes brought on by the Great War. But the area still left in pasture in the summer of 1920 seemed relatively very large, as viewed from car windows in traveling the length of England, on both eastern and western sides, to one

accustomed to conditions in the Upper Mississippi Valley.

A very much larger proportion of England's population is engaged in manufactures or commerce than in agriculture, and until the rude awakening given by the submarine, it has been the governmental policy there to feed the whole of the people at the lowest cost, regardless of the effect such a policy might have on the English farmer, and as a consequence farm lands are cheaper to-day in England than in Illinois and Iowa.

This policy has led to the shifting of

is the effect of the Gulf Stream, which not only washes the western shore of the British Islands, but also, flowing through the English Channel, so modifies the climate of the eastern coast of England that the ground freezes but a few inches deep and animals are pastured almost the entire winter. The mild winter is followed by a summer so cool that corn and tomatoes cannot be matured except under glass, and winter wheat, which is usually sown in

Dr. Charles E. Thorne, director of the Ohio Experiment Station at Wooster, explaining fertility experiments to a group of farmers



Here Are the Things He Does That You Can Use

HERE are the chief factors that have contributed to the prosperity of English wheat fields, some of which are less easy of attainment in America than in England, but others are quite within our reach:

1. A soil naturally no better than the average soil of the upper Mississippi Valley, but one that has been improved by better drainage and more careful husbandry than is generally practiced with us.
2. A climate more favorable to wheat than ours, in that it permits a more leisurely seeding and harvesting; but on our soil and under our climatic conditions wheat yields have been secured that will compare very favorably with the average English yields.
3. A more liberal use of seed than is customary with us—a factor that is quite within our reach.
4. A much more systematic use of manures and fertilizers, not so much on the wheat crop itself as on the crops preceding the wheat, than is practiced generally in America.
5. A restriction of the wheat area to the lands best suited to that crop, a relatively larger use being made in England of the other small grains—oats and barley—on the lands less suitable to wheat. A marked change in this direction is taking place in Ohio, there having been a large transference from wheat to corn and oats on the flat, black lands of the northwestern quarter of the State during the last twenty years.

C. E. T.

British agriculture from the production of wheat toward that of meat, as being relatively more expensive to transport over long distances, and to that of milk, required for the immense urban population.

The consequence of this policy has been the restriction of wheat to the lands and localities best adapted to its growth, while the large numbers of farm animals have produced great quantities of manure, which has been saved and used with much greater care than has been common in newer countries.

Climatic conditions are more favorable to the wheat crop in England than in the Mississippi Valley. Even in so small an area as that of Ohio the northern counties are yielding two or three bushels per acre more than the southern counties, and Michigan and Ontario produce larger yields than the States south of them.

The southern extremity of England is farther north than Lake Superior, but such

October or November, may be sown in December, and is harvested from the middle of July to the end of August.

Another advantage possessed by the English wheat crop is its comparative exemption from the two insect pests, Hessian fly and midge, that exact such heavy tolls from the wheat grower of the Mississippi Valley. These pests are almost unknown in England, and no equally serious one takes their place. Rust sometimes causes loss when the wheat lodges, but the wheat stands better than in Ohio. The rainfall during July, 1920, was abnormally heavy, but in journeys which reached from the Channel to Edinburgh and back to Liverpool, with several side trips, very little down wheat was seen, although many fields were expected by English wheat growers to exceed 40 bushels per acre in yield.

Two of the plots in Broadbalk Field, the one that has received 15 tons of farmyard

manure every year since 1843, and the one that has had 1,400 pounds per acre of a chemical fertilizer very high in nitrogen every year since 1852, were partly lodged, but these plots have averaged 35 and 36 bushels of wheat per acre, respectively, for the entire period, and may go 10 bushels beyond that yield this year. Notwithstanding the large total rainfall however, there was no such torrential downpour as we frequently have in eastern America.

SMUT is not unknown in the English wheat fields, but it seems to cause comparatively little injury, either because conditions are less favorable to it than with us, or because it is kept under better control.

These factors—a longer period of ripening, better standing, and greater freedom from insects and diseases—all contribute to the better filling of the wheat heads, and thus to larger yields.

Another factor which works in the same direction is the more liberal use of seed. Few, if any, English farmers sow less than two bushels of wheat to the acre. Many sow two and one-half bushels, and some as much as three bushels. In the Ohio Station's experiments, which have extended over more than thirty years, there has been a steady increase in the average yield up to ten pecks of seed, although the last two pecks have not brought enough increase over eight pecks to justify the additional seed. It is probable that the average seeding in the Mississippi Valley does not exceed six pecks, if indeed it amounts to that much. In some seasons the six-peck seeding has brought as much wheat as the eight-peck, in the Ohio experiments, but in the long-time average, the difference between six and eight pecks of seed would have meant nearly a million bushels of wheat annually, over and above the extra seed, in the State of Ohio alone.

The discovery of the wonderful effect on the turnip crop of phosphatic fertilizers made during the first half of the last century was one of the most potent factors in increasing the yield of wheat in England, for wheat is perhaps next to the turnip in its responsiveness to phosphorus; and as the mineral elements of fertility are never completely utilized by the crop to which they are applied, the wheat has been able to profit largely by the treatment given the turnips, even though the wheat may not have followed immediately after the turnips. For example, in Agdell Field at Rothamsted the yield of wheat has been nearly ten bushels per acre greater after turnips that have been phosphated than where no phosphate was used, although two crops have intervened between the turnips and the wheat, and it has been less than a bushel smaller here than where a large dressing of a complete fertilizer was given to the turnips.

ROOT crops—turnips and mangolds—occupy a much larger place in English than in American agriculture; and, as these crops require heavy manuring or fertilizing to be profitable, the result has been very favorable to the wheat, which seldom receives much, if any, direct treatment.

Winter oats are very successfully grown in the southern half of England, and spring oats to the north and into Scotland, and these, with barley, which is a much more prominent feature of English than of American agriculture, occupy a much larger area than wheat. The only region in which wheat was seen holding its own with these grains was the fen district along the North Sea, where a fertile soil and a light rainfall conspire to give it great natural advantages.

For example, of the 3,000 acres in the Settlement Farm at Patrington, just north of the Humber, 600 acres were in wheat, and such wheat as I have seen nowhere else except in the Palouse country of Washington. But this northern fen district has the advantage over the Palouse in that only one year in six is given to fallow here as against alternate years in the Palouse; very profitable crops of oats—winter and spring—mustard, [CONTINUED ON PAGE 38]

Farm Boys and Girls I Know Who Won Success Against Great Odds

By Mary R. Reynolds

(Written for Farm and Fireside by courtesy of the U. S. Department of Agriculture)



This is Clifford Gettings, a member of the Hillsdale Poultry Club, Hillsdale, Michigan, and one of his prize Plymouth Rocks. Clifford is sixteen

years old, and has been a club member for three years. He won second place in the boys' and girls' poultry club contest at the Michigan State Fair in 1919, and was a member of the poultry demonstration team which won second place in the state poultry contest at the same fair in 1918. Clifford was also a member of the team which won first honors at the 1919 fair. His club has a notable record. Every year, since it started back in 1917, its members have won first, second, third, or fourth place in the State.

FOR sheer grit and "stick-to-it-iveness's you've got to take off your hat to some of the boys and girls in the pig, calf, and garden clubs organized by the U. S. Department, state agricultural colleges, and local extension workers, for these youngsters exhibit the same kind of perseverance and determination which adults used to reach the North Pole, dig the Panama Canal, or succeed in farming.

Just to cheer you older folks up a little, if you are down-hearted, and to show the young folks what grit and determination can accomplish, FARM AND FIRESIDE asked me to pick out a few of the striking stories of real accomplishment by boys and girls in club work all over the country. And here they are:

Of all the Louisiana boys in garden-club work, the most enthusiastic one of all probably is Arthur Grinnell. When the county agent organized a garden club in his town, Arthur was one of the first to enroll, and his interest and enthusiasm have never flagged, in spite of obstacles. He was very lame, but canes and crutches could not keep Arthur from making a success of growing vegetables. He determined to succeed in spite of his lameness—and he did.

WHEN he enrolled last spring, he was depending on an old horse he could have the use of without cost, to do the heavy work. He did use him to plow the plot, but a short time after this helper died. The boy then harnessed his pet dog to the harrow, but the dog, after a few weeks, decided life was not worth living if he was obliged to do a horse's work. So he deserted. The rest of the summer, with the harness attached to the harrow, this energetic club member himself pulled the harrow. His garden was kept in prime condition all the growing season, and many of his products received first awards at the local fairs last fall.

To have a complete catastrophe overtake your enterprise twice, and then, undismayed by failure, to try a third time,

requires pluck of a rather unusual quality. It is the kind, however, that Theodore Tholke, a club boy living in Nevada, possesses. Last spring this boy joined one of the local poultry clubs, and purchased 300 baby chicks. Soon afterward an electric storm passed over his home, and all but nineteen of the chicks were killed.

Theodore viewed the devastation, straightened his shoulders, and went out and bought 150 setting eggs. Scarcely had he got his eggs under hens when a water spout caused an irrigation ditch to overflow. The resulting flood washed his eggs and nests away. Still determined, he obtained more eggs, and finally succeeded in raising 150 chicks. On these he made a net return of \$142, and was awarded the state championship of Nevada.

One small girl who wished to be among the elect of the boys' and girls' poultry club in Searcy County, Arkansas,

saw the coveted membership escaping when the club leader told her there were no more settings of hen's eggs procurable in that locality. The would-be member called on neighbor after neighbor, only to find that the information was authentic. She found no hen's eggs, but at the very last place she was told that they did have four turkey eggs. She took them and sought the club leader. To her she told the story of her search. She was admitted to the club.

Her difficulties, however, had only begun. In the excitement of locating the eggs, she had forgotten, until she reached home, that the sole incubator which she could use was a tiny bantam hen. But Mrs. Bantam, as well as her mistress, proved heroic and rose to the emergency. By fluffing up her feathers well she managed to cover the turkey eggs, and so faithfully did she do her duty that all four eggs hatched, to the delight of the poultry-club member and herself. The four turkeys were brought up in quite proper turkey fashion by their foster mother and owner, although the amount of food they managed to consume kept their providers busy. These big bronze beauties,

with their tiny foster mother, to whom they were apparently much attached, were one of the popular exhibits at the county fair in the fall.

To learn how to do the club work properly has required determination and perseverance out of the ordinary on the part of many a club boy and girl. A twelve-year-old Oklahoma girl, after chopping cotton all morning, walked at noon, under a blazing sun, two and one-half miles to a store where she could secure glass-topped jars to use at the canning-club lesson. Then, although the mercury was still in the upper nineties, and although her face was almost blistered, this girl, not yet in her teens, carried the dozen jars three miles to the meeting at which the home demonstration agent of the county was teaching the girls how to can fruits and vegetables.

At a boys' and girls' conference held recently in Star Valley, Wyoming, was a delegate from a canning club located far up in the county. Each day of the conference she rode horseback 15 miles to a neighbor's ranch, left her animal to rest there,

scattered the ashes for fertilizer. Then the two plowed the lot, which still contained many troublesome roots, using oxen to do so. The tomatoes they planted made a wonderful growth on the new ground, and it is comforting to know that after so much exertion the girls were well repaid, both by the sale of their canned products and the prize money they took with their exhibits.

ALICE DANIELS, who lives in a section house along a railroad in Alabama, managed to have a garden in spite of the fact that she had no ground in which to plant one. Last year the girls in Alice's school talked at noon, talked at recess, and talked after school about the wonderful club to which they belonged. It was a garden and canning club. Alice felt she was completely out of things because she didn't belong to it, so she went to the home demonstration agent and asked if there was any way that a little girl that had no land for a garden could become a member. The agent was sympathetic, but she could not quite see how.

The little girl went home disappointed, but not hopeless. In a few days she wrote the club leader, asking if it was necessary to have the tenth-acre—the club unit—together. The club leader wrote that it was not, and a little later went out to see how the new member was coming on. She found Alice had obtained permission from a farmer near the railroad to use his fence rows and corners for her garden, and in them she had a fine crop of beans and tomatoes.

The fences served in place of stakes, and the tomatoes and beans were neatly trellised and tied. Alice used intensive methods in her garden plots, and part of the time, during the season, had two and three crops growing at once in a corner.

At the end of the season this plucky little twelve-year-old girl had \$10 that she received for fresh tomatoes, several dozen cans of tomatoes, ready for sale, and—quite as important—a pantry full of canned vegetables for the use of her family.

Rose Burda of North Dakota won the championship of her State in the boys' and girls' gardening club project last year. On one-third of an acre Rose grew \$235.94 worth of vegetables, in spite of the weather man, who insisted on donating more rain than was good for vegetable gardens.

EARLY in the season heavy rains flooded her garden twice. The first rain washed out some of the vegetables and inundated the rest. The damage was not serious, as the vegetables which were left were soon picked up, and she filled in the vacant places from her surplus bedding stock. The second heavy rain ruined about one half of her early vegetables, but she planted late varieties in the vacant spots, and all went well for a time. Then along came a young cloudburst which washed out over 100 feet of cabbage. Her neighbors that time profited by her misfortune, for some of the cabbages were carried as far as two miles, and deposited on their land. Again she repaired the damage as far as possible. As soon as the various vegetables ripened they were put into cans. From their sale and from the prizes earned came the \$235.94, which was the net [CONTINUED ON PAGE 20]

If You Can Be a Pessimist After Reading This, You're Hopeless

COMMENTING on these little true stories of farm boys and girls who won success in spite of handicaps, shortcomings, and other serious difficulties, the author says:

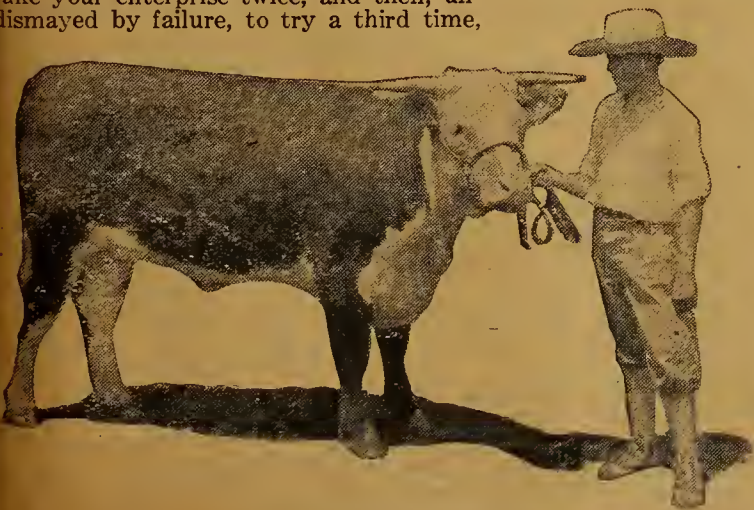
"All of which only goes to show that the spirit that led Abraham Lincoln to tramp many miles to get a book, and to read far into the night by the light of a flickering wood fire to get an education, is not yet dead in this country. It is stronger than ever, as these stories thoroughly prove; and when you and I are tempted to sit down and give up under real or imaginary difficulties, we ought to think of these boys and girls, and be ashamed of ourselves."

take a train, there were a number of others who walked from 10 to 25 miles, and one man brought his children 45 miles in a wagon.

Two Texas girls, anxious to become members of the local tomato-canning club, but unable to join because they had no land, decided to clear a small wood lot their father said they might use. Not only did these club girls cut down all the brush and small trees, but they dragged the brush and shrubbery together, burned it, and

The young fellow to your left is Samuel Barnes, a member of the Tippecanoe County Camp, Tippecanoe, Indiana. Samuel raised two beef calves in 1920, besides keeping up his membership in his sheep club, by caring for a small flock of his own. He and his younger brother are the only help their father has, and during 1920, in addition to their club work, they helped him plant, cultivate, and harvest 280 acres of corn.

And on the other side is Paul Wilson, a very active member of the beef calf club of Fountain County, Indiana. Paul is only fourteen, but he has been a club member more than three years. Under the direction of his local leader, he and his sister, Julia, fed three beef calves last year. Paul was a prize winner in the county calf club in 1919. His father, John E. Wilson, has become much interested in club work, and gives quite a bit of time assisting G. C. Babb, the local leader.



Here's Father's Chance to Do Mother a Mighty Good Turn

By F. W. Ives

Head of the Department of Farm Engineering, Ohio State University, and Corresponding Editor of Farm and Fireside

IT WAS raining. The mud was deep and the roads badly cut up. So, when the top of the ridge was reached, the radiator on my car had boiled dry. A dim light through the misty dusk showed a farmhouse. I walked up to the door, where my knock was answered by a bent old woman who gave me two pails and said: "You will find the path to the spring around in back."

Now, that path wound down into a ravine about 80 feet below the house. The spring was fully 100 yards from the back door. The pails were filled and the ascent made. When the top was reached, I was in about the same condition as the car—wet, muddy, and hot. I was also filled with wonder as to why it was necessary to carry so much water up hill when so much was falling on the roofs of the buildings.

The old woman said she had lived there fifty years, that she had made at least three trips to the spring each day, that she always took two buckets, and that on washdays more trips were made.

The spring offered opportunity for a hydraulic ram and a plentiful supply of water. Likewise, there was the barn with a driveway on a knoll a little higher than the ceiling of the house. What a fine place for a cistern! Plenty of water from the roof to more than supply all the needs with no pumping.

When I reached home that evening, some calculations showed the following facts: In carrying the water from the spring, this woman had walked a distance equal to that of from New York to San Francisco and return, or one fourth the distance around the world. In doing this, she had ascended and descended a mountain 150 times as high as the highest mountain in the world. She had carried 1,100 tons of water all this distance.

ALL this vast amount of work was useless. A small expenditure of money would have put water in the house with no work on the part of the housewife. With average rainfall, 93 tons of water could have been stored in a cistern from the roof of the barn in the course of a year, or four times as much as the woman had carried up the hill. The spring was large enough for a water ram to force over 400 tons of water to the kitchen in one year. At the time this incident occurred, a ram, complete with fittings, and a kitchen sink, might have been installed at a cost of \$61 for materials. A cistern might have been constructed in the approach to the barn, and connected with a sink, for a total cost, including labor, of less than \$200.

Of course, \$200 is quite an expense. But does a farmer hesitate to purchase a binder costing \$200? The average farm uses a binder about six working days each year. The average binder lasts about six or seven seasons with our careless ways. This cistern, if built right, would last fifty years. The water will be used 365 days every year.

You say, "The binder is necessary in order to save labor."

Very well, I say, "Why should not the housewife save labor as well?"

When a young man is courting, he seldom asks "her" if she is willing to carry 1,100 tons of water up a mountain 650 miles high for him.

There are many ways of getting water into the kitchen that do not cost \$200. Some cost more.

In all the methods given in the following discussion, a kitchen sink is included. A kitchen sink must have a drain to take away waste where it will not contaminate the surroundings or water supply. The sink with a drain just long enough to stick through the side of the house is not a sink. Nor is the zinc-lined box with a hole in the bottom that drains into an ancient candy pail a sink. It is just as bad to have to carry water out as to have to carry it in. All of the methods given have been in use

on various farms long enough to tell their good and bad points. Most of them may be seen in any community.

The cheapest and simplest method of securing a kitchen water supply is that of placing a rain-water barrel on brackets under the eaves at a height that will allow the water to flow from a spigot into the sink. The total cost of such an installation need not exceed \$5. A kerosene barrel, a short length of one-half-inch pipe fitted to the barrel with lock nuts and gaskets, an ordinary bibb or faucet, and a few pieces of scantling may constitute the materials.

and when turned in another direction the water goes to the stock tank. This is merely a modification of the gravity tank as sometimes placed in the attic. Its good feature is that of being inexpensive. It has the disadvantage of taking up valuable space in a small kitchen; also, if the water is used for drinking, it will get quite warm before the day is over. An insulating jacket will help to keep the water cool.

The gravity tank has many applications. It may be located on a tower, in the attic or upper story of the house or an outbuilding, on a hill, in the bank approach to the

closing faucets may result in the loss of the entire supply. This may be remedied by the use of good self-closing cocks. Freezing may be taken care of by careful packing of pipes and other exposed surfaces. A tower tank, as usually erected, is not very ornamental, and a tank in a building or built into a bank is likely to be more satisfactory. The attic tank should always be set in a metal pan provided with a drain. Leaks, condensation, or breaks from freezing will then be taken care of automatically. All tanks should be provided with an overflow a size larger than the inlet pipe.

The amount of water that may be collected from a roof will depend upon the annual rainfall, the size of the roof, and the ability of the spouting and gutters to handle the maximum fall.

THE mean annual rainfall in Ohio, for example, is very close to 40 inches. Of this, it is reasonable to expect that 30 inches may be conducted into a cistern. The loss of 10 inches comes through small showers that barely wet the roof, from moisture absorbed by the roofing material, from evaporation, snow blown from the roof, and overflow of gutters in heavy showers.

To find the amount of water that may be collected from a given roof in Ohio, we would first measure the ground area of the structure. This area multiplied by the total rainfall will give the volume of water. Thus, a building 30x40 feet has an area of 1,200 square feet. Multiply this by the equivalent of 30 inches, or 2½ feet, and we find a volume of 3,000 cubic feet, or 25,000 gallons. Now, if we are using water constantly, it will not be necessary to make the cistern to hold the full amount. An 8,000-gallon cistern will hold the water from one wet season to another in Ohio.

The easier water is obtained the more it will be used, and that is exactly what we wish to lead to. In the average family where the water is carried, the daily consumption may be as low as two gallons for each person. With an unlimited supply, this quantity will be as high as 60 to 80 gallons. This water will be used for more frequent bathing, for better laundry work, cookery, drinking, and toilet purposes. It will be safe to compute the size of cistern or daily water supply, as the case may be, on a basis of 40 gallons each day for each grown person or two children in the family.

Where the roofs are not large enough to supply the needs of the family, the following scheme has been used: A basin about 40 feet square was made in the top of a rise above the level of the tank. The basin was paved with concrete reinforced with fencing, and sloped to a central drain provided with a trap to prevent entrance of trash. The water was conducted through a filter to the tank located farther down the slope, and from there was piped to the house. This supply nets about 30,000 gallons each year. The land upon which it was built was practically valueless for any other purpose.

THE hydraulic ram is a possibility where a spring has a flow of three gallons or more per minute. A watch with a second hand, a vessel of known capacity, and a small dam to flow the water into the vessel are all that are needed to determine the flow. There must also be opportunity to get a fall of three feet or more below the spring for the operation of the ram. Roughly speaking, the ram will elevate the water about ten times as high as the available working head or fall, and will pump about one seventh of the water furnished it. The hydraulic ram is not a perpetual-motion machine, but it is a faithful servant. I have known of a ram that operated for ten years without stopping, except when the spring failed in an extremely dry season.

Of the mechanically driven water supply systems there are many. A great degree of perfection has [CONTINUED ON PAGE 20]

Why Some Farms Don't Have Running Water

I DON'T know why we husbands are so shiftless about doing little things around the house that our wives want done. But we are.

My wife has been at me for months to clean the cellar. I've promised to. And meant to. And I'm perfectly willing to. Yet I haven't done it. I don't know why. Something else always comes up to prevent that job from getting done. But I guess the truth is I'm just too lazy.

I suspect that's the reason a lot of farmhouses haven't got running water in them. Lazy husbands.

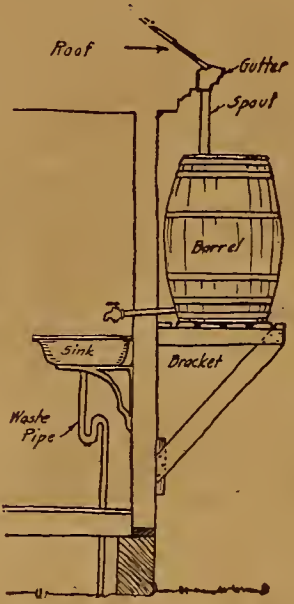
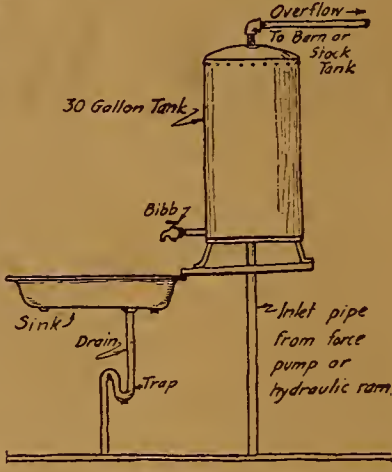
Shameful as it is to confess it, that mussy cellar doesn't really bother me; it only bothers my wife. I suppose if it bothered me I would clean it.

And, mean as it is to say it, I suppose if you men had to be bothered with carrying the water, you'd put in one of the tanks Ives talks about in his article.

Now here's a proposition:

The day I get a true letter from a subscriber saying he has put in running water for his wife as a result of this article, I'll go right home and clean the cellar.

THE EDITOR



Why Your Dollar is Worth More To-day Than It Was a Year Ago

By G. J. Roland

A DOLLAR used to mean the same to me year in and year out, but not any more. I have come to the conclusion that dollars fluctuate in value just as do potatoes, butter, grain, and other farm products. My great difficulty is to keep tab on the fluctuation.

Take my own case the last six years: When the war began, back in 1914, I was farming 110 acres here in southern Ohio, with buildings, machinery and equipment, and some pretty good stock. I decided to go to France, and sold everything for \$7,000—a good price at that time. The land and buildings brought \$5,500. That was in 1914.

A real-estate man has just approached me to buy the farm back. The old place stands, practically the same as I left it, though a little in need of repair. "Eleven thousand will buy," said the real-estate broker. "I've been offered ten thousand."

Fifty-five hundred dollars in 1914; eleven thousand dollars in 1920. To replace the \$7,000 investment of six years ago would take \$16,000 to-day. What has happened to the U. S. dollar?

In spite of my longing for the old homestead, the fact dawned on me that conditions have changed since 1914, and it would pay me to get some advice before acting. The army certainly taught me the importance of expert advice, and there are experts in every line.

Stepping over to my bank, I was lucky enough to run into John Stevens, the man who started the bank fifty years ago. Mr. Stevens owns considerable land near my old place, and is pretty well up on farming, as well as on finance. We visited a little while, and then I said:

"Mr. Stevens, you're a banker and a landowner. I need a little financial advice. Six years ago I sold my farm and everything, for \$7,000. To-day, I couldn't duplicate this investment under \$16,000. What has happened to the U. S. dollar?"

Mr. Stevens' face brightened.

"My boy," he said, "you are asking me the biggest question of the day—'What has happened to the U. S. dollar?' This is a question every farmer and business man should ask, and then this one: 'What is going to happen to the U. S. dollar?'"

"A man in business can buy a lot of rubber tires, women's wear, or flour, perhaps, and then see the price drop enough to cause him a big loss. A farmer can hold his farm or his wheat, or his corn, and see the price drop so as to cause him a big loss; or he can buy high-priced land in the face of falling prices and incur a big loss.

"The fact is that we are now passing through a period of expanded currency and credit, or inflation—prices have increased faster than production. There is more truth than poetry in the remark of Vice-President Marshall, made a few months ago, 'What this country needs is a good five-cent cigar'—which I take to mean a reversion to something like pre-war prices.

"You remember the old days when dol-

lar wheat and 10-cent cotton were symbolical of prosperity. Sugar was 5 cents a pound, butter 25 cents, and a 'boiled' shirt a dollar. That was before you left for France, but don't forget that the war stopped production in many lines. It also caused all the warring governments, including our own, to borrow money heavily—billions of dollars—and to issue bonds.

OF COURSE, someone had to subscribe and pay for these bonds. The people subscribed, but how could they pay? This country alone issued more than \$24,000,000,000 in bonds. How were the people to pay for these bonds? They couldn't. What happened? Why, the people all over the country went ahead and subscribed through their local banks and borrowed the money from the banks to pay for the bonds; then the banks borrowed from the federal reserve banks (there are twelve of them); and then the federal reserve banks issued paper currency—paper bills like the

money each one of us is carrying in his pocket to-day.

"Of course, this was all done legally and with the sanction of the Government. We were facing a crisis, we were at war, and it was the right thing to do. What was the result? Let me illustrate:

"When I was a boy I lived on a farm near a small town here in southern Ohio. In the fall, buyers would come through with suitcases full of coin and paper currency, buying up tobacco. They paid cash, and for a few days everybody had plenty of money. We all spent money freely. What was the result? Everybody felt in good spirits and prices at the stores in town went up. The storekeepers would actually mark up the price of their goods 25 per cent, but the people bought just the same. That was exactly the result when the currency of this country was increased through borrowing money on bonds—prices went higher and higher, until the Federal Reserve Board started its program to check inflation, about a year ago.

"This inflated condition of currency exists in practically all countries, and particularly in those which were at war. Take the case of Russia: The figures of Russia's finances show according to the best estimates obtainable:

	Gold	Paper Currency	Ratio %
July, 1914	\$777,000,000	\$795,000,000	98.3
Nov., 1918, (date of Armistice)	628,000,000	8,936,000,000	7
End of 1919	336,000,000	9,456,000,000	3.5

The above estimates do not include gold held abroad.

"In addition to this vast amount of paper currency, the Bolsheviki have issued spurious paper money. They have had the printing presses running day and night, and have distributed more than \$34,000,000,000 (estimated in 1919) additional paper currency. What is the result? Simply this—that 'money' is notoriously plentiful in Russia, and as production of the necessities of life has been retarded everything is high-priced. What would buy a [CONTINUED ON PAGE 22]

Seven Things You Can Do to Get the Most for Your Money Now

DURING the coming months of readjustment, the following are a few general points which it might be well for every farmer to think over, and perhaps apply:

1. Pay your debts as fast as they fall due. It may take more wheat, wool, cotton, etc., to pay a dollar debt a year from now than to-day.
2. Sell off and realize as much as possible on stored-up goods, unless the market is unreasonably low. If in doubt, consult your bank.
3. Don't buy extensively on credit now. Many an article is sold at a high price on condition of future payment. Better pay cash or borrow money from a bank.
4. Sell for cash in preference to selling on credit.
5. Invest idle funds in Liberty bonds or other first-class municipal or state bonds. If in doubt, consult your bank.
6. Study the world markets, and particularly the supply and demand of the products you depend on most. This will help you to judge the future course of prices.
7. Remember that the paper currency of this country is at present large—approximately double the reserve of gold. If the currency is to be contracted, as many believe it should be, the tendency will be for prices to go lower. It is impossible, of course, to predict the future policy of the banking authorities in this respect.

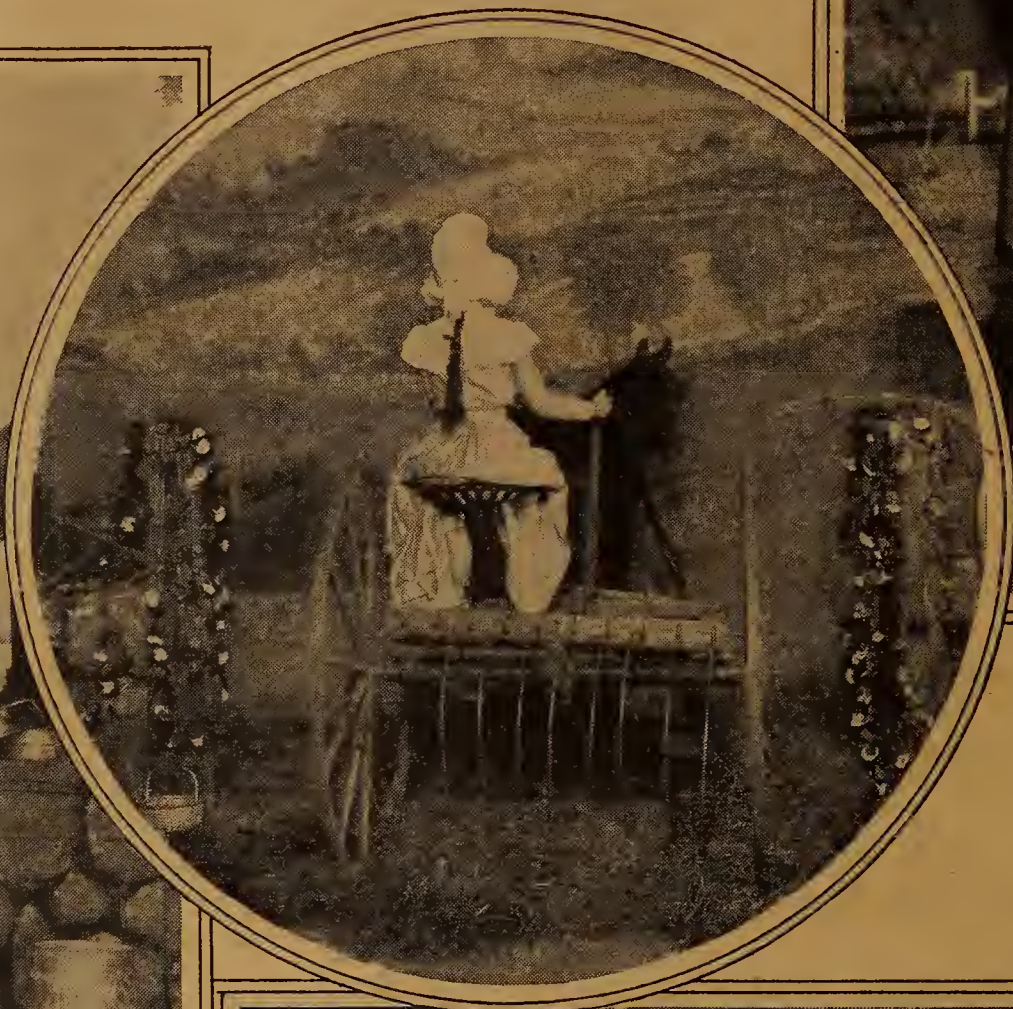
Old Favorites

Photos by Byron, New York

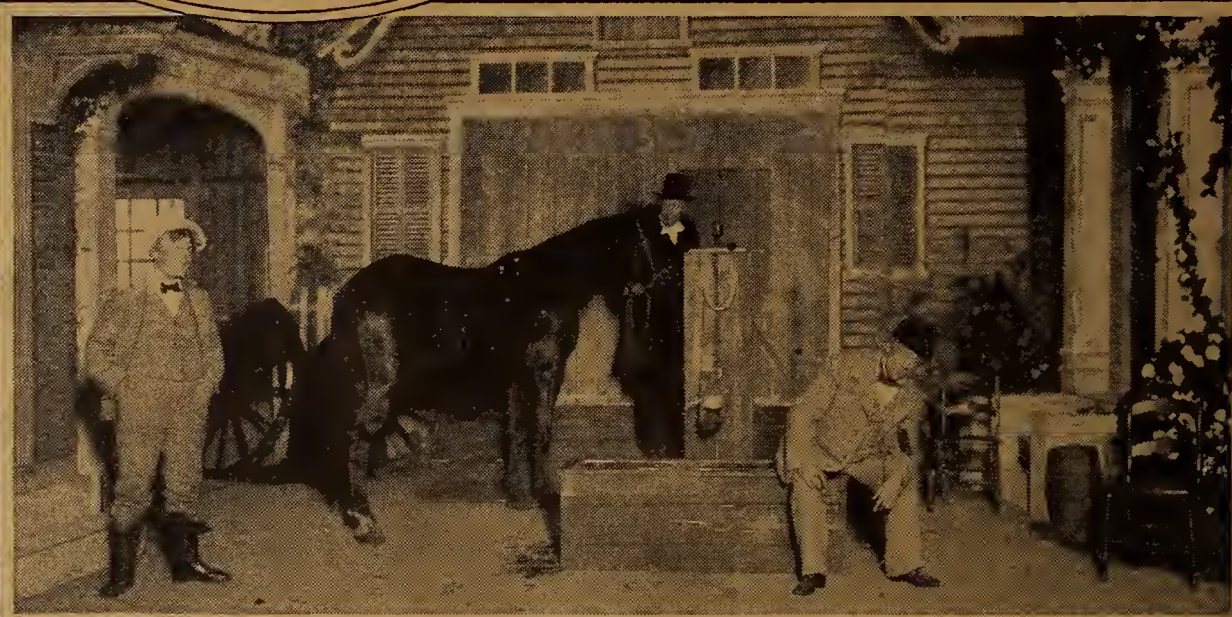
IT'S the city people, managers say, who like farm plays best. Every season, New York, the great theatre center of the country, has at least one "country" show that runs from early September till the spring, drawing its houses from Brooklyn and the Bronx. And what makes a play of this sort is local color. Years ago "Skyfarm" took the town by storm, simply because this young lady (in the circle) in a braid and a sunbonnet drove a real rake off the stage. And, sure enough, there was real hay on the stage.



MAYBE you remember this love-making scene in that old play called "New England Folks." Ever notice how much kissing and carrying on there is in these farm plays? The pretty girl never skims the milk that she doesn't get kissed, and even the old maid (comic) has to cuff the deacon while she churns. Maybe if we could manage to have as much of this sort of thing done in real life on the farm as the plays would have us believe is done, our farm-help problem would be forever solved.



IN THAT old play, "The Dairy Farm"—which belonged to the President McKinley school of drama—the heiress to the dairy farm is not only the heiress but also the prettiest girl in the county. She marries the country youth, too, though she *did* want to go to the city, and become a great actress, even in those simple times—twenty years ago. Isn't it strange how the city folks will flock to the theatre and revel in the "romance" of farming, and how few of them ever flock to the farm and revel in the "work" of actually running it?



EVERYBODY remembers "David Harum." That old horse-trader made literary and dramatic history over a decade ago. Automobiles were still freaks, and country gentlemen knew more about spavins than carburetors. The success of this as a play was first of all the horse. It's strange, but true, as the poets say, that no animal can fail to make a hit on the stage, from waltzing seals to 1,200 pounds of everyday horseflesh. This horse did more to make this play a success than all of old Uncle David's famous quips.

"WAY DOWN EAST" was the big farm play of them all. Strong men broke down and wept, cursed the fate that had brought them to the city, and put a little geranium in the window sill for old-time's sake. You remember how it went: Anna loves David, the squire's son. And he loves her. And she gets lost in a snowstorm, and he rescues her. And they marry. And you don't need more than that, the managers say, if it's well done, to make a great success. Only you must have a real horse, and grass, and rambler roses; and Billy Burke, or whoever does it, must wear a pink poplin in the last act.



Farmers I Know Who Fight Low Prices With Ideas—And Make Money

By D. S. Burch

LAST month I visited a cattle feeder in Madison County, Ohio, and what he said convinced me that a man can *train* himself to see opportunities.

He was an expert stockman. Feeding beef cattle was his specialty. Naturally, he knew market conditions thoroughly—as they existed before the war. Having had years of experience in buying and feeding cattle, he realized that only those who make a real study of the business, and who *stay in it*, are entitled to its financial fruits. He knew that experience and “knack” with stock give better assurance of profit than some turn of good luck.

So he fed constantly and conservatively. Then along came the new turn of affairs brought on by the war. His costs rose and rose, and stayed up, while his selling market for steers was down more often than it was up. He read all the explanations he could find, but they shed too dim a light on his problems to be of real help.

He had his feeding sheds, silos, and other equipment, and realized that to try another line of farming would put him at a tremendous disadvantage and extra expense. So he decided to stick to cattle-feeding, *but to modify his methods*. Owing to the high price of steers, he concluded to try some cows and feed them almost entirely on home-grown feeds—silage and grass. He preferred to get cows which hadn't been bred, but later found this was not so important, because an occasional fresh cow with calf nearly always sold at as good a price as a milking cow. He also had the option of vealing the calf at about \$25.

The main point was to get cows fairly young and with good teeth, so they would eat well and put on good gains. The cows ate silage—about 60 pounds a day—and when sold the following spring made more money than the steers had done. They did not bring so much *per pound*, but they had put on weight more cheaply.

THE man had acquired a partner, and they have settled down to cow-feeding as a regular business. In addition, they are devoting a small field to soy beans for hog-feeding, to see if they can grow their own protein. These two men, Harry Beal and his partner, Foster, realized that their greatest success for the present and the immediate future would lie in readily salable products which cost less to produce than had seemed possible a few years ago. They have thought out the idea, and adjusted themselves to new conditions.

Both studied agriculture at Ohio State University, and Beal is an officer in the State Farm Bureau Federation.

In another part of the State I saw a still more striking instance in which a thoughtful farmer made capital of an opportunity that others were unable to see. He bought a purebred Duroc-Jersey boar of excellent breeding, but with a broken lower jaw. The owner was willing to dispose of the crippled boar at an unusually low price. The injury was due to an accident, and would not be inherited by the get of the boar.

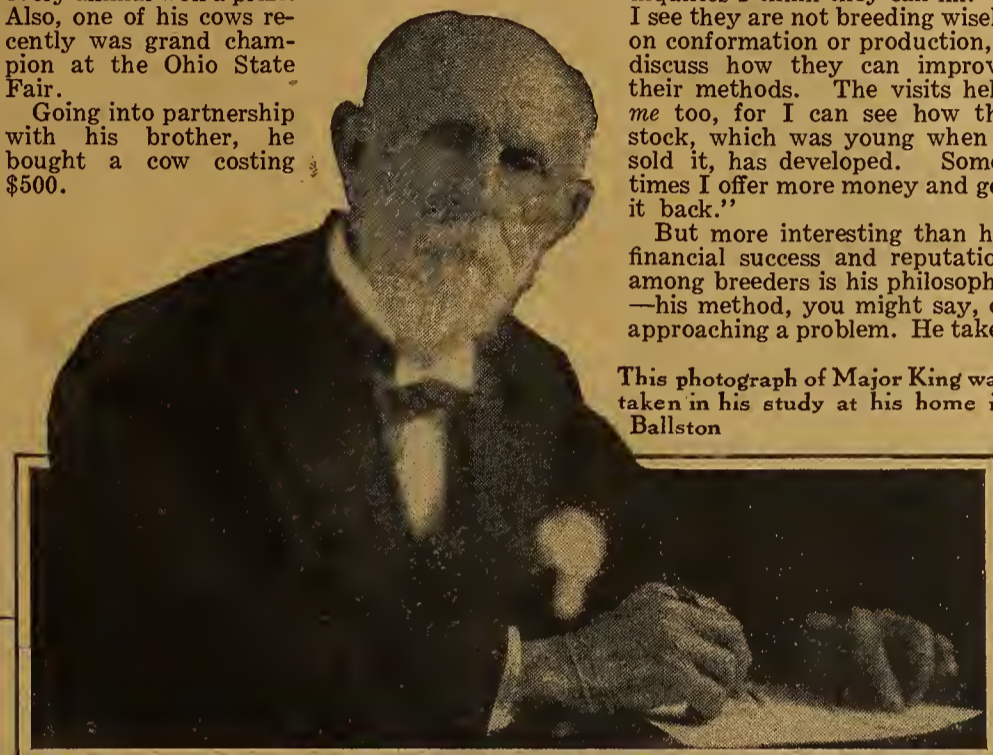
The farmer bought him from the experienced breeder. An operation on the jaw, followed by painstaking care, enabled the boar to eat soft feed out of a deep dish, and soon he was ready for breeding. At the time of my visit he was the principal sire of a herd of 30 purebred Duroc-Jersey sows. One of the sows bred to this boar had farrowed to date \$50,000 worth of breeding stock, and the boar, now huge, has become a truly great sire, worth in the neighborhood of \$10,000, judging from offers refused.

It was a fortunate day for Charles Wenger when he out-thought the experienced breeder, with his idea of saving the boar that no one else wanted.

Now let me tell you about a dairyman who is becoming nationally known, who modestly admits that he got from others practically all the ideas that have brought him success. He is Oscar O. Zehring, near

Germantown, Ohio. Fifteen years ago he had never done any milking. To-day he has a remarkable herd of purebred Holsteins, all the descendants of two cows. He is not a college-trained man, but he gives the Ohio State University full credit for helping him to get his first foundation cow. Just a few years ago he took part of his herd to the National Dairy Show, and nearly every animal won a prize. Also, one of his cows recently was grand champion at the Ohio State Fair.

Going into partnership with his brother, he bought a cow costing \$500.



This photograph of Major King was taken in his study at his home in Ballston

Major King Thinks a Man Never Grows Old Enough to Stop Working

IN HIS eighty-ninth year, at an age when most men feel a vacation is due them, Major William M. King, one of the first editors of FARM AND FIRESIDE, more widely known by his work with the U. S. Department of Agriculture, is still hard at work giving us farmers the benefit of his many years of experience and research.

Major King was born in Livingston County in what then was the great wheat-growing district of western New York. At twenty-one he went to Southern Ohio, and later established a nursery near Springfield. With the outbreak of the Civil War, he enlisted in the U. S. Sanitary Commission, a corps similar to the present Red Cross. It was during this period that he won his title of Major.

In 1868 Major King entered his career as an agricultural writer, starting as field correspondent for a St. Louis journal. For five years he was associate editor of “Colman's Rural World,” and later served for one year as secretary of the Missouri State Horticultural Society.

Shortly after Messrs. Mast, Crowell and Kirkpatrick began the publication of FARM AND FIRESIDE in 1877, when Charles E. Thorne, until recently head of the Ohio Agricultural Experiment Station at Wooster, was made editor of the new magazine, Major King was chosen as his associate.

He became chief of the Seed Division, U. S. Department of Agriculture, in 1885, following the appointment of Norman J. Colman, of St. Louis, as Commissioner of Agriculture. Major King did much to improve the purchase of seeds for distribution, being instrumental in increasing the popularity of the Geneva water test for determining the vitality of seeds.

In recent years he was connected with the Bureau of Crop Estimates, employed in special index work until August, 1920, when he was honorably retired on a pension.

Now, at his home in Ballston, a suburb of Washington, D. C., he has resumed his writing on current agricultural topics—determined not to shorten his remaining days by refusing to do his share of the world's work.

We need more men like Major King.

THE EDITOR.

“If we have the nerve to pay \$500 for a cow,” he told his brother, “let's get a good bull, too. I'll furnish my share of the money.” They bought the bull.

THE first calf was a heifer for which they received an offer of \$125. The brother favored accepting the offer, but Oscar said “No.” The buyer then offered \$250, which also was refused. Then he raised the amount to \$300, then to \$350. “No, not for \$500,” was Oscar's stand in the matter. “If you sell the best, how do you expect to stay in business?” To this question his brother had no reply.

Later on, four of this calf's progeny sold for \$1,000 each, and another sold for \$650. Altogether, he has sold about \$24,000 worth of offsprings.

But here is Oscar's big idea: His interest in a sale does not end when he receives his price and delivers the animal. He believes

in service such as automobile companies render, and he told me frankly that he got the idea from the automobile business. Every year or two he visits farms to which he has sold stock.

“If my customers succeed, I succeed. It is smart for me to help them get a market for what they raise from the animals I sell them,” he explained. “I refer to them inquiries I think they can fill. If I see they are not breeding wisely on conformation or production, I discuss how they can improve their methods. The visits help me too, for I can see how the stock, which was young when I sold it, has developed. Sometimes I offer more money and get it back.”

But more interesting than his financial success and reputation among breeders is his philosophy—his method, you might say, of approaching a problem. He takes

back, and sometimes not. In either case, there are obvious advantages to both parties of the transaction. From his general experience Mr. Zehring has developed the conclusion that in the dairy business a doubling of production per cow means trebling of profits.

NOW, what was there about those three farms that makes them profitable and therefore of interest? The success of each was based on *sound* but *original* plans. Having definite reasons for doing a thing makes the difference between taking a legitimate chance and a purely speculative venture.

But of all the incidents mentioned none has the element of effective marketing or advertising so well developed as the experience of a woman in New Hampshire. In fact, I first heard this story about 500 miles from there, carried purely by word of mouth.

This woman had agreed to deliver two dozen strictly fresh eggs on a certain day. It was winter, and a severe blizzard had resulted in a decreased yield. The day arrived for delivering the eggs along with other farm products. But there were only one dozen and eleven eggs. So this thrifty New England woman selected her best hen and put it in a small coop in the sleigh. Just as the sleigh was entering town the hen laid the egg needed to complete the two dozen. Because of the warmth of this egg when taken from the basket the customer inquired the reason. Naturally the story spread—unintended but excellent advertising.

Finally, but entitled to prominence in any plan for increasing farm profit, is the art of making dollars work steadily and rapidly.

I have in mind a Virginia farm run by two brothers where the principal business for several years has been feeding garbage to swine on a ninety-day schedule. That is, they buy, fatten, and sell four lots of hogs a year; this turns their money over *four times*.

The supposition that farming is a business that requires a year in which to obtain returns on your money is, of course, obsolete. The time *may* be four years if you raise large steers under range conditions. You can cut this down to eighteen months if you know how to produce baby beef. With swine you can market a 250-pound hog in a six months' feeding period if you have well-bred stock; and with suitable equipment you can raise two litters a year.

The use of good fertilizer, well-chosen feeds, a piece of improved machinery, or even a copy of your farm paper will often give, within a few months, enough money returned to more than pay for it. Those are all agricultural *investments*, not *expenses*.

A FRIEND of mine recently bought a horse at a sale, paying \$45 for it. A month of rest, plus good grooming and feed, and the horse sold for \$120. This perhaps is exceptional, but it illustrates how money backed by good judgment may work more rapidly than the average farm dollar.

Let us see now what the various ideas mentioned led to.

The man who fed cows instead of steers, using home-grown feeds, cut his production costs so that he made a profit in the face of economic odds.

The farmer who bought the boar with the broken jaw, knowing that otherwise the animal was exceptional, built up a valuable breeding herd.

The inexperienced dairyman who had the courage to refuse tempting offers for his best young stock, and later gave a follow-up service to his customers, is now a well-to-do breeder.

The woman whose hen laid the egg on the way to town discovered a lot about the value of advertising.

And the man whose knowledge of horses enabled him to more than double his money in a month understood that a dollar will work just as fast and effectively on the farm as anywhere else. [CONTINUED ON PAGE 25]

a magazine edited for city business men and studies it carefully for ideas that he can apply. He has photographs of all his animals back for fifteen years, the time he began. These photographs are pictorial records of types and conformation. One of his methods worthy of mention is the practice of keeping young stock off grass.

“I don't turn them on grass the first year,” he explained, “because they can't get enough nourishment from it to give them proper development.” So he feeds more concentrated and substantial feed to promote growth during the normal growing period.

To encourage neighbors, and especially members of the boys' and girls' calf clubs, to get started with good stock, he sells purebred calves at almost any price offered, usually \$50 to \$75, with the privilege of buying the animal back in two years at \$100 more. Sometimes he buys the animal

A Plain Farmer Answers Hughes and Sapiro on Coöperation

By Daniel Lewis

Decoration by Jessie Gillespie

YOU certainly have your nerve, Mr. Editor, when you conscript me into joining this war of Sapiro ideas against Hughes ideas. I have a feeling that I'll get maneuvered out into the no man's land between their economic trenches. And I'll get shot full of holes before I can make my peace with either side.

But what you want, I take it, is a farmer's reaction to the thoughts of these men. Anyhow, I'm willing to die for my faith in farming, and call it a life well spent, so far be it from me to stop the bombardment of ideas, no matter where they hit.

Sapiro never spoke a truer word than when he said that the marketing of farm products was a problem for expert marketers, not expert plow farmers. I think that Hughes agrees with this, except that he probably believes some of these California experts are not so expert as they think they are—not expert enough, anyhow, to build a cooperative bridge from California to Florida, and to prevent me from buying Florida oranges almost every time because my grocer says that for 30 cents he will sell me a dozen Florida oranges with the seeds in and for similar ones from California with the seeds out he must charge me a nickle apiece. I can swallow the seeds for the difference, and when I am thinking so, a consumer merely, I find that it is not so very difficult to swallow my sympathy for the producer, if I can buy his stuff for less.

Both Sapiro and Hughes are expert marketers. Considering their articles as a whole, their differences of opinion are not great, not nearly so great as one might expect. I have an idea that if we had these men on opposite sides of a council table, at which each might express his honest convictions about every phase of the American farmer's marketing problem, that common ground would be found, that a marketing machine could be put together on which either one of them would be willing to ride. And that's exactly what we should do, we farmers. We should call in all the marketing experts about a common council table. Then I believe that we should lock the door and keep them there until they did agree on practical means of bettering our whole distribution problem, for the benefit of our nation as a whole.

PERHAPS something like that is what the American Farm Bureau Federation is trying to do with its various marketing committees. But they don't work hard enough at it; they don't call in enough experts; and they have too many fine old farmers on the committees, and not enough thoughtful young experts.

But you can set it down that the farmer is not raising all this fuss about marketing because he wants to give up farming and become a marketer. No, what he wants is to be assured a decent price for his stuff, so that he can go ahead and devote his whole thought and effort to farming, in the assurance that the world will give him a square deal and pay him reasonably and in proportion for what his thought and effort, invested in better farming, produce. But just saying what he wants doesn't get it for him; it seems that he must stop and figure out a way of helping himself.

During the war, Hoover told us that we need not worry if we would only produce; the Government would guarantee us a minimum price of \$2.26 a bushel for wheat, and for a hundredweight of live hog thirteen times as much as the price of a bushel of corn. Personally, I think we could do nothing better now than to take the lessons Hoover learned in his food administration and adapt them to our peace-time problems.

Of course, I understand that Mr. Hoover was chiefly interested in securing huge surpluses in order to keep the allies fed, at any

cost, and that such surpluses now would nullify the effectiveness of supply in balancing demand. And this is the club with which the economists always threaten to hit us on the head and lay us out. But



Don't Let Calamity Howlers Fret You—Howling is Their Business

IN DECEMBER we printed the California cooperative idea as expressed by Aaron Sapiro, attorney for the prune growers. He told how he thought that plan could be adapted to a great national cooperative movement, under the American Farm Bureau Federation, for this country's grain and livestock farmers.

In January we printed the critical reply of Hugh J. Hughes to that article, Midwest cooperative expert and Commissioner of Markets for the State of Minnesota. He agreed with Sapiro on some points, disagreed on others, and raised new ones.

The article printed this month is the answer of Mr. Daniel Lewis, a hard-headed, practical farmer who knows the grain and livestock business thoroughly. He probes deep into the merits of both Hughes and Sapiro, and makes one or two unusual and interesting suggestions of his own.

These articles are printed in the hope that they will help to crystallize the thought that is being centered by the farmers of this country just now on a sound national cooperative movement that will stabilize markets for farm products, and wipe out unnecessary marketing costs, thus putting farming on a business basis, where it belongs.

It is a stupendous undertaking, but with patience and open-mindedness not an impossible one. The American Farm Bureau Federation, a sensible, from-the-bottom-up, broad-shouldered organization, is working hard and capably upon it. The seven million farmers of the country seem to be ready for it. The violent skidding of prices within the last half-year has added point to the effort. All that is necessary is for us to keep on going as we have started with this thing—and we'll get somewhere. It is the most optimistic sign in the heavens of agriculture to-day, and, properly interpreted, will some day leave the present cries of "the trend cityward," "no credit," "ruinous low prices," only faint echoes in our ears, as of tinkling cymbal and sounding brass. Perhaps the wish is father to the thought, but, at any rate, that's a prophecy.

We hope to sound more views on the vital facts of national agricultural cooperation in this magazine. Later, we plan to print an article itemizing the cooperative points on which all these writers agree. That will be interesting, and possibly useful. **THE EDITOR.**

their club is stuffed, perhaps. At least I'm willing to risk it once.

I shall attempt no detailed analysis of either Sapiro's argument or Hughes'.

But for Aaron Sapiro let me say that that speech of his in the American Farm Bureau Federation's grain-marketing conference was one of the most dramatic and far-reaching incidents ever recorded in the history of American agriculture. Prunes may not be wheat, but Sapiro succeeded in focusing the attention of all America on the California idea; he succeeded in crystallizing the haphazard thoughts of millions of producers into grains of constructive effort, in galvanizing a rather insipid interest into a militant activity for rural justice.

Believe me, we owe a vote of thanks to this young California lawyer. He jolted us out of the Rochdale rut; he made us study California cooperation; he gave us the plans and specifications for a new mar-

keting structure, which I think we might do well to erect as an experiment station, if not as a permanent house to live in. I certainly am not afraid of Sapiro, though I should like to ask him a lot of questions.

I sell both corn and hogs, sometimes more corn and less hogs, and sometimes less corn and more hogs, depending upon the courage with which I guess prices. That is, as a grower of corn I sell corn to myself as a producer of hogs, and then I sell the hogs to the packer. And if corn gets too cheap, I can cut down on my acreage and raise more wheat, or even tobacco or pota-

to by commodity and locality, which I now believe to be the broader and better way.

But when Hughes is so greatly disturbed because Sapiro wants a monopoly, and when he objects to "monopoly by the farmer of the crops which he produces," I think his argument is not convincing. He uses wheat to prove his point. I would have him use corn. We farmers of America do have a practical monopoly on the corn crop of the world; but apparently we do not know how to use it, and if anyone else knows he won't tell.

HUGHES' economics is unassailable, so far as I can see—clarifying, steady. I have an idea that Minnesota might even tell California some things of value when it comes to cooperation, especially with reference to creameries and livestock shipping associations. And I've heard that, so far as providing a market for her livestock goes, California is about the worst off State in the Union.

It might be an edifying experience to see Sapiro and H. A. Jastro argue that out.

Hughes is eager for it. But deeper down than that I think you'll find them both standing on the same plank—economic justice for the farmer. If Sapiro had his price control, the amount he would get for a bushel of wheat would doubtless be about the same as Hughes would get by his more direct dependence on the operation of the law of supply and demand.

Both declare that it is a weakness in our present system when the elevator pays the farmer cash for his grain. Neither one of them means just that. They should qualify their statements, so they will not be misunderstood. The farmer does not care how he is paid, so long as he has something with which to pay off his men. But I believe the farmer is entitled to cash when he needs it; he waits all year to get the pay for his crop, and surely the world which takes his crops owes him his pay in the form in which it will be of most use to him. It is his need of cash, of course, which places the farmer at a disadvantage at harvest time.

Last fall I had 3,000 bushels of wheat in the elevator when it became necessary for me to raise some money to pay labor and to make a payment on the new separator. I did not ask the bank for a loan; the banks had been ordered to deflate, which to our rural banks meant to deflate the farmer. As a business man, I felt that I should cash some of my wheat, anyhow.

OUR elevator man buys according to a card which he receives every day on Train No. 44. The card comes from headquarters in the big city. I drove in to see what he would pay for my 3,000 bushels. "Two dollars and three cents," he said. I felt that it wasn't enough. He reminded me that No. 44 would

be in in five minutes, and that the new card might have a lower price; if I wanted to sell for \$2.03 I'd better hurry.

But what if wheat were going up instead of down. My morning's paper was in the post office a few blocks away. I'd run over and see what the market did yesterday in Chicago and Minneapolis. But when I reached the post office door I heard No. 44 whistle. I had only time to grab my paper and scan the markets headlines. Wheat had tumbled on the Board of Trade. I'd better sell. So I "hot-footed" it back to the elevator as fast as I could run. I had just breath enough to yell: "Bill, you've bought my wheat at \$2.03."

"All right," said Bill, and just then the boy popped in with the new price card. He hooked it on the nail. My wheat was worth \$1.98 now. I had made just \$150 by my foolish-looking race across the town. But gee whiz, what kind of a business is that to be in! **[CONTINUED ON PAGE 20]**

toes. Just which commodity organizations should I join? Which should claim my greater interest?

If farmers in the corn belt were assured a certain price for corn, would not prices for hogs and cattle and muttuns automatically fall in line? Is not our problem thus greatly simplified?

IN MY opinion, Hughes points out some absolutely valid objections to Sapiro's plan, not so much as to the intent of the Californian's ideas as to their workability. It is quite pertinent to point out that we are not the only fish in the wheat puddle. Russia dropped out and was scarcely missed. We might conceivably find ourselves in the same position, if we undertook to be anything but nice to the rest of the world.

I was sold on Sapiro's plan of organization, by commodity and not by locality, until Hughes suggested that it should be

The Dearest Ache

All of us have days when everything seems to go wrong—
and this time it was Mother Wilkins' turn

By Katherine Haviland Taylor

Author of "Cecilia of the Pink Roses," "Barbara of Baltimore," "Yellow Soap," "What Was That?" etc.

MRS. WILKINS' day had gone wrong from the beginning, and its flavor had crystallized in her an emotion that was far from healthy. Late in the afternoon, as she sat in a disordered living-room to which her weary soul was unusually sensitive, she looked back over the day, and realized that she gave—gave constantly—for very little return.

"It isn't that I'm tired," she thought, "although I am; it's realizing—" Two tears made their appearance, she fumbled for her handkerchief and mopped the suddenly steady flow. "You give, and you give," she muttered, "and the pain never stops!"

What was happening to Mrs. Wilkins is what happens to every woman now and again during a lifetime; she was realizing that the pains she endured when she bore her children were never to cease—that she must constantly hurry, constantly endure, and constantly be forgotten. It was a bitter reflection, and it left her so hard that her tears hurt as they forced their way into the open.

It had all begun that morning with her husband's saying, "Molly, can you find me a clean union suit?" He had said this so apologetically that it left her feeling she must be a shrew. She tried not to be sharp, and she didn't see why he had to approach her that way. She had found it where his underclothes were always kept, but the feeling of triumph had been mitigated by the fact that two buttons, and two only, had remained true to their first home.

"Alice must have put away the laundry," she said. "I sent things out last week because Dora was sick," hunting, as she spoke, the heavy thread she wanted. This had disappeared. After she'd gone down-stairs to her sewing basket, Alice came in, explained that she had the thread, that she'd been using it on a hat. "Why didn't Mother call?" she asked, as she stood in the doorway, adorably flushed from sleep and as pretty as only pretty seventeen can be.

When she had disappeared, Elizabeth, who was twenty-one, and somewhat irritable from a too short night, arrived to complain of her younger sister. Alice had "borrowed" Elizabeth's blouse, the one she wanted to wear herself. Elizabeth stood in the doorway and orated at length. She, for one, thought her mother spoiled Alice. At her age Elizabeth had—and Elizabeth explained just what she had done that was admirable, and just what Alice did that was not admirable.

"Why don't you get the blouse?" asked her mother.

"She'd gone down-stairs."

"Haven't you another?"

"No." This somewhat sullenly.

"What about the pink-checked one?"

"It's faded."

"Well, you have that lawn with the Irish collar."

"You know perfectly well what *that* looks like, Mother," said Elizabeth. "It never *did* fit, and it makes me *sick* to wear. I can't bear wearing it even at home and I simply *won't* wear it out places. *That's all!*"

Mrs. Wilkins suggested some more substitutes. These were all rejected. Sam was late for breakfast, and complained because the sausage wasn't warm. Mr. Wilkins made a great joke of the fact that his wife had, in her morning's flurry, sewn one of



Little Hetty Meigles, in her one animated move of the day, had caused a commotion—the result was not harmonious

the buttons on the inside of his lingerie. Alice was sullen under the abuse she had reaped from Elizabeth, and Elizabeth was nervous about the train she wanted to catch for town.

IT WAS a positive relief when the eighty-four reduced the family to Mrs. Wilkins, Katie, the cook, and Dora Meigles, who had come in to do the wash. The sunshine poured in the windows of the cheery room, and Mrs. Wilkins, enjoying the luxury of dawdling over her second cup of coffee, rather smiled over her own flurry. Possibly she did spoil Alice, and as for expecting the child to be responsible for looking at buttons, and for their lack—well, that was too much, she was only seventeen. She looked over to the sausage platter, which was now coated with a film of white and cold grease, worried a little over Sam's cold breakfast, and then, as is the way of housekeepers, decided to make it up on the next meal. Dinner arrayed itself in her mind. She would have fried onions; Sam liked fried onions. About this center she grouped an agreeing ensemble, but just as she was about to telephone the grocer, Katie came in.

"The boiler's busted," she announced dismally.

"What?"

"The boiler's busted," repeated Katie. "Mrs. Meigles was just gettin' some of the stuff in the cold water to soak, and I was a goin' to light up, when I seen it. It's real bad. It's near the top."

"I'll telephone Caffin," said Mrs. Wilkins as she pushed aside the half-drunk cup of coffee, and stood up. "Heat the water on top of the stove, Katie. You'll have to manage somehow. And—" suddenly she paused. Katie was weeping copiously, with her large water-soaked hand plastered over her jaw.

"It's my tooth," moaned the sufferer.

"I'm so sorry," said Mrs. Wilkins, her manner almost overfull of sympathy because of the sudden irritation she had felt toward Katie as she heard the news.

"Yessum, it's fierce!" went on Katie, after a gulp. "I guess—I'll *have it out!*" She was hysterically nervous over the decision, and fled sobbing. Mrs. Wilkins went to the telephone, endeavored to persuade a recalcitrant plumber to visit her humble home, and then hurried toward the kitchen to interview the damages.

She found them—and the washer woman's little girl, who, having a sniffly cold, had abandoned school to "rest up like."

"I brung her along," stated Dora, who, sitting in Katie's rocking chair, was causing it to squeak loudly. "I thought mebbe she was took with somethin' catchin'. Sometimes they look like colds when they commence, measles particular."

Mrs. Wilkins admitted it, and looked nervously at the small girl, whose peaked and limp appearance strained her already overtaxed nerves. The child was one of those permanently damp-nosed youngsters whose skirts are too long. These flopped

around below her thin knees to give her a slinking and perpetually sad appearance. She smelled of wood smoke, and her eyes, which were large and haunting, followed Mrs. Wilkins' every move.

Mrs. Wilkins knew what the day would be, and it was.

The plumber came, and he and Dora held an animated conversation about the cost of living. Katie went to the dentist's, lost her tooth, and came home to retire into the privacy of her boudoir, and to moan so loudly that she was heard in the kitchen.

LITTLE Hetty Meigles sat around to watch everything Mrs. Wilkins did. Unnaturally solemn, her stare began to affect Mrs. Wilkins as would an evil charm. It made her drop things, and make absurd, nervous moves that resulted in nothing but resemblance to the busy hen. Dora chatted amiably about the neighbors, in spite of Mrs. Wilkins' earnest endeavor to silence this sort of topic. The talk ran in this manner:

"Yessum, he comes home soaked, mebbe three or four times a week. Laura—she's the up-stairs girl—she tole me."

"Are you putting up pickles this year, Dora?"

"No'm. I'm not puttin' up none. My ole man, he don't like 'em. And Laura she says he's *that* stingy. The missus, she ain't none fer splurge. Honest, there's been the time when I worked there and went away hungry."

"I believe we're going to have rain."

"Yessum. I think too we will. The missus, she asked me one day if you used butter fer cookin', and whether you et nice and genteel. Believe me, I tole her a thing 'er two! I says, 'You bet—'"

Mrs. Wilkins, who had been much annoyed by this, intimated to Dora that her neighbor would not, she, Mrs. Wilkins, was sure, like her probings repeated. Dora emitted a "Yessum," and went on. Damming the tide with anything less than a muzzle or a well-aimed brick was hopeless.

AT NOON, Alice appeared with three large ink stains on the borrowed blouse. She was cast to the depths by this, and her depths were fearful to witness. Mrs. Wilkins, after dutifully reprimanding her, gave her a dollar from the housekeeping money, and then realized, after Alice had skipped off to school, that she had parted with the quarters that the gas meter so faithfully and steadily absorbed. As she made her way to the nearest grocery in quest of change—the gas supply having, of course, stopped—she decided that Edward, her husband, was foolish about that meter, and thinking that it saved money. She was tired of the whole business, she'd have another sort; she would—

At the grocery she met a neighbor who had been kind to her. The neighbor wanted a donation for the Jewish welfare campaign. After which she met old Mrs. Simms, who hoped she would come out to the library meeting that evening, for she, Mrs. Simms, was afraid so few *would* come, and when one realized what a library *did*—she babbled on for fifteen minutes, when, with a wrench, Mrs. Wilkins tore herself away.

At home she had a telephone message from Alice, who wondered if her mother could shorten her blue dress. Yes, it was too long; *none* of [CONTINUED ON PAGE 26]

Our County Shippers' Federation Saves Us Money

By F. G. Ketner

Director, Marketing Department, Ohio Farm Bureau Federation



F. G. Ketner, who wrote this article, is director of the marketing department of the Ohio Farm Bureau Federation. He urges organization of county, state, and national livestock shipping associations under the Farm Bureau. He got the idea in Delaware County, Ohio, where he was county agent for two years, having come there from his farm in Baltimore, Fairfield County. He is thirty-two, married, and has two children

AS A RESULT of the success we have had in combining our local livestock shipping associations into county units in Ohio, the plan has been urged for adoption by the American Farm Bureau Federation.

When we get our counties organized, we

will put them into a state association. These state units will form a national organization under the A. F. B. F., whose surveys of national livestock supplies will do much to regulate the flow of stock to market, and thus stabilize prices.

I have charge of the work in Ohio. Work is already under way in Ohio on organization by counties. We expect to have the entire 88 counties in the State lined up soon.

The advantages I see of the county-wide plan over independent associations are:

1. Uniform methods, records, and contracts.
2. The large organization can command better attention to claims for damages and service.
3. Operating expenses are lower.
4. Strong, cheap insurance is assured by a larger volume of business which distributes the risk.
5. Can hire a high-grade market expert.
6. Each member ships stock from any point in the county.
7. Permits grading in the county and shipping direct to packer.
8. Flow of livestock can be regulated.

An example of how this system will work in Ohio, when the State is wholly organized, is at the Cincinnati market. This terminal receives 30,000 cars of livestock each year, and of this number but 14,000 cars are used by local killers, the remaining 16,000 cars being shipped to other points, by buyers operating at Cincinnati. This condition favors only the killer—the farmer loses because the buyers have a club to wallop prices when receipts are too heavy. With our state organization, Cincinnati will get only what it can use.

Our plan is this: Instead of many independent associations in the county, there is one controlling association with a manager, who will handle the county work, with sub-

managers at shipping points. These sub-managers sort the cattle, hogs, and sheep. When a sub-manager has enough for a load, he advises the county manager, who directs what market the stock shall be sent to.

With every livestock State organized, suppose the survey shows that a district supplying the Chicago market will have an enormous amount of hogs ready in September. Our state directors, who will cooperate, will direct shipments to other markets to prevent serious gluts.

Each county association is incorporated, the amount of capital stock varying from \$3,000 to \$5,000, so that one share of the stock will be available for every farmer in the county. Incorporating the association limits the liability of the members. A code of regulations supplied by the Ohio Farm Bureau Federation governs the associations.

When the State is organized, the state unit will be governed by a board of directors of representatives from county associations. These directors will be elected.

In the code of regulations every effort is made to protect the shipper. The duties of the managers and officers are clearly outlined, and the managers are bonded according to the volume of business handled. The managers are paid a good salary or liberal commission.

About three fourths

of the local commission charged goes to the sub-managers, and the remainder to the county head. In addition there is a fee of from 2 to 4 cents a hundred for insurance. This item is relatively small, but it affords ample insurance and is cheaper than the old-line companies.

For the insurance and the salary of the managers the charges are never more than 15 cents per hundredweight.

When the returns of a sale are sent to the county manager, he makes an itemized statement to each farmer having stock in the consignment. This statement shows the yard and the commission firm shipped to, tells the home-market weights, the shrink, selling price, and expenses.

The county manager is required to keep a complete record for a detailed statement of the year's business.

My own experiences as a farmer, county agent, and as head of the market department of the Ohio Farm Bureau Federation is that the individual cooperative plan have done a lot of good for the small producers.

In the old way, the producer of inferior hogs got just as much as the man who produced prime stock. Now that the cooperative association is here the farmer gets the market according to the grade he produces. He is no longer penalized for ability; he is paid for it.

A Thought

WHEN local cooperative associations compete with each other, as they do now, or separate organizations, the real aim of the cooperative movement, low marketing cost, and fair prices is defeated. We cannot entirely eliminate competition, but we can reduce it, and this article tells about one big way it can be done. Read it!



Do You Fit the Scene?

HAVE you learned to fit the scene? Don't you want to look as charming when you are getting breakfast and doing up the work, for instance, as when you are all dressed up? I'm sure you do. That's why I have designed for you the pretty apron shown in the picture, and that's why I want to talk to you about it. Years ago a work apron was just that, and nothing more. In making it, usefulness was the thing considered. Now it can be just as useful, but have the added advantage of being pretty. Surely, this is a step in the right direction.

There are so many fresh-looking, really lovely materials that are just right for the apron to slip on in the morning when working about the house, or to slip over a good dress when you want to wear it and still have to be about the kitchen. There are the English prints, for instance, with their quaint little designs in all the fascinating new colors, and the calicoes and lovely silky sateens, to say nothing of the gingham that are so charming in their dainty plaids and checks that you really wouldn't know them. Of course, there are plain gingham in all colors, and the percales and chambrays, which are less expensive and are warranted to wear and wear. This particular apron, which would be so good-looking if made of a soft shade of green gingham, slips on over the head. The neck, sleeves, and pocket frills are trimmed with bias plaid gingham in white and green, with just a line of darker green for accent. The sash confines the apron to the figure. In front, it is tab-shaped, fastening with three large white pearl buttons. The edges of the sash are bound with a bias of the plaid gingham. The apron hangs straight, covering the dress entirely. In fact, this design could be used for a little house dress, instead of an apron, if you prefer it.

Caps You Can Make in a Jiffy

Caps for housework are quite as pretty to-day as the new aprons. I'm sure you'll like the set of caps I've planned for you. The first one in the picture is a tie-on. You can make it in a jiffy, and launder it in a jiffy too, because it is cut from a flat piece of material. When the cap is tied, the extra material above the pert little knot at each side falls into soft folds. It's really quite captivating made of small-figured calico, with the outer edge bound with plain calico.

Choose checked gingham, say in red and white, for the cap shown in the middle sketch. This cap folds in the center across the top, and the front buttons fast to the back at the sides. The third pretty girl is wearing a quaint little cap with drooping tabs at the sides. In this model the front tab buttons to the back tab. Try one of the English print materials for this model. The caps in this set add to the attractiveness of the young housekeeper when she is doing her work, and just let me add that if a woman wants to keep her hair up in curlers for a while in the morning, and look well at the same time, she can depend on any one of these caps to help her. If you have any questions to ask, Miss Gould, FARM AND FIRESIDE, 381 Fourth Avenue, New York City, will answer you personally.

All inquiries answered

What Miss Gould Has to Say

She tells you that attractiveness is your right, and that daintiness should be considered even in workaday clothes



Refining Your Skin

I DON'T need to tell you to keep your house clean. I'm sure you do. But do you look out for your skin just as carefully? Do you keep it scrupulously clean and freshened up every so often? A neglected skin has a lot of tales to tell me. And they're character tales, too. Keep your skin refined, soft, and glowing. Don't let the pores get clogged with dirt that ends in blackheads. There really is no excuse to-day for a woman having a coarse, unsightly complexion. Just a little regular daily care and a few good remedies will prevent this condition.

Almond meal works wonders in banishing blackheads. Clean your face first, either with soap and water or cleansing cream. Then cover the blackheads with a paste made of almond meal and a little good toilet water or witch hazel. Spread the paste over the blackheads, and keep it on as long as you can; anyway, until it is perfectly dry. Then rub it off vigorously, and see what happens. I can't promise that one treatment will remove them, but a few applications, say every other day, will dispose of them. If the removal of the blackheads leaves the pores large, bathe with any good astringent. Camphor and tincture of benzoin are both reliable.

There are creams for blackheads too—wonderful, penetrating creams that are so astringent in their quality that they help to close the enlarged pores.

A special cream, not for blackheads, but for refining the skin and giving it a delicate soft texture, is one that has cucumber juice and the finest of sweet almond oil for its principal ingredients.

All inquiries answered

YOU can get a pattern for this attractive apron: No. FF-4024—Slip-on Apron. Sizes, 34 to 38 bust. Price of pattern, twenty cents. A pattern also comes for the caps: No. FF-4023—Set of Housework Caps. Cut in one size. Price of pattern, sixteen cents. Send order to Pattern Department, Farm and Fireside, 381 Fourth Avenue, New York City, or Springfield, Ohio.

Regardless of Price Levels, My Farm Garden Pays Me a Profit

By F. F. Rockwell

Of Seabrook Farms, New Jersey, and Corresponding Editor of Farm and Fireside



My combination seed drill and wheel hoe has paid for itself

NEVER has my problem of "What shall I plant?" been more important, or more difficult, than it is this year. But there is one crop that I, and every other farmer, can count on this year as never before. That is the vegetable garden. I say this without qualification.

In twenty years' experience in growing this "crop" under all kinds of conditions, and with plenty of opportunity to see how it succeeded with others in many sections of the country, I can say that no other investment of time or money pays so well as a practical vegetable garden to supply my own table the year around. Of course, you can't "plunge" in it as you can in potatoes, or corn or wheat, but to the extent of what you use yourself, or sell as home-made canned vegetables, it will be the most profitable plot of land on your farm.

A good deal of the well-meant garden advice which has been handed out to us farmers has failed to produce much in the way of results for the simple reason that it wasn't real-down-in-the-dirt practical—not for farm conditions as they are. My first essential of a practical farm vegetable garden is simplicity. Careful plans designed to get the "greatest amount of food from the least space" are all right for the amateur or the suburbanite, but they simply do not work for the farmer who can use a half-acre or more for garden almost as well as he can a few hundred square feet, but whose time is fully taken up with field work and chores. The point is that most farmers leave the vegetable garden as an extra-time job, even though in actual dollars and cents it may be more practicable than anything else they do.

WHEN I plant my vegetable garden I avoid the mistake of trying too many things. I've seen this happen over and over. When I start to go through the modern seed catalogue, it is a great temptation to order a little of everything, but the result is pretty sure to be a fizzle. Another common error is to try to grow too many varieties of one thing. Our seed catalogues are not nearly so much help as they should be. Some of them make extravagant claims for many second rate varieties, and emphasize the necessity of having early, medium, mid-season, and late sorts. I find it much more satisfactory to make several plantings of one good variety. Of course, my garden is planned to yield a constant supply during the summer, and plenty of things to store or to can for the winter. The simplest and best way of doing this is to make a planting, say one day each month, from April to July. All the planting necessary can be done each time in two or three hours, by one man with someone to help him. This planting should be planned for *and done regularly*, just as a marketing trip to town. Another very important thing, I find, is to pick a spot for my garden near the barn or tool shed. I have seen many a farm garden, started with care and enthusiasm, fail because it was put too far away to get to with tools or to work in in odd half-hours or short ends of days. Even if you haven't got any "old ground" that is conveniently located, plow up a half-acre or so of sod or pasture in a convenient, sheltered place. Then, if the garden is planted so that most of the things in it can be cultivated with a horse hoe or cultivator, much

of the work of keeping it in shape can be done by running through it occasionally as tools are brought in from other farm jobs.

If you have a twelve-tooth cultivator or hoe harrow, and a horse that steps fairly carefully, you can cultivate rows 18 to 20 inches apart. Otherwise it would be better to make the narrowest rows 24 inches wide. If you haven't a twelve-tooth, get a set of extra narrow teeth for your regular cultivator. With these you can set the cultivator very close without throwing soil over the small plants.

Another big question is what to grow. Based on many experiences, under widely different conditions, I consider the following dozen vegetables the most satisfactory and profitable, in the order named:

Dwarf beans, pole beans, sweet corn, tomatoes, beets, cabbage, carrots, summer squash, Swiss chard, rutabagas, parsnips, turnips. It may seem that potatoes and onions should certainly be included, but it is always possible to buy these—often cheaper than you can grow them—and they do not lose anything by not being fresh. Peas, as compared with any of the above crops, are very uncertain. Lettuce, unless one has had some experience in growing it, will be uncertain. [We do not entirely agree with Mr. Rockwell in excluding potatoes, onions, peas, and

winter squash, if the vines are protected during the early stages of growth.

Two vegetables that can be comparatively easily grown, and which may be left where they grow until well into the winter, as freezing only improves their quality, are Brussels sprouts and kale. Either of these may be started from seed in June or in early July, in the same way as late cabbage, and transplanted as soon as big enough, three or four weeks later.

As to the growing of vegetables, especially any of the first dozen mentioned above, you can do it successfully by following the same general methods that you do with a crop of corn or potatoes. The seed of such root crops, as beets, carrots, rutabagas, turnips, and parsnips is of course very small, and should be just barely covered from sight.

The three most important things are to have the land well enriched, to prepare it *thoroughly*, and to cultivate it early and often enough to keep *ahead* of the weeds. A few loads of well-rotted manure, applied before plowing, with a generous application of high-grade fertilizer — preferably of a 4-8-10 analysis—harrowed in after plowing, will lay a good foundation.



THE small boy with the large hat, sitting on this pile of squashes, is Master Englebert C. Plonien of Waukegan, Illinois, son of E. W. Plonien, who, in sending us the picture, wrote as follows: "I noticed the picture, in your November issue, showing the son of Mr. Harvey Porch of Bridgetown, New Jersey, and the large ears of corn he grew. "I presume that everybody is proud of what his own State can raise, therefore I enclose you a photo taken by myself of my son, and the Golden Hubbard Squash I grew this year. "The largest squash, which isn't in the picture, weighs 89 3/4 pounds, and measures 69 1/4 inches around, while this photo shows the average size that most of them grew to be. They lay very thick in the patch, five hills producing 38 squashes, the smallest one weighing 6 1/2 pounds. "I am a subscriber of FARM AND FIRESIDE, and feel equally as proud of my State as Mr. Porch does of his." A fine boy, fine squash, and a fine spirit you display, Mr. Plonien! We congratulate you. THE EDITOR.

lettuce, for under Middle Western conditions we have grown them economically and successfully. While onions from seed always have been uncertain, we never have had any trouble in growing them from sets. It doesn't seem to us that a garden without green onions, and radishes too, for that matter, would be a real garden.—THE EDITOR.] Kohl-rabi is very easily grown, but remains in good table condition a very short while. Lima beans, cucumbers, eggplant, cauliflower, melons, and winter squash are all more or less uncertain—whether it will pay to plant them depends upon how much you care for them, how much time you have, and whether you have had any experience in growing them. Table pumpkins, of course, can be grown in the sweet corn, or even in the field-corn patch, as can

Don't stint in either manure or fertilizer, because there is not much ground to be covered, and the crop to be grown will pay for the fertilizer two or three times over, compared to corn or potatoes. Plow deep, and harrow immediately after plowing, even if the ground is not to be planted for some time. It is a great advantage to let the first crop of weeds sprout just a little, and then harrow again just before planting, as this will save a lot of weeding, and get the ground in extra nice shape for planting. For all the smaller seeds, such as beets, carrots, turnips, etc., it will pay to rake over the soil with an iron rake before planting. I believe that my combination seed drill and wheel hoe has paid for itself as well as any tool I ever bought. One of these machines, if cared for, will last for years, and

is a great saver of time and labor. The planting, however, can be done fairly rapidly by hand. Mark off each row first, to get it perfectly straight; then open up a furrow with the end of the hoe handle or a pointed stake, for small seeds, or the hoe blade for larger seeds, such as beans, peas, or sweet corn. Firm the seed in the soil unless it is wet, with the back of the hoe or the edge of the foot; small seeds will not germinate well if merely covered with dry soil drawn loosely over them. Compacting the soil draws the moisture to the surface, so the seeds have a better chance to sprout.

THE work you do with each vegetable for the first two or three weeks after it sprouts, or is set out, will determine its failure or success more than all the rest of the season. The first thing of course is to get all the weeds out, before they have a chance to make more than the third or fourth leaf, and the roots are proportionately small. The second thing is to thin out the crop itself, just as soon as the plants can be well distinguished. Having too many plants in the row is just as bad as having too many weeds. Beets, carrots, and rutabagas should be thinned out two to three inches apart; then the biggest can be taken out as soon as ready for use, leaving room for the others to develop. Even beans should be thinned, so that every individual plant has room to develop. How much of a yield of corn would you expect if you left eight or nine stalks to a hill?

I have found that it pays well to put a little fertilizer in the drill, or in the hill, when sowing seeds or setting out plants, in addition to the general preparation. For this purpose I do not use a ready-mixed fertilizer, but plain bone and tankage or dried blood, mixed half and half. A hundred pounds of each will do for a good-sized garden.

I also make sure of getting some nitrate of soda to top-dress the crops after the first thinning or the second weeding. Nitrate of soda is not a "stimulant" but real plant food, containing ammonia in its most available form for agricultural use. It looks like coarse salt, and should be used carefully, as it is very strong. I put about a half-tablespoonful around each plant, taking care to get none on the foliage, and applying it, if possible, just before or after a rain. Get the reground nitrate of soda if you can, as it is in much finer condition than that which comes in the original bags. A hundred pounds will answer for a season for a good-sized garden.

IT MAY seem that getting these extra fertilizers is needless expense and "fussing," but time after time I have seen just that extra bit of trouble produce extra results that paid for it three times over, and I always use them for my own garden. There is the question of how much of each thing to plant. As a rule, altogether too much of one thing is planted at one time in the average farm garden, and much of it gets too old to be good before it can be used. I like to have my garden so arranged that I can have 50-foot rows. That makes a convenient unit. A garden 50x200 feet is a good size and shape. One row each of pole beans, tomatoes, cabbage, summer squash, Swiss chard, turnips, lettuce, and kohlrabi will be enough for each planting. Two rows of dwarf beans, three or four each of beets or carrots, two of rutabagas, four of peas (two varieties), and four to eight of sweet corn (one or two varieties) will give about the right amounts. The last plantings of such things as are wanted for storing or canning may be doubled or tripled. If the vegetables suggested at the beginning of this article are so planted, every three or four weeks, during April, May, and June, with a last planting of quicker growing things in July, a substantial and continuous supply of vegetables may be grown.

Why Farmers Up My Way Don't Have To Hire Much Help Any More

By Ford S. Prince

County Agent, Green County, Ohio

LABOR conditions may change, and men may soon be hunting work on farms. But the majority of farmers are finding ways of saving labor so that there will never again be the tremendous demand for farm help that was evidenced a decade ago.

Farm laborers grew scarcer and scarcer during the war. But production did not decrease, and efficient farmers are planning to continue war-time labor-saving methods, and even to increase them rather than to rely on the hired-man system.

"I let the hogs do my harvesting," said a farmer to me a short time ago. "I am farming my 107-acre farm with as little help as possible. Last year I paid out only \$60 for labor during the entire season."

On closer inquiry I found that here was a farmer doing a most unusual piece of farming. He follows a rotation of corn, rye, and clover—hogging off his rye and clover crops, then hogging off most of his corn, the earliest piece of corn being seeded to rye and then to clover. His rush season is at corn-planting and cultivating time, when he usually hires a little extra help. Last year he harvested only about 100 bushels of corn, and that from the standing stalk. Hay for his horses and one cow and concentrates for his hogs are purchased.

"My entire receipts," he said, "are from hogs."

"Aren't you taking a great risk," I asked, "from cholera and other swine diseases?"

"I reduce that to a minimum," he replied, "by immunizing my hogs when they are small."

WHILE the method adopted by this man is not one that every farmer could follow, he is well satisfied, and will probably never go back to the hired-man system. The income he is receiving for his labor, after all expenses are paid and interest on his investment deducted, thoroughly justifies his methods.

Other men are using different methods. Some have bought tractors, motor cultivators, and two-row corn plows. Others have modified their rotations so as to cut down the busiest seasons and distribute their labor more evenly through the year. Quite generally they are having animals harvest some of their crops.

Having observed that some farmers are more efficient than others in getting their work done, I decided to study the methods of a number of them in this county. The object was to see how much work our men were doing, how they were accomplishing it, and to see how their efficiency affected their profits.

The farmers chosen were all good farmers, considerably above the average. When we had all our figures, including the complete record of a year's business, we found that we could divide the farms studied into three groups. (See table below, Group 1.)

A careful study of these figures reveals the fact that the men in group three are accomplishing 62 per cent more work than those in group one. This doesn't necessarily mean that they work any harder, but that they get more work done during the time they spend at it.

Note the effect of this efficiency on the cost per man workday, which is reduced from \$3.28 in the first group to \$1.99 in the third. In the last column this effect is carried through to the interest these men received on their investment after deducting all expenses and \$700 for their own labor.

It is interesting to note that the men in group three are hogging 20 per cent of their corn, while the men in the other groups are hogging only a very small amount. This is one reason why they get more work done than the other men in this survey.

One of the men, who had been particularly efficient in getting his work done, took me out to his barn and, pointing to a two-row, three-horse corn cultivator, said:

"There is the reason I have been able to do my work this season."

We found owners of these two-row ma-

chines most enthusiastic about their use. The men in the survey estimated on the average that they could cultivate 12.4 acres of corn per day this way, while the users of the one-row cultivators estimated 6.4 acres as the average for that implement. Where you can double your efficiency with a larger machine, it is certainly economy to do so.

We went further with these farms, and grouped them according to the number of horses the men used in plowing, judging that if a man used two horses in plowing,

most of the machinery he had would be of the two-horse variety. The following table was the result. (See table, Group 2.)

Naturally, the smaller machines were found on the smaller farms, and on these farms the fields were not so large. There is often a chance for advantageous rearrangement of fields on such farms. It is often said that men on smaller farms grow more per acre than those tilling more ground. Our figures show no such correlation. The men using three and four horses or a tractor are getting as good yields as those whose farm operations are done with two horses.

In the face of these facts, can we suppose that the farmers who have substituted machinery and horse power for man power will ever go back to the old two-horse system? Or that the men who are hogging off corn will revert to more expensive harvesting?

I believe not. When the wave of farm labor comes back to the farms, many will find that their places have been filled by horseflesh and steel.

NOTE: A man workday is based on the number of days required for an efficient farmer to take care of crops or livestock. For example, in southwestern Ohio we find that it takes about four days to grow and harvest an acre of corn, etc. An animal unit is a cow or its equivalent, according to the amount of feed consumed.

His Bees Stand Our Longest and Coldest Winters

By Earl Christmas

D'ANNUNZIO may have put one over on Jugo-Slovakia, but the tables have been turned on the Italians in the bee colony at the University of Minnesota. The Italian bees in this exclusive colony are ruled by a Carnolian queen bee imported from far-off Jugo-Slovakia.

Prof. Francis Jaeger, chief of the division of bee culture, University of Minnesota, and noted authority on bees, hopes to develop from this international match a honey maker as good as the Italian bee, and one that will withstand the rigors of northern winters. If the venture is successful, and Professor Jaeger and other bee experts think that it will be, the bee industry in the Northern States will be revolutionized.

But speaking of revolutions—D'Annunzio's little rumpus was mild to what happened when Professor Jaeger's Carnolian queen arrived and was introduced to some 25,000 Italian baby bees. The Italians objected strenuously to a strange queen sitting on their throne, especially one from Jugo-Slovakia, and a revolution was imminent. However, quiet was restored, and everything is lovely now.

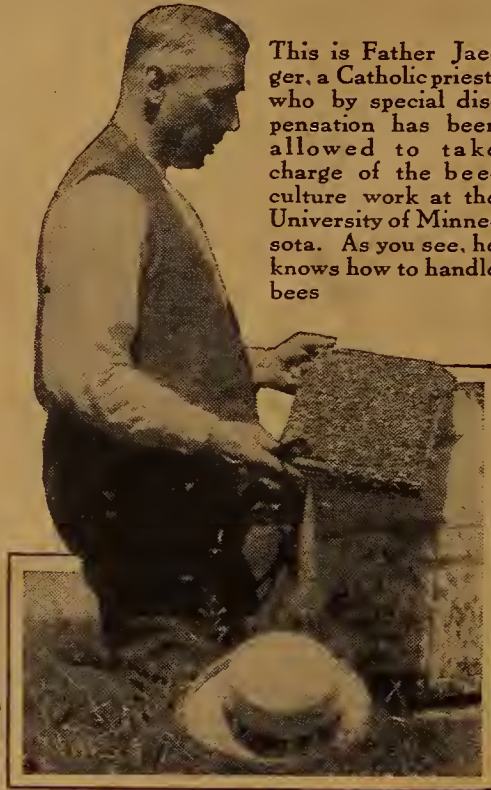
Queen Carnolia is not only the first of her kind to visit the Northwest, but is also said to be the only one of her kind in the entire country. Professor Jaeger predicts that descendants of the newcomer will be, in a few years, the universal bee of the North, for he believes that this hardy family, raised in the mountainous regions of Jugo-Slovakia, is best suited for the rigors of a northern climate.

The Carnolian has all the good qualities of the Italian and German bees. Of a silvery

color, they are large, docile, and prolific.

Queen Carnolia having been mated before she was shipped, is now busy hatching out queen bees, workers, and drones at the rate of about three a minute. It is planned to distribute the young queens (or should we say princesses?) among prominent bee-keepers who will test their adaptability to northern climates. A queen of this type costs \$200, which may seem to be rather a high price, but then royalty comes high, and Queen Carnolia will pay for herself many times over, the experts predict. All the way from the mountains of Jugo-Slovakia, in her private box, she came. You can't expect royalty to go any way but first-class, can you?

The need of a hardier type of bee for the Northern States is shown by the bee casualties suffered in many sections last winter. A bee can be safely confined only 150 days. During the long winter of 1919-1920 it was necessary for Minnesota beekeepers to keep their bees confined for 180 days. As a result, almost 40 per cent of them died.



This is Father Jaeger, a Catholic priest, who by special dispensation has been allowed to take charge of the bee-culture work at the University of Minnesota. As you see, he knows how to handle bees

Good Milkers, But Bad Cows to Keep

INDIVIDUAL milk record sheets are "O. K.," said a dairyman to me the other day, "but there are a lot of other things to be taken into consideration when we are putting the valuation on a milker."

"For instance?" I inquired. "Well, take the cow that is hard to milk," answered my friend. "Why waste time on her when easy milkers cost no more money, and are just as profitable, from a dollars-and-cents standpoint? And look at the energy you save!"

"Then, there is the kicker—same thing is true of her kind. Consider the satisfaction of knowing you can sit down and milk without fear of being slammed through the side of the barn, and the milk wasted."

"The breachy milker comes under the same class," he continued. "Not only is the breachy cow apt to get hung on the wire fence and tear her udder or teats, perhaps practically ruining her, but she may teach the whole herd to be field raiders. Here another big additional risk is incurred: some of the best animals in the herd may founder through overeating of some crop, and, even if they don't die, their future milking qualities may be seriously impaired. Repairing fencing after these rogues is a big task, too."

"Do any of your cows ever hold up their milk?" I asked.

"No, my cows never do," he chuckled, "for when I discover that I own a cow which won't lactate freely the butcher gets her, right off the reel. The cow that 'dribbles' along and gives only a part of her milk down at a time, requiring twice as long to milk as ordinarily, is a nuisance. If, after a little training, a cow fails to lactate quickly and freely, she's not an A-1 member of a dairy herd."

"And while we're talking of undesirable dairy cows, don't forget those ill-tempered, quarrelsome individuals. They not only make life miserable for the rest of the herd, but also their digestions soon collapse under such conditions, and their productive powers are lessened."

"But don't think me a hard taskmaster," hastily added my dairyman friend. "With careful breeding and training I find it necessary to discard very few cows. If a cow has the 'blood' in her, practically all of these undesirable traits can be avoided or eliminated, and a gentle, tractable, high-producing individual developed. I am referring more especially to the fellow who already has a herd in which a few of these undesirables are cutting his profits, and where the sending of a few cows to market might change his balance sheet from a loss to a gain."

Why Their Flocks Failed

IHAD often been told by my neighbor farmers that their hens did not produce well in winter, in spite of the fact that they are fed liberally and housed nicely. Naturally, I wondered why my flock paid and theirs didn't. On investigation I soon learned why.

In three cases I found overcrowded quarters to be the sole cause of non-production. In another case I found overcrowded quarters and the flock diseased, although it was most liberally fed. I know from experience that no amount of feed will produce satisfactory results where a flock is confined to small, dirty pens. It pays to provide roomy quarters, allowing plenty of sleeping room and a large scratching pen that is ventilated properly and has plenty of sunlight.

We have kept chickens in both small and large flocks, having as few as 25 and as high as 600 laying hens.

My experience has been that a few well-kept hens will pay a larger profit on the investment than a larger flock that is confined to a small pen where overcrowding is the result.

H. W. SWOPE, Pennsylvania.

Group 1							
Group	Workdays per man	Crop acres per man	Animal units per man	Labor cost per man workday	Labor cost per crop acre	% of corn hogged off	% made on investment
Less efficient group—24 farms	201	43	13	\$3.28	15.27	4.5	12
Medium efficient—24 farms	257	56	16	2.47	11.47	6.2	13
Most efficient group—25 farms	326	67	19	1.99	9.62	20.0	15

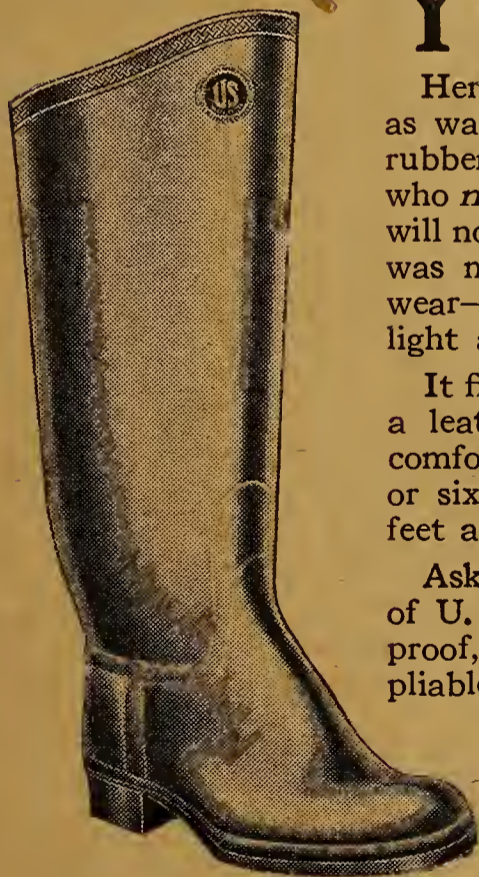
Group 2					
73 Farms	Crop acres	Acres plowed per day	Man workdays per man	Average size of fields	Crop acres per man
2 horses—6 farms	89	1.8	241	12.5 A.	47 A.
3 horses—46 farms	96	2.2	248	15.7 A.	50 A.
4 horses—11 farms	128	3.6	265	17.2 A.	59 A.
Tractor—10 farms	161	7.8	306	21.2 A.	69 A.



The "U. S."
Bootee

Why every farmer needs a pair

"U. S." Boots—Reinforced where the wear is hardest. Made in all sizes and styles—Hip, Half-hip, and Knee. In red, black, and white.



YOU know how quickly leather shoes get water-soaked and caked with mud around the farm.

Here's a handy *rubber* shoe that's as watertight and easily cleaned as a rubber boot. First designed for miners, who *must* have a waterproof shoe that will not tire their feet, the U. S. Bootee was made to withstand the roughest wear—absolutely watertight—and yet light and comfortable.

It fits as smoothly over your sock as a leather shoe—you're sure of solid comfort all the time. And even in five or six inches of water, it keeps your feet absolutely dry.

Ask your dealer to show you a pair of U. S. Bootees. Note their waterproof, smooth rubber surface—feel how pliable and comfortable they are—

examine for yourself their wonderful built-to-wear construction.

Other types of "U. S." Footwear—built for rough service

U. S. Boots have all the wear and comfort which the accumulated improvements of 74 years have given them.

U. S. Walrus combine the warmth and convenience of a cloth-top arctic with the protection of a rubber boot. They slip right on over your leather shoes, and you can wash them clean instantly while they're still on your feet.

The U. S. line of footwear has a type for every need—arctics, rubbers, "overs." Every one is backed by over a half a century of experience. The rubber comes from our own plantations—the whole process of manufacture is supervised by experts.

Always look for the U. S. Seal—it means solid wear and long service for your money.

United States Rubber Company

Look for this seal  on all "U.S." Footwear

What, Then, is There That is Worth Doing in This World?

By Joseph E. Wing

Decoration by Jessie Gillespie

THIS is an exceedingly busy world! It is doubtful if there is anywhere a more busy one. It is a curious thought of the worlds whirling in space, so many that we can see, so many that we cannot see, and so many that must be habitable to beings that live in similar temperatures to ours, to beings who breathe air and drink water and eat food. We may imagine some of them busy worlds. But we know that our own world is to-day a tremendously busy place. Men seem to realize all at once how short is Time. They seem to fear all at once that they have no sure grasp on a conscious Eternity. So they rush about and work and perspire, some of them, and cause others to perspire, many of them, and crowd steam into boilers and whiz across continents, and when they have reached the other side they scurry around for a little and then whiz back again, passing others who are whizzing in opposite directions.

It is all very amusing and may be instructive. Why this rushing around? Why this heat and turmoil, this feverish burning of coal and oil, this sending skyward of vast clouds of smoke, this grind of factories and turmoil of mill? What is there in it that is worth while?

It is a curious fact that a great part of this hurry and scurry in our land is not worth while at all. There is need of activity, no doubt; there is wheat to be grown and to be distributed; there is bread to bake, and there must be railways and telegraphs. And yet there is this truth, that half of the journeys over the rail are made by men who have simply taken the lazier way of doing a thing that a little forethought, a little brain power would have accomplished had he stayed at home and sent a letter, and a large number of the travelers are simply poor, ignorant beings who imagine themselves unhappy at home, and who vaguely feel that elsewhere there is something that will bring to them comfort or further excitement and pleasure. They are too blind to see the beauty that surrounds them at home; too heedless to know the value of their own friends, so away they rush in rolling furnace cars at midsummer, supposing that they are on pleasure bent! And, strange to say, they do achieve a sort of pleasure in the change that awakens within them activities of brain, and sometimes of heart.

THERE are other men who are active. They are the ones who are doing things in the world, real things. They are the men who are mining iron and making steel, who are working in the forests and in the factory, who manage railways and own places where things are sold. Theirs is a useful work. We must have these men. Yet few of them are using their powers through any conscious spirit of unselfishness. Instead, they think that they are working solely for themselves. They are, maybe, piling up fortunes for themselves and their children.

Fortunes are good, are useful, be they not too great. When one has money enough to build him a comfortable home, with somewhat of beauty about it, when he has money enough to own a bit of land on which he may plant trees and flowers, when he has money enough so that he can send his children to be educated, he is fortunate. And whatsoever he has more than this will bring him only pain and trouble. And yet men are too ignorant to know this. They begin to amass fortune; they bring the Infant Fortune into existence; they nourish it sedulously. It grows; it needs more and more attention. Finally the Youth Fortune becomes the Grown-Up Fortune, and at last maybe the Giant Fortune, and yet curiously enough the man continues to spend all his energies in serving this remorseless thing. It can bring him no real good. It can only bring serious danger and trouble to all his fellows in the world. And in spite of these

truths which all men might see if they would but look, men continue to worship the idea of success that is embodied in the thought of making much money.

What, then, is there that is worth doing in this world? It is important that young people should get the right ideal of this when they are setting out. Ideals surely lead one into this path, or the other. Qualities of nations and peoples

idleness and selfishness, not really of life.

Can you see any fun in work? Some day—if not now—you will see the good in it. Work is fun, when we go at it right. That is, when we undertake it with a sound body, well cared for. Then the muscles themselves joy in use. Then the brain, directing those muscles, putting skill into them, makes a pleasure of the effort. Then the active intelligence comes in

can let his influence go out sometimes silently, sometimes by whispered word in his brother's ear, publicly sometimes with energy and fervor, and sometimes he may need to thunder in righteous anger, but every word should be to make men live cleanly, to live honestly, to live lovingly and forgivingly with each other.

That is the thing that is worth doing in the world! That is the lesson that our great Master taught. Do you remember that He worked? Do you remember that He spoke soft words of comfort to little children, that He raised up the fallen ones, and healed the sick ones, and that, in spite of all His gentleness and kindness, He drove out the profaners of the temple, using words of vehemence that burned like fire because of their terrible truth?

Oh, young men, there is work to be done in the world!

There is room for you to vow a vow as did the knights of old, that you will not lie soft nor shirk toil; that you will steel your bodies to hardships and make your muscles fit; that you will learn to earn your bread by right endeavor as your brethren must earn theirs; that you will walk erect, proudly, holding aloft your burden, carrying it gloriously, not as a burden,

but as a sign of honor, a sign of trust; that you will pray to be worthy, that you will ask for work to do and strength to do, that you will pray to be given love enough and patience enough to make you willing to be a brother to all humanity; impatient of injustices, patient to lead poor, selfish, blind humanity that it is. Patient to lead it toward clean, courageous living, toward a life of love and forgiveness, one toward another.

AND while this life that is worth living may and will have so much of love and patience in it, it will also have its sterner sides. There were giants in those days. There are mightier giants to-day. They oppress and debauch humanity. There is need now of some to drive the money changers from the temple. There is need of strong, steadfast men to combat the steadily increasing power of the trusts, the pirates of the money market, the rich vampires who seem to fatten on the blood of the producers of the land. There was never more work to do, nor work more worth while.

It is all summed up in this:

What is worth doing in the world is to learn to use well these bodies of yours, to make them strong and keep them clean, to learn to use these minds of yours, to store them with useful and happy thoughts, to learn to work with body and brain and heart, and then to learn to work for others, forgetting self, for even as one can see his face only when he looks away from himself, so only can man find happiness as he turns his thoughts and his efforts away from himself, and toward those of his brothers of the common clay. It is the old law of loving service, and in it one finds the thing best worth while.

Drainage Reclaimed His Waste Land

NEW interest in reclaiming land through drainage has been aroused in Madison County, Nebraska, by Frank Hughes, a farmer living near Battle Creek. With the co-operation of the Madison County Farm Bureau and the Nebraska College of Agriculture Extension Service he installed a drainage system on a waste tract on his farm which before had grown nothing but native grass. When finished, the tract was planted in corn. It yielded 80 bushels to the acre, which entirely paid the cost of installing the system the first year.

So great was the success with the Hughes land that numerous members of the Madison County Farm Bureau are draining tracts of land that have lain idle for years.



are created by ideals. The Hindu is taught the blessedness of nothingness; of renunciation of ambition, of hate, of love, of desire. Thus he learns to dream away his life, accomplish nothing in outward effect, being of no help to his fellow man, whatever he may be to himself. The American is taught that to succeed in making money is the duty of every man, and hence Americans the world over are money makers. There are peoples whose ideals lead them to paint beautiful pictures, or carve lovely statues, whose ideals lead them to make music, to plant flowers, to beautify the bits of earth where they may dwell. So it is certainly true that the right ideal is all important to the future happiness of the boy and girl just setting out in life's pathway.

The success of any man's life is more to be measured by what that life has made of him than by what he has accumulated in his lifetime. We ask, "How many acres has he?" "How many dollars has he?" "How many automobiles, how many carriages, how many shares in railways?" These things are important, as indicating in some degree the powers of the man, but they may sometimes tell a tale of oppression and dishonesty and greed and shame. We ought to ask, "What has his life made of him? Has he clear vision to see the beautiful world and all the good that is in it? Has he gratitude to the Giver of good for all the blessed things he enjoys in the world? Has he made of himself a being worthy of the world in which he lives? Is he strong and clean and manly and fearless? Does he know a good horse when he sees it? Do the dogs love him and willingly obey him? Has he good hard muscles, well trained? Can he walk and run and jump and play ball and swim and row and ride horses? Is he a good animal, well trained?" If he is that, then he has learned a large lesson of what is worth doing.

But it is not enough to be a perfect animal, able to take in the glories of the world. There is something else worth doing, that is work—real, practical work. We have inborn in us the habit of work. Work is as necessary to us as food. Useful work makes us sane, strong, cheery. It drives out the selfishness and dreariness. The men and women who wail "Is life worth living?" have usually not learned the value of work. They weary of their own

and says, "this work that I am doing is good. It is of use to the world. It helps mankind. It adds comfort and maybe beauty to the world. It feeds me and clothes me and feeds and clothes those whom I love."

So is toil redeemed and made to be toil no more, but work instead, and between toil and work there is a wide difference. Toil is nearly always an evil to be avoided. Work is a good to be sought. In the opportunity of doing work in the world, useful work, difficult work, skilled work, one finds his greatest honor and greatest blessing. Work makes strong the worker. Work makes sweet the bread. Work makes delicious the rest from the efforts of the day. Work brings self-respect and a consciousness

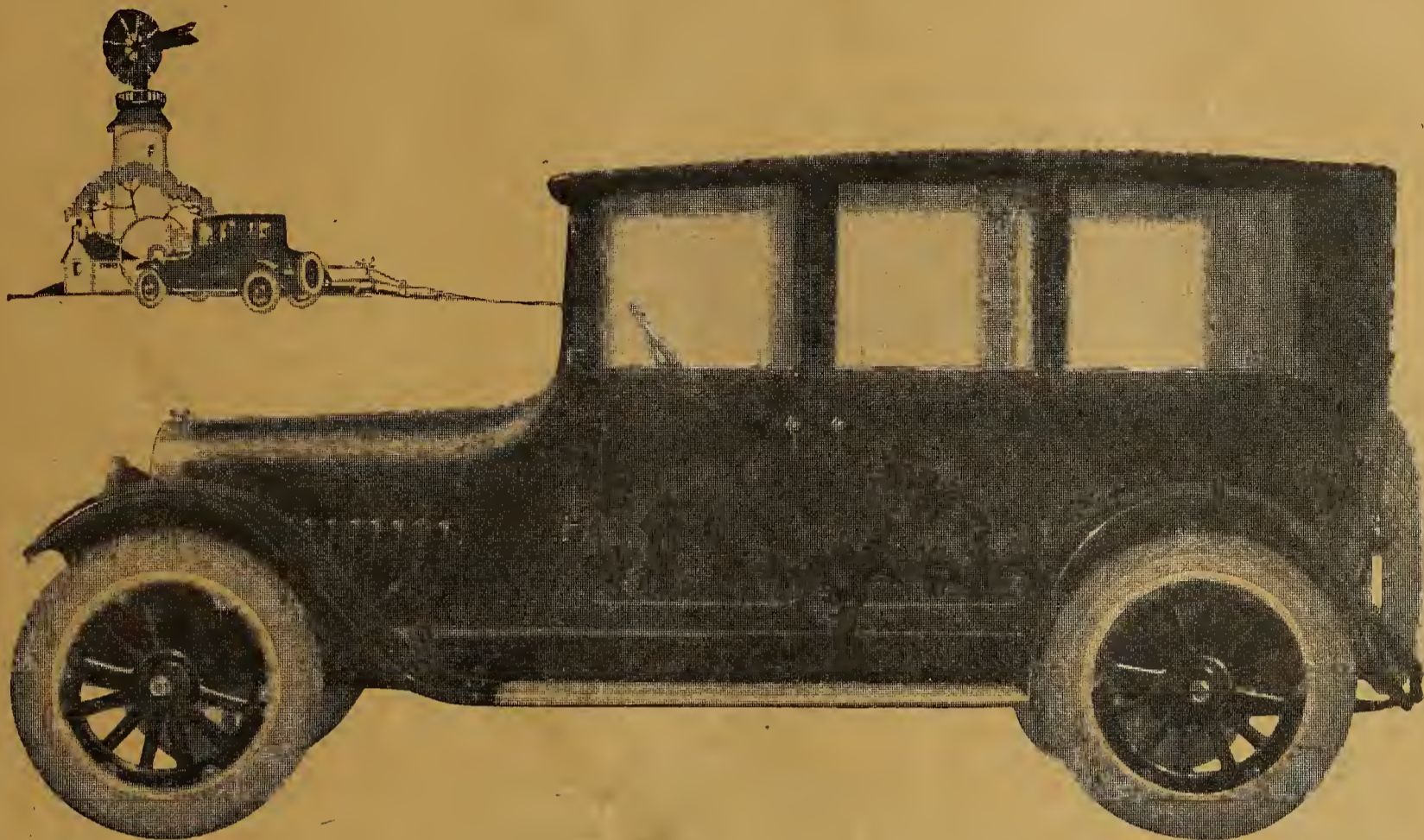
of a right to a place in the world.

But work must have a purpose, at which I have hinted. Try, once, to work solely for self and see how early you will tire of it all. It is not worth while. It can't bring joy. One feels some way that he is not worth while, that work for himself is not worth while. He loses interest in it, or else he becomes so utterly selfish that he is naturally and rightly abhorred by all of mankind. No; work, to bring joy, must be for someone else. It may be for some near loved one. For a mother, perhaps, and that should bring a pure joy to any boy. For sisters and brothers, and that is mighty good. For a sweetheart, one day, when God has made bud and bloom within the boy's heart that holy flower of love, and this work brings keenest pleasure of all. But there is work beyond these, for all of these things, father and mother, sister and brother, sweetheart, wife and child, are a trifle selfish, in the last analysis, so that the best work of all is that which is done for the cause of our common humanity. That is the thing best worth doing. That one can take up, silently, without boast or praise or outspoken vow to be his life work, the helping of his brothers and sisters of the world.

WHAT can he do, ask you? He can, first of all, live a clean, strong life. That in itself will be a blessing to all who know him. We learn infinitely more from example than from spoken word. He can be such a man that, just to see him, to stand near him, to touch him, will make other men and women better. Then he



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AND FROM 8,000 TO 12,000 MILES ON TIRES



THIS OAKLAND SENSIBLE SIX SEDAN IS POWERED WITH THE FAMOUS 44-HORSEPOWER, OVERHEAD-VALVE OAKLAND ENGINE

YOU cannot justly judge the present Oakland by its purchase price alone. The car embodies far more than this moderate figure can possibly indicate. Its powerful six-cylinder, overhead-valve engine, its strong yet lightweight construction, the pronounced economy of its operation—these, and such as these, are the true index of its worth.

OPEN CAR, \$1395; ROADSTER, \$1395; FOUR DOOR SEDAN, \$2055; COUPE, \$2055
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OAKLAND MOTOR CAR COMPANY
Pontiac, Michigan

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For Team or Any Tractor

Superior Grain Drills combine extra strength with unusual light draft. They form even, roomy seed trenches, allowing each seed a perfect chance for quick germination and sturdy growth.

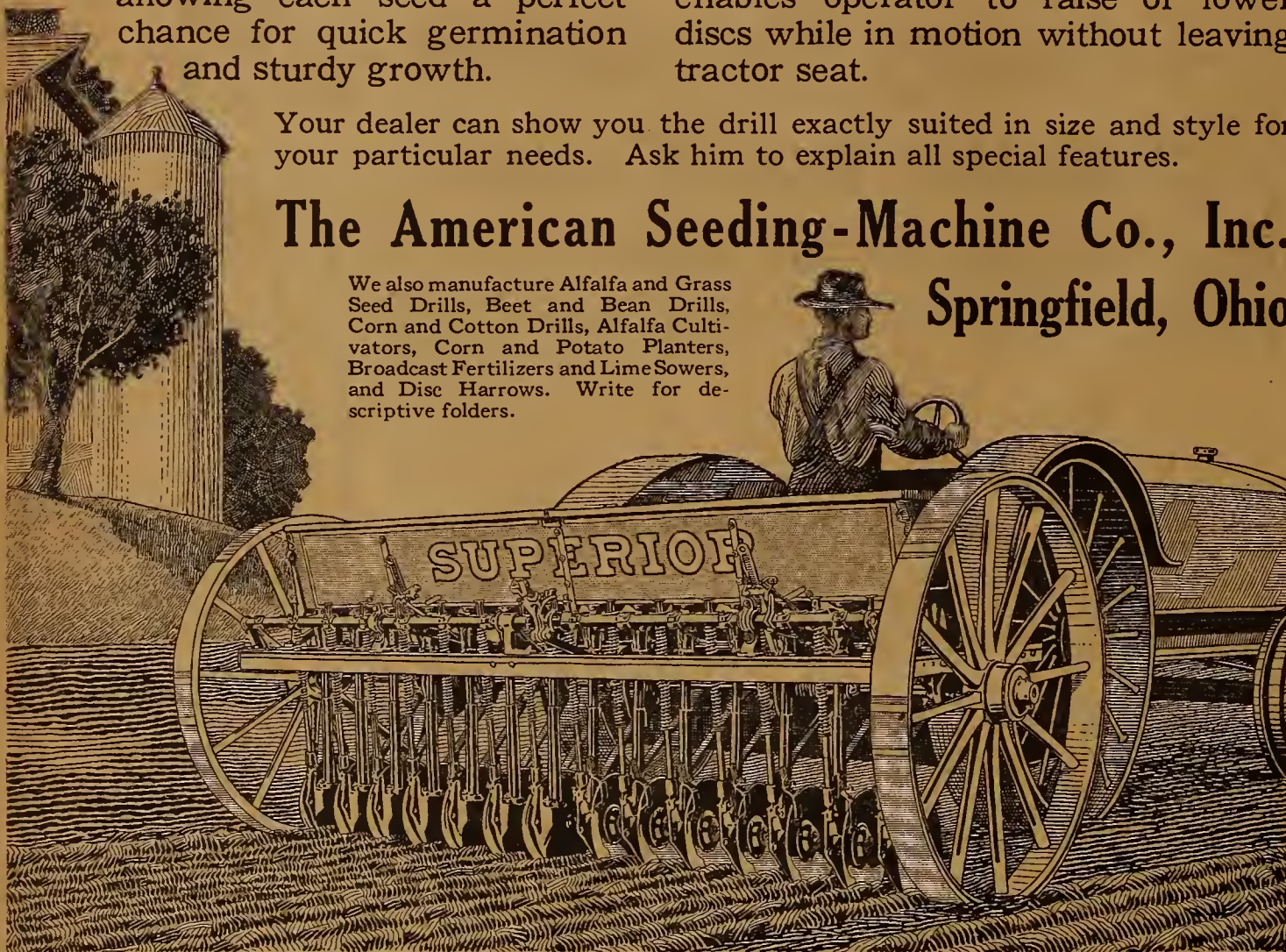
Superior Tractor Drills are equipped with a special power lift and adjustable tractor hitch. Power lift enables operator to raise or lower discs while in motion without leaving tractor seat.

Your dealer can show you the drill exactly suited in size and style for your particular needs. Ask him to explain all special features.

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We also manufacture Alfalfa and Grass Seed Drills, Beet and Bean Drills, Corn and Cotton Drills, Alfalfa Cultivators, Corn and Potato Planters, Broadcast Fertilizers and Lime Sowers, and Disc Harrows. Write for descriptive folders.

Springfield, Ohio



Here's Father's Chance

(CONTINUED FROM PAGE 8)

been reached by a considerable number of these systems.

I have tried to outline here, in a general way, some of the simple methods of getting water into the house. I have mentioned very briefly the mechanical and electrical contrivances. In either case, I will be glad to answer questions if you will address me in care of FARM AND FIRESIDE, enclosing a stamped self-addressed envelope for reply. State your problem, giving as much data as possible, such as the depth of well or cistern, distance of source of supply from place to be reached, quantity of water to be pumped, etc.

They Want It

NO ONE single thing brings so much relief to farm women in meeting their endless tasks as does the use of running water. It is undoubtedly the greatest need in rural home life to-day on more than two thirds of the farms. The advent of the bathtub, the indoor toilet, and other conveniences dependent upon running water bring not only untold release from drudgery but also a sense of pride and ownership which is as important a factor in a woman's success in her daily round of work as is modern machinery in the success of the farmer. FLORENCE E. WARD.

Boys and Girls I Know

(CONTINUED FROM PAGE 7)

return for her labor on her garden plot. Mamie Langston of Texas is another club girl who, in spite of the excessive rain, made a garden. The early rains washed out about half of Mamie's tomato plants, and as it was too late to procure more tomato plants she planted that part of her plot in beans, cabbage, and cucumbers.

Late in the season, just as the cabbages were beginning to head, bad weather conditions again upset her plans. A hard rain came which scalded everything. Mamie harvested the scalded cabbage, trimmed off the outside leaves, and sold 289 pounds. She also made five gallons of sauerkraut, besides what the family ate. Earlier in the season, besides canning 75 quarts of beans, 20 quarts of pickles, 12 quarts of blackberries, and 4 quarts of mayhaw jelly, she sold many beans and cucumbers. In spite of her loss by rain, and although vegetables were selling for a low price on the local market, Mamie cleared \$50 on her small plot.

All of which only goes to show that the spirit that led Abraham Lincoln to tramp many miles to get a book, and to read far into the night by the light of a flickering wood fire to get an education, is not yet dead in this country. It is stronger than ever, as these stories thoroughly prove; and when you and I are tempted to sit down and give up under real or imaginary difficulties, we ought to think of these boys and girls, and be ashamed of ourselves.

A Farmer Answers

(CONTINUED FROM PAGE 12)

Now that I have begun to impose my own personal experiences on you, I may as well go ahead and say some of the things which appeal to me as inevitable in the marketing situation. A change is sure to come. The farmer is justly dissatisfied with the way the things he produces are distributed. He demands a new deal, and he is going to get it. If he is buncombed now, he is going to buncomb himself, which I admit he is perfectly capable of doing.

These planks, I believe, lie at the very base of the farmer's economic platform: a stabilized market and a profitable business.

It is enough to make a saint swear to look at these charts and graphs recording the fluctuations in our market prices. In one day hogs go off \$1.50 a hundred. In one day wheat drops 20 cents a bushel. The next day they may jump back up again. It is too senseless, too unfair, too uneconomic for words.

If such violent fluctuations reflect anything, they reflect falsehoods. These great mountains and valleys on the price charts make us mad. There is no reason why the record should not run across the chart as an even, almost straight line. I do not want to get more money for my corn than

\$10,000.00

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\$13 Our Portable **WOOD SAW**

is easy to operate. Our new A-1, just out, for \$13 is the lowest priced power saw frame made. Guaranteed one year. Money refunded if not satisfactory. We make a larger assortment of cord wood saw frames than any other manufacturer. Write for catalog.
No. 5 Hertzler & Zook Co., Box 9 Belleville, Pa.

SPRAY YOUR FRUIT TREES AND VINES

Destroy the fungi and worms, and thus be sure of large yields of perfect fruit.
Excelsior Spraying Outfits and Prepared Mixtures are used in large orchards and highly endorsed by successful growers. Write for our money-saving catalog, which also contains a full treatise on spraying Fruit and Vegetable crops.
W.M. STAHL SPRAYER CO.
Box 712, Quincy, Ill.

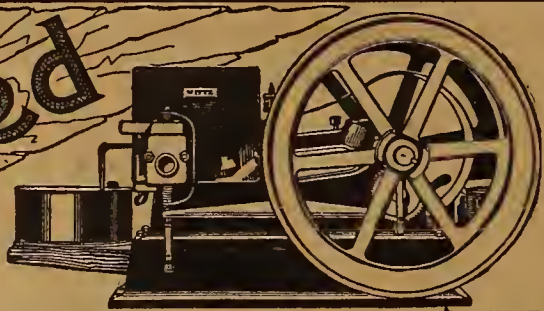
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Amazing auto invention. Wonderful new carburetor. Guaranteed to reduce gasoline hills from one-half to one-third and increase power of any motor from 30 to 50 per cent.
Sent on 30 DAYS' TRIAL
Fits any make of car. Put on in a few minutes. Fords make as high as 40 miles to a gallon of gasoline. Other cars show proportionate increase. Take advantage of our special 30-day trial offer. Name your car. **AGENTS WANTED.**
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Smashed
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Now of all times, is the time to buy your engine —while my prices are cut to the limit, and while you can get quick shipment. Surely you can use engine power at these prices to cut your own labor cost and keep on making money.

THIS 2 H.P. WITTE—\$39.95
Direct to You on Skids, Ready to Use From Pittsburgh \$5.00 More. F.O.B. K. C.
BIG CUT ON ALL SIZES

90 Day Test—Lifetime Guarantee
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\$54 Buys Strongest Fastest Farm Mixer

Made Farmers everywhere are saving contractors' profits by building their own concrete foundations, barn floors, hog troughs, feeding floors, manure pits and fence posts with the Kwik-Mix Concrete Mixer. has capacity of 2 1/2 cubic feet. Mixes better concrete faster and with less work than can be done with shovels or inferior mixers. Batch a minute throughout the day. Operate it by hand or hitch to farm engine. Built entirely of iron and steel—nothing to break or wear out—lasts a lifetime. Fully Guaranteed.

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Never before, to our knowledge, has such a husky, efficient concrete mixer been sold to any one at such a remarkably low price. Send at once for complete details of this amazing offer. Learn how you can secure this wonderful mixer at the special 30-day price of \$49. Write today.
BADGER WIRE & IRON WORKS
1002 Cleveland Ave., Milwaukee, Wis.



my neighbor got for his, just because I sold last week and he sold this week. The pooling system, I believe, will be the eventual solution. It treats every man alike, and eliminates a host of dissatisfactions.

It is not necessary to argue the point that the farmer must have a profitable price for his products. His business must show a profit, or he will abandon it and go to law school. And by profit I mean profit in the true sense of the word—not a measly little family labor income for himself, his wife, and his children, all working night and day to provide cheap food for someone else, just because they all are willing to work, and by so doing produce more food-stuffs than the world needs. The whole nation must develop an agricultural consciousness, must show a real sympathy for the farmer's life and problems, must help him help himself.

I HAVE already declared that the war-time experiences of the Food Administration in so setting agricultural prices as to promote efficient farming should be capitalized now in connection with a peacetime price stabilization program. So firm is my faith in the power of public opinion, that I would be quite willing to entrust my fate as a farmer to a new scheme based on certain ideas put into practice by Mr. Hoover:

I would set up as a new creature of the Government what might be called an Agricultural Price Commission. I would have the President appoint to its membership the best economic brains of the country.

I would have the agricultural price commissioners work much as the Federal Trade Commission and Interstate Commerce Commission do. I would have them adequately paid, with full power to employ all sorts of investigators, statisticians, detectives, farm advisers, specialists, and clerks. I would have them empowered to hold hearings, to get at the truth.

At certain times each year I would have the Agricultural Price Commission issue certain definite statements, reports, and estimates. I would have this commission say that the world will need so many bushels of wheat next year, that the estimated average cost of production in the United States, perhaps in each of the States, would be \$1.75 a bushel, or \$2.12 a bushel or whatever it is. I would have the commission say also that a fair price for this wheat would be \$2.26, or whatever it figured. I would have the commission do this for all sorts of farm products.

Then a farmer could do just as we did under Mr. Hoover—say unto himself whether or not he cared to produce on his farm any commodity at the commission's fair price. We would have a guide and basis to our productive efforts. The bankers would know how much they could lend us with safety. The implement men would know how we could afford to pay for tools. Gradually all industry would adjust itself to the agricultural fair prices. The public would know that only the extra efficient farmer was getting an extra profit.

The more you think about it, the more fair and wise the idea will seem.

I WOULD not compel anyone to do anything. I would have the commission announce its fair prices. Then I would let public opinion do the rest. If the most intelligent and fair-minded investigation ever conducted said that a bushel of wheat was actually worth \$2.26, woe to the miller who offered a price based on \$2.19 instead of \$2.26, and woe to the baker who attempted to charge for bread based on \$2.50 wheat. And woe, thrice woe, to the speculator who attempted to juggle the price at all out of line with what every eater and every grower in America knew to be fair.

This other thing I think the farmer should do for his own benefit: and that is to become master of his own credit. I notice that one of the brotherhoods of railway men has started its own cooperative bank in Cleveland, Ohio. Let us watch them and see how they come on. If they can make a cooperative bank go, I believe farmers can too.

And in closing let me plead for the open mind to all men's struggles everywhere. We should borrow experiences from the Food Administration, from California, from Minnesota, from New Zealand, from Denmark, from North Dakota, from Russia, from everywhere. By holding fast to that which is good we shall achieve economic justice for agriculture.

First there was the Farmer-Labor Party, and now there is a Farmer-Banker Conference. But just wait until the Farmer-Farmer Federation gets going.
New York Evening Post.



M.G. STONEMAN
Founder in 1848

A New Way To End Your Roof Troubles



To every man who has a roof over his head and over his property this advertisement is of vital importance. It presents to him in Country Gentleman Asbestos Roof Cement the opportunity to transform his old, leaky, down-and-out roof into a new roof, a handsome roof—an almost eternal roof—at a very low cost. It shows him how to keep in his own pocket the big money he would ordinarily spend for costly roofing materials and high-priced skilled labor.

For many years Country Gentleman Asbestos Roof Cement has been a local proposition. On the homes, farms and estates in and around Albany it has been severely and thoroughly tried by fire, sun, storm and time. It has never been found wanting. We are now ready to nationalize our product; to give to the whole country the benefit of its superior service and its remarkably low cost.

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Reg. U. S. Pat. Off.

10 Year Money-Back Bond

Made entirely of ingredients created by Nature. Has an affinity for iron, steel, tin, wood, cement, gravel and all other roofing and building materials. Preserves indefinitely the life and wear of nearly everything it touches. It is Fire-Resistant, Water-Proof, Acid-Proof, Sun-Proof, Storm-Proof, Wear-Proof, Rot-Proof, Rust-Proof, Rodent-Proof, Elastic and Everlasting. "A Dab Saves a Dollar."

It comes in both Liquid and Plastic forms. The Liquid Form is a combination roof-paint

and roofing-material that penetrates into, and seals forever all holes, cracks, breaks and leaks. It is applied with a brush. "A Dab Saves a Dollar." The Plastic Form is used to seal big holes and breaks. "A Dab Saves a Dollar."

When used together the two forms make a combination that will end all your roof troubles. The cost is so low that it is out of all proportion to the perfect and permanent results it gives. "A Dab Saves a Dollar."

A Thousand Money-Saving Uses

Country Gentleman Asbestos Roof Cement preserves the life of boilers, bridges, pipes, tanks, poles, gutters, fire-escapes, ventilators, gratings, railings and fence-posts. Is a strong binder on all kinds of cement and concrete

work. Instantly seals holes in mesh wire, metals, etc. Has a thousand money-saving, time-saving, labor-saving uses on farm and estate. Used by roofers as a tough and elastic preparation for flashings.

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FREE

We want to secure instantly a nation-wide interest in Country Gentleman Asbestos Roof Cement. We know that every trial order will make a permanent customer for our product. We know that every customer will just have to tell his satisfaction to his friends, and so make other customers for us. To secure quick action, we are making it profitable for you to be prompt. We are giving Free to those who order early from 10 to 25 pounds, Plastic Form, Country Gentleman Asbestos Roof Cement and also a Country Gentleman Special Roof-Paint Brush. Our circular gives full particulars of the Gift offer.

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Mail me at once your Special Offer on Country Gentleman Asbestos Roof Cement. This inquiry does not obligate me to buy anything. Please write very plainly.

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Saves \$15 to \$25 on the model you select from 44 Styles, colors and sizes of Ranger bicycles. Delivered free on approval, express prepaid, direct from the Makers for 30 Days' Free Trial. We pay return charges if not satisfactory.

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At low cost additional you can now get the new WITTE Tree Saw Equipment—changes Log Saw to Tree Saw. Saws down trees any size.

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For this Complete Log Saw
F. O. B. Kansas City, Mo.
From Pittsburgh, Pa., add \$6.80

Don't buy any Log Saw, Tree Saw or Buzz Saw Outfit until you have seen the new WITTE. Lowest priced Guaranteed rig on the market. Cuts much faster than former rigs. On tests we cut 2-ft. log in 90 seconds. Tree saw cuts 'em close to the ground. Goes anywhere. We are making a special advertising price NOW—so write at once for complete description of this wonderful outfit FREE. BRANCH BUZZ SAW \$23.50.

WITTE Engine Works
2065 Oakland Ave., Kansas City, Mo.
2065 Empire Bldg., Pittsburgh, Pa.

Your Dollar

[CONTINUED FROM PAGE 9]

farm in 1914 will scarcely buy a bushel of wheat to-day. The Bolsheviki set about to destroy the value of money or the power of money, and they won their point—they made money cheap and other things dear, in terms of money.

"Well," said I, "other countries, such as England and the United States, do not have this 'illegitimate' money such as Russia has," and Mr. Stevens went on to explain:

"This is true, but let us look at some of the other countries. See how Germany's paper currency increased and her gold decreased, from 1914 to 1919:

	Gold	Paper Currency	Ratio %
July, 1914	\$298,000,000	\$ 692,000,000	43.2
Nov., 1918	621,000,000	4,127,000,000	15.
Dec., 1919	266,000,000	7,561,000,000	3.5
Nov., 1920	109,000,000	17,945,000,000	.6

"Also look at England:

	Gold	Paper Currency	Ratio %
July, 1914	\$195,000,000	\$ 140,000,000	134.6
Nov., 1918	521,000,000	2,049,000,000	25.6
Dec., 1919	594,000,000	2,132,000,000	22.9
Nov., 1920	740,000,000	2,351,000,000	31.5

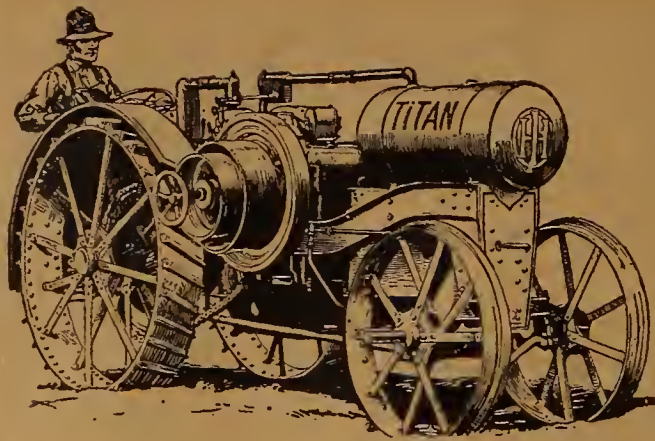
"What has happened in the United States?—

	Gold	Paper Currency	Ratio %
July, 1914	\$1,023,000,000	\$1,056,000,000	99.6
Nov., 1918	2,199,000,000	3,643,000,000	63.2
Dec., 1919	2,107,000,000	4,051,000,000	52.3
Nov., 1920	2,081,000,000	4,640,000,000	44.9

"You wonder why it takes \$16,000 to-day to buy the equivalent of \$7,000 in 1914. The answer: dollars are more plentiful.

"But this condition is fast changing. The people rebelled against the high prices. The Federal Reserve Board raised the interest rates in order to stop expansion of credit and forestall financial disaster. The following average prices of a few commodities as given by a prominent authority indicate some of the changes in prices:

	Pre-war Low	High	Oct. 1920	Nov. 1920	Dec. 1920
Cattle—Fair to choice native steers Chicago, per 100 lbs.	July, 1914 \$9.10	Oct., 1919 \$16.80	\$14.70	\$11.25	\$9.50
Coal—Bituminous, run of mine, Pittsburgh District, per ton	July, 1915 \$1.00	Aug., 1920 \$11.00	\$9.00	\$4.75	\$3.75
Corn—No. 2 mixed, Chicago, per bu.	Jan., 1914 \$.62½	May, 1920 \$2.15	\$.95	\$.83½	\$.72
Cotton—Midling spot, New Orleans, per lb.	Oct., 1914 \$6.75	April, 1920 \$41.50	\$20.25	\$18.25	\$14.75
Hides—Calfskins, No. 1, Chicago City, per lb.	April, 1915 18c	July, 1919 87½c	18c	18c	15c
Hogs—Good merchantable, pigs and rough stock excluded, Chicago, per 100 lbs.	April, 1915 \$7.65	July, 1919 \$22.10	\$14.90	\$12.60	\$9.10
Petroleum—Kansas, Oklahoma, per bbl.	April, 1915 \$.40	March, 1920 \$3.50	\$3.50	\$3.50	\$3.50
Rubber—Para, up-river fine, New York, per lb.	Oct., 1914 63c	Jan., 1916 86c	24½c	22c	19½
Sugar—96 centrifugal, New York, per 100 lbs.	April, 1914 \$2.95	May, 1920 \$21.57	\$8.03	\$6.51	\$4.63
Wheat—No. 2 red winter, Chicago, per bu.	July, 1914 \$.78½	May, 1920 \$3.06	\$2.39	\$2.11½	\$2.00
Wool—Ohio, fine delaine, per lb.	Jan., 1914 \$.56	Feb., 1920 \$2.35	\$1.30	\$1.25	\$1.12



Titan 10-20—for Economy Farming

DURING THE YEAR 1921
AND THE YEARS TO COME

TRACTORS come and tractors go but Titan 10-20 continues its steady traveling along the roads of popularity, and in the fields of labor, conquering the most difficult of practical farm tasks.

Theories and experiments in design and construction run their course among manufacturers and among farmers—and leave behind a varied history. But the service record of Titan has been a revelation in the agricultural world. Its record as an efficient farm power unit has been, to state a plain truth, *convincing*.

During its history, Titan sales have swept ahead; this tractor has carried its success into every county and country. Yet, except for minor improvements and betterments, Titan design has remained unchanged. It has stood the test of time, the test of hardest, roughest usage, the test of strenuous competition, so that to date the farming world has invested over seventy million dollars in Titans. Can there be better proof of thorough practicability?

Titan 10-20 is now more than ever *standard* because it is fundamentally simple, enduring, reliable, right. Do not be deluded by initial false economy. Increase the efficiency of your work for 1921 by an investment in this power. The International dealer is the man to see.

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(INCORPORATED)

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An Honest Serviceable 5000-Mile Tire—This casing is not sewed, patched or retreaded but is rebuilt throughout of new material. Reinforced side walls and a Standard Non-skid tread of new live rubber, same as cut.

A High Grade Tube Free With Each Tire Ordered

28 x 3 .. \$7.15	31 x 4 .. \$10.80	32 x 4½ .. \$12.40	36 x 4½ .. \$14.35
30 x 3 .. 7.85	32 x 4 .. 11.15	33 x 4½ .. 12.95	35 x 5 .. 15.35
30 x 3½ .. 8.95	33 x 4 .. 11.60	34 x 4½ .. 13.60	37 x 5 .. 15.45
32 x 3½ .. 9.55	34 x 4 .. 11.95	35 x 4½ .. 13.85	

State straight side or clincher. Send \$2.00 deposit with your order. Tire will be shipped C. O. D. with section left unwrapped for examination. If not satisfactory, return tire and advise at once. Deposit will be promptly returned as soon as tire is received.

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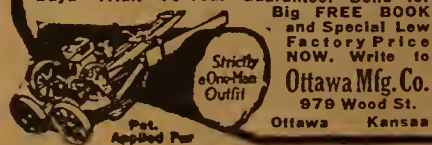
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Easily Sawn by One Man with new OTTAWA. Get your own fuel at less than 2c a cord, then supply big demand for fire wood at \$20 a cord up. Beat the Coal Shortage!

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Over 4 H-P. 310 strokes a minute. Wheel-mounted. Easy to move, cheap and easy to run. Engine runs other machinery when not sawing. New clutch lever starts and stops saw while engine runs. Cash or Easy Payments. 30 Days' Trial. 10-Year Guarantee. Send for Big FREE BOOK and Special Low Factory Price NOW. Write to Ottawa Mfg. Co. 979 Wood St. Ottawa Kansas



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Thousands in Use giving splendid satisfaction justifies investigating our wonderful offer: a brand new, well-made, easy running, easily cleaned, perfect skimming separator only \$24.95. Skims warm or cold milk closely. Makes thick or thin cream. Different from picture, which illustrates our low priced, large capacity machines. Bowl is a sanitary marvel and embodies all our latest improvements. Our Absolute Guarantee Protects You. Besides wonderfully low prices and generous trial terms, our offer includes our—

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Whether dairy is large or small, do not fail to get our great offer. Our richly illustrated catalog, sent free on request, is a most complete, elaborate and interesting hook on cream separators. Western orders filled from Western points. Write today for catalog and see our big money saving proposition.

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"The Federal Reserve Board and the banks have been severely criticized for raising the interest rates and restricting credit. Of course, the effect of this program was to bring goods on the market, and to force prices down in many cases. If a man cannot borrow money to keep going, he must sell something—cotton, eggs, sugar, or whatever he handles in his business. This condition couldn't go on forever. Many people were spending money beyond their means, and the Federal Reserve Board, by raising interest rates and restricting credit, merely brought the public to its senses.

"Now, the next question is, 'What will happen to the U. S. dollar in the future?' It is very evident from the recent price declines that the dollar is becoming more valuable in terms of commodities in general. A dollar will buy more to-day than it would a year ago. Of course, if the federal reserve banks decrease the amount of paper currency in circulation, and further restrict credit, that will bring prices down more rapidly.

"The future value of the dollar cannot be predicted unless we know how much lower prices are going to drop. The paper currency will act as a sort of barometer on prices—the larger the amount in circulation the higher we can expect prices to remain, generally speaking."

"WHAT do you think will be the future tendency of prices for farm products?" I asked.

"This cannot be answered in a word," Mr. Stevens continued. "The answer will depend upon the world supply of farm products, and also on transportation and other conditions, as well as the state of the currency. Butter from Norway, wool from Australia, and cotton from India—all these, and many other commodities, are in the whirlpool of world markets. The farmer and stock grower will find it necessary to follow market tendencies and influences closely."

Mr. Stevens with his world market theories was getting too profound for me, and I interrupted to ask him again what he would advise me about buying the farm.

"I make a practice never to recommend or disapprove any legitimate investment; but if you ask me whether I expect the price of farm land to go up or down in the next few years, I will say that I believe the tendency will be downward. Land will be high as long as farm products are high, but who will buy the land at the present high prices?"

"According to the 1920 census, there are 6,449,998 farms in this country, as compared with 6,361,502 in 1910, an increase of 1.4 per cent. My advice to the occupants of every one of these farms would be to watch the financial situation closely during the coming years of deflation. Some classes of people will benefit through deflation—salaried people in general, teachers, and professional people. The farmer is able to regulate his own future to a large extent, as he is both a producer and a consumer."

They Help Each Other

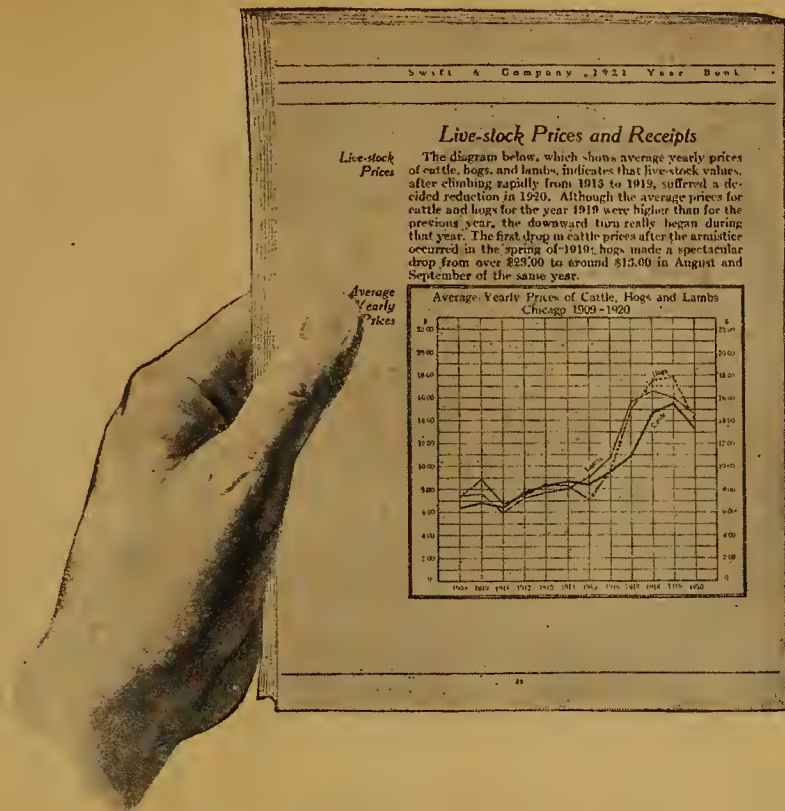
THREE neighbors of mine, who own farms of about the same size, have been doing their work together for two seasons with excellent results, and without hiring outside help.

In the spring they start at one farm to put in the oats crop. Two disk the ground, and the other follows with the drill. They do all the breaking on the three farms in the order that they come. At corn-planting time one disks, one harrows the ground, and the other follows right behind with the planter. The planter is owned by the three in partnership. Corn cultivation is done by each one separately, unless one of them gets too far behind; then they all help him catch up.

During hay-making they all work together again. The owner mows his hay, and when it is dry they all help put it up. The hay tools are owned in partnership. Grain is harvested the same way. One drives the binder, and the other two shock it up. The binder is also owned coöperatively. All three belong to the same threshing ring that does the neighborhood threshing. This ring is debating the purchase of a threshing rig of their own.

Corn cutting and husking, being a one-man job, is done by each one separately. By working together, these farmers keep down the amount of money invested in machinery, and at the same time get all of their work done at the proper time without its being necessary for them to hire outside labor. Their team work pays them well, and takes little extra work or trouble.

W. E. WIECKING, Indiana.



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Swift & Company is only a department of the business you are in—the business of supplying a nation with its meat.

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In my new Bargain Fence Book you'll find prices cut to the bone—prices you have been waiting for a good long time—and, as usual, Jim Brown's prices are way below all other fence prices.

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No horses needed with a *Kirstin Puller*—no extra help required. One man alone pulls biggest stumps in 4 to 10 minutes. The wonderful *Kirstin One-Man Puller* pulls little, tough or green stumps as low as 5c each; also brush, hedges and trees. Cuts land clearing cost way down. Costs less to buy—less to operate. Weighs less—has greater strength—more power.

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Works on wonderful leverage principle—gives one man giant's power. Its six speeds and patented cable take-up save time, cable and machine. All steel—three years' guarantee against breakage. Pulls acre from one anchor.

Sold on 30 days' free trial—no money in advance. One man style or HORSE POWER. Shipment from nearest distributing point saves time and freight. Write for FREE BOOK and Special Agent's Proposition—TODAY.

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World's Largest Makers of Stump Pullers!

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Trade Mark
This Trade-mark identifies
genuine Boss Work Gloves.
Be sure it is on every pair
you buy.



They Were First Made for Farmers

Tho' Boss Gloves are now worn in every industry requiring hand work, they were first made for farmers' use exclusively. They were planned to meet the farmers' needs. They are made extra strong to withstand the hard wear of farm work.

For plowing, driving, silo filling and use around the ensilage cutter, for installing new equipment, for post-hole digging and fencing, for tiling and drainage work, and a hundred and one jobs around the farm, Boss Work Gloves protect the hands from dirt, grease, and minor injuries.

Boss Work Gloves are made of the highest quality, heavy weight canton flannel. They wear long and well. Yet they are so flexible that they allow a free feel of any job.

Look for the Boss trade-mark sewn on the back of the gloves. Ask for Boss Work Gloves by name. They come in three styles of wrist—ribbed, band, and gauntlet. Sizes for men and women, boys and girls.

THE BOSS MEEDY—best quality, medium weight canton flannel.
THE BOSS HEVY—very best quality, heavy weight canton flannel.
THE BOSS XTRA HEVY—finest grade of extra heavy canton flannel.
THE BOSS WALLOPER—highest quality, heaviest weight canton flannel.
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THE BOSS ELASTO—strong canton flannel. Made by a patented process in one weight only.

THE BOSS MANUFACTURING CO.
Kewanee, Ill.

BOSS WORK GLOVES

Problems Farmers Send Us

Perhaps the answers might help you, or maybe you have a question of your own to ask

WHEN you send us a question about a sick animal, Dr. A. S. Alexander, whose picture appears below, will answer it for you. I will not attempt to tell you all the interesting things about Dr. Alexander, here. It would take about all the space we have just to mention the different college degrees and other honors he has earned in a lifetime of public service.

Dr. A. S. Alexander was born and received his early education in Glasgow, Scotland. After finishing his veterinary training in the Chicago Veterinary College, he became a professor there, practicing his profession on the side. He has served as chief veterinarian at a number of large exhibitions, and it was while serving in that capacity at the International Livestock Exposition at Chicago, in 1901, that he suffered the injury which compels him to use crutches for the rest of his life.

Since 1903 Dr. Alexander has been professor of veterinary science at the University of Wisconsin. He also has directed the horse-breeding work of that State since 1905 in a most efficient manner, being responsible for the introduction of the first stallion-enrollment law to be enacted in the United States.

Although a very busy man, Dr. Alexander has always found time for friendships. He likes a good joke, and has written some excellent poetry in the rich dialect of his native land. A true Scotchman, he loves animals, and knows how to make them thrive. You can rely on his giving you as good advice as can be given without an actual examination of your sick beast.

If you have any questions about any other branch of farming, or about your farm home, our staff of Corresponding Editors will answer them for you.

State your problem clearly, enclosing stamped self-addressed envelope, and address Service Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York City. THE EDITOR.

Ditching with Dynamite

Please tell me what the propagated method of blasting means. I have a piece of muck land with 130 rods of creek to change.
W. D. B., New York.

REPLY BY F. W. IVES: The propagation method of blasting means that only the first charge of dynamite is prepared with a detonating cap or electric fuse. The other adjoining charges are fired by the explosion of the first charge, and so on down the line. This method can be used with success only in extremely wet ground or under water. It does not work in rock or dry earth.

Some of the explosive companies issue extremely interesting pamphlets regarding the blasting of ditches, which contain full instructions for preparing the dynamite.

Ration to Make Hens Lay

How much should be fed per day for 100 hens, and what proportion of different feeds? I keep fresh water and mash before them all the time, also shell and grit; wheat for their grain, also greens. I feed them grain morning and evening. They seem healthy, but are not laying.
Mrs. H. O. B., California.

REPLY BY V. G. AUBRY: The following feeding schedule will usually produce good results: Mash feed before them at all times, composed of equal parts of wheat, bran, middlings, cornmeal, ground oats, and meat scrap. A scratch feed twice a day at the rate of three pounds per 100 birds in the morning, and six pounds in the evening, or equally mixed parts of cracked

corn, wheat, and oats. One hundred hens will consume approximately 20 pounds of mash and scratch feed each day. You should feed them, each day, about as much grain feed as they will consume in about half an hour, not any more.

Soy Beans Best with Corn

I am looking for a variety of beans to plant with corn for silage. Soy beans are used here some, but they don't climb the corn, and don't grow high enough to get much of them when cut with a corn binder. Would velvet beans do? G. M., Illinois.

REPLY BY L. E. CALL: I doubt if you will find any more satisfactory crop to plant with corn than soy beans. Soy beans do not have a vining habit of

growth, and therefore do not climb the stalks. They should, however, grow from two and one-half to three feet tall if vigorous-growing varieties are planted.

Velvet beans would not be a satisfactory crop for you to plant in your section. They are distinctly a Southern crop, and not adapted to climatic conditions north of central Kentucky.

You might also try cowpeas on a few acres. Cowpeas are

much more vining in habit of growth. They will climb cornstalks satisfactorily if a vining variety is planted, and they are, with the possible exception of soy beans, the most satisfactory crop to plant with corn in your section. I suggest that you try the Whip-poorwill variety.

To Fatten Thin Mare

I have a mare about 12 or 14 years old, a well-bred animal of race stock. She is run down, and it looks as if I can't get her to fatten at all. Now, I want to be told in plain English how to fatten her up.
C. W. M., Tennessee.

REPLY BY DR. A. S. ALEXANDER: To start treatment, take the mare to a competent veterinarian and have him put her teeth in order. It is quite likely that sharp points or other irregularities are preventing perfect mastication of feed. Then feed black-strap molasses as follows: Stir one quart of molasses with three quarts of hot water, and then mix thoroughly with cut hay, cornmeal, and wheat bran. Feed this night and morning, and give whole oats at noon and long hay at night. It may be necessary to starve her into eating molasses feed at first, but soon she will relish it, and it will likely plump her up. Do not give drugs of any kind. Much larger quantities of molasses may be safely fed if needed. This feed does not cause colic or scours, and is readily digested and assimilated.

What the "Black Belt" Is

The prairie lands of Alabama and Mississippi interest me on account of carbonate of lime present. Will you please send me information regarding the soils and other agricultural problems of that section?
R. L. B., Missouri.

REPLY BY J. F. DUGGAR: The prairie lands of Alabama and Mississippi constitute a narrow belt of stiff land, extending from near Union Springs, Alabama, westwardly past Montgomery, Selma, Demopolis, and Livingston, into northeastern Mississippi, where typical localities are Macon, Artesia, Columbus, and West Point.

The section mentioned is one of large farms, and largely devoted to stock-raising. It might be well for a newcomer to work for someone else or rent for at least a year.

Stops at any of the locations mentioned would be the best means of learning the best bargains, or the sections most suitable for your purposes.



This is Dr. A. S. Alexander, who answers your veterinary questions

There's Still Time to Do Your Winter Spraying

EVEN where there are but a few fruit trees on your farm, it pays to take care of them.

Fruit has a decided advantage over vegetable crops, in that even a small surplus can be handled and sold at a profit, provided it is of good quality. For many years, since we really learned to take care of our few dozen fruit trees, we have turned every basket of fruit, over what we use, into real cash.

Before that, when we took the attitude that there was not enough fruit on our place, "to bother with," we seldom had enough for our own needs, and that was so poor that it hardly paid to try to save it.

The most important thing we did to get our fruit trees to produce, after many years of neglect, was to give them a thorough cleaning up for scale. The county agent demonstrated on some trees belonging to a neighbor, and the results were so astonishing that we decided it would pay us really to look after our own trees.

Fortunately, the San Jose scale, which is the worst enemy of tree fruits, and attacks them all, can be absolutely put out of business by winter spraying. Oyster-shell scale and blister mite will also be cleaned up at the same time. We never did any spraying against insects or diseases that gave us such complete and satisfactory results as winter spraying has.

Anyone can be successful with winter spraying who will do the work thoroughly. But every bit of the surface of trunks and branches must be covered, because the spray, in order to work, *must form a thin coating over scales and eggs.* Every insect must be touched.

THE two standard sprays for winter use are lime-sulphur and miscible oil. While either can be mixed at home, we have found it much more satisfactory, and in the end cheaper, to use a ready-prepared spray. It might be different if we had a big orchard. We have used both the lime-sulphur and the oil sprays, and have found that the latter gives just as good results, and is much more comfortable to spray with. A miscible oil is one that mixes with water. The preparation we use, which is made especially for winter spraying, needs only to be stirred in cold water, one quart of spray to four gallons of water, and it is ready to use on any kind of fruit tree.

We have used several kinds of spraying equipment, and the net result of our experience has been that a portable, hand-lever pump is the best thing to get for a small home orchard. The small hand-power compressed air sprayers do not give pressure enough for practical tree work, in spite of many advertising claims to the contrary. There is a new type of double-acting telescope pump that gives excellent pressure, and can be used with a bucket or a "knapsack" tank. It is also all right for a few trees.

On the whole, if there are a score or more of good-sized trees in your orchard it will be best to try to arrange with someone who has a regular power outfit, to spray them for you.

F. F. ROCKWELL.

Farmers Who Make Money

[CONTINUED FROM PAGE 11]

Most good ideas, I have found, appear to be the result of necessity. People in a dilemma naturally try to find a good way out of it. Yet, in reality, it is not the necessity that is the parent of the idea. Instead, it is the serious search for the solution to the problem. Necessity encourages the search, and this reveals the idea when the seeker has trained himself to recognize it. But there is no sound reason why you need wait for the spur of necessity.

You can hunt any time.

There are three sources, or hunting grounds as you might call them, of useful ideas. One is the practical experience of others; another is statistical information and study of market reports; and a third is keeping abreast of the times in scientific work having practical application. There are many ways of getting this information—at fairs, auction sales, personal visits to good farms, skillful questioning, magazines, and government and state literature. If you are familiar with only a few of these sources, I will gladly direct you to other channels.

Even if you have no serious specific problem, you can add to your present success by training yourself to find and utilize good new ideas.

"The rage of winter's nearly gone,
And smiling spring begins to dawn,
The snow, reluctant, yields;
Small signs of verdure now appear,
To grace the opening of the year,
And clothe the naked fields."

From "The Farmer's Almanac" March 1868



LEE Puncture Proof Tires



LEE tires smile at miles

TIME to "fix your fences" and overhaul your equipment—both horse-drawn and motor-driven.

Are your farm truck and passenger car tires in good shape? How about tire mileage? Have your tires delivered every mile of service you paid for—and with minimum annoyance?

Lee puncture-proof pneumatics—the tires with the *double guarantee* and *cash refund*—are ideal all-purpose automotive tire equipment.

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You'll notice the thick, tough, black rubber Lee non-skid tread. There's just enough *suction-surface* and *road-grip* for maximum traction and minimum slippage, while the zig-zag pattern prevents *side-slip* and *skid*.

This Lee tread is another important service-and-safety item, especially when melting snows and spring rains make tire-footing insecure.

Any Lee salesman—and there are Lee representatives everywhere—will give you valuable tire counsel, regardless of your purchase.

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Write to A. L. Rice, Inc., Manufacturers, 41 North Street, Adams, N. Y., and a free trial package will be mailed to you, also color card and full information showing you how you can save a good many dollars. Write today.



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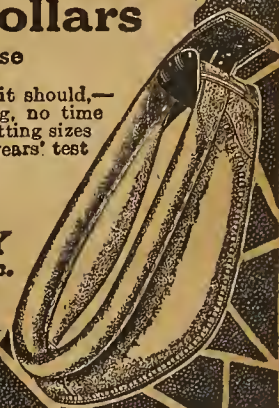
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It is the film-coat that discolors, not the teeth. Film is the basis of tartar. It holds food substance which ferments and forms acid. It holds

the acid in contact with the teeth to cause decay.

Millions of germs breed in it. They, with tartar, are the chief cause of pyorrhea — a disease now alarmingly common.

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Dental science has now found ways to combat that film. The methods have been amply proved by years of careful tests. Now millions employ them. Leading dentists everywhere advise them.

The methods are combined in a dentifrice called Pepsodent. And, to let all know how much it means, a ten-day tube is being sent to all who ask.

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Send the coupon for the 10-Day Tube. Note how clean the teeth feel after using. Mark the absence of the viscous film. See how teeth whiten as the film-coat disappears.

What you see and feel will be a revelation, and the book we send will explain how each effect is natural and necessary. It is important that you know this. Cut out the coupon now.



The Dearest Ache

[CONTINUED FROM PAGE 13]

the girls wore them that long, and Louise Severance was having a party that evening, girls and boys, and Alice wanted to go (her voice threatened to break)—but—she wouldn't if she had to wear a dress that was suitable for an old lady! . . . After this Elizabeth telephoned, asking whether her mother had any cheese.

"Why, dear?" asked Mrs. Wilkins.

"Well, I thought if Bob came in to-night that I'd like to make a rarebit."

"Oh, I see," answered Mrs. Wilkins, with a realization that all the luncheon napkins were unironed.

"And I don't suppose there's any alcohol?" said Elizabeth.

"What makes you think that?"

"Well, the last time I used the chafing dish I noticed that it was low. I meant to speak of it. Will you telephone Sears, Mother?"

And, Mother, while you're ordering that, order my cold cream, too, will you, dear?"

"Yes."

"Mother, are you there?"

"Yes, I'm here. What is it, Elizabeth?"

"Mother—I feel awfully sorry to ask this, but I left a post card on the hall mantel. I particularly wanted it to get out today. Would you mind going down to the box with it, or getting Katie to go?"

"Katie's had a tooth out," replied Mrs. Wilkins with a dreadful finality in her tone.

"I will go."

"All right, Mother—if you would. You're not sick, are you?"

"No, I'm not sick."

"Well, I wondered. Your voice sounds queer. Good-by, dear. . . This line is busy. . . Mercy, these people who cut in! Mother!"

"Yes?"

"Would you mind asking Dora to iron my net dress? I wore it motoring the other night and it looks frightfully!"

"I'll see. She hasn't got at the ironing yet."

"Hasn't got—"

And then Mrs. Wilkins did a thing she had never before done—she silenced the confidence of her daughter by a sudden hanging up of the receiver. For a moment she stood by the telephone feeling mean, and considering the calling of her daughter to reassure her; but the difficulty of singling out Elizabeth's department in the big vocational school and a ringing of the front-door bell stopped this intention.

THERE was a little boy at the front door—which was fifty feet from the spot where the telephone stood—and he wanted to know whether Mrs. Wilkins didn't want to subscribe to the "Happy Housewife." It was only fifty cents a year, and she got a picture if she subscribed from him. She glared at the not purposely offending youngster, sent him off with a curt word, and then, repenting, called him back. She gave him an orange, ten cents, and a wan smile. Then she went back to the kitchen. Little Hetty Meigles, in her one animated move of the day, had caused a commotion. She had endeavored to sit on the leaf of a table, overbalanced it, and, with its crash, deposited upon the floor a quart of molasses, some sour milk, and five eggs. The result was not harmonious. Mrs. Meigles, who was delivering justice on the usual spot for that sort, looked up from her sticky pursuits.

"They give yuh pain when they come," she remarked, "and they go on a-givin' it to yuh!"

Hetty, whose perfunctory howls were piercingly shrill, testified to another sort of pain.

"Don't spank her too hard, Dora," admonished Mrs. Wilkins; "she didn't mean to make trouble, I know."

"No'm," responded Dora, as she spread her fingers apart and surveyed them—there were webs of molasses between the digits; "but she don't think, and she's gotta learn. No'm, the young ones don't think fer their parents what slaves fer 'em, no more; it ain't stylish."

Mrs. Wilkins agreed inwardly, although not outwardly. Wearily she directed the cleaning-up, wearily she rescued her best dusters as they were about to become floor cloths, wearily she turned away, and then

remembered the telephone calls she'd promised to send and the frock that had to be ironed.

Of course, people were on the line; of course, Central was stupid about hearing; again, of course, Mrs. Wilkins, who had on her old glasses, took an eight for a three. The phone business lasted

about a half-hour. Then it was that she had gone into the living-room, saw the disorder; it was here that she began to weep as she cleaned up. Then she went aloft, cleaned up some more, changed her clothes, and came down-stairs to get dinner. And that brings us, not to the end of a perfect day, but just before dinner on the sort of a day that every home woman knows. You've had them, now haven't you?

AT a quarter of six things looked brighter. Mrs. Wilkins had lit up under the mended boiler to make ready for the men's shavings and baths; Hetty and her abused mother had gone their way; Katie's moans had dimmed, and everything was ready to go on to cook.

Mrs. Wilkins wondered whether she had been absurd?

And then, with the speeding of the clock hands, came the return of the family, and with it, Mrs. Wilkins' feeling of abuse. It began with the coming of Edward, who professed a "hard day down-town," and who told his wife she didn't realize how "peaceful" their wonderfully quiet, smoothly running house was!

To say that Mrs. Wilkins snorted viciously would give a bad impression of the lady, but the noise she made can be described in no other manner. However, her husband, who was absorbed in the day's news, missed this. He only raised his head to ask, "Everything gone all right?" and lowered it before she answered.

Sam got in next. He was curiously nervous, almost sharp, and avoided his mother's eyes. Her sense of hurt deepened with his manner. He went off to change his clothes, and she heard from him only once during the following forty minutes. This was when he, minded to save expense, howled down the back stairs, informing her that "someone" had forgotten to turn off the fire under the boiler, and that there was "enough hot water in it to scald a hog!" Then there was a slam of the stair door and silence. The sweated walls of the kitchen testified to the truth of his statement, and Mrs. Wilkins thought of bills and magnified what her forgetfulness had accomplished.

The time was so hard, with any sort of help both difficult to get and expensive, with food increasing in cost each day, that Mrs. Wilkins felt that she must spend only where the spending was absolutely necessary and where a fair return was guaranteed. For, somehow, Edward's salary didn't reach as it had, although it had been increased—they had thought, magnificently—the year before. The idea of the wasted gas, with everything else in that day, assumed in her mind amazingly large proportions. She wanted to redeem her carelessness by using the hot water, but in the middle of dinner-getting this didn't seem quite possible.

After almost everything was done, Alice

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breezed in and offered to set the table. She forgot the serving spoons and the salts and peppers, and complained because her dress wasn't shortened. Elizabeth followed, acknowledged that the day had been frightfully trying, that she had been worried sick about her mother—the way she'd hung up was so unusual. She paused, and looked at her mother with something akin to resentment in her eyes, after which she found her forgotten postcard, and accepted Mrs. Wilkins' apology with long-suffering righteousness.

Mr. Wilkins, sensing some strange and unusual undercurrent in the domestic stream, began to tiptoe and to ask his wife whether she had a toothache?

THEN came dinner and the final straw, or straws, that broke the camel's back—the patience of Mrs. Wilkins. Alice, Sam, Edward Wilkins, and she sat down; Elizabeth was late.

"Onions!" said Sam as he unfolded his napkin. "Mother, you know I'm going out, and I can't eat them. I can't eat 'em and go calling afterward, and I'm crazy about 'em!" The look he cast her, as he spoke, was full of reproach, and he fell to eating gloomily, not breaking the silence until Alice began to complain about the plainness of her name. She wanted to spell it Alys. "Father, can't I spell it A-L-Y-S?" This interrupted his remarks about the bookkeeper's wife who was ill, and caused confusion. "No, you can't!" snapped Mrs. Wilkins, "and your father was speaking when you interrupted."

"Why, Baby," soothed Mr. Wilkins, "I think your name is pretty as it is."

"Why not spell it A-L-A-S-S?" inquired Sam, who after this cutting suggestion again relapsed into food-absorbing and gloom.

Elizabeth came down. Her face held all the tragedy of the ages; yes, truly, all gathered up, it was, in one expression and—she held out a hand which clutched three soiled and crumpled blouses. These had slipped down back of the hamper, and—what was she to do? . . . Was her frock pressed, and had the things come, and were there crackers?

"I don't know," said the usually placid head of the family with something that approached hysteria in her tone.

There were no crackers.

And Mrs. Wilkins dissolved into tears. Now, in chemistry, fermentation is often necessary for precipitation—must precede resolution or truth—and it was through fermentation that Mrs. Wilkins found hers. She abandoned her astounded family, went to the living-room, where she deposited herself in the best chair, which Edward usually occupied, after a "hard, hard day down-town," and here she wept without effort at restraint. Elizabeth, white of face and frightened of manner, drew near with a cup of tea. She was repulsed. Alice came in to say that her blue dress would do after all, that it wasn't as long as she thought; and Sam, after some pats on his mother's shoulder, disappeared.

EDWARD, after his usual manner of comforting, which was to ask whether the "old tooth was troubling her again," disappeared behind his paper. But he looked over it now and again, with an unusual expression of concern on his gentle face.

"Ache?" he asked, as he turned to the sporting page.

"Frightfully," admitted Mrs. Wilkins, in a hollow, despairing tone.

"Um. Too bad. Ice bag?"

"It is not so simple an ache as that, Edward," she answered in a repressed, tense tone.

"No? A lot of the new fellows think when the roots begin to go you oughta have 'em out. Root ache?"

She knew that she stood alone, and that she could never make him understand, but the deeply Russian morbidity that had set to gnawing within her prompted her at least to try.

"It is the children," she said. "It's the ache of giving birth and going on, giving and giving and giving! There is no pain like it!"

Edward looked over his paper. This had evidently occupied his attention up to the moment of her last words, for his reply revealed that he was still dealing in teeth.

"You bet there isn't!" he agreed. "Remember how I acted when that molar abscessed? Lord, you are a long-suffering woman! Always did put up with so much—good picture of Ty Cobb here, well it is good to see him again—always put up—"

His voice faded as his attention became absorbed in scores.

After a moment he looked up, the mem-

[CONTINUED ON PAGE 31]

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A "Balloonic" Party

By Emily Rose Burt



JUST as the struggle with windy March melts into April foolishness, you may appropriately think of a "balloonic" party. Cut out little brown paper balloons, with the invitations, inscribed on a small white basket-shaped card, below:

In our balloon, in our balloon,
We'll sail away up to the moon,—
Balloonatics we'll say we are,—
And stop at every windy star!

Decorate the rooms with toy balloons of all colors, to bob and bow cheerfully on long sticks and strings from every chair back and window pole. Everybody should be greeted at the door with a request to wear a balloonic grin during the evening. Soon after folks have arrived, announce a balloonic "meet," and invite all adventurers to be ready at the naval balloon station for the start. This is the signal for everybody to gather at a certain spot and receive one of the gay balloons unattached to strings or sticks.

The next announcement is the altitude test. All who enter it must stand in a row and strive to make their individual balloons reach the ceiling by dint of puffs and deep breaths. The most successful are set down by the judges for future awards.

A speed test takes the contestants down the length of the room, chasing their balloons with their lungs. Fans can be provided for this if you prefer.

An endurance test to see how long the balloons can be kept in the air is a third exciting contest.

A balloon battle, in which greens and yellows attempt to bang and "bust" reds and blues, is a thoroughly ice-breaking occupation if the crowd needs livening up.

The promised trip to the moon may be carried out in the same way as "Stage Coach." Each player is assigned some portion of a balloon's anatomy or the name of a star or planet. A clever person must be selected to tell the story of the balloonic trip to the moon, in which the various trials and tribulations that real balloonists have been known to undergo may come in for exploitation. Each time the word assigned to any player is mentioned, he must

rise and blow his balloon into the air, catch it again, and sit down. On mention of the arrival at the moon ensues the interchange of seats.

As if the company may not have acted sufficiently like lunatics, the next amusement may be a "lunny" one. The company should be divided into two sides, and the members are to vie with each other in doing individually or collectively something utterly absurd.

One side may act a scene from "Main Street;" the other side may put on a mock minstrel show, or some vaudeville parodies.

When it is refreshment time, the balloonists are asked to come down out of the clouds to earth and food. Hot coffee is reviving in such a case, and of course there should be sandwiches, which, to be entirely consistent, may have filling of air currents and moon memories (currant jelly and cream cheese).

THE stars may be represented by cookies or little cakes, or by big, luscious layer cakes, dusky as the night with dark chocolate frosting, but lighted by small star candles.

Big baskets filled with cracked hickory- and butter-nuts may have real little balloons tethered to them as they are passed. Little paper parasols or wind-blown umbrellas will make delightful favors.

After supper, play the old-fashioned game of "Elements." The players sit in a circle, and one begins by tossing a rolled-up handkerchief to someone else, crying, "Air." As soon as the player who catches the handkerchief has mentioned some creature of the air—gull, eagle, aeroplane, swallow, or whatever it may be—he or she tosses it to another player and calls, "Earth!" The recipient must name some inhabitant of the earth—mole, bear, girl, hog, etc. When "Fire!" is called the player must keep silent until tossing it on again.

The prizes for the balloonic races should also be awarded after

supper. If you care to introduce dancing, put on your liveliest records, and let the balloonic end the evening in their own way.

NOTE: Additional games for a balloonic party will be sent on receipt of a stamped self-addressed envelope. Address, Entertainment Editor, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.



A balloon battle is a thoroughly ice-breaking occupation

Fruit Recipes for Spring Desserts

Tested in Farm and Fireside's Kitchen

POUR one cup boiling water on two tablespoons cornstarch, moistened with half cup cold water, and cook until thick and smooth; add two tablespoons sugar and one teaspoon lemon extract, and fold in the stiffly beaten whites of two eggs. Put into a hollow circular mold; when firm, unmold, and fill the center with canned pears cut in small pieces. Serve with the pear syrup as a sauce.

MRS. N. B. NICHOLS.

DELICIOUS CAKE PUDDING

2 cups mince meat · 1 cup cooked prune
cake crumbs · pulp
1 cup whipped cream

Stew the prunes until tender, and then put through a sieve, taking care not to get much juice into the pulp mixture. Com-

bine the pulp and crumbs, blending thoroughly. Fold in the whipped cream and set in a cold place for three hours. Cut in slices, and serve with whipped cream.

PRUNE GELATIN

1½ cups prunes · 2 tablespoons gelatin
½ cup sugar · 1 cup cold water
1 tablespoon lemon juice · 2 cups boiling water

Soak prunes overnight; in the morning cook until tender, and press through a coarse sieve. Add sugar and flavoring. Dissolve the gelatin in cold water, and then add boiling water. Pour this into the prune mixture, and set in a cool place until it jells. Pour into wet molds, and set to cool. Serve cold with sweetened whipped cream.

Repair It Yourself and See How Much You Save

By Gordon Hastings

IN THIS time of high costs, when economy is obligatory with the most of us, there are many little ways by which a dollar or two could often be saved if we only knew how to do various simple things.

You know by bitter experience how much money small repairs run into. One of the most annoying troubles is to have the faucets in the kitchen or the bathroom leak or not allow the water to flow. It is not always necessary to send for a plumber to remedy this. Often all that is needed is a new washer that you can buy for five cents. Any person with common sense can put on a faucet if the water

is first turned off. The fixture which controls this is usually under the sink or in the cellar. Unscrew the faucet, take out the worn washer, put in the new one, screw the faucet on again, turn on your water, and nine chances out of ten you will find everything all right.

If your gas burner gives a bad flickering light, try unscrewing the tip and cleaning it out. Perhaps the obstruction is farther up, so while the burner is off rap sharply once or twice on the long curved pipe, as this will remove any rust or dust that may have lodged and be obstructing the flow of gas.

If you break a handle off a dresser or sideboard drawer all you have to do is to take the exact measurement of the old handle and buy a new one and screw it in place. If you cannot match the old handle, put on a whole new set.

If the window sticks and will not open after a day or two of rain, hit it smartly all around the casing with a hammer. If this will not start it, pour a very little hot water where it sticks at the sill, and when once it is open rub the sides well with kitchen soap before you close. Do the same to a refractory bureau drawer.

If a tile is loose in the bathroom or a hole knocked in the wall, plaster of paris and water mixed together to form a paste will fix it. It can be used to cement in the tile and to fill up the hole. In the latter case, smooth it over with the side of a stick or a bit of board, and when it is dry take a piece of wall paper matching the pattern that has been destroyed and stick it on the wall with flour paste or ready prepared photo paste.

If your carpet sweeper will not work properly, probably it is dirty. Before you send it

away to be repaired try giving the bearings a bath with kerosene to clean out old gummy oil and dust. Often the trouble is with the screws which hold the brush, which constant jarring has loosened, and all they need is tightening with a screw driver. If these things do not help, then the carpet sweeper needs a new pair of rubber rollers.

Often a big bill for repairs can be saved by giving the piazza a little needed attention. In all wooden houses one of the first places for the woodwork to decay is in the joints such as those found in piazza railings, pedestals, columns, etc. Such things are generally

set in place by fitting small shaped pieces of wood around their bases, and as the rain soaks them the swelling of the wood causes such pieces to spread apart, which allows the next rainstorm to soak the base of the column. A small amount of white lead, and also some putty to mix with it, will save considerable damage if it is applied in time. Then a little paint of the right color may be used to cover the joint—not only for appearance, but for preserving the mixture in the opening. Wherever a nail or screw hole appears in the piazza floor, at once fill it up with the material just mentioned. With care a porch floor should last for years. No skill is required to make such repairs—in fact, the housewife can easily do so. I have seen cases where 25 cents' worth of white lead and putty and a little paint have saved many dollars in repairs.

In many homes the leaders which carry the water from the gutters and roofs are cemented at the ground level into tile pipes, which carry the water underground, either to the gutter, as is customary, or to a safe distance. In time the cement loosens, then falls out, and foreign substances get into the tile pipes underground and stop them up, making a large repair bill. The other day I watched a man try for one whole day to rid a pipe line of some obstruction. A little cement and a few small stones would have prevented any damage, and the man of the house could have made the repairs.

We want you to know Audry Jean of Indiana. Her picture was sent in in answer to our call for pictures of our Better Babies. Her mother, Mrs. J. V. Salyards, calls her a "Hoosier purebred." We are certain that she is also one of our sunniest Better Babies.



21 Letters About Your Baby And How You Can Get Them

THE EXPECTANT MOTHERS' CIRCLE: Any woman eligible may become a member, receiving each month a letter of advice on the care of herself and the preparation for her baby. Several practical little pamphlet circulars showing designs for maternity dresses and a common-sense layette are some of the helps sent with the letters. No matter at what period you enter, everything from the first month will be sent. No mention of the Better Babies Bureau is made on the envelopes in which the material is mailed. Enclose a self-addressed envelope with *Fifty Cents* in stamps, for postage, and state what month you expect your baby.

THE MOTHERS' CLUB: Every mother of young children is eligible. Pamphlets, together with monthly letters of instruction on the care and feeding of babies under one year of age (covering such subjects as colic, constipation, weaning, teething, etc.), will be sent to any mother who sends *Fifty Cents* in stamps and states the age of her baby. There are also leaflets giving diet lists, and other helps for babies from one year of age to three years. This literature is all included in the Mothers' Club's monthly service, but if the letters are not desired the additional literature will be sent for *Ten Cents*. A self-addressed stamped envelope will bring a prompt reply to every inquiry. Address all inquiries to

BETTER BABIES BUREAU

or to Mrs. Caroline French Benton, Counselor

FARM AND FIRESIDE

381 Fourth Avenue, New York City



The Bloom of Youth

Comes Mainly From Eating the Right Foods

Note Why Raisins Are Important

RAISINS are delicious, but don't eat them for their lusciousness alone. Use them for their natural iron content also. Your daily food should furnish iron. A small supply is needed daily to keep the blood in good condition.

Iron brings the bloom of youth to women's and children's cheeks, and is vital to true vigor in all men.

Raisins make scores of plain foods taste luxurious while

adding but a mite to cost. Try them in your boiled rice, oatmeal, cornbread, cakes and cookies.

Always use them in bread pudding, and in other simple puddings and desserts. See how much better the whole family likes these foods with raisins.

Raisins increase nutrition also. They furnish 1560 calories of energizing nutriment per pound.

Try This Raisin Custard en Casserole

- 1 cup sugar
- 2 cups milk
- 3/4 teaspoon salt
- 3 eggs
- 1/2 cup SUN-MAID Seedless Raisins
- 4 tablespoons cornstarch (flour may be substituted)
- 1 teaspoon vanilla or lemon extract (flavor to taste)

Put milk in top of double boiler; mix cornstarch with a little cold milk; add salt and cook thoroughly and until mixture thickens sufficiently to hold raisins; then stir in the well beaten eggs and add raisins, flavoring and sugar; turn into buttered pudding dish and bake in moderate oven fifteen or twenty minutes. Delicious served with flavored whipped cream or lemon pudding sauce.

SUN-MAID RAISINS

Ask for Sun-Maid Raisins when you order. They are made in California from the finest table grapes, kinds too delicate, thin-skinned and juicy to ship long distances as fresh grapes.

You may never have these fresh grapes, but you can buy them anywhere as raisins. Try them. See how good they are.

THREE VARIETIES: Sun-Maid Seeded (seeds removed); Sun-Maid Seedless (grown without seeds); Sun-Maid Clusters (on the stem).

CALIFORNIA ASSOCIATED RAISIN CO.

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Don't Miss This Book

Send coupon for free book, "Sun-Maid Recipes," describing scores of ways to serve.



California Associated Raisin Co., Dept. 52, Fresno, Calif.

Please send me, without charge, copy of "Sun-Maid Recipes."

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"Mother's Making Jell-O"

As Jell-O is now sold in every small town general store as well as in city groceries, the farmer's wife can get it, in all the different flavors, and serve the same fine desserts that have become so popular among her city friends.

These Jell-O dishes are all made without cooking, in a minute or two, and while they lend a special grace to the table setting and are of most delightful flavor, they cost less than anything else which a discriminating woman would care to serve.

The Jell-O Book, sent free to any woman who will write and ask us for it, contains all the information that any woman could wish about Jell-O and the making of Jell-O desserts and salads.

Jell-O is put up in six pure fruit flavors: Strawberry, Raspberry, Lemon, Orange, Cherry, Chocolate, 2 packages for 25 cents.

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Not a Thing of the Past

Why did farm land values during late war conditions increase from 200 to 400 per cent? Undoubtedly because of the high price of agricultural commodities, chiefly. Since in the main only the most productive of those lands situated in the vicinity of the larger centers of population and transportation facilities were wholly thus affected, good land at reasonable prices may still be had along the Nashville, Chattanooga & St. Louis Railway in Kentucky, Tennessee, Alabama and Georgia that will produce per acre, per year, from 4 to 6 tons alfalfa, 30 to 40 bushels wheat, 12 to 20 barrels corn, 80 to 100 bushels oats, clover, pea and other hays in proportion, and \$10 to \$20 per month per cow; and other lands that will produce profitable crops at from \$5 to \$20 per acre.
For descriptive literature address
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Money and Minute Savers for Busy Farm Wives

ONE of our most liked devices is a small electric light for the children's bedroom.

This is very easily installed and very convenient, especially where there are very small children, for just a touch of the switch makes enough light to see if every youngster is covered and all right, or to light the way to get water for them.

Ours is a six-volt lamp with receptacle, about 8 or 10 feet of insulated lamp cord, three dry batteries and switch. The cost of same was \$2.10, which we do not consider much in accordance with the convenience: Lamp and receptacle, 25c; cord, 25c; switch, 10c; batteries, \$1.50. Total, \$2.10.

We have a box just big enough for the batteries to set in. This is fastened to the under part of the bed, or may be placed on the floor. From here the cord is run to the switch, which is fastened to the head board at a convenient place, and from here on to the lamp. The lamp may hang where it is most handy. This enables one to move the bed wherever wanted, and does not disturb the light.

One may put the batteries in the cellar and run the cord through the floor if desired, but we did not find this quite so handy, as the cord was in the way for moving the bed and for sweeping.
Mrs. L. J., Ohio.

When cream is too thin to whip it may be made sufficiently thick by adding unbeaten white of an egg and beating in the usual manner.

Very often in cooking a cereal for breakfast, such as rolled oats or cream of wheat, there will be some left over. Many a housewife throws this away, as it hardens with standing and a crust forms on it by the next morning. Thus it is wasted. Now, an excellent way to keep a cereal like this over is to cover it an inch or so deep with water. The next morning no crust will be formed, and it will not be a whit inferior by standing. One can cook enough cereal for two mornings in this way, and the extra cooking the second morning will only improve its flavor.
Mrs. O. M., West Virginia.

Often we want to make wide tucks on thin dresses—tucks too wide for the machine tucker. I have had great success with the following method: I cut a piece of fairly stiff paper the width desired for the tuck, and twelve or more inches in length. After folding the goods I pin the

paper tuck marker with the lower edge on the fold of the goods, and stitch along the top of the marker, moving it along the fold of the goods each time. I run the length of it. This method saves much time and a perfect tuck can be run easily.
M. D., Ohio.

Cracks in floors may be neatly and permanently filled by thoroughly soaking newspapers in paste made of a half pound of flour, three quarts of water, half pound of alum, mixed and boiled. The mixture should be about as thick as putty, and may be forced into the crevice with a knife. It will harden like papier-mâché.
Mrs. D. T., Texas.

I sometimes have to hang a gate or a door, and a carpenter's wife happened in one day as I was having a tussle with an unruly screw. She informed me that carpenters drive the screw as they do a nail, almost to the head, then clinch it with the screw driver. This little wrinkle has saved me quite a lot of time and patience.
Mrs. J. K. B., Arizona.

If soot falls upon a rug or carpet, I never attempt to sweep until I have covered it thickly with dry salt. It can then be swept up properly, and not a stain or smear will be left.
Miss M. O., Minnesota.

If the tips are off shoestrings you can make them as good as new, and so they will lace easily, by dampening the ends with glue and twisting them into points.
H. R., Ohio.

A returned soldier, finding that it takes as much ingenuity to combat the high cost of living as it did to fight the Germans, has made a very practical and economical bassinet for his first little son.

Taking the idea from a two-wheeled tea table, he built a frame having two wheels in front and two table legs in back. Upon this frame, having been very careful to make it just high enough to suit his wife, he securely fastened a rectangular clothes basket. Painted white, and draped with white ruffles, it is as pretty and convenient as could be desired.
Katherine Sanderson.



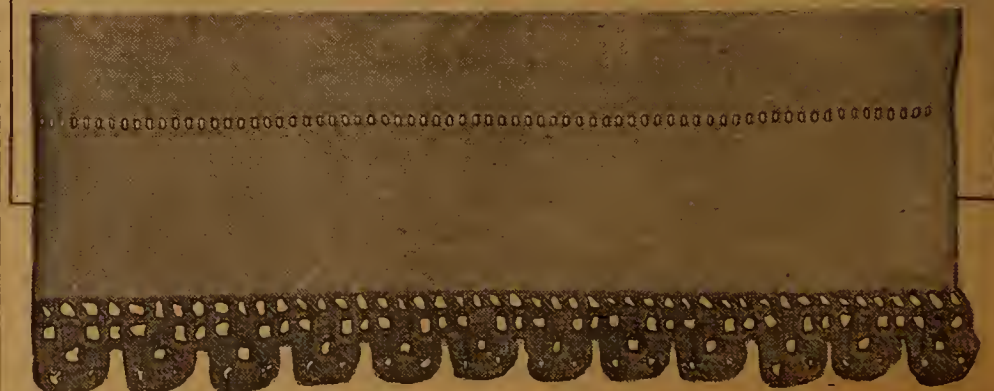
Linen Chest Suggestions

THIS edge in torchon and filet is crocheted on, and is especially nice for pillow cases because one does not have to think of making the pattern come out right where the ends are joined.



DIRECTIONS for making these edges will be sent for six cents in stamps. Address Fancy-Work Editor, Farm and Fireside, Springfield, Ohio. No. FC-134.

HERE is a small towel finished with a forget-me-not edge. Made up in white, the edge is dainty, but it is even more pleasing in old blue, since that is the forget-me-not's own color.



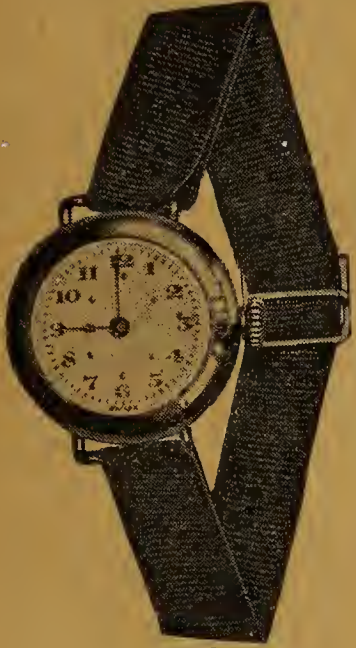
"Diamond Dyes" don't stain hands or pan

EACH package of "Diamond Dyes" contains easy directions for dyeing faded, shabby skirts, waists, coats, stockings, sweaters, draperies, coverings, everything. Beware! Poor dye streaks, spots, fades, and ruins material by giving it a "dyed-look." Buy "Diamond Dyes" only. Tell druggist whether your material is wool or silk, or if it is cotton, linen, or a mixture.

A Beautiful Wrist Watch

Given to girls and women

HERE is your chance to get a splendid wrist watch—one that you will be proud to own and happy to wear. Illustration below shows exact size of watch but cannot do justice to its daintiness. This very style of watch is now all the rage in the large cities.



Description

Has a high-grade jeweled movement. Case is made of gun metal which has unusual wearing qualities. Open face with white dial. Stem wind and stem set. Each watch comes with a pretty black grosgrain ribbon, now considered quite the latest thing, and is packed neatly in an attractive box. A fine-looking watch that keeps good time.

Write To-day!

Hundreds of girls and women who have earned this watch cannot praise it too highly. It will be a real surprise to you when you learn how easily you can make one your very own. Clip and mail the coupon below to-day and see for yourself.

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We will mail these 22 packets Choice, Fresh Seed for 10 cts. Satisfaction guaranteed.
CABBAGE, New Glory, early, sure header. Large.
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MUSKMELON, Sweetest Gem, best garden melon.
WATERMELON, Deposit Early, earliest, sweetest.
ONION, Pritzaker, weight 3 lbs., 1000 bus. per acre.
PARSNIP, Triple Curled, best, most ornamental.
PARSNIP, Improved Guernsey, white, sweet.
PEPPER, Crimson King, large, red, fine.
RADISH, White Icicle, best, early, long, tender.
TOMATO, Greater Baltimore, best, large, smooth.
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ASTERS, Show mixed. PINKS, 50 Grand Sorts.
KOCHIA, Grand foliage. POPPIES, Showy Sorts.
MIGNONETTE, Sweet. ANNUALS, 500 Sorts.
WAVES OF GOLD. Catalog and 10c check free.
DEPOSIT SEED CO., Deposit, N. Y.
10 packets Grand Large Flowering Sweet Peas, 10c

The Dearest Ache

[CONTINUED FROM PAGE 27]

ory of his wife and her tears strongly visible.

"I never knew you to cry over a toothache before, Molly," he said anxiously. "I never knew—"

"It's all right now," she said dully as she stood up. "The—the pain shouldn't be new to me; I guess—I can forget it."

But she couldn't. It stayed with her that evening, and ate deep into her usually smooth spirit, chopping this into nervous waves which evidenced themselves in short answers to Edward's inquiries and in drear imaginings about how they would realize what she had done—after—she was gone! The children were all out—Elizabeth included, after all the cheese trouble and cracker upset—and the house, in its stillness, sounded cold.

SHE went up to bed at ten, pattering about as she undressed, her tiredness having gone past the point of asserting itself in a call for quiet. She knew that Edward would forget the time, sit up until his night would be too short and his to-morrow hurt by it, but she didn't care. She slipped into bed, and there in the dark lay thinking. Sentences which began with "Mother, won't you," or "Mother, why didn't you," or "Mother, will you," buzzed around her head like mosquitoes. They made her smile bitterly, and then came a moment's doze. Through its complete mental and physical relaxation she snapped back to the sane and normal. She knew on waking that, without doubt, she had been absurd in allowing all the little irritations of the day to fix her mood; she knew that she was loved and needed, and that she wanted, more than anything in heaven or on earth, to give, to give as she had that day, of her labor and her thought and her love. . . . Aching feet didn't matter much, when they helped to make for a man the sort of peaceful home that he needed after a long, noisy day in the city. His "Good to get here, dear. Awfully nice and quiet. Where are my slippers?" helped to erase that sort of discomfort. . . . The lack of thought in the girls came from youth. She thanked God that they were young and had ahead of them the glorious chance to work, to be tired, to love, to give. It was a pain, she had not changed her viewpoint about that; but it was a heaven-sent pain, without which women grew old, hard, unlovely, and—lonely, and without which they caught only a half of life. . . . The memory of her tears and the perturbation they had made, shamed her. She would be herself in the morning, and she'd try to see whether she couldn't squeeze enough out of the housekeeping money to have a roast of lamb in the evening, with mint jelly, the sort that Alice liked. Asparagus with it, she supposed, and browned potatoes. . . . They were all so dear. No woman had ever been so happily surrounded as she. Oddly enough, the voice of Elizabeth as it had been when she was a tiny thing came back, her "Mummy, Mummy! Want my mummy!"

She smiled as it rang through her heart. She couldn't see quite why she, a plain, stupid woman, who did little beside making a house comfortable and meals eatable, should be wanted and needed as she was. . . . Her lips quivered suddenly. "But I couldn't live without it," she reflected, "not a day!"

TWO big tears, which were not even cousins of those that she had shed before, rolled down her cheeks. She mopped them away as she heard Elizabeth's step.

"Mother," she whispered from the darkened doorway, "are you awake?"

"Yes, dear."
"Mother," a quick tap of the high heels that so matched Elizabeth's daintiness, and Elizabeth knelt by the bed, "Mother, I've thought all evening of what a pig I was. Calling you that way, when you were busy. Dearest, I do love you!"

Mrs. Wilkins put out an arm. It encircled her daughter's neck.

"Dear child!" she whispered, and none too steadily.

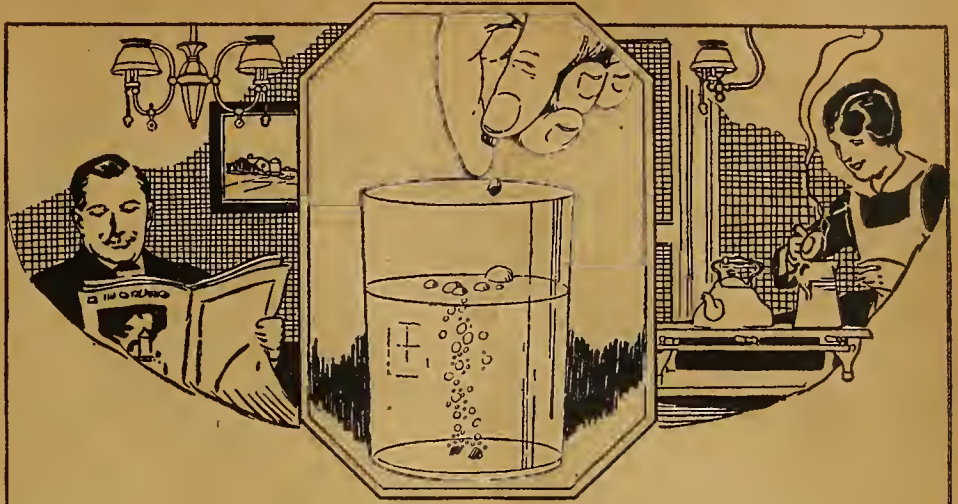
"It's just this way, Mother," went on Elizabeth, her voice showing the great depths it tried to reveal: "we all take from you all the time—all the time—but you've made us, for you give us something that no one else could give. Why, Mother darling!"

Mrs. Wilkins searched for a handkerchief, found it, and finished the tears of that day by tears that healed all the hurts of all the others.

"I am so ashamed!" she whispered.

[CONTINUED ON PAGE 33]

Home-made gas from crushed stone & water



Stone dropped into water produces light and fuel for YOU

THAT, in a sentence, is the marvelous story of Union Carbide, which has transformed the lives and habits of more than 300,000 American farmers in the last twenty years.

What does this mean to you?

It means that with a small supply of Union Carbide (crushed stone) and a simple mixing-machine, you can have all the fuel you need for cooking; all the light you need for the house, barns, drives and out-buildings.

The Hottest Flame—The Brightest Light

A simple machine mixes Union Carbide with water and produces gas as you need it—no more, no less. It works automatically and needs but the slightest attention.

There is no waste. Union Carbide keeps indefinitely. Even the residue of the carbide can be used as a fertilizer for it is just pure, slaked lime.

The fuel for cooking gives the hottest flame known; the light is so like sunlight that it has fooled hens and vegetables into working overtime.

Union Carbide does away with messy oil-lamps and the burning of coal-ranges in summer. It gives you the cool, clean kitchen of the city-woman. It—Oh, we can't begin to tell the whole story here.

So mail us a postcard at once for details. We'll tell you what it will cost you and all about it. Write our nearest branch today.

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Which Will Succeed?

WHICH will succeed? the one who spends all his precious reading time with the daily paper? or the other, who is gaining little by little, in a few delightful minutes each day, that knowledge of a few truly great books which will distinguish him always as a really well-read man?

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Dr. Charles W. Eliot, from his lifetime of reading, study, and teaching, forty years of it as president of Harvard University, has answered that question in a free booklet that you can have for the asking. In it are described the contents, plan, and purpose of

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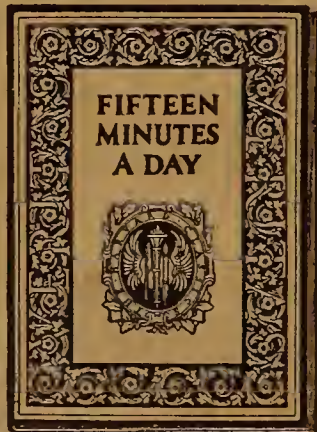
Every reader of *Farm and Fireside* is invited to have a copy of this handsome and entertaining book, which is free and will be sent by mail without obligation of any sort.

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By mail absolutely free and without obligation, send me the book describing Dr. Eliot's Five-Foot Shelf of Books, and containing the plan of reading recommended by Dr. Eliot of Harvard.

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F. & F. 3-21



Vines That Will Beautify Your Home Grounds

By Anne K. Robinson of Pennsylvania

I HAVE found that for the homegardener, whether it be to supply beauty or to furnish a crop, for practical worth and ease of culture, the many varieties of vines cannot be excelled and are too little appreciated.

Vines are divided into fruit, shade, and flowering varieties. The popular grape and the universally grown hop are perhaps the most useful of all vines. But for landscape gardening a shade or flowering vine is more desirable.

The Virginia creeper, a hardy, easily-grown perennial, is the favorite for shading. I have seen this vine, trained along chicken wire, stretched the length of a porch, where it gave a dense shade from early spring until chestnut season.

For graceful beauty, what can compare with the Boston ivy, as it clings to a brick or stone surface, sending its tender new shoots ever upward?

Children love a gourd vine with its fantastic fruit, and a package of mixed seed planted along the back fence will furnish safe entertainment on Mother's busy mornings. The dainty clematis, wistaria, cinnamon vine, and honeysuckle are perennials possessing a sweet fragrance and charm which defies description.

FOR neatness, though, the annuals are best, as they can be taken down when dead, and variety can be had by using different kinds each season. Most people think of morning glories when a back porch screen is mentioned. And morning glories are well worth thinking of, with their different shades of pale pink or deep rose and the deep clear blue which resembles a bluebird's wing. The moon-flower belongs to this family, although it is like the new baby who gets his days and nights turned about. These magnificent flowers do not open until sundown, and by the time day morning glories are opening they are closing. They are larger than the conventional day bloomers, and more fragrant.

The butterfly pea, flowering bean, and the canary, cypress, and jewel vines are beautiful and unusual, and not so well known. Smilax is another rare climber, having leaves which are as ornamental as the feathery little blossoms.

But for gorgeous display and clean

fragrant flowers nothing that I know can equal climbing nasturtiums. They generally reach a height of six feet, and are covered all summer with bright, spicy-smelling blossoms of red, pink, lemon, and orange. They furnish an abundant source of supply for honeybees, and are at their best if the blossoms are kept picked. Sweet peas are also useful for low decorating, and are fine for cutting. I get most satisfactory results by planting the mixed seed.

QUEEN of all climbers is the rose. Single varieties come in white, pink, yellow, and crimson. A new sort is advertised which is guaranteed to bloom all summer. This seems almost too good to be true. However, baby ramblers in my own garden bloomed for over a month last spring. A treatment of fertilizer and many waterings were perhaps the secret of their long season. On account of thorns, climbing roses are not so good when grown by the porch. Their place is at the side of the house, and where they get plenty of morning sun.

A rose arbor is a novel arrangement that can be developed in two or three seasons by starting plants at intervals around the framework. When in bloom, a more beautiful spot cannot be found. To add to the charm, if indeed more charm be needed, plant nasturtiums between the plants, and let them use the rosebushes as a trellis. And what was once a rose arbor will be a nasturtium arbor. If you like a riot of color, add a few blue morning glories.

A trellis of pink ramblers grows near my kitchen window where I can admire them at any time during the day. Especially during a wind storm do I enjoy them, as they sway in long graceful reaches and seem to defy the elements.

Another vining rose which is not so well known is the Wichuriana. It does not climb but prefers to spread along the ground. It is splendid for cemetery planting or for embankments or rockeries. The flower is single, and very much like the sweet little wild rose found blooming at the edge of a deep shady wood, and adds just such a dainty touch of color.

NOTE: Questions about gardens welcomed and promptly answered. THE EDITOR.

Prize Contest Announcement

How I Have Increased My Farm Profits by Advertising

MODERN farmers are finding that advertising plays as important part in their business as it does in any other industry. In these days of falling prices, advertising is helping many to turn over goods at a profit that otherwise might sell at a loss.

FARM AND FIRESIDE wants to hear how you are using advertising in your farming business, so we can pass your experience along for some other reader to use.

We will pay \$10 for the best letter telling how advertising is making your farm business more profitable. For the next best letters we will pay \$7.50, \$5, and \$2 for all others that are used.

Give full details, but keep your letter to 500 words if possible. Photographs, copies of advertisements, labels, trade-marks, and letterheads that you have used will make your letter more interesting.

This contest closes March 31st. Enclose a self-addressed and stamped envelope if you want your letter back.

Address, Contest Editor, FARM AND FIRESIDE, 381 Fourth Avenue, New York City. THE EDITOR.

The Dearest Ache

(CONTINUED FROM PAGE 31)

"Ashamed?" echoed her daughter. "Oh, Mother, if you *knew*—" her voice sank, refused to go on. "If you *knew*—" she managed to repeat.

"What's all this?" asked Sam from the doorway, a jubilant Sam, who turned on the hall light and entered with the tread of a man who has done good work and done it well. "Cut and run," he ordered brusquely; "I've got some talking to do."

Elizabeth, after another embrace, another pressure of her moist cheek to her mother's, obeyed injunctions. Sam sat down on the edge of the bed.

"She's going to have me," he announced airily, but with a lightness which in no way covered what he felt. "I wanted to tell you I was going to do it, before I went out, but I couldn't, Mother. I couldn't even tell you; I was so afraid she wouldn't—"

"Sammy!"
"Yes. It's—it's all right, isn't it?"
"My dear boy!"

"Lots of fellows turn up their noses at settling down; maybe I would have too, but—" he fumbled for his mother's hand and, holding it closely, went on with, "You know why I think it's all right, this marrying? You know, don't you, Mumsy? You know—what you *mean* to us—always doin' things, like getting fried onions for me, and mending and— and so on. You know—" he couldn't finish, and because he hated being stirred, having even his mother see him stirred, he stood up to stretch elaborately.

"Of course, Julia loves you," he announced, after he'd given his mother's hand a final squeeze and gone toward the doorway. "Everybody does. Good night. Call me if I sleep over."

"Good night, dear."

THERE was another interval. Alice came up, called in some information about the party, who had been there, what had been eaten, said she'd come over after she'd undressed; and then Edward, for once mindful of the time and his to-morrow, appeared.

"Pain all gone?" he asked anxiously. His wife sat up in bed, and laughed.

"No," she answered.

"It isn't?" This very anxiously.

"No, it isn't. Edward, you're a dear stupid. I love you, but you *are* stupid."

"I know, dear," he admitted, and then, "You've got to have that *fixed!* You've just got to go to Dr. Benders and have that fixed. I won't have you suffering. I'll tell you, Molly—you may not know it, and maybe *we* don't always *seem* to—you're the center of this wheel. Molly, we can't go without you!"

"Oh, Edward!"

"Honest! Look here, is it still bad?"

"No," she answered. "It is a pain, but it's the dearest pain in the world, Ed! The very dearest! Oh, Edward, I'm so happy and I've been such a fool! . . . Ache?" Again she laughed. "Yes, it is an ache, but it is the dearest ache, the dearest ache in the world!" [THE END]

The A. F. B. F. and You

WE FARMERS have not yet fully realized what the new freight rate means to us. If the railroads had been able to secure the rates they asked for, the annual charge in the United States would have been over \$400,000,000 more than it will be in 1921. The organized farmers and shippers of the country were able to force reduction in the valuation of the railroads of \$1,700,000,000. At six per cent, this means an annual saving to the shippers of the country of over \$100,000,000. More than one half of this freight charge falls upon the farmers. In addition to reducing the valuation, these organizations were able to force a removal of part of the freight burden to the passenger service, mail, and express.

Clifford Thorne, head of the transportation department of the American Farm Bureau Federation states:

"The bulk of the expense of the statistical analysis made on behalf of the shippers was borne by the Farm Bureau, and if it had not been for the Farm Bureau this work could not have been performed."

If the farmers of the United States had not been organized and properly financed, the average farmer of the country would, in 1921, have paid more than \$30 more freight than he will have to pay.

This saving in freight alone will more than pay for the three years' annual Farm Bureau dues at \$10 per year. O. F. B.



Dishwashing made Ida's hands chap

IT always did—every winter. Finally, Cousin Kate came from St. Paul for a visit. She suggested

Mentholatum

A HEALING CREAM
Always made under this signature *A. H. Hilde*

It healed Ida's hands almost over-night—gently and completely. She always keeps it handy now.

Her hands are soft
Mentholatum relieves cracked lips, too—and cuts, burns and other "little ills."

Mentholatum is sold everywhere in tubes, 25c; jars, 25c, 50c, \$1.
The Mentholatum Co.
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Wichita, Kans. Bridgeburg, Ont.

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Live Representatives Wanted. Exclusive Territory. White Flame Light Co., 87 Clark Bldg., Grand Rapids, Mich.

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Hansen's Rennet Tablets and Hansen's Cheese Color Tablets enable you to make just as good cheese as is made by experts in large cheese factories.

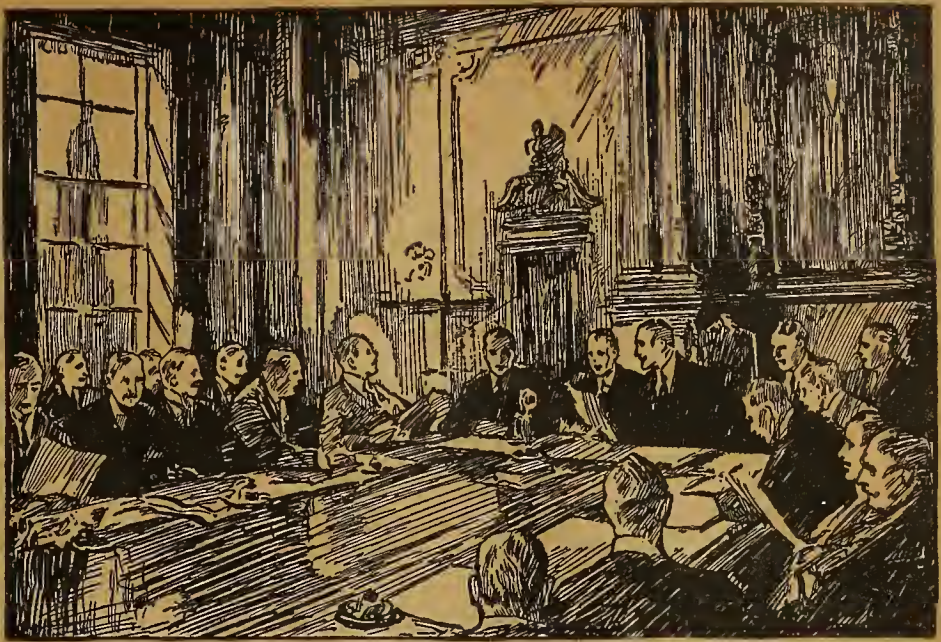
To make small amounts of cheese or to make Cottage Cheese use *Hansen's Junket Tablets*.

Junket Brand Buttermilk Tablets are used for ripening milk for cheese, cream for butter and making delicious buttermilk.

Hansen's Dairy Preparations are standard. Sold at druggists, dairy supply stores or direct.

Valuable booklet, "The Story of Cheese," free with \$1.00 order. Send for particulars.

Chr. Hansen's Laboratory, Inc.
LITTLE FALLS, N. Y.



On the Basis of Facts

The life of our country is built around its Public Utilities. Our social, industrial and Government activities could not exist today without the continued operation of their indispensable services.

Facts as to the past and studies as to the future, the Bell Companies find are essential to the proper management and development of their business. This information is open to study by these Commissioners and through them by the public generally.

That such services may be extended and developed to be of the greatest use to the greatest number, the Federal Government and practically all the states have appointed Public Service Commissioners as permanent tribunals to regulate public utilities with fairness to all concerned.

The solution of the problem of building up and maintaining the public utilities, which is of the greatest importance to the people of this country, is assured whenever all the facts are known and given their due weight.

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during your spare time

\$2, \$3, \$5, \$10 EXTRA every week of the year

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The same opportunity is open to you. Your earnings are limited only by the amount of time you can give to our pleasant and profitable work.

Right now FARM AND FIRESIDE wants many more part-time workers in every state. But we want them *quickly*. These open positions will soon be filled.

If you are interested in turning some of your spare hours into dollars, write *to-day* to

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416 West 13th Street, New York City



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Own a "Selected" Farm In WESTERN CANADA

Come from the place where men call for land to the place where land calls for men. Along the lines of the Canadian National Railways land is selling for \$20 to \$50 an acre, unsurpassed for fertile soil and rich crops.

"SELECTED" Farms

Your "SELECTED" Farm will be carefully chosen from the cream of the richest wheat and cattle country in America, to meet your special needs, by experts representing 17,000 miles of railway, whose advice, free to you, is of great practical value.

You'll Feel at Home

Western Canada extends a helpful hand to you. Friendly neighbors with the same language and customs—splendid schools, churches and social life—warm, sunny growing summers and dry, healthful winters—law and order—efficient labor supply—await you in this wonderfully prosperous "LAST WEST."

Profits in Wheat and Dairying

"SELECTED" Farms along the Canadian National Railways average more than 20 bushels of wheat per acre. Under specially favorable conditions a yield of 50 to 60 bushels per acre is not uncommon.

Dairying is very profitable. A world-wide market awaits all that Western Canada can produce. Stock thrive on the prairie grasses which make fine hay. Cattle and horses require only natural shelter most of the winter.

Low Taxes

Western Canada taxes fall lightly on the farmer. There is a small tax on the land, but buildings, improvements, animals, machinery and personal property are not taxed at all. There is no increased taxation on farm lands to meet war expenditures.

Easy Terms

Terms on "SELECTED" Farms: About 10 per cent cash down, balance in equal payments over a term of years; interest usually 6 per cent.

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Reduced railway rates will be made for land-seekers and their effects to encourage inspection of "SELECTED" Farms along the lines of the Canadian National Railways. Personally conducted excursions for this purpose also will be arranged. Full information will be sent on request. WRITE OR MAIL COUPON TODAY!

DEWITT FOSTER, Supt. Resources, Canadian National Railways, Dept. 2163, Marquette Bldg., Chicago.

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- ... Opportunities for Big Profits
- ... Reduced Railway Rates for Landseekers
- ... Business and Industrial Opportunities
- ... Personally Conducted Excursions

Name.....
Address..... R. F. D.....
Town..... State.....



Listen, Folks— Here's My Advice DON'T SELL YOUR HIDES

I've been in the hide game for a long time, but never saw things like they are now. You sell raw hides at 5c a lb. and have to pay \$2 a lb. for leather. The speculators get most of the difference, and that ain't right.

We Just Can't Keep It Up

Let's quit now, folks, before we go busted. Here's your chance. Me and my two boys are tanning hides into leather for farmers at a fair, reasonable price. Good leather, too. Beats anything you can buy nowadays. It sure pays big to have your own leather to make Harness, Halters and Straps to do repair work. We also make up Fur Coats and Robes at small cost. Write for prices and leather samples. Fur market is lots higher now, boys. Get my bid.

OMAHA HIDE & FUR CO., 753 So. 13th St., Omaha, Neb.

FLOWERS Great Get-Acquainted Offer Send 10c for 50 varieties of flower seeds, including pkt. of the great new Aster, "The Heart of France," and pkt. each of the best Radish, Cucumber and Tomato; also Floral Guide. Rose Side Gardens, Warwick, U.

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Add a half-teaspoonful to each gallon of winter cream and out of your churn comes butter of golden June shade to bring you top prices.

All stores sell 35-cent bottles of Dandelion Butter Color, each sufficient to keep that rich, "Golden Shade" in your butter all the year round. Standard Butter Color for fifty years. Purely vegetable.

Meets all food laws, State and National. Used by all large creameries. Will not color the buttermilk. Tasteless. Wells & Richardson Co., Burlington, Vt.

How 47 Farmers Made Poultry Pay in West Virginia

By Ross B. Johnston

LAST year forty-seven West Virginia farmers entered a farm egg-laying contest, and demonstrated to all poultry-flock owners that there is money in raising chickens under ordinary farm conditions and with reasonable care. As interest on investment and returns for labor, these farmers received \$18,000 during the year, after paying for feed. They were not the owners of "sure-enough" poultry farms, but just the owners of average farms where general farming is the rule. When it is considered that these farms did not average 100 hens, the size of these returns becomes more impressive. Many general farms do not make a total cash return each year as large as did these poultry flocks alone.

ROOSEVELT, before he died, used to say that he believed the downfall of nations in historic days had been caused not by battles and campaigns, the march of armies, and the sweep of navies, but by loss of soil fertility.

Taking the fifteen leading demonstration farms, it is found that they produced 200,000 eggs during the year. The total amount received for the poultry products was \$7,000, with feed costing \$2,500, leaving \$4,500 to cover labor and interest on investment. The average feed cost per hen was \$1.78, and the profit per hen above feed cost was \$3.43.

J. W. Forshey, Mineral Wells, Wood County, took championship honors for the year. His flock of 111 Brown Leghorns averaged 174 eggs for each hen. The receipts were \$920.82, expenses \$187.53, leaving a profit of \$733.29, or \$6.60 per hen. The fact that his feed costs were higher than most of his neighbors proves that good feeding makes laying hens. One day when the poultry specialist visited his farm, 25 pullets in a separate pen laid 24 eggs. It might be interesting to note how he did it:

FORSHEY started in by remodeling his poultry house, culling his flock, adopting a standard feeding plan, arranging for early hatching, proper feeding, and raising of baby chicks, all of which are included in the state poultry demonstration plans. His farm is several miles from the railroad, and the eggs are shipped by parcel post to individuals in Parkersburg. This enables him to get more than the average local price for his eggs, which are carefully graded. He sells eggs almost exclusively, only marketing poultry for table use when disposing of his surplus fowls. He feeds almost entirely home-grown grains, except tankage or beef scrap. His hens are given personal attention, and he uses an incubator and brooder.

The records by months show that Forshey's hens seldom led, it being the high general average that made their record the best. For a time he had a close competitor for first honors in Mrs. S. A. Parkins, Paradise, Putnam County. Mrs. Parkins favored Rhode Island Reds, and during the winter months her flock led the State. The Brown Leghorns of Mr. Forshey, however, caught up with the leaders during the brooding period, as they laid eggs while the Reds were wanting to hatch out a family of chicks. This experience illustrates the fact that Leghorns require more care in the winter months in order to get as good results as from the general-purpose breeds.

A promising West Virginia poultry flock that was not among the list of demonstrators has also been reported. J. K.

Findley, in Randolph County, had a flock of 367 S. C. White Leghorns that, during the year, laid 59,000 eggs, an average of 162 eggs. The poultry products sold for \$2,600, of which \$1,500 was returns for labor and interest on investment. Thus each hen made a return of \$4.11.

That the general standard of all poultry work was improved will be readily seen by a detailed summary of the results obtained. There were 179 farms that arranged to use animal protein, with direct increase of profits amounting to \$1,000. In all, 281 standard-bred flocks were established, and 567 flocks were culled of non-laying hens. The hens selected for breeders number 1,625, while more than 10,000 poor-laying hens were sent to market. This saved \$4,500 worth of feed to the

various farmers. There now are 451 flocks, on 288 farms, which are producing infertile eggs, with a subsequent saving of \$1,000. A saving of \$963 was made by 294 farms which hatched their chicks early. There were 85 standard poultry houses built during the year that would house 10,000 fowls. In addition to the above report, at least 200 standard-bred male birds have been placed on farms, all of these birds coming from West Virginia farms.

Can Your Lights Walk?

WHEN planning your house lighting fixtures it will pay you to remember the days of the tallow candle and the various steps up to our highly efficient electric lamp. With all its weakness in illuminating power, the candle was portable, and could be placed where it was most efficient. The electric lamp and the acetylene lamp are portable or capable of being made portable, but in how many homes do we find anything but a fixture in the center of the room?

The light comes from the direction of the windows in the daytime, though at night in the opposite direction. To use both daylight and lamplight with the greatest efficiency and eye comfort, it is necessary either to shift the furniture or else put up with discomfort.

When planning our electric or other modern lighting arrangements, why not put in one or more base plugs, bracket lamps, and wall plugs? The base and wall plugs may be used for connecting table or portable lamps, or labor-saving devices without interfering with the fixed lights. Wall brackets located near the sink and stove will furnish light from such a source that the housewife will not be compelled to work in her own shadow. Stand and table lamps in the living-room are a great comfort in reading. A center light is quite suitable for a dining-room, provided the direct light is not in the line of vision.

Of course, the economical time to provide for these convenient fixtures is when the lighting system is installed. At that time the extra cost will be small, and it will be money well invested. F. W. IVES.

NOTE: Mr. Ives will gladly answer questions on farm lighting and other farm engineering problems. Address, F. W. Ives, FARM AND FIRESIDE, 381 Fourth Avenue, New York City. THE EDITOR.



This is one of the 47 West Virginia farm flocks that averaged \$3.43 profit per hen in 1920

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A Blacksmith—But, Oh, How Rich!

THE following letter from the blacksmith himself, which appeared in the "Kansas City Weekly Star," contains such a fine bit of philosophy that we reprint it entire:

"I wonder if you knew that one of the richest men in the world was fourteen miles north of Norfolk, right here in Pierce? That man is the writer. I am just a common 'plug blacksmith'—but, oh, how rich!

"I go to my labors each morning, work until noon, go to dinner, return at 1 P. M., and work until six o'clock. I enjoy the greatest of all blessings—good health.

"Rockefeller would give all he possesses in money and holdings for my stomach, but he can't have it.

"Each day sees something accomplished, and every job of work I turn out I feel I have done my customer a service worthy of my hire.

"I have a wonderful little wife. She has stuck to me twenty-two years, so I know she must be a dandy to accomplish that.

"I have a little home, a beautiful little daughter, a son grown to maturity, and now in life's game for himself.

"Rich? Why, man alive, who can possibly be richer?

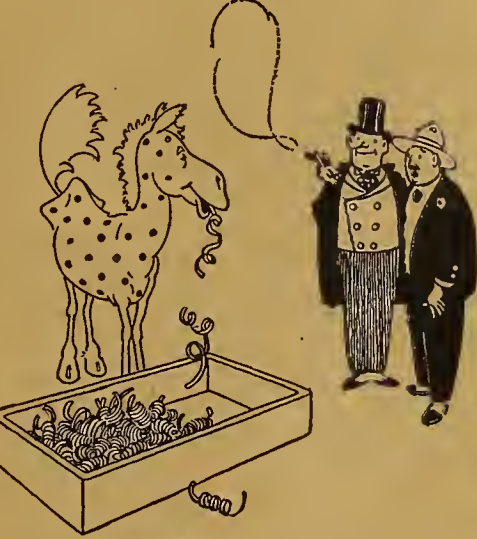
"Then, to add to all the above riches, I take my old shotgun in season and ramble through fields, woods, and tangle in search of the elusive cottontail, teal, and mallard, with my faithful old pointer at 'heel' (now past eleven years old), and he is as happy as I when on the hunt. Then, when I get back, oh, how good everything does taste!

"Then, when night has spread its mantle over this good old universe, I settle down in a good old easy chair, enjoy a smoke, and then roll into bed and never hear a sound until the beautiful break of another day.

"Rich, did you say? Well, I guess. Dollars? Not many. You inquired about riches, not material wealth.

"The height of my ambition is so to live that I may have no regrets for having lived when the time comes for me to shuffle off this mortal coil, and I hope by that time to have accumulated just enough dollars that myself and mine may not be objects of charity.

"This, then, is my ideal of a rich man. If anyone enjoys life more than I do, he is to be envied for his riches. With kindest regards, **EDWARD J. MEYERS.**"



Try This on Your Horse

"VY IS it that mine horse stays so thin?" asked Sam Nathanson as I passed his furniture store.

"His teeth need fixing, Sam," I answered, and then jokingly added: "Guess he'd do better if you fed hay instead of excelsior," which led him to exclaim:

"Excelsior! Vy, Doctor, I don't feet excelsior, a horse von't eat excelsior!"

Then I arranged for the horse to be taken at once to our hospital to have his teeth put in order during the noon hour. I instructed the groom to fill a manger with fresh excelsior, well sprinkled with salty water.

When Sam arrived, his horse was led into the stall. Being hungry, he at once started eating the excelsior with gusto and loud munchings. Sam watched the proceeding for a few seconds, gazing with astonishment, and then exclaimed:

"And just to tink, Doctor, that I have been purning excelsior for years and years!" **DR. A. S. ALEXANDER.**

Overgrazing will ruin the best of pastures.

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What I Learned on An English Dairy Farm

By Dr. Charles E. Thorne

ONE of the very interesting side trips, during our stay in England, was to an 800-acre dairy farm, located in southern Hertfordshire, about 20 miles north of London, and operated by Samuel Wallace, Esq., for the production of milk for the London market.

A half-mile avenue of century-old oaks leads from the highway to a spacious and elegantly furnished dwelling, where we were met by Mr. Wallace, and conducted first to the stables, which are substantially built, and equipped with power and machinery for grinding feed, cutting roots and "chaffing" hay and straw.

One item of equipment that would have been found on any dairy farm of this size and character in America—the silo—was conspicuous for its absence. In fact, we saw very few silos in England, the reason being that our American corn, the greatest of all feed-producing crops, and which is better adapted to the silo than any other, cannot be grown to maturity in England, and the root crops—mangels and turnips—which largely take its place, need no silo for their preservation.

Mr. Wallace uses some imported corn for feeding, together with cottonseed and linseed oil cakes and home-grown barley and horse beans.

I could not help but wonder, however, as I traveled from south to north through the entire length of England, and saw everywhere fields of this bean, whether here might not be a combination worthy of attention as a silage crop.

THE horse bean is planted in autumn, either alone or with winter oats. It is a stiff, upright plant, growing three to four feet high, and is of some service in holding up the oats. I could not help envying the British farmer the exclusive possession of this legume, which we have tried to grow for many years at the Ohio Experiment Station, but have only succeeded in producing a rusty plant, two or three feet high and bearing a half crop of inferior beans. Our winters are too severe for it to be planted in the fall, and when planted in the spring it acts much as spring wheat does in the hot weather of our summers.

With this home-grown legume, mixed

with imported corn and oil cake, and fed in connection with roots, the English dairyman is enabled to prepare a well-balanced ration of the highest effectiveness.

The drainage from Mr. Wallace's stables is led to an outside reservoir, from which a part of it is conducted by gravity to a lower lying field, on which cabbage has been grown every year for fifteen years or longer, and which was occupied by a luxuriant crop at the time of our visit.

Mr. Wallace keeps about 100 cows, mostly of a milking strain of Shorthorns, the herd being headed by a \$3,000 bull. The cattle run on pastures that are systematically treated with basic slag, thus replacing the bone-forming elements that are carried away from the farm in the milk, and at the same time furnishing the necessary soil conditions for the growth of white clover, which carpeted the land with a luxuriant growth. The clean, sleek cows bore silent testimony to the wholesomeness of their diet, and some of them were making very creditable records.

IN THE careful balancing of his rations, in the scientific care of his pastures, and in the attention given to the improvement of the productive capacity of his cattle, Mr. Wallace is putting into practice the principles worked out by science.

In England, as in America, the average farmer for a long time looked askance at the attempt to bring science to the aid of agriculture, and progress in the improvement of farming practice has been disappointingly slow. This result has been partly due to overenthusiasm, in some cases, on the part of investigators, causing too broad a generalization from inadequate data, and partly to too large an expectation on the part of the farmer, resulting in disappointment when a conclusion that was fully warranted under the conditions of the experiment is found inapplicable to his conditions.

In both countries, however, there has been a small but steadily increasing number of farmers whose field of vision is broader than the average, and who have had a training that has enabled them to select and apply intelligently the results of scientific research on their own farms.



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Have You Seen These Bulletins?

OUT of the many bulletins we get we have picked the following as being practical and timely for the practical farmer in March. They can be had free, excepting those marked, by checking the ones you want and mailing this list to your congressman, to the Division of Publications, U. S. Department of Agriculture, or to the Superintendent of Documents, Government Printing Office, Washington, D. C. It is better to ask your congressman, because congressmen gets a larger supply for distribution than do the other offices.

Monthly List of Publications. This circular, issued monthly, describes all the new publications of the Department of Agriculture. It will be sent regularly to all who ask for it.

Farm Inventories. *Farmers' Bulletin 1182.* March is income tax month, and if you are planning to make a farm inventory at the same time this bulletin will give you a practical outline to follow.

Incubation of Hens' Eggs. *Farmers' Bulletin 1106.* Intended for beginners, or those desiring to hatch eggs under hens. For information on incubator operation ask for *Farmers' Bulletin 585.*

Alsike Clover. *Farmers' Bulletin 1151.* If you want to know more about this hardy and useful clover, you will find it in this bulletin.

Terracing Farm Lands. *Farmers' Bulletin 997.* Soil washing ruins thousands of acres of good land every year. This pamphlet gives methods for terracing to stop this waste.

Feeding Garbage to Hogs. *Farmers' Bulletin 1133.* Many hog raisers, especially during the war, have found this business profitable. In this bulletin the general principles governing this business are discussed.

The Feeding of Dairy Cows. *Farmers' Bulletin 743.* The fundamentals of dairy feeding are given, including a discussion of the different feeds and rations.

Poison Ivy and Poison Sumac, and Their Eradication. *Farmers' Bulletin 1166.* The two plant rogues which cause so much annoyance and suffering can be eradicated by using methods described in this bulletin. Remedies and poison antidotes are also given.

How He Gets Thrifty Pigs

HE WAS a wise hog man who first said, "It's largely personal care and management that saves the young pigs."

Two farms in Miami County, Indiana, offer an excellent example. Ninety-three per cent of the pigs farrowed were raised to weaning age on one of these farms last spring; only 37 per cent on the other.

The man who raised 93 per cent of his pigs had his farrowing houses carefully arranged in a row, panels making an outdoor lot about 15 feet square for each pen. The sows farrowed their litters separately where the other hogs could not disturb them. Each sow and her litter was kept separate until the pigs were five or six weeks old. Dry bedding was carefully provided at frequent intervals. The young pigs had every opportunity to live and to get a good start in life.

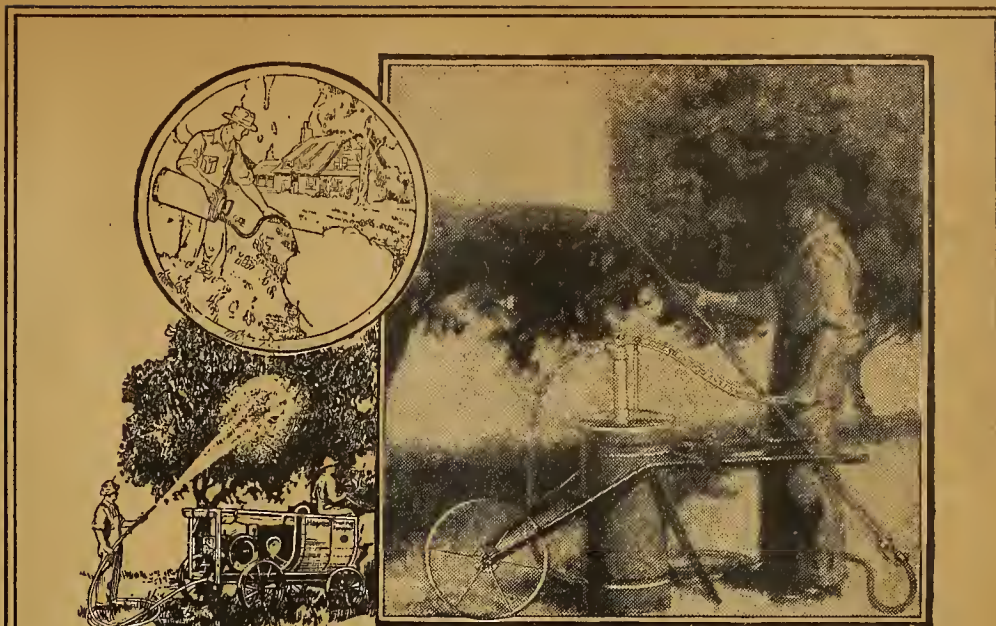
The other man had his farrowing houses, which were just as good, if not better, grouped hit and miss in a wood lot, little or no personal effort being made to save the young pigs at farrowing time. The houses were wet and damp a large part of the time. Sows and young pigs ran together, the older pigs robbing the younger ones, starving many of them to death.

The first man's feed bill was 157 pounds of feed per pig raised, which cost \$4.19 (counting all the feed fed from the time the sows were bred until the pigs were weaned when eight weeks old.) The second man fed 455 pounds of feed, which cost \$11.62 for each pig raised to weaning age. Here is a difference of over \$7 in the feed cost of weaning pig, due almost entirely to personal care and management.

The margin in cost was so great that it showed up vividly when the hogs were sold. The first man made a profit over feed cost of \$129.19 on the 36 hogs that he sold. The second man's 84 hogs lacked \$436.65 of paying their feed bill when they were marketed.

Nothing will yield bigger returns to the hog feeder than the few extra hours required to give the sows and their young pigs good care at farrowing time and during the few weeks that follow.

JAMES R. WILEY, Indiana.



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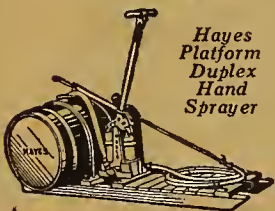
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This Picture Shows Sheldon Power Mixer No. 4

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It is the greatest labor saver I have on my farm. Two men can do ten times the amount of work in one day and do it ten times easier than the old way.—HARRY L. WALLACE, Jeromesville, O.
The machine I bought of you in 1916 has given continual service to date without a single repair, and at present needs only the small cast wheels that support the drum, and their supports.—ASA A. GOBLE, Huntington, Ind.
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I am more than busy with my Sheldon Mixer. I have more work than I can do. I get \$10 a day when I work out.—JESSE L. WITTER, Wellsville, N. Y.
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George Hanke of Ackley, Ia., writes that he "put through 106 yards of concrete in 21 hours. That's more than 40 cubic yards for an eight-hour day."

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Red Clover and Timothy mixed—the standard grasses cannot be surpassed for hay and pasture. Contains good per cent clover, just right to sow. Thoroughly cleaned and sold on approval, subject to government test. Ask for this mixed seed if you want our greatest bargain. Have Pure Clover, Sweet Clover, Timothy and all Field and Grass Seeds. Buy now—prices reduced about one-half. Samples and 116-p. catalog FREE.

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Stokes Seed Farms Co. Growers
Organized 1881 as Johnson & Stokes
Moorestown, New Jersey

Are You "Square" With Uncle Sam?



TWO years ago most of us who served in the army or navy during the Great War got our bonus, travel pay, clothing, and cherished discharge, and stepped back into the pursuits of civil life. I am inclined to think that most of you feel, as I do, that Uncle Sam treated us fairly. But there were a lot of fellows who, through some tangle of red tape, haven't had their account squared. I see in "The American Legion Weekly" that 16,900 disabled veterans haven't been given proper hospital facilities, others have smaller though important claims.

If you have a claim against the Government that comes from war service, or if there are any questions about war-risk insurance, compensation, clothing, etc., you can get help through any branch of the American Legion. Did you know that the American Legion now has 9,978 posts, just about double the number they had a year ago?

If there isn't a branch in your town, send your inquiry to me. State your problem in full, enclosing stamped self-addressed envelope, and address Andrew S. Wing, American Legion Column, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

The British Farmer

[CONTINUED FROM PAGE 6]

potatoes, and hay being grown in rotation with the wheat on the fens.

South of the "Wash," as the bay extending into the fen country of Norfolk is called, potatoes are extensively grown. I never saw so many acres of potatoes in a single day's travel as in the ride from Cambridge through Ely and around the Wash to Boston, except in the Kaw Valley, between Kansas City and Topeka, in the palmy days of potato-growing in that valley.

Potatoes are also a prominent crop on the higher but fertile loams between the fens and London, where wheat is extensively grown after potatoes and roots.

EDITOR'S NOTE: This is the third of Dr. Thorne's series of articles resulting from his visit to Rothamsted and other European agricultural experiment stations for FARM AND FIRESIDE. The fourth will appear in an early issue.

Dr. Thorne Resigns

LONG ago, Dr. Charles E. Thorne, director of the Ohio Agricultural Experiment Station, began nursing an ambition some day to devote himself wholly to specialized research work. Two years ago, in order to carry out his desire, he tendered his resignation to the Ohio Board of Control. But men of Dr. Thorne's ability and capacity are hard to find, and he was persuaded to withdraw his request. This year he tried again, and on January 12, 1921, the board issued the following resolution which granted him his release:

"This board, speaking from its intimate acquaintance with the vast labors and original research work in the cause of progressive agriculture, carried on and conducted by Dr. Thorne, make this record of its firm conviction that no individual and no name is more securely linked with the great cause of progressive agriculture and the most basic and fundamental branch of this country's industry than that of Dr. Charles E. Thorne; . . . that no man of this century has combined the faculties of agricultural propaganda and practical experimentation with scientific research has as Dr. Thorne. . . The Ohio Experiment Station, with its great record of usefulness in the past and its promise of accomplishment for the future, is the immutable monument to its first, only, and great director, Dr. Charles E. Thorne. And believing that the great achievement of this life of service and usefulness will be accomplished in a record of the observations, experiments, and deductions of Dr. Thorne during the thirty-four years in which he has been the active head of this institution, we consent to release him from the many and detailed duties of director in order that he may devote his time and energies to this, the crowning effort of his life."

A well-kept wood lot or a plantation of forest trees on the hilly portions of the farm will make the place more attractive.

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Costs a dime. Worth dollars

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Sent for so little as 10 cents by The American Association of Nurserymen.

Send at once for it to the Secretary's Office at Princeton, N. J.

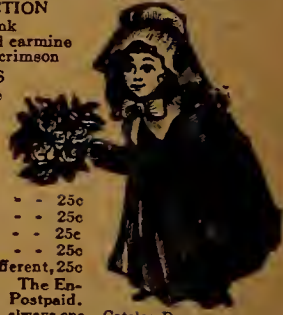


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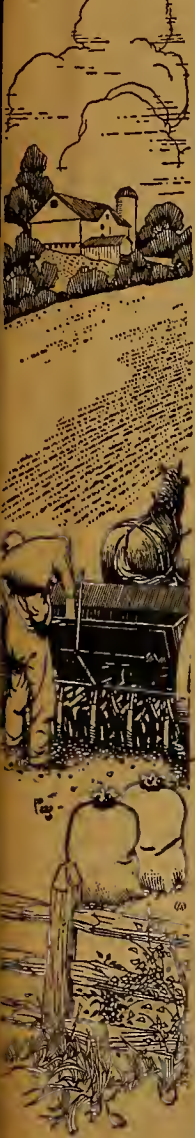
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Salzer's Seeds are grown in the certain localities and on the particular soils best adapted to the crop. We select the choicest; and after thorough cleaning and testing to a high standard of germination, at our trial grounds at Cliffwood, they are ready for us to sell and for you to sow. Your increased yield and improved quality will make Salzer's Seeds the most profitable you ever sowed.

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We are also headquarters for tested vegetable and flower seeds for home and market garden. We guarantee Salzer's Vegetable and Flower Seeds to be satisfactory to you in every respect, or we will refund full purchase price. Catalog free on request. Send for it.

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Profitable. Easy to Grow. ALLEN'S BOOK of BERRIES tells how. It gives full information, prices, etc. FREE to you. Best selection. Finest stock. True to Name.
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Buy now. Prices now reduced about one-half. We can save you money. Wonderful values in Best Seeds. Guaranteed high quality Iowa grown—re-cleaned and best tested, very pure. Also Timothy, Sweet Clover, Alfalfa, and all farm seeds.
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The healthy, heavily rooted kind of Strawberry Plants produced on Baldwin's Big Berry Plant Farms give largest measure of satisfaction. Grown on New Ground. Start quickly. Yield bountifully. Pay large profits. Plants always true to name. Freshly dug. Properly packed to reach our customers in good growing condition. Write for our Berry Book, a splendid Fruit Growers Guide. Do it now.
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Free for Testing
A pair of mated Everbearing Strawberry Plants FREE, if you report your success with them next fall. Will bear loads of big red strawberries from July to November of this very year. We have counted 450 berries, blossoms and buds on a single plant in September. A postal will bring the plants with enough seed of the new Cereal Fescue to plant a rod square. Also our catalogue of "Blizzard Belt" Products, with seed for a Silk Leaf Poppy Garden thrown in for good measure. Send 10 cents for mailing expense or not as you please. Write today and get acquainted with our Hardy "Blizzard Belt" Seeds and Plants. THE GARDNER NURSERY COMPANY, Nurserymen and Seedsmen, Box 53, Osage, Iowa.

Why Sweet Clover?

SWEET CLOVER is rapidly proving its worth, and certainly has a just claim to its rather recent popularity. I have a report from a farmer who seeded a five-acre field in April, 1919. His report showed that after July 1st he pastured as many cattle on the five acres of sweet clover as he did on any 15 acres of other pasture.

Sweet clover had its beginning in nearly every community as a roadside pest, and was considered a dangerous weed. Many farmers worked diligently to get it off their farms. But its performance has changed the attitude of its former enemies. Sweet clover is not a weed, although it will grow in nearly all parts of the United States, and in almost any type of soil, provided there is lime present.

Like alfalfa, sweet clover is rich in protein, making an ideal pasture crop, with the added advantage over alfalfa that it does not cause bloat. It is a great milk producer. Where sweet clover was sown in the spring, I have seen fields give abundant pasture from the first of July through the remainder of the summer. The following spring, sweet clover furnishes the first pasture, giving an abundance of feed at a time when it is badly needed.

One of sweet clover's most valuable uses is as a soil builder. The following report shows its profitableness:

TEST WITH OATS

Treatment	Yield per Acre, Bushels
Sweet clover sod, unfertilized	51
Soil untreated	34

TEST WITH POTATOES

Treatment	Yield per Acre, Bushels
Sweet clover sod	241
Eight tons stable manure	204
Soil untreated	115

Oftentimes, where it is difficult to get a stand of alfalfa, sweet clover might be sown to prepare the soil for the alfalfa. Sweet-clover roots inoculate more readily than do alfalfa roots. Since the same bacteria live on both alfalfa and sweet clover roots, one inoculation will do for both.

IT IS true that livestock must get used to it. Reports show that cattle often refuse to eat sweet clover at first. But cattle can usually be taught to like it by turning them into sweet clover that is less than 12 inches high. When hungry cattle are turned into such a field, they will soon learn to eat it. I have seen an entire herd of cattle leave a heavy blue-grass pasture and crowd into a sweet clover patch, preferring it to the blue grass.

There are few disadvantages with sweet clover. If neglected, it will grow large and woody, and oftentimes the leaves fall off, leaving very little palatable food. But the advantages of sweet clover, where properly handled as a soil builder and as a pasture crop, far surpass the few disadvantages.

In many communities the sweet-clover acreage has increased over 1,000 per cent in a few years. It is one of the crops that will fit into your rotation, and will help make farming permanent as well as profitable.
L. BOYD RIST, Nebraska.

Books We've Received

Management of Dairy Plants, by M. Mortensen, professor of dairying at Iowa State College. Published by the MacMillan Company, New York City. Price, \$2.40.

Agricultural Bacteriology, by H. L. Russell, dean of the College of Agriculture, University of Wisconsin, and E. G. Hastings, University of Wisconsin. Published by The Century Company, New York City. Price, \$2.15.

Character Training in Childhood, by Mary S. Haviland, research secretary of the National Child Welfare Association. Published by Small, Maynard & Company, Boston, Mass. Price, \$2.

The Sweet Potato, by Thomas E. Hand and K. L. Cockerman. Published by the MacMillan Company, New York City. Price, \$3.

The Suburban Garden Guide, by Parker Thayer Barnes. Published by the MacMillan Company, New York City. Price, 60c.

An Early Tragedy

Adam found Eve in tears one day. "What's the trouble?" he asked sympathetically. "I do have the very worst luck," mourned Eve. "While I was in bathing, a caterpillar came along and ruined my new fall wardrobe." *The American Legion Weekly.*

Planet Jr. Goes to the Root of Good Farming

Progress in farming is marked by an ever increasing knowledge of what the soil needs and how this need may best be supplied with the least outlay. Thorough cultivation is now known to be indispensable in the growth of all important crops.

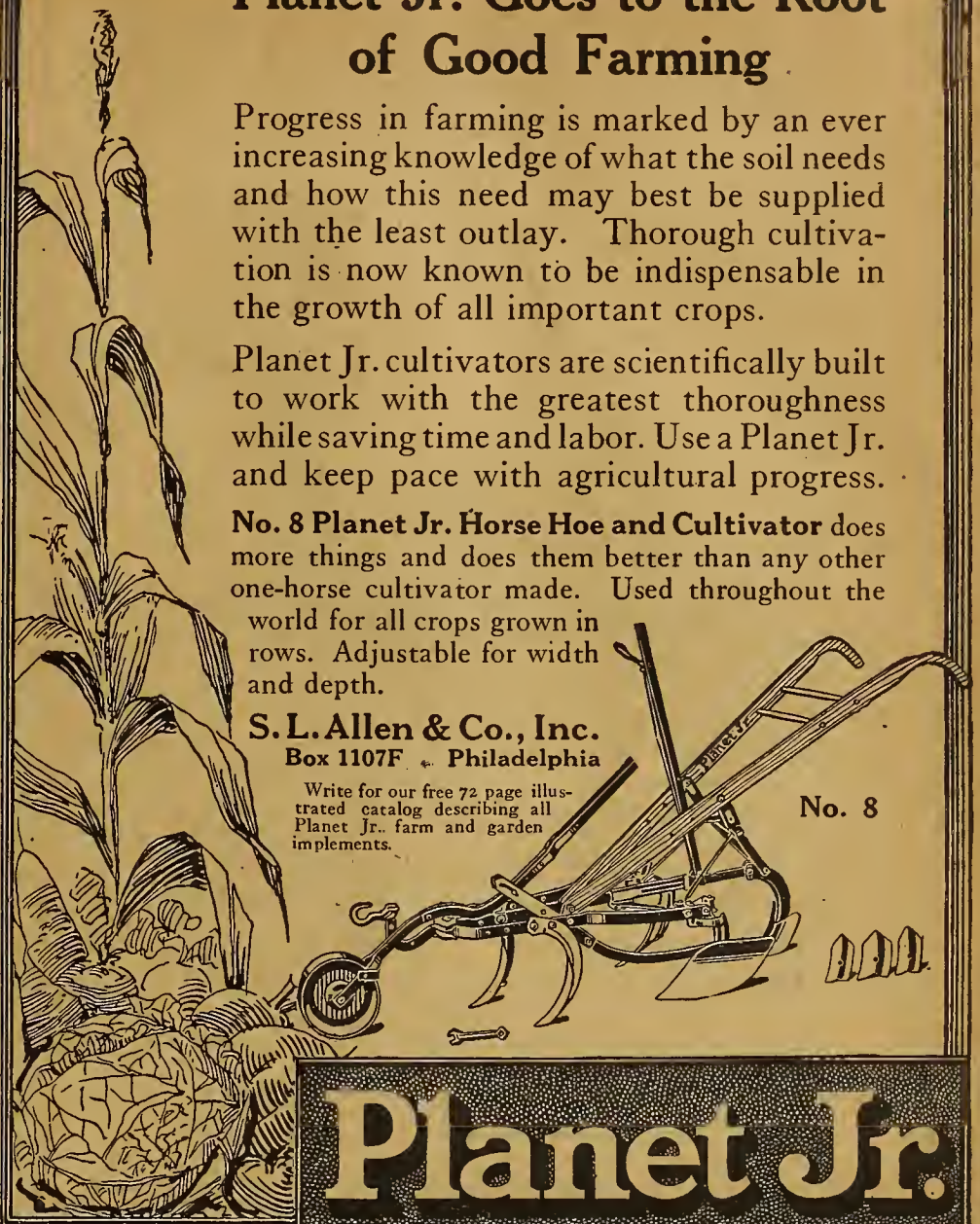
Planet Jr. cultivators are scientifically built to work with the greatest thoroughness while saving time and labor. Use a Planet Jr. and keep pace with agricultural progress.

No. 8 Planet Jr. Horse Hoe and Cultivator does more things and does them better than any other one-horse cultivator made. Used throughout the world for all crops grown in rows. Adjustable for width and depth.

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Grown From Select Stock—None Better—50 years selling seeds. Prices below all others. Buy and test. If not O.K. return and I will refund. Extra packets sent free in all orders I fill. Send address for Big Catalogue illustrated with over 700 pictures of vegetables and flowers of every variety.
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You will also need Barteldes Big 1921 Seed Catalog to help you choose from the many varieties illustrated. Buy only quality seeds. It pays. Barteldes seeds are the best that money can buy.
Don't delay. Both the Garden Guide and Seed Catalog are sent Free but the supply is limited. Write today. A postal card will do. Write to the house nearest you.
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Strawberry FREE To introduce our PLANTS Pedigreed Everbearing strawberries we will send 25 fine plants free. MASON NURSERY CO., PIEDMONT, MO.

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Everything for Garden and Orchard
SYRACUSE, the best red raspberry grown today. CACO, a wonderful, large red grape. HONEY SWEET, a new black-cap raspberry, and ROCHESTER peach, are fine producers. Trees True to Name. Apple, peach, pear, cherry, nut, and shade trees. Strawberry plants, raspberry, blackberry, gooseberry and currant bushes, vines, shrubs, roses and ornamentals. Best Varieties, 40 years producing better plants. Buy direct. Save Money.
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25 Packets for \$1.00
Burpee's Bargain Collection
To help reduce the high cost of living, we have prepared this special BARGAIN COLLECTION containing 25 regular large size packets of Burpee's Vegetable Seeds. One packet each of the following:
Beans: Stringless Green Pod...\$0.15
Saddleback Wax..... .10
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Cabbage: Enkhuizen Glory..... .10
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Sweet Corn: Golden Bantam... .15
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Country Gentleman..... .15
Cucumber: Fordhook WhiteSpine... .10
Lettuce: Burpee's Wayhead..... .10
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"Dear Lady, You Are a Chump to Let Them Do It!"

"W E RANCHWOMEN haven't the time to unburden ourselves often, and lacking the 'dear friend' to unburden myself to, I am going to write it out just once.

"As I stated before, I live on a ranch. We have two small children, and always have two or three hired men. I do my own housework—washing, ironing, and cleaning. I make nearly all my own clothes and the children's; never throw anything away as long as it will stand patching or darning. That is the same story most ranchwomen can tell. But here's where my shoe pinches:

"We live on a river—a beautiful little mountain stream well known for its good fishing—and we have lots of acquaintances in the small towns near. Now, these friends like to fish. And we are glad we have a place where they can fish. But they also like to run out for Saturday-night supper or Sunday dinner; in fact, any meal they find convenient.

"Three years ago, when my oldest child was one and a half, I had an unusual amount of work trying to get our house into livable condition. I did every bit of wall-finishing and all the woodwork, in addition to my other work, and raised chickens and garden. Sixteen hours was a short day for me.

"That summer two families took it upon themselves to run out to our house every Saturday night and stay over Sunday. We had given them an invitation, but hardly expected them to take such liberties.

"What did their coming mean to me?

It meant that Saturday night, after my work was done, I had to make up all the beds, and get everything in readiness for them when they arrived about midnight or later.

"Once they brought an extra, and, as we already had another fisher friend occupying the only bed remaining, I had to rearrange everything at 1 A.M. Sunday morning they were up early and went fishing—and the men didn't get in until 9 A.M. for breakfast. This happened three times in as many weeks, and they seemed hurt when I showed a little resentment.

"That was just one case. The next summer the war was on. I didn't feel extra good, yet I was doing all my own work. That summer a carload of friends would run out Saturday and remain until Sunday night. We fed them four good meals and gave them beds to sleep in. We were milking three good cows, and at that time I took care of the milk in the old way—straining, skimming, etc. And our friends would rave:

"Oh, how fortunate you ranch people are, having all this nice cream, butter, eggs, chickens, and garden stuff—and it doesn't cost you anything!"

"Doesn't cost us anything? That was the last straw!

"First, we purchased our land at a good price. Then we improved it—fenced it, cultivated it, and pay hired men to keep it in order. We put in two hours a day milking and caring for those cows. And then there is my time looking after the milk, butter and chickens. Yet it doesn't cost us anything!"



That summer two families took it upon themselves to run out every Saturday and Sunday



"How fortunate you are—cream, butter, eggs—and it doesn't cost you anything!"

comes so easy that we were expected to share it with them without thanks. I love the country. I like to ride, to fish, to camp, but for seven years all the freedom I have had is on a Sunday afternoon, and I wouldn't have that if I didn't serve a cold lunch on Sunday evening.

"Mrs. J. W. R."

Dear Lady, you are a chump to do it, if you really don't want to do it!

Why do you do it?

There is a reason, if you just dig deep enough to find it.

Is it that you don't want to offend these impudent, presumptuous persons—perhaps for business or other reasons?

Is it that you really enjoy slaving for them as you do, nursing the secret fancy that you don't enjoy it?

Is it that you enjoy doing it, and only resent the fact that your guests do not reciprocate? Ask yourself that, honestly.

There are many diplomatic ways you could get out of it. For one, why not arrange to be away a few Sundays; and so notify them in advance?

It is mean of them to act so, but they are that kind of cattle, and will continue to do it as long as you continue to let them do it.

It is a strange trait of the human animal that when he is once permitted to take an unfair advantage he usually will keep on taking it, unless he is given a good broad hint to stop.

George Martin

The Human Horsefly Has His Uses Too

By Bruce Barton

FOR some time I have sat on a committee with a certain gentleman who has more logical objections to every suggestion than anyone I ever met. Recently he spent forty minutes in proving to us why a certain course of action is wholly impractical.

"You may take it from me, gentlemen," he said, "it simply cannot be done."

To which I responded, a little irreverently, that I was beginning to lose faith in that phrase "It can't be done." It has fooled me several times very badly.

For instance, I have had it on the highest authority that a world's series baseball game simply could not be "thrown" by the dishonesty of any player.

The leading sporting writers have proved that over and over again, and all the logic was on their side. Yet, a few months ago we woke up to discover that a world's series had been "thrown," and a whole year elapsed before anyone found it out.

In college we had a professor of political economy who convinced us that the Constitution of the United States would never be amended again. He pointed out how cumbersome the machinery of amendment is, and how even the proposal to include the name of "God" in the preamble—an amendment that would seem to be easy of adoption—failed in spite of repeated attempts.

We were all convinced by his argument; yet the thing that he proved could never be done has recently been done twice!

How many editorials and articles were printed a decade ago to prove that the airplane would never be practical! How often and how loudly did the wise ones contend that, no matter what might happen to

the rest of the country, "little old New York" would never be dry!

The same sort of wise ones told Harriman that he could not possibly build his railroad across the Great Salt Lake; and in an earlier generation they proved conclusively that the snow-covered Alps would keep Napoleon from attacking the Austrians that year.

But Harriman went straight ahead and built his railroad; and Napoleon, exclaiming, "There are no Alps," fell on the Austrians while they still supposed that he was safely snowed in at home.

They never seem to learn, these wise ones, who are so fertile in objection, so sure that every contemplated enterprise is just a little beyond the capacity of human ingenuity and resolve. They are frequently annoying, and almost always wrong; yet they have a certain usefulness in the world, after all.

It is the same sort of usefulness which Lincoln attributed to the horsefly on the neck of the farmer's mare.

"You let that horsefly alone," said the farmer to his son who was about to brush him off. "He isn't hurting us any, and he makes the old mare go."

So with the "can't-be-done-ers"—there are far too many of them in the world, to be sure. But every organization ought to keep one of them on its pay roll, for the same reason that the farmer kept the horsefly on the horse's neck.

They are not pleasing in personality, nor constructive in thought; they are carried instead of carrying, and their capacity for annoyance is large.

But, all unwittingly, they become a part of the scheme of progress none the less. For they have no sooner said "It can't be done" than someone is almost sure to get mad and plunge straight ahead and do it.



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FARM & FIRESIDE

The National Farm Magazine

APRIL 1921

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By
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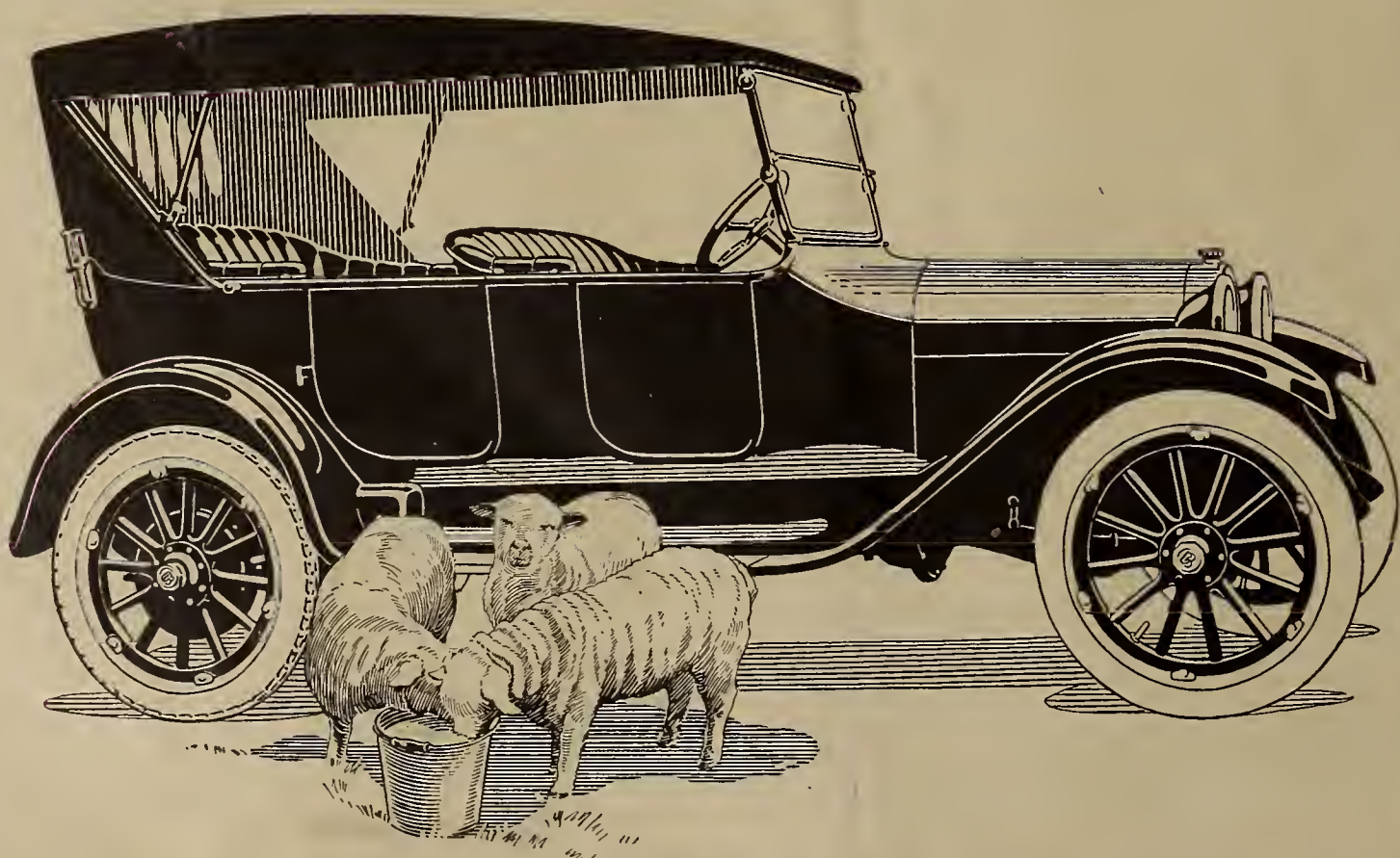
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DODGE BROTHERS, DETROIT



You Can Lose Money Even Now by Cutting Production

By L. E. Call

Agronomist in Charge, Kansas State College of Agriculture, and Corresponding Editor of Farm and Fireside

IS IT possible for us, as American farmers, to produce too much food? This is a question that I have asked myself from time to time all winter as I have read of the tremendous corn and other crops we produced last year, and the effect these bumper crops had on prices.

I have wondered if, after all, it might not have been better had the crop not been quite so large. Perhaps the profits would have been greater. Have you been thinking these thoughts too? If so, are you going to ease up a little on farm work this summer?

I ask these questions because I believe it is very important that we think these problems through straight, and arrive at a correct answer. I can't put the thought and energy into my work that I should if I think I am working at a loss, and I don't believe you can either.

This is the way I have sized up the situation: We can't afford to slow up. Margins of profit will certainly be small, and it will require more intelligent direction this coming year than ever before to keep the balance on the right side of the ledger. I do not mean that we should try to increase the acreage planted, or purchase new machinery to increase our output, or to assume extra expense and hire extra labor to bring new land under cultivation, or farm with such great intensity land that is now tilled.

This would undoubtedly be a mistake. It is not a time for expansion in farming; neither is it any time to put in practice slipshod methods. The practices followed should be conservative; the methods used should be well tried out and safe; the crops planted should be those that are adapted to the community and for which there is use on the farm, or for which there will be a ready market. I believe those of us who stick to well-tested, safe systems of farming, and practice up-to-date methods, will probably be well rewarded.

WHILE it is not advisable to expand farming operations, neither is it desirable greatly to contract them. In order voluntarily to decrease production, it would be necessary either to reduce the acreage planted to crops or to use less care and judgment in growing and harvesting them. Would either practice be justified? I think not. There are undoubtedly some lands now under cultivation that are in a low state of productiveness, and which are producing such poor yields that it will not pay to cultivate them at present price levels. Such land should be seeded to grass and used for grazing purposes.

There is probably also considerable land in the drier sections of the country that has been cropped continuously to grain crops in recent years, and although the yields were low, the crop was profitable because of high prices. At present prices such land cannot be profitably farmed each season. It will be necessary to fallow a part of this land in order that the remainder can be cropped at a profit.

In the most productive sections of our country we have been growing far too large a proportion of grain crops and too small an acreage of clover and other legumes that enrich the soil. During this period of readjustment, when it is proving difficult to finance the purchase and movement of the supplies of food actually needed by the

world, it would be well to sow a larger area of our cultivated land to soil-improving crops. This could be done without endangering the immediate food supply of this country or the world, and would be the best possible insurance of more abundant supplies and more economical production in the future. Taking land of this character out of cultivation for cereal production is desirable. Any reduction of acreage brought about by such means will benefit all society.

IT IS not economical in the long run to have any land cultivated at a loss of either money or soil fertility. This is quite different, however, from voluntarily taking out of cultivation and leaving uncropped our highest priced, most productive land. We have our farms to operate, and we have the same fixed interest charge for our investment in land, whether the land is cultivated or not.

A number of investigations made of the cost of growing wheat and oats in Iowa show that the charge for land was approximately one half the total cost of producing the crop. This charge remains the same whether anything is grown upon the land or not. No farmer could afford to assume this loss, which would be greater than any probable loss as the result of low prices. This is especially true when we remember that much of the labor invested in the production of the crop is our own, and much of the machinery charge is for machinery that we have already purchased and which we hope, and have every reason to expect, to be able later to replace at prices in proportion to the price of the crops produced.

It is also important to remember that

WHEN Charles I. Reid of Millersburg, Pennsylvania, sent this picture to us he wrote the following on the back of the print: "The little fellow under the big hat is Master Walter Klock, and his parents are Mr. and Mrs. Carl B. Klock, who live near Herndon, Pennsylvania, the heart of the large Pennsylvania Dutch farming district. He has a Bantam rooster of his own, goes to school, gathers eggs, shoots sparrows with his air rifle, steals rides on passing farm wagons, and, according to his mother, does other naughty things." All very true, no doubt, but we hold to the old saying that "the goodest man is badder than the baddest little boy," and we vote for Walter. THE EDITOR.

bumper crops are not produced every year. If we are to decide that it was advisable to reduce the acreage of crops in order to increase prices, we would probably be caught with a small acreage at a time when prices were right, and would therefore have a small crop to sell.

On the other hand, because of high food costs the price of everything we have to buy would advance, and we would be actually in poorer circum-

stances than with a larger crop and lower prices. It has been the history of farming that the man who has gone about his business in a regular, systematic way, diversifying his crops, using the best methods of farming and producing the highest yields that he knew how to produce, is the man who has generally found that market conditions were adjusted, and that he came out the winner in the end.

While it is good business to take out of cultivation land that is of low productivity, upon which it is impossible to produce crops at a profit, it is equally poor judg-

ment to take out of cultivation rich, fertile soil, near markets, upon which crops can be easily produced and upon which the interest charge for land represents a large part of the production costs. It is equally poor judgment not to farm such land with the utmost skill and with as great an intensity as operating costs and price of farm products will justify.

NOTHING could happen that would be so damaging to the best interests of this country and to the farmers as a class as to have any large number of us get the idea that it would be to our interest to ease up in our efforts on the farm, and that it was of very little importance whether or not we used the best and most intelligent methods of production.

We cannot eliminate competition in production and it would not be advisable to do so if we could. Competition is going to be keener this year than in the immediate past, and margins of profit will be smaller. If you and I make money it will be because we produce efficiently by using with judgment all the methods at our command that can be used economically to increase the yield of crops on our farms.

Don't underestimate the importance of good yields. Just how important they are in profitable farming has been well shown by the investigations made by the U. S. Department of Agriculture and the departments of farm management of a number of the agricultural colleges of this country. In Farmers' Bulletin 1139 of the U. S. Department of Agriculture, conclusions are drawn from a study of 3,000 farms of twelve different States, most of which are Northern. They show that:

"Crop yields greatly influence farm profits. Some farmers make fair profits with low yields because some phase of the farm business is sufficiently developed to offset the poor yields, but it is doubtless true that these same farmers could make more money with higher yields. Profits increase at least until yields are obtained considerably above the average for the region, but beyond this limit very high yields are liable to be obtained at the expense of farm profits."

PROF. REX WILLARD of the North Dakota Agricultural College, in reporting on the cost of producing wheat and other crops in North Dakota in 1919, says:

"Yield per acre is the largest factor influencing cost of production. Of the 113 farmers who furnished this information 22 secured yields from 1 to 3.5 bushels of wheat per acre, in 1919, at an average cost of \$6.82 per bushel, while 23 farmers secured yields of 11.1 to 17.5 bushels per acre at an average cost of \$1.84. Acre costs increase with yield per acre, but unit costs decrease as the yield increases."

Prof. W. E. Grimes of the Kansas State Agricultural College, reporting on the cost of producing wheat on 300 farms in Kansas, says:

"The greater the yield the greater the profit, and, even though the acre cost increased somewhat with the increases in the yield, the increases were not in proportion to the increased yield, and the cost per bushel decreased. Better seed and other farm practices which will increase the yield without materially increasing the cost per acre seem to be [CONTINUED ON PAGE 15]



The Shadow Ghost

Was the spirit of Tim McFarland really ahead of the Limited that night?

By Eugene Jones

Illustration by George E. Giguere

OLD MAN FIPPS, engineer of the Limited for ten years, was dead. Who would take his place? According to seniority, the job belonged to Adler; yet Adler had never been popular with headquarters.

Roundhouse No. 5, situated a good half-mile from the Savannah terminal station, was the spot most likely for the news to break concerning the personnel of the Limited's new crew.

Frank Hawthorne, local engineer, young, steady-eyed, liked by the men, stood near the door, smoking; and beside him lounged the oldest fireman on the Swamp Division. They were talking in low tones, glancing now and then at the bulletin board.

"You say you're going to get it?" grunted the latter.

"Surest thing you know, Uncle Bill! Superintendent had me up on the carpet this morning—said I'd done all right, and he needed more express engineers. Then he mentioned the Limited. . . . Of course, it's a mighty big thing for a kid like me. Everybody thinks Adler's first choice; he's been handling a throttle for five years. But Adler—well, you know what the chief dispatcher called him when he ditched that Charleston local last month!"

Uncle Bill drew on his pipe thoughtfully. His shoulders were bent, his face so seamed and wrinkled one could hardly follow the line of his features. Only his eyes hinted at the mental and physical activity which twenty years of railroading had failed to tire. And at the moment his eyes were focused on Hawthorne.

"What about them ghosts in Big Cypress Swamp?"

Frank laughed.

"Look here, a veteran like you can't get away with that! And you better not try; you're going to fire for me."

"What!"

"Fact. I asked the boss to let you fire 99, and he promised to."

If the older man was overjoyed he didn't show it; he merely nodded with a trace of sullenness. And then a clerk from the office pushed through the crowd with a bundle of orders which he proceeded to fasten to the smoke-begrimed bulletin board. Frank was named as engineer of No. 86, the Limited; Uncle Bill as fireman; there were other changes.

NOW, it so happened that Edward Adler came in at that moment from his evening run. Several of the men were congratulating Hawthorne when Adler strode up to the board. His eyes were a little red from the wind; and when he turned abruptly toward the group watching him, there was something in his appearance suggestive of an animal cornered.

"Where's Hawthorne?" he growled. "I want to see him."

Hawthorne pushed forward.

"Well?" he said quietly, although his jaw was set. Doubtless he surmised what was coming. The crowd shouldered closer; the two men faced each other in front of the bulletin board, Adler white to the roots of his hair, Hawthorne smiling a little, but not provocatively.

"You wanted to see me?" he hinted.

"Yes! Who's backing you?" The sneer was obvious.

"Just what do you mean?"

A brakeman laid his hand on Adler's shoulder.

"Hold on," he advised kindly. "I know it's tough on you—you're the older man—but it isn't Frank's fault. Get after the boss, see your union president—"

"This is my scrap!" snapped the angry engineer. "You butt out! Now, Hawthorne, I repeat, who's backing you at headquarters?"

Frank held his temper.

"I'm sorry," he said. "It seems to me I have sort of swiped your job. If you can

fix it with the superintendent, you can drive the Limited as far as I'm concerned."

But such generosity was beyond Adler's understanding; hemerely read in it mockery.

"Oh, yes, I can?"

You know blamed well I can't.

You're pretty

cocksure

you can knife

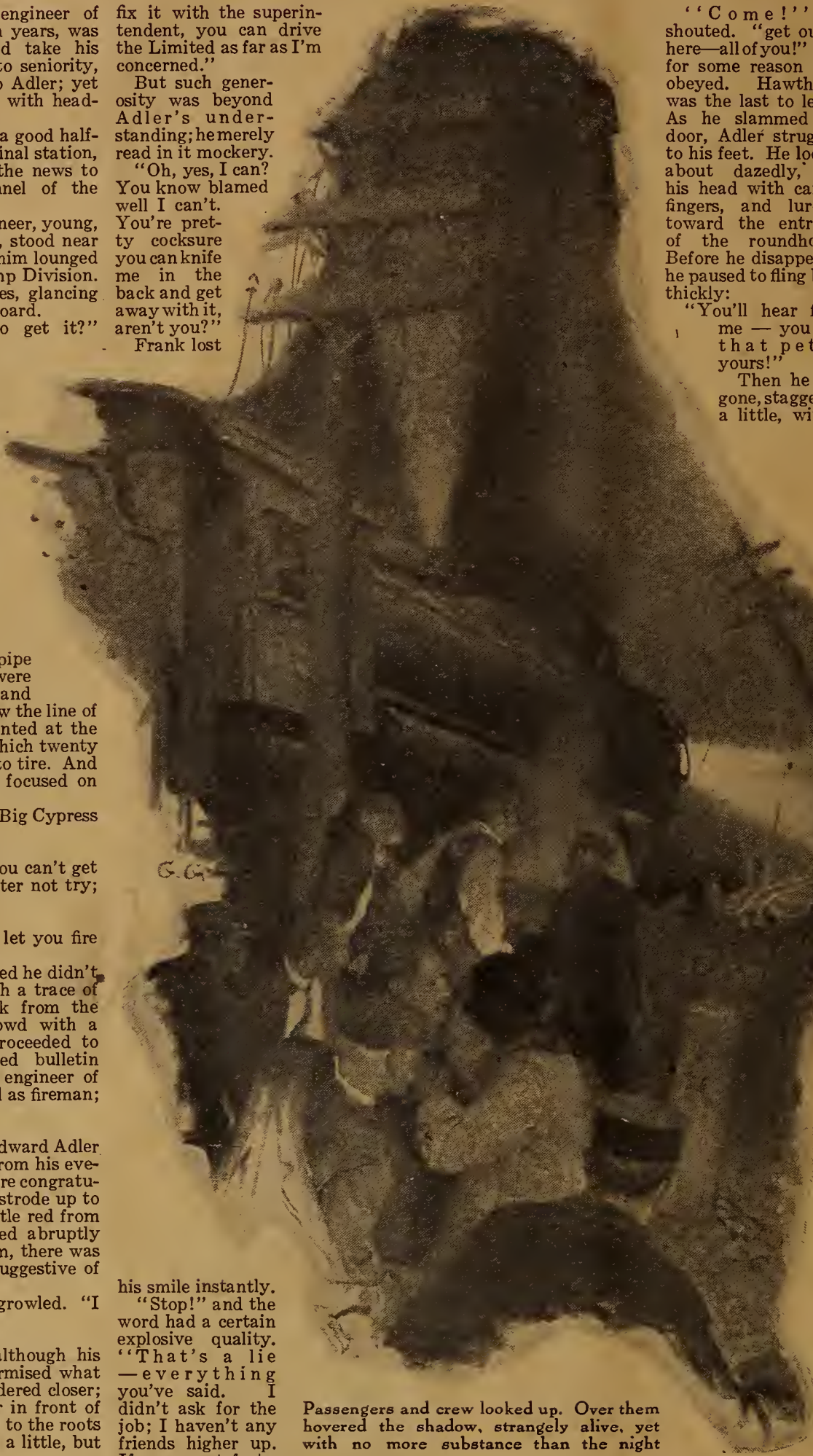
me in the

back and get

away with it,

aren't you?"

Frank lost



Passengers and crew looked up. Over them hovered the shadow, strangely alive, yet with no more substance than the night

his smile instantly.

"Stop!" and the

word had a certain

explosive quality.

"That's a lie

—everything

you've said. I

didn't ask for the

job; I haven't any

friends higher up.

If you want facts,

the superintendent

gave it to me because

he felt I was a better

man than you. I didn't

think so at first,

but now I'm beginning

to. You wouldn't

accept my offer in a

decent spirit. All

right. You can go to

the devil! I drive the

Limited, and that's

flat!"

Before Hawthorne

could guard himself,

the other struck him

fairly between the

eyes. He reeled back,

blinking, caught

himself. Then some-

thing happened so

rapidly nobody had

time to prevent. There

was a dull sound of

blows on flesh, a

muttered exclamation,

and Adler crumpled

to the floor.

Uncle Bill, pushing

forward, grabbed

Frank.

"Come!" he shouted. "get out of here—all of you!" And for some reason they obeyed. Hawthorne was the last to leave. As he slammed the door, Adler struggled to his feet. He looked about dazedly, felt his head with careful fingers, and lurched toward the entrance of the roundhouse. Before he disappeared he paused to fling back thickly:

"You'll hear from me — you and that pet of yours!"

Then he was gone, staggering a little, with a

considered it the most lovable, kissable mouth in existence. He took off his cap.

"Isn't this a bad time to be poking around the depot, Katharine?" His tone suggested solicitude rather than reproof.

She laid her hand on his arm.

"Frank, can you take me somewhere where we sha'n't be interrupted? I've something important to tell you."

"When a man and woman fall in love—" he grinned.

"Who said anything about falling in love? Frank Hawthorne, you're the most conceited, impertinent—"

"You've got to admit it some day. But meanwhile, if you can think of anything more important, there's a quiet spot yonder in the park."

THREADING their way through the shrubbery opposite the station, they found a bench protected from prying eyes. She motioned him to sit beside her, and her first words left him curiously apprehensive.

"Father sent you a message before he died!"

Hawthorne moved uneasily; the old man Fipps had been peculiar during the last years of his life. Many of the strange stories told of Big Cypress had originated with him, and Frank remembered certain evenings when he had walked home with Fipps and listened to the older man's fancies—fancies utterly incomprehensible to youth and high spirits and sublime indifference. Yet now he was to receive a message from the dead! Something in his nature hitherto dormant set his nerves jumping.

"Believe me, Dad was never out of his mind; you know that, Frank. I want you to promise you'll think none the less of him if you don't understand—feel it's nonsense." Here she hesitated, her eyes brilliant with tears. "He was a wonderful father; we loved him so dearly! Even if his message is odd, he meant it for the best—in your interest. And it's—it's like a voice from

another world!"

"Yesterday morning, the morning he died, he made me sit beside him on the bed. Physically he was very weak, but he seemed bolstered up by a strength almost superhuman. I'll try to repeat what he said, word for word. He took my hand and whispered:

"**D**AUGHTER, this is my last sickness. Don't ask me how I know; people close to the Borderland do know. And so I shall give you a message for the man who will be chosen to drive the Limited.

"You have heard, Daughter, of the Shadow Ghost. . . . Don't laugh when I say such a thing exists. Back when the road was young, there was just one fast train between Savannah and the South. The engineer, Tim McFarland, handled her for fifteen years. He was a friend of mine. He always vowed that after his death his spirit would take care of that train. Later, when pneumonia had taken him off, I landed his job, but I never forgot his words. "Remember," he had said, "if you ever get waved down by a shadow in Big Cypress, give 'er the air, 'cause it'll be Tim's ghost trying to save you." I thanked him, and so did the other boys—he wasn't the sort you could laugh at. For years there were strange stories told of Big Cypress, about queer things that walked the rails; but I never told my story—never until now.

"Do you remember the night I stopped the Limited three hundred feet from a tree which had fallen across the track? Nobody could understand how I'd seen that tree in time. Do you remember when the piling sank under the trestle? We didn't hit the cave-in, although you couldn't have spied it a train length away. The office swore I was a wizard. But, Daughter, it wasn't me; it was Tim McFarland keeping his promise. Both times I saw [CONTINUED ON PAGE 18]

bump on his forehead as big as an egg. Frank Hawthorne went home thoughtfully.

Passing through the union depot he caught sight of a slender black-garbed figure hurrying to meet him. It was Katharine Fipps, daughter of the deceased engineer.

She was pretty, but one didn't think of that at first; one thought about the sweetness of her, the simplicity, the utter lack of self-consciousness. Her chin and her determination had been inherited from her father. Her hair was dark, her eyes a pansy black, with a hint of slumbering fire, and her mouth?—well, Hawthorne con-

How I Made 10 Acres of My Corn Yield 125 Bushels to the Acre

By Willis O. Wing

Part Owner and Manager of Woodland Farm, Mechanicsburg, Ohio

IT WAS with a sinking feeling over the fallen market value that I showed one of the editors of FARM AND FIRESIDE a field of corn last fall which was yielding at the rate of 125 bushels to the acre.

For over thirty years I have worked with this variety. First, with the dream that I might some time perfect a strain that would yield 150 bushels, and then, after a succession of unfavorable seasons, I had come to hope that I might some time have a field that would yield 125 bushels. Last fall I harvested 10 acres of this kind of corn, and at the time the editor was here the gold seemed to have turned to brass.

All of us have recovered somewhat from our shock of last fall when the prices of grain came tumbling, and we feel complacent as we look at the cribs filled with corn of wonderful quality. This corn, we fully realize, enjoys an *intrinsic* value. It can be fed to Percheron colts, or hogs, or dairy cows, or even to 65-cent turkeys, with profit. Or we can keep it in the crib and speculate upon it with all the glow and little of the risk of the Wall Street speculator. So over again I enjoy the thought of my 10-acre plot with its 125 bushels to the acre.

All Ohio farmers that I know are corn lovers, and all have their own ideas about its culture, some of which are shrewd and correct and others of which must be erroneous. I have listened to sneering comments from large corn growers on so-called pure-bred strains of corn—listened until I have finally been able to pin the speaker down to an expression of his ideas.

It usually would be that one kind of corn, provided it will mature in a given locality, is just as good as, and no better than any other kind of corn that will mature in that locality. Although none of these gentlemen have had experience in corn-breeding, still they could furnish endless argument to support their theories. To reduce this idea to an absurdity, let us consider some varieties of sweet corn.

IT IS obvious that the Peep-O-Day corn, with its four-foot fodder, cannot yield with the big Stowell's Evergreen, with fodder large enough for field corn. Peep-O-Day excels Stowell's Evergreen in its early maturity; Stowell's Evergreen excels Peep-O-Day in its abundant yield. The amount of corn that may be grown in a given locality should be in favor of the later-ripening varieties, and these varieties nearly all grow large plants and large ears.

The climate here in Ohio, and in most of the Corn Belt, is so uncertain, however, that one is compelled to consider results over a series of years to be sure that the variety in question will mature within the average season. Frosted corn is a very inferior article, and quality naturally comes before quantity. However, the quantity of corn that we may grow upon an acre is very important indeed, and grows more important as the margin of profit becomes smaller. I had thought over this for a long time, without ever reducing it to mathematical exactness, but feeling that the real profits were only to be had with the top yields. It took the annexed table, prepared by Cyril G. Hopkins, to crystallize my ideas.

Do not scoff at this table, because it was prepared at a time when corn could be grown at 40 cents a bushel. We all understand that it would not pay to grow corn at 40 cents a bushel, even at 100 bushels to the acre, at the present cost. The table is useful for your inspection now because the *relative* values of an acre of land with corn producing at the rate of 20, 40, 60, 80, and 100 bushels to the acre will be the same. You will notice that the increase in value of the acre almost approaches geometrical progression.

If I were to formulate my own creed

Crop yields per acre	Gross value of crop	Soil treatment	To grow crops	Harvest and market	Taxes on land	Total annual expense	Net value of crop	Net value of land per acre
20 Bu.	\$ 8.00	\$1.80	\$4.00	\$1.00	\$0.11	\$6.91	\$1.09	\$21.81
40 Bu.	16.00	3.60	4.00	2.00	.58	10.18	5.82	116.36
60 Bu.	24.00	5.40	4.00	3.00	1.05	13.45	10.55	210.91
80 Bu.	32.00	7.20	4.00	4.00	1.53	16.73	15.27	305.45
100 Bu.	40.00	9.00	4.00	5.00	2.00	20.00	20.00	400.00

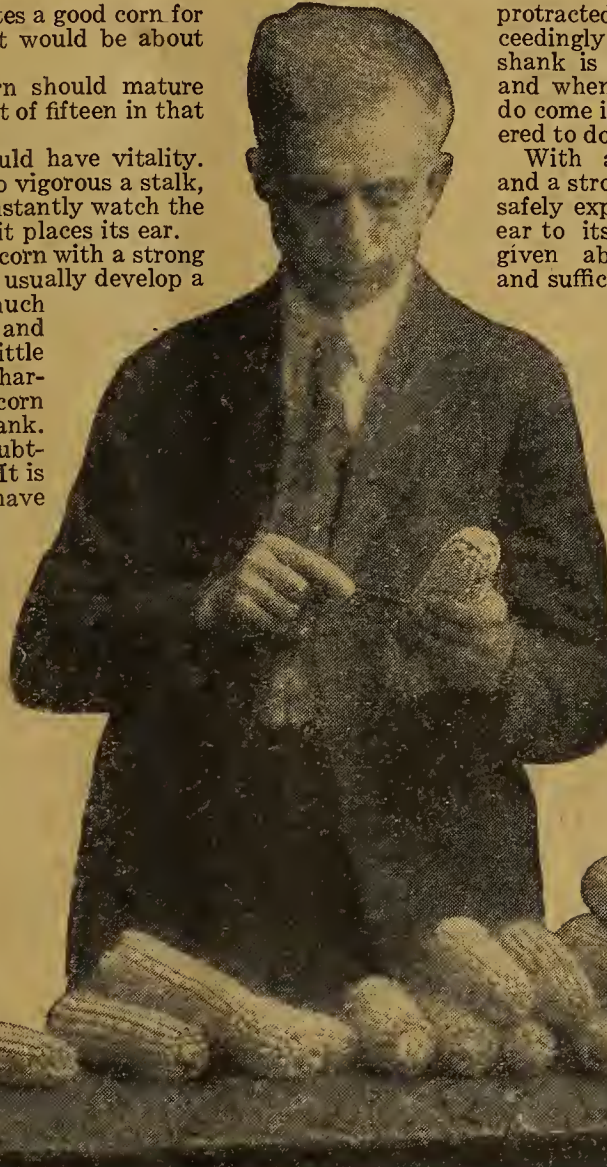
of what constitutes a good corn for a given locality it would be about as follows:

First, this corn should mature fourteen years out of fifteen in that locality.

Second, it should have vitality. You can't get too vigorous a stalk, provided you constantly watch the height at which it places its ear.

Third, I like a corn with a strong shank. This will usually develop a

corn without much show excellence, and the cob may be a little slower to dry at harvest than the corn with a lighter shank. But it will undoubtedly yield well. It is not necessary to have the shank so strong that the ears all stand erect as our White Cap corn used to do, but neither should the point of attachment be as small as a lead pencil, as you see in some show ears. There are very few Augusts that bring sufficient rainfall to grow a maximum crop of corn. In a



This is Willis O. Wing and some of the same kind of corn he grew on his 10-acre field

protracted drought, an exceedingly slender, frail shank is likely to wither, and when refreshing rains do come is too badly withered to do further good.

With a vigorous stalk and a strong shank you can safely expect to nourish an ear to its maximum size, given abundant fertility and sufficient rainfall.

Some twenty-five years ago I started improving our corn by what is known commonly as "the ear to the row" method. Thinking that perhaps some of you are not

familiar with it, I will briefly describe how this test is conducted:

We select 50 ears, perhaps, of the type of corn that approaches our ideal, from field or crib, and plant one half of each ear in a separate row, having the rows long enough to make a fair test. The ears are marked in some way, either by tying on a numbered tag or by fastening a numbered piece of paper to the butt of the ear by means of a nail. They are then carefully stored away in a safe place.

During the season frequent trips are made through the plot to see how the different rows are doing. Of course, all the rows are given identically the same treatment as to fertilizer, cultivation, etc., so that all will have the same chance to make good. When the corn is ripe, each row is harvested separately—the yield noted and the acre yield computed. Other characters of different rows are also noted, such as date of maturity, height of ear, absence or presence of smut, size of stalk, leafiness, shape of ear, uniformity, etc. Naturally, maturity is the most important consideration, with yield next. A corn that can't be relied on to mature is worthless for anything but silage.

THE following year the corn from the half ears that had the best records is mixed and planted together in a separate field or "multiplying plot." The third year there should be enough seed to plant the main fields. By repeating this process every year, carefully selecting in the field the choicest ears from the best stalks for the test, and by eliminating in the "ear to row" test the ears that do not yield well, a high-yielding strain of corn will be developed.

Furthermore, if you have been exact in your selections, and have kept a certain ideal ear in mind, you will gradually get uniform good-looking ears. It may not be a show corn, but it will yield well, and most important of all, it will be suited to the climatic and soil conditions that prevail on your farm. This "ear to row" work doesn't take much time, and we have found that it pays mighty well.

During my first years' work I secured in the plots some very sensational contrasts. I remember one early plot, one row of which yielded at the rate of 30 bushels to the acre, while another in the same plot yielded at the rate of 180 bushels to the acre. The 180-bushel ear had to be discarded, as it was immature. Such results as these led me to hope that the elimination of low yields and the propagation of the high yielders would make a strain of corn that should yield at the rate of 150 bushels to the acre.

FURTHER years of corn-breeding have taught me that breeding is but one factor, for, like the dairy cow which has been so perfected that large yields of butterfat are possible, neither high yields of butterfat nor high yields of corn will come except when the animal or the plant has been properly nourished.

I discovered another important factor in corn-breeding work, and that is that when one of these rows was forced with too violent a crossing between types too dissimilar there were produced what my men called "crazy" ears—ears grotesque, wholly unlike their parent stock. Correct form was usually quickly restored when the whole product was mixed up again. If you try to do some corn-breeding, do not be discouraged by these grotesque ears, nor by the fact that your breeding plot will not likely show the very beautiful show ears which you planted.

The strain of corn that I have developed has an unusual history. I do not know [CONTINUED ON PAGE 13]

He Studied the Problem for Twenty-five Years, and at Last He Solved It

WE HUMANS are an impatient lot. We seldom stick to anything long enough to see if it really can be done.

It sort of makes us ashamed when we find a man like Willis Wing, who for thirty years has doggedly fought the problem of breeding up a high-producing strain of corn.

At last he has triumphed. Last year he harvested 125 bushels an acre from 10 acres. That is what he tells about in this article—how he did it; and he recommends to you the value of breeding up your own strain on your own farm.

He sought a strain that would be ideally adapted to his farm. He got it, and so can you.

The importance of making your corn fit your farm is shown by the fact that Mr. Wing doesn't get as good results with his 125-bushel corn when he grows it on another farm he owns not far from the place on which the high producer was bred up.

We can't all have 125-bushel corn, nor do we need it; but let's not forget that just a little added effort, just a little better planning, just a little deeper thought applied to corn, and other crops, will increase your crop volume, and therefore your income.

When a man talks about the thing that he has been working on for thirty years he is worth listening to.

Willis O. Wing is part owner and manager of Woodland Farm, Mechanicsburg, Ohio. He was a brother and partner of Joe Wing, whose unpublished manuscripts have been appearing in FARM AND FIRESIDE during the last two years. While Joe was traveling about studying farming in different corners of the world, and writing about his observations for farm folks, Willis and a younger brother, Charles, stayed at home and put into practice what Joe preached. Woodland Farm became an important, though unofficial, experiment station where all sorts of farm theories were tried out. Here alfalfa was first grown successfully east of the Mississippi; sweet clover received an early and a successful trial; scientific corn-breeding was practiced; the open-center barn was adopted; Dorset sheep were bred and made popular; scientific soil-building was proved practical; and many other interesting and valuable experiments were made, which have since come into common use.

Willis Wing is known as one of the best farmers of central Ohio. He breeds Percheron horses, and usually feeds 1,500 Western lambs every year on the feed raised on a 340-acre farm. He is always willing to put his shoulder to the wheel to help the cause of agriculture.

THE EDITOR.

Why the Farmers Around Lakeville All Like This Preacher

By Gerald Breitigam

THIS story goes back to the time when C. M. McConnell first came to Lakeville, Ohio, dropping off at the little station beside Odell's Lake one summer day more than five years ago, and marching up the hill into the little hamlet of twenty-five families—and into the hearts of the people too, although that did not follow until he had given ample demonstration that he was a real man.

He is thirty-four to-day, he was twenty-nine then, and in the four years since he had left Boston Theological Seminary, following his college years at Ohio Wesleyan, he had begun to make a name for himself in the country ministry.

Lakeville was McConnell's own selection as a charge, because as an up-and-going country church it stood mighty near zero. The Methodist Church had the field to itself, there were no other churches near, but it wasn't doing anything. McConnell asked for Lakeville because he had certain theories buzzing in his head about making the church serve the community economically, socially, and educationally, and he believed here was the place to work them out.

The first two or three years he spent in getting acquainted, and in bringing people to like him and accept his leadership. He had what many country preachers lack—a knowledge of country life. For he had spent his boyhood on a farm down at Trinway, Ohio, where his mother and one brother still reside. I heard many stories from various people in and around Lakeville as to how he went about establishing himself in those early years, one of which is so typical that I will give it; it was told me by Jesse Crow, a young farmer a mile and a half from the village:

"**O**NE day I was talking to John Wachtel, a farmer, in his fields," said Crow, "and McConnell came along the road. I knew him, but Wachtel didn't. McConnell came over and I introduced him, and at once he began talking to Wachtel about his farming. He asked all sorts of questions about whether Wachtel had tested his seed corn and how he had prepared his ground, and every one was to the point. At last he said:

"Well, I know you want to get to work, so I'll not bother you any more." And then he left us.

"Well," said Crow, and he laughed heartily at the recollection, "Wachtel turned to me, and he was a mighty surprised man. He said:

"Jesse, that fellow ain't a preacher, is he?" I assured him McConnell was a preacher all right. Wachtel shook his head.

"I don't believe it," he said. "All the preachers that ever came to see me before used to haul me into the house for family prayer, and then pass on, but this fellow acts like any ordinary human being."

There are a good many stories to be picked up by any inquirer about McConnell's early years in Lakeville.

"He cured my hogs," said one farmer, explaining how, when an epidemic of hog cholera smote the herds of the vicinity, McConnell sent to the state agricultural college and obtained serum which he administered himself, inoculating many a porker.

"He isn't afraid to get his hands dirty," said Miss Mercedes Crow, Farmer Jesse's sister, a high-school girl. "That's

what I like about him." And she told of how, on arrival, McConnell set to work in old clothes and cleaned up the Newkirk church, an "out" church on the Lakeville appointment, two miles from the village, and weeded the church lawn, too.

All the time he was cementing people to him by his humanness. There was Oakley Thompson, for instance. Thompson is the rural mail man, a native of the country thereabouts, a man of natural leadership.

"I didn't think very much of preachers and churches, to tell you the truth," he confided to me one afternoon as he went about feeding his horse after coming in from his mail route. "I used to sit on a fence post and make fun down inside of me over McConnell. But not for long. He grinned right back, and I knew then that he knew what I was thinking of, and I got to watching him closer. We got to be good friends."

"McConnell likes Lakeville," he went on. "He loves it. He lived right down there below here on the slope. Naturally when a fellow likes you, you like back. That's the way with Lakeville and McConnell."

It was after he had taken root in Lakeville, and had brought others besides Oakley Thompson to look on him as one of themselves, that McConnell started the community hall on its career.

The old church was a one-room building erected forty years ago. It was built before the development of the Sunday School and the recognition of the need for the church to do community work. But it was no longer adequate for all the purposes for which McConnell needed room. McConnell from the start had been at work building up a graded Sunday school, of which Oakley Thompson had become superintendent. Every child for miles around was attending the school, and more room was needed for community meetings.

One day he was missing from Lakeville. On his return he announced he had bought the abandoned Wolf Creek Methodist Church, twenty-four miles distant, at auction. The church board paid the \$500 without a murmur. Then began the task of dismantling the old structure and transporting the material to Lakeville to be set up alongside the church as a community hall.

That was in March of 1918. There was snow on the ground, and the roads were heavy from freezes and thaws.

It was eighteen miles to the village of Killbuck, and six farther to Wolf Creek. Yet McConnell in his flivver made that round trip from Lakeville, over almost impassible roads, seventy-

eight times. Each return trip he brought the flivver in under a staggering load of lumber, and all the time spent at Wolf Creek he put in helping carpenters dismantle the old structure.

At the Lakeville end McConnell worked part time with the men excavating for the basement of the proposed community hall.

The blacksmith at Killbuck undertook to make a trailer which McConnell could hitch on

And he went to the old flivver and kicked it, and yelled 'Dammit!' Just like that, two or three times. 'Satisfied?' I says laughing. 'Oakley,' he says, 'I feel now like nothing's going to interfere with my sleep. Good night.'

When the community hall was completed, McConnell and Oakley Thompson went to Loudenville and bought out an entire motion-picture theatre—seats, screen, light plant, and projection machine. Thompson took lessons from the former operator, so he could turn the crank. Christmas Eve was stormy, one of the worst nights in years, with snow and a high wind raging. But that night the first show was given, and 250 people packed into the hall.

Only three Saturday nights have been missed since then, and there have been Sunday movies besides—such pictures as "The Chosen Prince." The missing of three nights was due to the fact that the village gas well went on a strike and the hall could not be heated. But the people of Lakeville missed the Saturday-night shows so much that they raised a fund of \$160 and installed a coal furnace in the basement of the community hall, after which the shows went merrily on.

Admission to the movies is based on cost of film rental and hall upkeep. The average price is 20 cents, but sometimes for a famous picture, it goes up to 50 cents. The latter sum is paid just as willingly. Thus the endeavor has never yet run behind financially, and to-day there is more than \$100 in the treasury for emergencies.

The hall is 53 x 26 feet, and is divided into the auditorium, which is 45 feet long, a kitchen, and a club room. Between it and the church is a smaller connecting room, 20x15 feet, attractively furnished and containing a brick fireplace. In this hall and connecting room are held banquets, socials, games, and various other community meetings. In addition, there is a farmers' institute with lecturers sent by the State, the sessions lasting two days. State lecturers on home economics, sanitation, etc., also appear from time to time.

"Now, how much did all this cost?" I asked finally, as I stood with McConnell waiting for my train.

"Lots of country preachers asked me that same question last summer in the Centenary summer schools for rural pastors," he answered. "These schools are really conferences where country preachers get together and exchange ideas on how to make the church an agency of community progress, and I was one of the lecturers last year. When the Centenary put some of its \$11,000,000 appropriation for rural projects into fostering such schools, it did a fine stroke of business. Naturally, the men who gather there want to know facts and figures. And, believe me, they are surprised when they hear how little our work here has cost.

"Our whole plant, equipment and everything, cost us only about \$8,000. And for that sum we have [CONTINUED ON PAGE 13]



This is the Rev. C. M. McConnell, himself, and the church at Lakeville he has built up until it's about the biggest thing in town. The building to the right is the new community hall he salvaged from an old Methodist church, at one time 24 miles away. McConnell bought it for \$500, and then, piece by piece, hauled it home, in seventy-eight heart-breaking loads, over bad country roads, in the tonneau of his car

It Takes More Than a Frock Coat to Make a Minister

ALL human beings like to be entertained—to have a good time. Some take it out in joy-riding, some in playing cards, some in gossiping. The thing that put McConnell across with his folks around Lakeville was that he was one of them, and he knew how to show them a good time as well as a good religion.

A frock coat and a high hat, flanked by mutton-chop whiskers and a long face, don't get far these days among those of us who work for a living. A preacher has got to have something to deliver besides sermons. If he claims the right to tell us what we ought to do for the Lord, we claim the right to tell him that he's got to prove it by doing something for us.

McConnell made good on this platform, and there may be a thought for other country ministers in the fact that his kind of performance is still unusual enough to be talked about. When such service by such men, for the country folk (yes, and the city folk, too) of our land, has become so common as to be unworthy of comment, that will be plenty of time to worry about the heathen in India.

THE EDITOR.

behind his flivver. One day McConnell and Jesse Crow, en route to Wolf Creek, stopped at the smithy, and found the blacksmith absent and the trailer almost, but not quite, complete. Being farmers both, they have a rough and ready knowledge of the smith's art. So, stripping to the waist, the preacher and his parishioner hammered and riveted until the trailer was finished, whereupon they hitched it on behind and proceeded on their way.

ONE night McConnell and Oakley Thompson, driving a truck from Wolf Creek, were mired hard and fast. The preacher's flivver, supposedly close behind, in charge of some other Lakeville men, did not put in an appearance. Realizing it must have taken some other turning, they cast around until they found a farmer who gave them a lift to Nashville six miles from Lakeville. There McConnell wakened Parson McWilliams, who got out his car and took them home. It was four o'clock in the morning when they reached Lakeville, and there stood McConnell's own flivver in the road before the church.

"The Reverend turned to me," said Oakley Thompson in telling me this story, "and asked: 'Oakley, has McWilliams gone?' I looked around, and assured him the other preacher had headed home. 'Then, I can blow off steam,' said the Reverend, 'without hurting his feelings.'



Here is McConnell's primary Sunday-school class. The youngsters seldom miss a Sunday, for perfect attendance entitles them to admission to the Saturday-night movies in the community hall

"Yes, Yes, I Built It Myself!"

"And I hope to heaven that my sad experience in putting up a fancy mud house on the Bar-Nothing Ranch at Carizozo will be a solemn warning to other cow ranchers"

By Carl Elmo Freeman

Illustration by Tony Sarg

I ALWAYS did want a rambling ranch house—not one of these mud shacks, with cactus growing out of the roof, but a ranch house that is just naturally rambling by nature.

I wanted it to be of adobe, with thick adobe walls pierced by arched openings laid up in mud and everything; and have the people say, when asked what outfit's that: "Oh, that's the headquarters ranch of the Bar-Nothing. Them was some of their cows we passed back there on the left fork of Pack Rat Cañon."

We had a log ranch house, but it was not a late model and, besides—well, the cistern ran over and filled the cellar full of water. One wall of the cellar gave way. That corner of the house sagged, and a joint of stovepipe fell off the roof and scattered soot all over some wet clothes Bella had out on the line.

Right then and there, and at this point, my wife presented an argument that convinced me we were sorely in need of a new house. I will not attempt to quote her verbatim.

We got busy, and doped out the plans of the house. Bella insisted upon a completely equipped bathroom. She said she was tired of cleaning up my muss in the kitchen. I was willing to do as all good cow ranchers do—stand in a washtub and splash water all over everything and call it a bath. Not so the Missus. According to her, that is a medieval method of bathing. We must have a bathtub.

I wanted a den. But unfortunately I mentioned it in the presence of Mrs. Max Barlow, the wife of a neighboring sheepman.

"You wouldn't have no den in my house," she remarked emphatically. "My darter's husband, that lives in El Paso, has him a den, and, believe me, it's rightly named; his cigarettes keep it smelling like a cave where a bear has spent the winter, or the box where Willie keeps his coyote." Good-by den!

"BUT by all means have a breakfast nook," said Mrs. Barlow. "Lulu has the cutest little cubby-hole right off the kitchen with a table and two benches where she sets breakfast. They eat most of their meals there too—saves work."

Here I balked. If I could not have my den I did not propose to have a "cubby-hole off the kitchen with benches." "Besides," I argued, "who ever heard of a ranch house having a breakfast nook?"

I got away with it. It took us about two months to complete the plans and decide definitely that we did not know where we wanted the bathroom. Then we took them down to Mr. French, a contractor, for his figures as to cost. I will not blurt out his price for building the house; I will just remark that we did not contract with Mr. French to do the work.

"Why don't you build it yourself?" asked Bill Evans, my right bower.

"Oh, just the thing!" exclaimed Bella. "And we can order the doors and windows."

"You could hire a carpenter by the day," said Bill, "and me and Tony could help."

That was settled, and we ordered the windows and doors; also sent for figures on the heating and plumbing outfits.

"I have everything you need," said the lumber man, figuring up my bill. "And I'm certainly glad to see someone start something. Building matters have been dead here since 1917."

I bought all the cement he had, at a dollar forty-five a sack, and was to get twenty-five cents for each sack I brought back.

Bullard, the concrete man, agreed to pour my foundation for four dollars a perch, I to furnish the perch—I mean—well, you know what I mean.

I hunted up an adobe maker, one Pablo

Salazar. Pablo said he and his papa and his nephew would make me some beautiful adobes that would not crack—twelve inches one way and eighteen inches the other and four inches thick. He would lay them in the wall, straight up and sideways, and do it all for seventy-five dollars a thousand, providing I furnished the mud to make them of, and lay them in.

Pablo was ready to do it, just as soon as he got his wheelbarrow that his cousin, who lived at Tularosa, had borrowed and his two hoes, one adobe frame, one trowel to smear

Next morning, at the ranch, when Pablo discovered that I wanted the adobes made inside the foundation lines, so I could use the resulting hole for a cellar, he found fault with the geological formation of that particular spot. In the first place, it was very "duro"—which is Mexican for hard—and would be much work to dig; in the second

place, it contained many little rocks which would hurt his bare feet when he tramped the mud; and, in the third place, the dirt would not make good adobes in the first place. "Right out there" would be "more better."

I could see no difference in the hardness or geological formation of the two places, and said as much.

"Ah," said

We proceeded to "haggle," and Pablo finally agreed that eleven dollars and thirty-five cents was, in fact, the exact amount of money to so alter the geological formation of that particular portion of the earth's crust as to make it suitable for adobes, and would have a wonderful healing effect on the contusions caused by the small stones on his feet.

Bullard soon finished the foundation, and held me up at the rate of sixteen and a half cubic feet to the perch. In about three weeks Pablo had enough adobes made. I brought out a carpenter and his helper to set the floor sills and the door frames.

THE first thing that carpenter did was to measure out from one corner of the foundation, six feet one way and eight feet the other. Then he measured across from the six-foot mark to the eight-foot mark.

"Huh," said he, with his teeth clinched on the raggedy stub of an eight-cent cigar. "That foundation ain't square. We can't lay no wall with that thing—we couldn't make the roof fit."

There I was, and I'd paid four dollars a perch for it!

After about six dollars and twenty cents' worth of measuring, sighting, squaring, and figuring, it was decided that we could use around eighty-five per cent of the foundation by angling the wall across from the inside of one corner to the outside of the other, and building up with concrete where the adobe bricks would stick over.

That carpenter was a "medium" of parts. He was always talking about his "spirit" level. When he was setting a door or window frame he would gather that spirit level fondly in his arms and hold it lovingly up against the side of the frame and study it intently. Apparently he would go into a trance and receive the message.

Now, far be it from me to cast any reflections upon the spirits of those that have gone before, or to criticize their truth and veracity. But if I had known that carpenter then, as well as I do now, I would have insisted upon him using a ouija board so he could have the spirit spell out the message in English, and there would have been less chance for error.

When he had communicated with Chief Running-Water or Little Eva or whoever is his spirit control, that carpenter would have his helper pull out the nail he had just driven and drive it in a new place which the spirits had evidently indicated as being the proper place to have driven the nail in the first place.

THEN he would call for his "steel square." He would fit this angle up in the corner of the frame and wiggle it about. If the square snuggled into the corner smoothly, the carpenter's face would assume an animated expression of pleased surprise, and he would go set another frame. But in case the square did not fit the corner properly, there would be more nail pulling and pushing and shoving and measuring and bracing and renailing. After which he would consult Old Running-Water again, and between the spirits and the steel square there would be consumed in the neighborhood of four dollars' worth of time at the rate of two dollars and thirty cents an hour—a dollar and a half for the boss and eighty cents for the helper. All to see how much out of plumb they could set that frame and not have it fall over before the adobe wall was built around it.

I had two Mexicans digging a cistern, and about this time they uncovered parts of a human skeleton. This did not surprise me much, as there is evidence of prehistoric habitations all about. Not so those cistern diggers. They crawled out of that hole and demanded their money then and there.

For a while it looked like Pablo and his papa and his nephew were going to quit too. They had made adobes and mud mortar out of some of the dirt from that hole.

I called Bill [CONTINUED ON PAGE 16]



There was an explosion, and Pat received a quantity of that hot lead in his shoe top. Patrocino proceeded to ring the welkin. He went through the "up-setting" exercise from position "la" to a sitting position on the ground with his sockless foot in his lap. It was evidently his favorite foot

the mud with, and his papa and his nephew and his papa's liniment for his papa's "rumo"—which is Mex for "Rheumatiz"—and some sticking plaster for the sores which he was going to work on his hands making adobes for me. And would I be back and take them out to-morrow, providing he got his wheelbarrow that his cousin had borrowed?

No! I insisted on taking them out today—just as soon as he could get his papa and his nephew and his other stuff together. I would furnish him a wheelbarrow.

"Sto bueno," said Pablo, which is Mexican for "you're on."

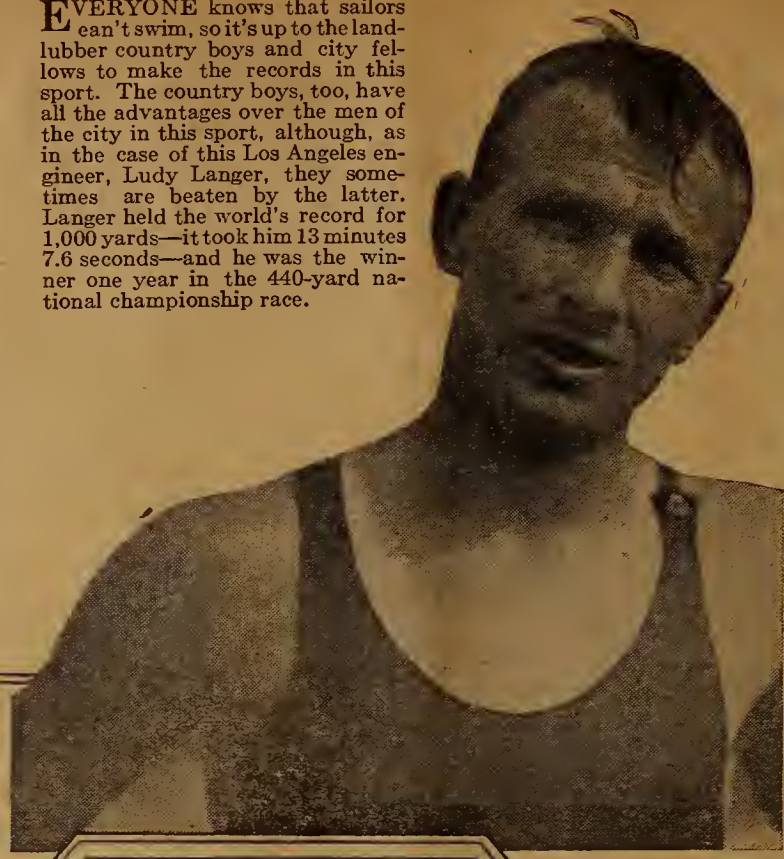
Bill Evans, "all he wants is to pull your leg for more money for digging your cellar."

Then I offered Pablo ten dollars extra to make the adobes inside the foundation where I could use the hole. Pablo made a careful and exhaustive examination of the ground inside the foundation. He sank a test hole by digging in the dirt with his fingers, crushed some of it between his hands, and noted the texture, density, friability, and calcareous content. He tasted it for salineness and alkalinity, then decided that if I made it twenty dollars the soil inside the lines would make very good adobes, and would not hurt his feet much.

Farm-Boy Champions

EVERYONE knows that sailors can't swim, so it's up to the land-lubber country boys and city fellows to make the records in this sport. The country boys, too, have all the advantages over the men of the city in this sport, although, as in the case of this Los Angeles engineer, Ludy Langer, they sometimes are beaten by the latter. Langer held the world's record for 1,000 yards—it took him 13 minutes 7.6 seconds—and he was the winner one year in the 440-yard national championship race.

TRAP-SHOOTING is one of those sports that started on the farms and has spread to the country clubs of cities. Game laws don't interfere with it, and all the societies for the protection of birds and animals can't object to it. It's the favorite sport, next to baseball of course, of Wagner, Christy Mathewson, Ty Cobb, and a lot of other baseball players, and is a regular hobby of Sousa's. Jay Clarke, Jr., the captain of the Champion 1920 U. S. Team of Trap Shooters, comes from Worcester, Massachusetts.



UNTIL he succumbed recently to the vicious—and now prohibited—head hold of "Strangler" Lewis, Joe Stecher, farmer boy of Dodge, Nebraska, was the world champion wrestler. He developed his famous "scissors" hold by practicing on horses and cows. So strong are his leg muscles that he can split a sack of grain between his knees, and hold an auto by a rope tied to his leg. Now the head hold is barred, Joe may rewin his title.

A DOLLAR a day and board was all Jess Willard earned as a farmhand before he found out what his fists could do. He came from Pottawatomie County, Kansas; became a cowboy, horse trader, liveryman, and world's champion heavyweight boxer. He will try to rewin his title from Jack Dempsey next September. He is rich now, and lives on a big farm in Kansas.



FISHING is another privileged sport of country boys. Country boys and millionaires are about the only people who can enjoy it these days. So here we have Charles R. Flint, the "father of the trusts," out with his line. Mr. Flint deals in warships and international councils, but every week, from the first of November until the close of the season, he gets in some duck-shooting and fishing. He is the champion fly caster of the world.

CERTAINLY baseball is the great sport of farmers, as of all other American boys, but the curious fact remains that the hero of the diamond to-day, the god of baseball, the Home Run King, "Babe" Ruth, was born in Baltimore, Maryland, placed in St. Mary's School at the age of seven, and never took a railroad ride till he was nineteen. Yet the first thing he did when he began to make big money was to buy a farm down in Sudbury, Massachusetts, near Boston. He is valued at \$170,000 by his club.

JIM JEFFRIES was born on a frontier farm at Carroll, Ohio, the son of a preacher. When he was six he moved to a ranch near Los Angeles, and those early farming days, when most of the work fell to him, toughened him, physically, into a first-class citizen. In his early fighting days as world champion, it was to this ranch he always returned for a rest, and the first thing he did on his retirement was to buy a ranch for himself in the same region. The man standing beside Jim's cultivator is James J. Corbett, from whom Jeff won the championship, which he later lost to Jack Johnson.

"I Made Money by Learning to See My Hogs as Buyers See Them"

By Tom Delohery

(Photos by courtesy of the U. S. Department of Agriculture)

MAYBE "pigs is pigs," but Fred R. Ferguson, successful swine grower of Brookston, Indiana, has discovered that "hogs ain't hogs" when it comes to growing just any old kind of pork for the market and expecting to make a profit on it.

Ferguson has made a good deal more money on his hogs since he learned the classes that hog buyers put hogs in at the market, because now he breeds to certain types, one of which he knows will be selling high on the market at any given time.

Ferguson's story and the pictures, and what I have to tell you from my experience among buyers and packers at the stockyards, are all put here in this article so that you can have this valuable information at your finger tips to help you make more money too. That is, of course, unless you already know about it, in which case don't bother to read it.

Up to a few years ago Ferguson didn't understand what sort of a hog classed as a "medium butcher" or a "selected shipper," for instance. The quotations showed him the prevailing prices for the various grades, but he didn't know where his hogs would grade, so the figures didn't mean much to him back in his feed lot.

He made but one grade—the great big lard hog so typical of the Corn Belt years ago. His father made this kind of an animal, and Ferguson followed his system.

But as the cost of production increased Ferguson began to sit up and take notice. His profits began to dwindle; sometimes he suffered a big loss, especially in low years. It cost a whole lot to raise hogs until they weighed 350 to 400 pounds, and they didn't sell as well as before.

HE WAS puzzled until a few farmers he met at the market told him of their experience—that is, how much their hogs sold for, and what they weighed. And, according to Ferguson, he saw that hogs weighing 100 to 150 pounds less were bringing more money. True, the total return wasn't as great, but neither was their cost of feeding.

This was a clew, and he followed it out by talking with buyers and sellers. Soon he found out that the market demand had changed. Light swine, weighing from 180 to almost 300 pounds, were desired because they yielded the nice, light, trim cuts of pork suitable for fresh-meat trade, and mild cure for export.

Both of these trades are being developed, since it enables the packer to market a lot of pork without holding it for curing, and maybe a lower market.

"Learning to see my hogs as the buyer sees them has taken me a long time," he said, "but the proportion of profit is greater than it used to be. Now I know that I raise the kind that are in good demand, and with the quality I have I am always sure of making around the top price. Not only did I get to know the kind of hogs that were wanted, but I am also able to connect up the market with my feed lot, because I understand what class of hogs comes under the different terms used on the market.

"And, to that end, I am better able to interpret the market, as it will affect the hogs I have on feed, than ever before. The

list of sales in the market papers taught me a whole lot about the business, for they backed up everything I learned from buyers and sellers.

"To-day, if I look at the market, and see 'butcher' hogs quoted at such a price, I know just about where my stock will land if they happen to be of 180 to 280 pounds, which is the weight limit of that class. If the light butchers are bringing more, I can market my hogs weighing 180 to 200 pounds; and if the heavy grades are selling highest, then I can keep the lighter ones on feed.

"Back here in Indiana I can tell you what kind of hogs the packers want away up in Chicago, for the simple reason that I understand the language they use.

"Quality and weight determine where a hog will class. For instance, take a real good barrow and make him 350 to 400 pounds, and he will grade a prime heavy hog. Take an old breeding sow of the same weight and the grade will be heavy packing hog. Why? The difference in quality. That is one big thing I learned, if nothing else.

"I still raise the same breed of hogs I did five years ago, and I still use the same feeds,

but the ration is a little more balanced. A balanced ration not only makes hogs quicker and better and cheaper, but it also adds to their quality, making a better grade of meat."

Rating your hogs as they may class and grade on the market, and the price they will bring, depends primarily on knowing the terms used by the big packers when buying. These terms signify, in a measure, to what use the hogs will be put. Each class has a different weight and quality. The Bureau of Markets quotations, which are used by a large number of papers, price hogs according to weight.

However, if you know the market terms and the weight of hogs which make up these classes, it is a simple matter to interpret the trade from the federal quotations.

The government quotations are uniform the country over, and consequently producers in California can see what the kind of hogs they have on the coast would be worth in the East. The advantage in this uniformity lies where a producer is able to ship to one or more markets and, everything considered, get an equal return. Likewise, it comes in handy to the man who raises only a few hogs, and sells to the country shipper.

According to the Bureau of Markets, there are four classes of hogs: Heavy, medium, light, and light lightweights. The heavy hogs range from 250 pounds up; medium, 200 to 250 pounds; light, 150 to 200 pounds; light lightweights, 130 to 150 pounds. This classification is based solely upon weight.

Here are the terms used by packers in designating hogs they want, also the weight, so that you can compare both quotations, and see wherein those based upon

poundage fit in with the others; Heavy, 300 to 400 pounds; butchers, 150 to 300 pounds; packing, 200 to 350 pounds; light, 150 to 200 pounds. The difference, based upon weight, lies, as Mr. Ferguson said, in the individual quality of each consignment.

To more clearly show the difference in hogs, and give you a chance to connect up your feed lot with the market, I am including in this article pictures of the various kinds of hogs. Look them over and see if they resemble the kind of hogs you have on your farm.

And, in addition to the pictures, here are some points which are not brought out in the illustrations, but which have an important bearing on how the hogs will grade according to the wants of the packers:

Heavy hogs: There is but one kind of heavy hog, the same being prime, usually barrows. Off grades go into the packing class. This picture is a good one of a prime heavy hog, weighing better than 300 pounds, and perhaps under 400 pounds. Very few of these are wanted.

Butcher hogs: This class, having three grades—choice, good, and mixed—is the most desired, since butcher hogs produce a multitude of cuts which can be sold fresh

ence is quality. Packing hogs do not yield the cuts for fresh or real fancy cured meats that the butchers do, because they are tougher and more stringy. The packing hogs are used for dry-salt, mess pork, and short-cut pork, these being the principal cuts, and after comparing their retail price with that of bacon, hams, loins, and picnic butts—there is no need for saying more.

Old sows, pregnant females, and thin and unqualified barrows generally make up this division. The picture shows a typical packing hog. This one happens to be a sow, and her lack of quality is quite plain. Notice the underline and general appearance—it indicates toughness. The common light-weight hog, too, is a good example of the general lack of quality and condition that one finds in the packing grades. If this animal had more weight, with the same appearance and quality, she would land as a packer.

LIGHT-WEIGHT hogs do not need any description. They are under-weight, of course, grading depending upon quality almost entirely, and the pictures bring out the difference better than can words. They must have the essential qualities one finds in a prime butcher hog, for instance, only the limit of condition, of course, will be smaller—that is, they will not be as fat, but must be developed over the same places.

The next time you go to market take a walk around the yards and watch the men trading; better still, stay with your representative, and watch him. Make your placings, and ask him questions; also question the buyer. These men are only too glad to assist you in learning the market.

It means that when you learn which hogs are in most demand you will make this class. They sell easier, making this task more pleasant, and when the buyer is able to fill his orders without having to take stuff he doesn't want he, too, will be pleased.

Successful production, in any line of business, depends upon the manufacturer giving the consumer what he wants.

And, from the farm angle, increasing cost of production and the demand for certain cuts of meat, which in turn mean best prices, make it necessary for the successful grower to be on his toes all the time.

To Figure Paint Needs

IN FIGURING the amount of paint required for your home, you will find the following rule quite helpful:

While the quantity of paint required varies somewhat with the nature of the surface to be covered, and the conditions under which it is applied, a good grade of prepared paint will ordinarily cover at least 350 square feet to the gallon, using two coats.

First, measure the distance around the house and multiply by the average height, then divide by 350, and the result will be approximately the number of gallons to buy.

Of this quantity, one fifth will represent the paint required for trimmings, cornices, etc.

If you have any questions to ask about farm buildings, send them to FARM AND FIRESIDE and our farm engineer will take care of them.

THE EDITOR.



Choice heavy-weight hog



Choice light-weight hog



Good light-weight hog



Medium light-weight hog



Common light-weight hog



Choice pig



Smooth packing sow

How I Test Your Recipes Before They Are Printed

By Nell B. Nichols

Corresponding Editor of Farm and Fireside on Household Matters

SINCE it isn't possible for all of you to visit the FARM AND FIRESIDE kitchen, I am going to tell you something about the workings of it. First of all, it is an average room so far as the expense of equipment is concerned. Everything in it is within the reach of most farm homes. It's a small workshop, with the kitchen cabinet, table, stove, sink, stool, fireless cooker, and other furniture arranged compactly to save time and steps.

You will be more interested in hearing about the testing of recipes which are printed in FARM AND FIRESIDE. They are given a trial in this kitchen so they will be as nearly mistake-proof as possible when they reach you.

From homes in all sections of the country they come—the favorite recipes of good cooks. The unusual and original ones with a toothsome sound are selected.

You know how easy it is to make a mistake when you are in a hurry? Of course, you do. Surely, then, you'll not condemn the capable housekeeper who is copying a recipe to mail to us and forgets to include the eggs on the list. Perhaps young son is waiting for the letter to take with him to the mail box, and mothers hate to have anyone waiting for them—they dread the pressure of impatience. Nevertheless, this choice recipe, unless it is tested before being printed, will cause many a sigh of disappointment—and all for the want of eggs.

Only a few days ago an excellent cake recipe came to me. Much to my surprise I found $1\frac{3}{4}$ teaspoonfuls of baking powder were needed when the recipe called for but one. In all probability this was an over-

sight, but its discovery will save many persons from eating heavy cake.

Then another reason, and a very important one, why the recipes are tested is that many of the best-sounding ones coming to us are not standardized. In other words, the measurements are not level and the directions are not specific or

sufficiently complete for the inexperienced housewife to follow with success. Frequently mention is made of a can of peaches, pears, or some other food. This is indefinite, for the sizes of cans vary greatly; and unless the woman has had sufficient experience in judging amounts of food, failure is certain to come. Other

references are made to packages and hand-fuls, and these two measurements vary greatly.

Here is the story of a recipe for date pudding. It came to us like this:

"I make a delicious date pudding for special occasions by beating two eggs, adding about one-half cup sugar, one-half as much flour as sugar, a handful of nut meats, one-half package of dates, and one heaping teaspoonful of baking powder."

After it had been tested it read as follows:

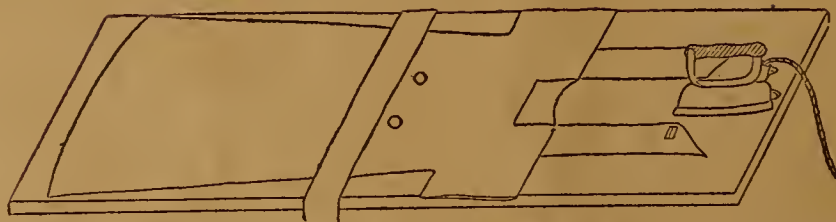
3 eggs	1 cup nut meats
$\frac{3}{4}$ cup sugar	$1\frac{1}{2}$ cups dates
6 tablespoons flour	1 cup whipped cream
3 teaspoons baking powder	Juice 1 lemon

Beat the eggs until light, and add the sugar. Mix the flour and baking powder, add the chopped nut meats and the dates which have been stoned and cut in small pieces. Combine with the eggs and sugar, and bake in a moderate oven for twenty minutes. Serve, while warm, with whipped cream, flavored with the juice of one lemon.

We strive to have every printed recipe so accurate and concise that any woman who uses it will be pleased with her results. Many of our mothers learned to cook before recipes were standardized; they learned by experience, and necessarily had many failures before their eyes were trained to judge proportions accurately. Only within recent years has it been that any attempt was made to standardize recipes. In fact, FARM AND FIRESIDE is the pioneer in this movement so far as the farm publications are concerned. Our aim is to help you avoid the discouragement and waste of [CONTINUED ON PAGE 23]

Miss Gould Suggests

This easy-to-iron house dress for summer days



NO LAUNDRY TROUBLES with this house dress. Look at the little diagram above and see how flat it lies on the ironing board. The pattern is No. FF-4034—The All-in-One House Dress. Sizes, 36 to 42 bust. Width in size 36, one and three-quarters yards. Price of pattern, twenty-five cents. Send your order to Pattern Department, Farm and Fireside, 381 Fourth Avenue, New York City, or Springfield, Ohio.

Let Your Clothes Help

IN THESE strenuous times clothes have to help. They must have some other appeal than mere prettiness.

If you want an everyday dress that will save time in the making, work in the laundering, and still be smart in its style, let me introduce you to the all-in-one house dress shown on this page. It is the simplest little dress to make, as it is cut straight-hanging and has only the underarm seam and two shoulder seams. And when you want to launder it, it flattens out in the most convenient way. It is a slip-over model, but with an opening on the shoulder to make the slipping-on process specially easy. The long, graceful collar gives a special touch of style. It is caught at the back, and then is free from the shoulder, fastening just above the waistline with large white pearl buttons, but being cut long enough so that the points fall over the sash. The long lines of this collar are becoming to almost every type of figure.

If you are planning to make this good-looking dress, try a large-checked gingham for the fabric, in some bright shade as cherry-red and white, bright blue and white, or orange and white. You will find rickrack braid a dainty, good-wearing trimming to finish the white linen collar and circular cuffs of the kimono sleeves. Then there's the sash which holds the straight dress in at the waistline. It ties in the back in a good-looking little bow. In making the dress, tack the sash in front just above the waistline. This means it will always be where you want it when you want it.

Though this smart little model was specially designed for a house dress, made up in different materials, it can be used for other purposes than housework. I can just picture it in one of the new woven checked organdies, one that has embroidered dots, for instance. And what could be smarter color combination than a faint shade of pinky apricot, with the polka dot embroidered in brilliant king's blue? If you make up the dress in this new fancy organdie, I'd have the collar plain organdie, with the edges finished in blanket stitch worked in blue floss. Then, I'd like the dress in plain brown or navy canton crêpe, with the collar of taffeta in maize or fawn. It would look equally smart in cotton crash or rough woven silk, with a touch of wool embroidery.

Miss Gould will help you solve your clothes problems.

Health and Your Hair

LET your hair tell you how you are. Do you know it keeps in close touch with your general health and reflects it unerringly? If your stomach is out of order, if your liver is not working right, if your nerves are at the straining point, take it from me, your hair will tell the tale.

If you want to keep looking your best, watch out for your hair. It always needs care, no matter what sort of hair you have—healthy, dry, or oily. There is just one general rule that can be applied to all hair, no matter what its condition: keep it clean.

Shampoo it often and brush it more often. If your hair is normal, shampoo it every three weeks. Oily hair needs a shampoo every ten days; starved, dry hair can get along with a washing once a month—that is, if it's nourished well between times.

When shampooing, remember to rinse many times. Warm water is best for this purpose, as it keeps the hair soft. Cold water makes it harsh.

For shampooing the hair, there are many preparations that are decidedly worth using. The shampoo soaps are specially convenient, and those with pine tar as their principal ingredients are cleansing and have many tonic properties. They will remove from the scalp all waste material and dandruff scales, and they will so act on the gland cells that they give a new, beautiful gloss to the hair.

Then there is the shampoo soap with olive oil as its base, which is specially good for dry hair, and the regular standby, castile soap, the cleansing qualities of which we all know about.

As for the tonic, there seems to be one to help every head of hair. If your hair is oily, if it's filled with dandruff, if it's poorly nourished; if it's faded and tired-looking, you can get a special tonic for your special need. But let me whisper that half the good result of the tonic depends upon the way it is applied. It is the massage that brings results, for this rubbing stimulates the scalp, and in this way helps the hair to grow. Be careful in applying tonic to get it on the scalp, not on the hair. It should be put on with either a piece of absorbent cotton, a soft tooth brush, or a medicine dropper, after the hair has been divided.

Write Miss Gould if you want help in the care of your hair. Address, Farm and Fireside, 381 Fourth Avenue, New York City, enclosing a stamped envelope for personal reply.

We Turned Loss Into Profit by Trading 30 Grades for 5 Purebreds

By Helen S. K. Willcox



Here are Mrs. Helen S. K. Willcox, who wrote the article on this page, her husband, Clarence G. Willcox, and the youngsters, three thriving farm products of the very finest variety—Ann, aged eight, Alan, aged six, and Edmond, aged four years. They are sitting on the steps of the house on the home place they remodeled, and which took first prize in the Farm and Fireside "How I Made Over My House" contest

IT WAS the ninth anniversary of our marriage when I asked my husband whether, if he had it to do over again, he would be a farmer or a veterinary, as he once pined to be? And he said: "Of course I'd be a farmer. It's the greatest job there is, and the hardest."

Yet not everyone feels so strongly in the affirmative about farming after nearly ten years of hard work, attaining only a fair amount of success. But at the respective ages of twenty-nine and thirty, there are at least two farm partners left in this unsettled, greedy country who consider the goal worth the struggle, and who pray that their children will continue with the soil.

Our farm consists of 143 acres of fertile, sandy soil in central New York, lying perfectly level and mostly along the banks of a quiet little river. This farm was an original grant from the Government to the writer's great-great-grandfather for services in the Revolution, and it has proudly remained in the family ever since. But for twenty-five years tenants were the portion of the then owner, and the land did not improve, nor were the buildings kept up.

Upon my marriage we descended upon the family acres, there to set up our lares and penates and become regular farmers forevermore.

When we arrived, there was a grade dairy of around 30 head, a fairly good basement barn with accompanying smaller buildings; and a big, commodious house which readers may remember as the first-prize "fixed-over" farmhouse in a recent FARM AND FIRESIDE contest.

THERE were no silos, no up-to-date conveniences in the barn, and the outbuildings were decidedly the worse for wear. The first thing to do was to build silos, and we went in debt for two large patent silos, probably the best on the market; also a cement floor throughout the big barn, running water with buckets installed, more windows, better ventilation and many minor improvements.

We went in debt also for a team, machinery, and more cows to take the places of those formerly furnished by tenants as their share. We borrowed working capital of \$4,000, now nine years ago, and we said: "In ten years this *must* be paid up."

The ten years are not yet up; but if health remains with us next year, we will be out of debt, and incalculable millions of dollars richer in good, solid experience, and on the way to less worrisome days. I doubt if they will be any happier.

For five years we continued ordinary farming and dairying, barely making a living, but hopeful. We paid six per cent on our borrowed dollars, no small item in the days of far-below-cost prices for our main product—milk. Then there were repairs to buildings and new buildings, outright, and every year saw the necessity of more new machinery. In vain we attempted to make both ends meet with a little over.

At that stage of the game we depended almost solely on our dairy dividends, with no money crops to help out in the fall, and even with the most skinflint managing we could not contrive to pay anything on our borrowed principal, and the interest itself nearly caused bankruptcy more times than one. Then I suggested a radical step.

"We are on the wrong track entirely," I assured the family. "We have spent nearly five years on the farm, no one has econo-

mized more zealously than we. Yet we are just as far in debt as when we came here. Every cent goes to pay the grocer (and his share is too small) the hired man, the banks who loaned us our start, and the machinery and feed man — particularly the feed man. He is the villain at the bottom of our trouble, and the main trouble behind him is our poor little herd which is letting us support it instead of the other way round. We are harboring a barnful of boarder cows, and they eat up every cent they make. I dare you to sell 'em out slick and clean and go into purebred *Holsteins!* We certainly can't be any worse off than we are to-day."

Well, that bombshell caused very careful consideration. The more we talked the idea over, the more the thought of registered animals appealed to us. We subscribed to a breed magazine, and sat up at night poring over the true yet marvelous stories of dairymen like us who had cast overboard their grade herds and attained success with the great black and white.

To some readers the fact that we sold two thirds of our grades for nearly \$1,200, and replaced them with but five registered animals, will cause due astonishment, with the inward thought that it takes all kinds of farming fools to make a world. I am sure the majority of our neighbors were of this unflattering opinion. I know the Cracker-Box Club was tolerably sure that a near dairy of five cows, more or less, would not support a family of five, let alone keeping up the fertility of the soil.

But we grimly went ahead, advertised the auction, and then observed cruel Fate hand us a sad blow in the shape of the foot-and-mouth disease quarantine which prohibited any shipments of livestock into surrounding counties. As a result, the dairy probably brought smaller prices than it otherwise would have done, as no dealers were on hand to help things along. I remember that our best cow was knocked down for \$110, which was considered a satisfactory price, under the conditions. But others sold for a much smaller average, and at the eleventh auction hour my husband thought it the better part of valor to call off the sale when two thirds of the stock had been disposed of, and wait for a more auspicious time to sell the remaining young stock. This was done, and later on we sold our left-overs in a lump sum, and invested the proceeds in more purebreds.

ALL this happened in 1915. Immediately following the auction, my husband hied himself to a big purebred cattle sale, and there purchased five cows which looked good to him, for \$1,180. Those five females, with a good old registered cow just previously bought of a neighbor for \$110, formed our foundation herd, which we fondly planned should some day increase to 50 head. Our dreams are coming true to the extent of over 40 head to-day, which are valued at \$10,000.

Our five new cows proved to be both average and above average animals, one making 25 pounds of butter in seven days on official test the year following her purchase. For this cow, which was bought for \$225 in the sale, my husband later refused \$500, and, although she was cut off in her

prime, she repaid us several times over in milk and offspring.

Another one of the five also gave us an official record of 25 pounds of butter, while the rest have done their bit, and "carried on" profitably, as good cows are supposed to do.

WHATEVER was the reason, our fortunes seemed to change for the better when we "went into purebreds." We strained every nerve to add to our foundation herd, and while we had far less cows than previously, we in time got the same equivalent in milk and dividends, while the feed bills were vastly decreased. Then, again, we were able to sell a bull calf here and there to a neighbor at above veal prices, owing to his blue blood, and several cows were also disposed of at a profit over their purchase price. Then, too, the milk industry took a stimulus not long after our venture, and milk began to bring a price which enabled its producer actually to make a few dollars every month over and beyond expenses.

Because of the interest and zest which invariably accompanies a fine cow, and which I insist is only possible with a purebred animal, our little family went in with renewed vigor to get ahead of the farming game, and as we had passed through some pretty hard but priceless years of experience, perhaps the time was ripe at last to

over too lightly the long, hard pull which led up to our satisfactory profits of last year. My husband and one man have done the entire work on our farm, with but very rarely an extra hand to help during the haying and harvesting. Of late years we have specialized in money crops, and believe that had we done this earlier in the game our struggles would not have seemed so endless and severe. For several years now we have raised early potatoes for market—several acres of them—and, as I write, three acres are being covered for this season.

LAST year we raised four acres of cabbage, which netted us \$1,500. We sell at least \$500 worth of hay annually above that consumed by our growing herd. These extras, in addition to the occasional sale of a purebred animal at profitable figures, and the large increase in our milk checks, have finally enabled us to get on our feet—but it meant everlasting work and grinding.

We have incidentally managed to take time to raise three children during our nine-year term in the school of farming, but probably no one who has not worked and finally conquered, as we are on the way to doing, can understand how a young couple would elect to do it all over again—privations and hardships and all. The lure of the farm is difficult to explain, unless it is in your blood.

Some way, a born farmer takes his sixteen-hour day as a matter of course, and waxes strong and patient under the rough treatment of agriculture.

Why Now is a Good Time for You to Start Purebreds

THE general fall in prices has driven the purebred stock market down to rock bottom. Never before have such values been obtainable. Never before has it been so necessary to watch production costs closely. And using purebred stock on your farm is one of the best ways to cut the cost of production. Good purebreds will make better milk records, or dress out a larger percentage of the most desirable cuts of meat, at less feed cost, than the best grades you can buy.

If you don't know what kind of purebreds to get, or where to get them, maybe your county agent or someone at the extension office of the state department of agriculture will help you if you ask. It isn't a thing to go at haphazard, but it's a mighty worth-while thing to do, especially right now. Low prices all around may have some pretty mean aspects, but one of the bright spots is this chance to get into purebreds at reasonable cost. The Willcoxes did it, you know, at a less favorable time than this. Mrs. Willcox tells how in this article.

THE EDITOR.

become successes instead of disheartened failures—anyway, we really began to succeed.

In five years we have increased our purebred dairy from six animals to several over forty. Last year we paid the most on our debts—toward the principal—of any year out of the four, or \$1,000. Last year we paid our first income tax—the farm and dairy making us a profit of nearly \$6,000, the increase in stock not being taxable.

Our figures show that we sold \$4,427.14 worth of livestock and stock products in 1919; sale of crops and crop products amounted to \$2,479.98; other receipts, \$414.16. Gross Profits, \$7,321.28. Our farm expenses for the year were \$2,819.71; repairs, \$305; depreciation, \$101.90. Total expenses, \$3,226.61. Net farm profit, \$4,094.67, not including natural increase in stock, etc. As our farm is conducted on a share basis, this latter sum was divided between proprietor and owner, while only the owner paid her income tax.

We have set a ten-year limit, as previously said, in which to become entirely independent, and while we may not achieve this, yet we are on the way to our thirties comparatively unworried, and ready to do and dare until the goal is ours.

In closing, it would not be right to pass

She Oils 'Em

AFTER years of experience in raising poultry on the farm, I find that my best aid in clearing the poultry houses of vermin is the kerosene brush.

For the eradication of the pestiferous red chicken mite I take an old brush and some kerosene, and go over all the roost supports, joints, seams in the nest boxes, uprights, and wall cracks with a penetrating coating of the kerosene. It is sure death to each and every mite it touches. I find that this is all the care needed in the hen houses, winter and summer, after the spring and fall cleanings and the usual whitewashing or creosoting of the interior surfaces, nests, and roosts. I examine the roosts occasionally in the winter, every three weeks in the summer, brushing the seams and joints with the kerosene. If there are any mites, they will appear. If none, you can be thankful. But if their numbers seem legion, go over every inch with kerosene.

And this is not its only use. If the scaly-leg mite appears in your flock, take up the kerosene brush again and paint the scaly legs with it, being careful not to touch any of the feathers around the knee joint. Usually one application will kill the mite that works and causes this scaly appearance of the legs; but if not, I continue the applications until the legs are cured.

The powder shaker, with a good commercial louse powder, is the easiest remedy for lice. But with a farm flock on range, with boxes of ashes and dust baths available, it is seldom that remedies will have to be resorted to. The average hen will take care of herself under ordinary conditions. I use the powder on the setting hens at least three or four times, being careful to make the last application a few days before the eggs are to hatch.

Since a farm woman has so many and varied duties, but a small portion of her time can be used for the care of the farm flock, and it is "up to her" to learn the most efficient ways in which to care for her flock.

BERTHA L. SMITH, Ohio.

Mr. Red-Headed Woodpecker's Bad Luck

His strange adventure with a caterpillar. Why he pecks and pecks at trees and what, besides food, he expects to find

By Frank A. Secord

Illustrations by Edwina Dumm

THE woods were very quiet, except for the chirp of a bird once in a while. The little folk who dwell in leafy bowers during the glad season of summer were greatly satisfied with their lot, until a woodpecker flew to the trunk of a tree, stood straight up with his feet clutched to the bark and began to pound away at the wood until his pretty head looked just like a streak of red paint between his body and the tree. The first of the woodland folk to take notice of the noise was a squirrel, who called from her nest above to say:

"For mercy's sake, go away! You give me the headache!"

"Well, you are no worse off than I, for I may tell you that I also have a headache," the bird answered, pausing a moment to look upon the squirrel, who scowled at him. "I have been pounding and pounding so long and so hard to-day that I have a good reason for having an aching head."

Mrs. Squirrel rubbed her head for a moment, and then remarked that if the woodpecker would remain quiet long enough to tell her a story about his strange habit, perhaps his as well as her own hurt would be cured.

"Habit! Do you mean this?" the bird asked, rapping again at the tree, as if trying to pound off his very head, for spite. He then hopped to a limb close to Mrs. Squirrel, squinted each eye at her, said something about being willing to oblige, and told his tale:

"Well, one time, long ago, all the red-headed woodpeckers in the world wore nice feather hats. People would call them tufts, I guess; but they were hats, just the same, and these kept the sun off in summer and the cold out in winter.

"Every woodpecker took great pride in his or her feather hat, as I shall choose to call them, and never tired of showing the

redtops. Indeed, the feather hats were envied by all other birds.

"Then, as now, woodpeckers lived upon bugs and worms, such as hide under the bark of trees and in the wood. I do not like to say it, but there came a time when all woodpeckers who had red heads grew very lazy, and would not work for their food, choosing, instead, to eat caterpillars. It was easier, you know, to get caterpillars who went to sleep, wrapped up in queer beds, where they turned into butterflies, than it was to dig into the wood or bark for food.

"**A** TIME finally came when there were scarcely any butterflies in the country, as woodpeckers ate nearly all the caterpillars; so an elf of the woods commanded the lazy birds to cease eating the fuzzy worms, under pain of punishment.

"Pooh!" cried the birds, "We shall eat what we wish and when we wish it. We were born in these woods and have a right to do as we choose here."

"The elf gave his warning several times, and then, finding the birds unwilling to obey, called to him a certain woodpecker, who wore a feather hat and was a sort of leader among his kind. To him the elf said:

"I have called you to me to say that if you birds keep on doing things you should not do something will happen to make you sorry."

"For answer the redhead raised a wing, and with it knocked the elf's hat off his head, at the same time shouting:

"That, for your orders, sir!"

"He then flew to a bush where a caterpillar was crawling, and gobbled it up.

"Stop it!" cried the elf, turning very red in the face over the double insult, and disappeared.

"The woodpecker chased another caterpillar, which appeared on the very spot where the elf stood a moment before, but this worm ran into a hole in a tree, and Mr. Redhead dug with all his might at the hole.

"Well, Mrs. Squirrel, the caterpillar found a little tunnel in the wood, and through this he ran, able, soon after, to stick his head out of another bole. He winked at the bird, and shouted as loudly as he could:

"Ta, ta! I'll see you later!"

"You will see me sooner, not later!" shouted the woodpecker, digging furiously at the place.

"Pound your old head off and see if I care!" the caterpillar cried, pecking out of still another hole in the worm-eaten wood.

"A little while after that, as I will

tell you, a strange thing happened: Mr. Woodpecker became very angry at the worm's actions, and he kept on digging, intending to get the fuzzy worm, no matter what.

"The caterpillar at last stuck his head out of still another hole in the tree, and this happened to be the home of a squirrel. Mr. Redhead thought he would succeed without any trouble now, so into the opening he thrust his head, feeling sure that he would get the worm. Instead of this, however, he got hold of something else, and this something else also got hold of him. It was the elf, and he held the bird's head until every feather of the hat was pulled off. The bits were cast to the winds, which blew this way and that, far away. The elf cried, as he plucked out the feathers one by one:

"I told you, bird! You think I talk to hear myself speak, eh? Well, now that you have no hat I suppose you know I meant what I said, when I asked you to obey me."

"**M**R. WOODPECKER sulked. He at once made up his mind that his hat was in the hole in the tree, for he did not see the wind blow the feathers away. He intended, so he thought, to come and get his hat when the elf was no longer about; so he hid in a bush quite a while, and then silently visited the hole and sought his lost topknot. He chuckled as he pecked in and muttered something about fooling elves or anybody else who considered themselves wiser than the greatest of the red-headed woodpeckers, as he called himself. He looked and looked, and then backed up, crying, tears streaming from his eyes:

"It is not there! It is not there!"

"Indeed, it is not there!" a voice shouted. "You are a very silly bird. Listen! Now that you have no hat, which used to be your pride and joy, you will spend much of your time searching for one. I tell you that your hat may be found in this tree at times, perhaps; at other times it will be in another tree, I think; again, it will be in still another tree, for all I know. It is a punishment for the wrong you have done that you go through the world in search of your feather hat, but you will never know where it may be found. However, if you hunt well enough you will be able to get



"Stop it!" cried the elf, turning very red in the face over the double insult, and disappeared

your food and, perhaps, you may one day get your hat. I do not say that you will ever find it, but the hope will spur you on to look for the missing redtop. Eating caterpillars will not help any, as you can see. Peck, peck, Mr. Woodpecker, and the harder you work, the better your chances!"

Mrs. Squirrel interrupted the tale of Mr. Woodpecker to remark that she saw a hole in an oak tree one time, and that she firmly believed it was the very one where the disobedient bird lost his hat.

"It could hardly be the same," the story teller said, "for all this happened ages and ages ago, and the tree must be gone these many years."

"What I cannot understand," Mrs. Squirrel mused, "is, how could the caterpillar get away from the woodpecker? Anybody knows that a fuzzy worm cannot run fast, and everybody knows that a bird can run or fly swiftly. Why didn't the old-time woodpecker get the worm and save his hat?"

"Alas!" sighed the other. "Even had the woodpecker been as quick as lightning he would have failed."

"Well, I don't know why," Mrs. Squirrel insisted.

"You will know and understand when I tell you that the caterpillar was the elf in disguise. He jumped out of the hole after plucking the feathers and while the bird was hiding in the bush, and walked away across the woods. Many birds and animals saw him, it is said, and their kind of to-day can tell you that my story is correct, so far as anybody knows. It has been handed down from mouth to mouth through ages."

"Ages!" exclaimed Mrs. Squirrel. "That is a long time, and it does not seem that you folks will ever get feather hats again."

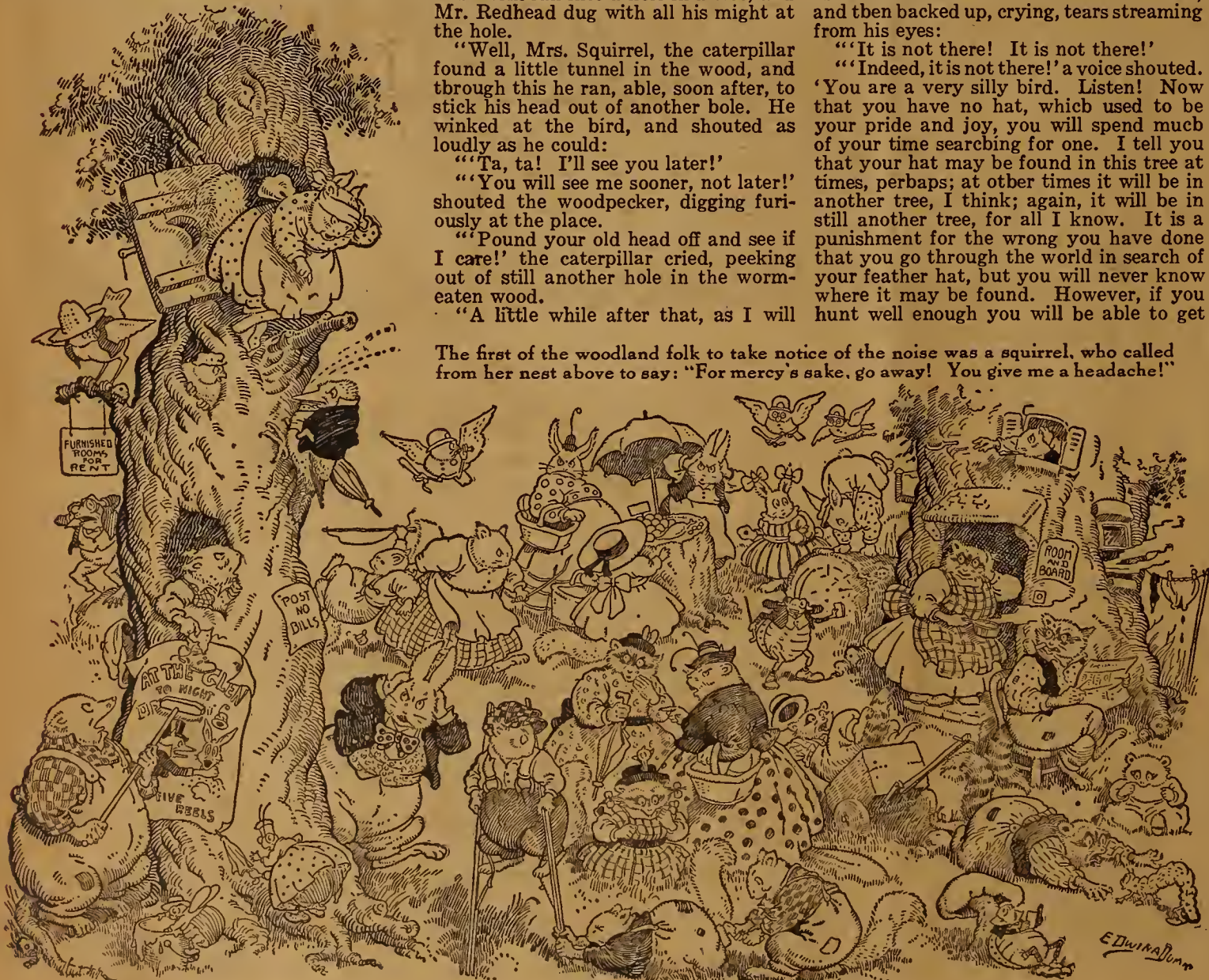
THE tale teller sighed and continued: "The reason I peck and peck is that I would find my feather hat, madam. If I do not seek it I shall never find it, and that is certain. The elf truly said that we woodpeckers, while searching for the lost hats, will get food. Alas, it is too true that disobedience brings trouble, and I wish that old-time woodpecker had not refused to heed the elf's warning. He went out of his way, so to speak, to insult the elf, besides the act of disobedience, and now we suffer."

"What you say is very true," Mrs. Squirrel said then, "and I am sure, if there were wood elves in these days, none who dwell in the woods or fields would be so foolish as to disobey their commands. How is your headache, sir?"

"Why, I have none," the woodpecker answered, inquiring, "And yours?"

"Gone, entirely. In order that I may not get another, my friend, I may assure you that your hat is not in this tree, so you may as well try another and do no more pounding here."

The bird sighed [CONTINUED ON PAGE 27]



The first of the woodland folk to take notice of the noise was a squirrel, who called from her nest above to say: "For mercy's sake, go away! You give me a headache!"

125 Bushels to the Acre

[CONTINUED FROM PAGE 5]

how much this history has helped, or just how much it has hurt this corn, but it has doubtless been a factor in the final product. My brother Joe, as many of you know, spent much of his time studying farming in different corners of the world. When he saw at the Iowa State Fair, at our Ohio State Fair, or at some other show, a sample of corn that struck his fancy, possibly a prize winner with exceptional merit, he was sure to buy it and bring it home to me and ask me to mix it with our White Cap. My, but that did get me into a lot of trouble!

I would just be getting the corn to the place where I could begin to see a type, when the whole thing would be upset by some of these show ears, and possibly two or three crops would get caught with frost as the result of ears from some other region. I have not introduced any new strains into this corn now for some ten years, and it seems to show as much type as you ever get into a corn. I have never gone into a man's crib yet that I did not find at least four types of corn.

OUR White Cap seems inclined to place a goodly ear upon each and every stalk, and to do all for me that corn can do with the season that we have here. As this corn has come to be more fixed in type, it has lost its former variability in yield to a great degree. For the last three years the 36 piles of corn carried out to the end of each row in our test plot have been so uniform in size that I have omitted weighing, making the selections for the next year on the basis of quality only.

Is this corn of ours, that I am feeling so complacent about, the kind of corn that every farmer in this zone should grow? Alas, it is not. It will make fair yields anywhere in Ohio, and likely in most of the Corn Belt. But on a farm I am operating some five miles away I prefer to grow a smaller-eared, yellow strain of corn that feels at home on the thinner soil. My suggestion would be that you develop your own corn type on your own farm, just as I have done.

My 125-bushel yield was grown on a strip 39 shocks long, running from a yellow clay knoll to another black creek bottom. It was supplied no fertilizer except an application of some 300 pounds to the acre of basic slag, and was planted in an ordinary check-row corn planter, and cultivated with our two-horse cultivator, with the weeds cut out once with a hoe. In short, this field was handled as all good farmers handle corn in our section of the State.

IT IS my belief that this corn, if given good ground and a favorable season, will make 150 bushels to the acre. And my conceit will not admit that any other variety now being grown in the State will make 125 bushels to the acre on this farm with the same culture and the same fertilizer treatment. I am sure of this because our corn has been grown here so long that it has become ideally adapted to our soil and season.

For those who have never heard of our work on Woodland Farm, I would say that it has been made fertile by many years' work, and by the growing of alfalfa and livestock. It is very thoroughly tilled, and really in a very high state of fertility.

To sum up what I have been trying to say:

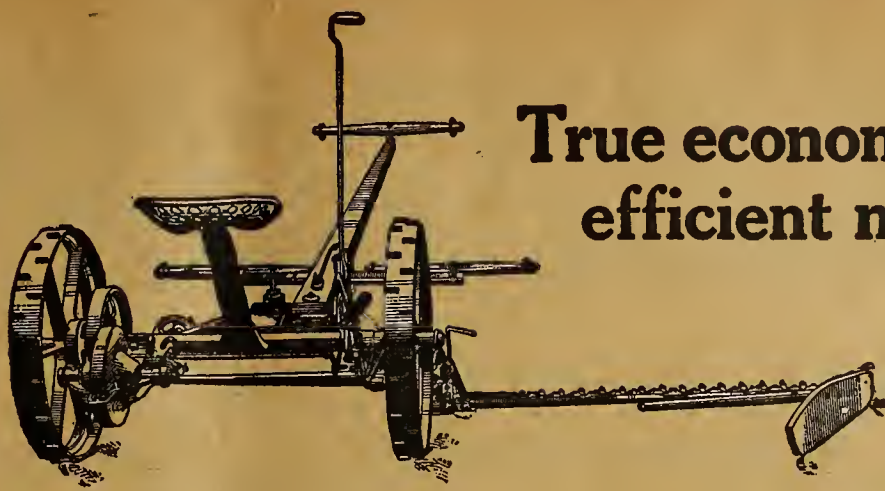
There are some dairy cows that, no matter how well you fed or groomed them, you could not hope to better their records any, and there are also varieties of corn which appear to have reached their maximum capacity of production, and with them extra fertility and favorable season provoke no further response.

But has your corn reached that stage yet? Until you are sure that it has, my experience would lead me to believe that really systematic and continuous efforts to improve your corn, adapting it to your particular farm, will pay exceedingly well.

They Like This Preacher

[CONTINUED FROM PAGE 6]

met the needs of the entire community. But we could never have succeeded on a narrow program designed to meet the needs of Methodists only. It took the help of the entire community, including a good many people of various other denominations, to get that plant built and at work. Cooperation is what does it. Let country people work together and nothing is impossible to them."



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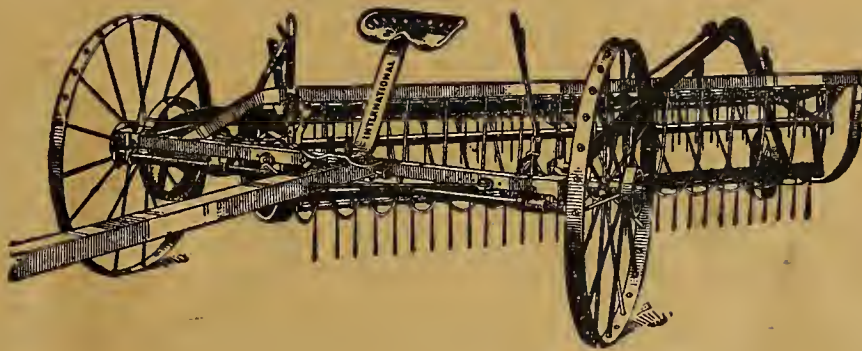
is nearly always at your heels. You wonder how you are going to get your hay out of the way. Do it with efficient machines.

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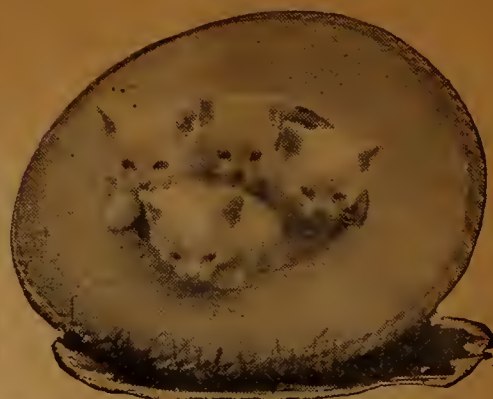


Photo by J. C. Allen

"Meow, me-o-ow! We're hungry and we want to go home to our mother," unanimously complained this furry quartette, which lives on the farm of Walter Collins of Bellmore, Indiana. From the expectant look on their faces we guess their wish was granted

His Purebreds Grow Faster

S. D. LOGAN, a farmer living at Noedsha, Kansas, and president of the Wilson County Farm Bureau, is a strong believer in the better-sire movement.

After an experience of twelve years with scrub cattle, and an experience of four years with grades and purebreds, he says:

"I believe that purebreds bring easily one fourth more than grade and scrub stock. Of course, it isn't practical for the farmer to replace all his scrubs with purebreds at one time, but it is practical gradually to build up a herd by buying a good purebred bull, and by gradually eliminating his cull dams."

Mr. Logan's experience seems to be a typical one, and his conclusion coincides with other farmers. He tells this story:

"Last year I had a Hereford steer which a passing buyer saw. He asked if I had any stock for sale. I said I hadn't. But when he saw this steer he wanted it.

"How much are you paying?" I asked. "I'm paying \$7 per hundred for two-year-olds," he answered.

"That lets me out easily," I said, "for my calf here is only a yearling."

"The buyer would hardly believe me, but he wanted the steer badly. Finally, seeing that I was not at all anxious to part with the calf, he offered me \$8.25 a hundred for him. That steer was as big as any scrub two-year-old the buyer had, and bigger than some of them.

"That is only one instance," he concluded, "of my trial with purebred material. I wouldn't think of using any other than a purebred sire for my livestock now. It doesn't pay." B. M. LEA, Kansas.

Have You Tried Pe-tsai?

PE-TSAI, or Chinese cabbage, has within the last few years become popular all over the country. It was first introduced to America by the Chinese.

While it belongs to the cabbage family, in growth and looks it resembles a giant cos lettuce. The interior of the heads blanch to a pure white, and the plant does not have to be tied up, as do most varieties of cos, to obtain this result. It is very tender, and may be boiled, or eaten as a salad. We always grow a row or two to help give variety to the fall garden.

Sow the seed thinly in drills, and thin out to ten or twelve inches or transplant the little plants from the seed bed when two inches or so high. A rich soil, such as is given lettuce, is required to get a rapid, tender growth. Under such conditions the plants grow most vigorously, and give an enormous yield for the space they occupy. A packet of seed will be ample for the average garden. F. F. ROCKWELL.

Making Bidy Exercise

A FAIRLY common practice among poultry keepers is to suspend cabbage or mangels in a string sack on a cord. The object of course is to encourage chicken exercise. I find it best, however, to hang the green food only a reasonable distance off the floor. Jumping is strenuous exercise. It brings parts under strain that the hen normally little uses. When a flock is laying heavily, there is danger of rupture if the cabbage is hung high. Dry, deep, new litter, in which scratch grain is sprinkled, is a better exerciser.

Cabbages and mangels may be spiked to boards or impaled on wall spikes. I like to split the mangels in half. Any green food can be mixed and fed in a hot wet mash.

J. T. BARTLETT.



Photo by J. C. Allen

"I'll start with a pair o' jacks" might be the slogan of this young farmer of Montgomery County, Indiana. And who could want a better pair to play with, or to work with when they grow up. Wonder how soft baby mules' hoofs are?

You Can Lose Money

[CONTINUED FROM PAGE 3]

the best methods available to the average farmer for increasing his profits from the production of wheat."

These facts are going to apply to farm operations this year just as they always have in the past. It will pay to produce good crops. It will pay to produce big crops, provided the extra yield is not secured at too great a cost.

This is the thing we must study this year—just how far we can go in increasing the yield without too greatly increasing the cost. We must be more conservative than in the past, yet not too cautious. It always pays to use good seed. It will pay this year. It would be poor economy not to go to the expense and trouble of testing the seed corn or paying a little extra price for good seed in case our own seed is poor.

It will pay to go to extra trouble and some expense in order to prepare a good seed bed for the crops, and to keep them clean. It will pay to haul out and spread the barnyard manure, and it will pay many farmers to use commercial fertilizers. It does not seem desirable to experiment with new kinds of commercial fertilizers, or to try any kind for the first time on a large scale.

It will not pay to buy in mixed fertilizers plant food that is not needed on our farms. This is the time to follow practices that have been proved profitable, and not try new things which are of doubtful value. Increased yields that can be secured in this way will add to the profits of the farm, and those of us who follow this line of action will do our part toward bringing about more settled and prosperous conditions for all.

DR. H. J. WATERS, editor of the "Weekly Kansas City Star," has sized up the situation well in the following statement:

"Any campaign to limit production for the purpose of boosting prices would be dangerous. If you try to arrange production so there is no surplus, we may have years when there is an actual deficit. While our loss this year from reduced prices has been six billion dollars, don't forget there is a possibility of our losing more than that through forfeiting our good standing with the public.

"We all remember the good opinion in which the railroads formerly were held. Yet, through selfishness, the railroads have brought down upon themselves a deluge of adverse legislation which threatens almost to wreck them. The same way with the labor unions, which have done a great thing for the man who toils, but whose greed has reacted against them. Also consider the packers, once lauded as the farmers' friends.

"We mustn't make the mistakes they made. And we mustn't forget that, in going before the public with our demand for cost of production plus a fair profit, the public will ask us for our figures. We cannot afford to show waste in production then. The consumer, before he will be willing to give us a profit, will demand that we produce as cheaply as possible.

"To me it appears that the realization of our desire for fair prices will come through cheaper production, which will allow us to make a profit without increasing the cost of living."

"All nature hails the vernal morn,
And tender blades of grass adorn
The lately dormant plain.
The ploughman, early at his toil,
Again break up the rugged soil,
His hopes of future gain."

From "The Farmer's Almanac", April 1828



LEE Puncture Proof Tires



LEE tires smile at miles



Section showing LEE Puncture-proof construction

"HIGH PRESSURE"—that's the slogan of the farm from now on.

No time to lose on worn or failing equipment. All must be in readiness for the spring, summer and fall campaign.

Every chance of costly, time-wasting trouble must be eliminated.

Trips to town by truck or passenger car must be made without delay.

Tire trouble must be guarded against—punctures and blowout avoided, if possible. And it is possible.

Lee puncture-proof pneumatics carry you safely, surely, there and back, without mishap, in spite of stone chips, splinters of glass, bits of iron or tin, nails and tacks that puncture ordinary tires.

Imagine, if you can, what a punctureless year will mean to you in the saving of delays, annoyances and tire dollars.

Lee puncture-proof tires, both cord and fabric, are built generously oversize. They give more bonus-miles than any other pneumatics built.

In addition to an unusual mileage guarantee Lee puncture-proof tires carry a cash refund guarantee against puncture.

Any Lee dealer—and there are Lee representatives everywhere—will give you expert tire counsel and fit your motor-driven vehicles with the Lee tires built to deliver the service you require of them.

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has capacity of 2 1/2 cubic feet. Mixes better concrete faster and with less work than can be done with shovels or inferior mixers. Batch a minute throughout the day. Operate it by hand or hitch to farm engine. Built entirely of iron and steel—nothing to break or wear out—lasts a lifetime. Fully Guaranteed.

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Send for it today.

Electric Wheel Co.
13 Elm St., Quincy, Ill.

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You'll Feel at Home

Western Canada extends a helpful hand to you. Friendly neighbors with the same language and customs—splendid schools, churches and social life—warm, sunny growing summers and dry, healthful winters—law and order—efficient labor supply—await you in this wonderfully prosperous "LAST WEST."

Profits in Wheat and Dairying

"SELECTED" Farms along the Canadian National Railways average more than 20 bushels of wheat per acre. Under specially favorable conditions a yield of 50 to 60 bushels per acre is not uncommon. Dairying is very profitable. A world-wide market awaits all that Western Canada can produce.

Stock thrive on the prairie grasses which make fine hay. Cattle and horses require only natural shelter most of the winter.

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Western Canada taxes fall lightly on the farmer. There is a small tax on the land, but buildings, improvements, animals, machinery and personal property are not taxed at all. There is no increased taxation on farm lands to meet war expenditures.

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Terms on "SELECTED" Farms: About 10 per cent cash down, balance in equal payments over a term of years; interest usually 6 per cent.

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Reduced railway rates will be made for land-seekers and their effects to encourage inspection of "SELECTED" Farms along the lines of the Canadian National Railways. Personally conducted excursions for this purpose also will be arranged. Full information will be sent on request. WRITE OR MAIL COUPON TODAY!

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Canadian National Railways,
Dept. 2164, Marquette Bldg., Chicago.

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"Yes, Yes, I Built It Myself!"

[CONTINUED FROM PAGE 7]

to my rescue. He talked the adobe makers back on the job, but the cistern diggers took their blanket rolls and walked off.

There I was with a half-dug cistern on my hands and a defunct Indian in the cistern. Bill carefully removed the latter, and he and Tony finished the job.

The carpenter took great pride in displaying his knowledge of Spanish. He never spoke of "nails," they were "clavos," if you please. His saw was a "saw-rucho," with the accent on the "rucho." His hammer was his "mar-tee-o."

"Do you speak Spanish?" I asked him one day.

"I'd say I do!" said he. "I spit the lingo better than most Mexicans."

I had a Mexican refugee, Patrocino Sedillo, building fence. Pat could not speak English, but Bill speaks Spanish like a native, and we get along fine. One morning when Pat had finished the fencing I put him to helping about the new house.

It was not long till I heard the carpenter sing out from the top of the adobe wall where he was consulting the spirit of Little Eva or somebody as to which end of the "plate" to raise before laying the ceiling joists.

"Hey, Umbry!" he called. "Echar me one of them two-per-quattros, about ten feet largo, will you?"

"What did you say, Señor?" asked Pat in his native tongue.

"Bring me one of them two-per-quattros, Umbry!" yelled the carpenter at the top of his voice.

PAT looked bewildered, and again asked politely, "What did you say, Señor?" in his own language.

"For the love of Mike! What do you know about that?" groaned the carpenter, addressing the world at large. Then he saw Bill coming up from the corrals.

"Hey, you feller in them hairy pants! Tell that greaser to bring me a ten-foot two-by-four, will you? The durned mud-head don't understand his own language!"

Then came chimneys! Now, I thought there was not much to know about chimneys. But when I hired a bricklayer at a dollar and sixty cents an hour he used up about two dollars' worth of time illustrating to me the difference between a five, a six, and a seven brick chimney, with brick costing thirty-five dollars a thousand—in town.

"That furnace chimney should be an eight-brick chimney," said he. "But a six-brick chimney would be all right for the kitchen stove." And he laid out a lot of my thirty-five-dollar brick, and showed me the technical difference, as to size, conformation, and anatomical arrangement of the various chimneys, from a four-brick to an eight-brick. And then explained that all chimneys should be plastered inside, or they are liable to leak smoke, fire, and brimstone at irregular intervals. And did I want the top of the chimney belled, arched, fluted or capped?"

I gathered from this that I could have it in ruffles, flounces, gathers, or tucks. I told him that I would like it finished off plain, without tatting.

"I see," said he, "a pinch top, with a cement rim, like this," and there went about eighty cents' worth more time illustrating that chimney.

ABOUT this time we discovered that the roof of the new house was just high enough to cut the wind off from the windmill. So we raised the mill by building a story to the tower. As a result, I pride myself on being the distinguished owner of the only two-story windmill in captivity.

Then came plastering. I hadn't thought of lath. I would have to have some lath.

I wired a lumber firm in El Paso. Yes, they had laths, and would ship me as many as I wanted at the rate of one dollar and twenty cents, f. o. b. El Paso, subject to prior orders, fires, strikes, and acts of God over which they had no control.

Not knowing just which acts of God

were under their control, I ordered the laths shipped C. O. D., with bill of lading through my bank, so that if they should lose control I would not have to hire a lawyer to get my money back.

The freight agent notified me that my doors, French windows, and plumbing had arrived.

When I unpacked the windows I found them in excellent condition, with the exception of seven broken panes and the putty jarred loose from about six more.

The plumbing was crated and boxed with excelsior, sawdust, and great care—especially the cast-iron soil pipe, which they evidently considered very delicate.

THERE were several sheets of closely typewritten instructions—just as they had advertised: "Instructions complete in every detail." Like this:

"To start the stack, lay sanitary Y No. H31C on the ground, with the branch bell up, as illustrated by design K9 on sheet K5 of blue prints, and set sanitary eighth L No. H32C in the branch bell as illustrated in design L3 on sheet L6 of blue prints in envelope K3. Then with special calking tool No. 6Y calk a piece of oakum in the joint as illustrated in design No. something or other, and do thus and so as illustrated somewhere else on another sheet, also numbered and found in envelope K3."

All very simple. But we couldn't find "envelope K3" not "eighth L No. H32C" that the picture was supposed to illustrate. And whereabouts was the "Y" and what is "oakum" anyhow?

"What in Sam Hill is a 'stack'?" asked Bill. "I savvy a stack of blues, that's a dollar's worth at Long Jack's; but what part does it play in a bathroom?"

I called the carpenter. Yes, he knew a lot about plumbing. He used to run a hoist for a tin mine in Missouri. Besides, he had put in a kitchen pump for Mrs. Thomas Howard Blackwell, the superintendent's wife, who lived next door to his sister in Joplin.

After he had consumed about a dollar and eighty cents' worth of time looking over the layout, and trying to light the gasoline torch without discovering it was empty, I put him back to laying floor.

We finally located the missing envelope K3 under some packing material. After studying the prints, illustrations, and designs carefully, we decided that the Y was a forked piece of pipe that we had been stumbling over for the last three hours. That L meant elbow, and that the greasy rope in a sack was the oakum all the time.

IT TOOK us about a week to get the thing called hung together, leaded, and set in place. Then, according to directions, we plugged all the openings below, and filled the stack with water to see if we had done a good job.

We had not. The stack was suffering from joint sickness in the worst form. The carpenter, who was patching a hole we had torn in the floor, narrowly escaped death by drowning in the joint water. We had to recalk and relead about half those joints.

Patrocino was very much interested in that lead pot. One day he stuck a nail in the molten lead and held it up to cool. He did this two or three times, and evidently the nail did not cool fast enough to suit him, so he stuck it in a bucket of water. Then Pat put it back in the pot of lead.

There was an explosion, and Pat received a quantity of that hot lead in his shoe top. Patrocino proceeded to ring the welkin. He went through the "up-setting" exercise from position "la" to a sitting position on the ground, with his sockless foot in his lap. It was evidently his favorite foot. He held it to his bosom, and breathed upon it gently as a fond mother will curl the locks of her nursing babe.

Patrocino is a wiser Mexican. The plumber's instructions gave the exact distance from the wall, the height from the floor, the diameter of the hole, the length of the pipe, the number of threads

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a big knee like this, but your horse may have a bunch or bruise on his ankle, hock, stifle, knee or throat.

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will clean it off without laying up the horse. No blister, no hair gone. Concentrated—only a few drops required at an application. \$2.50 per bottle delivered. Describe your case for special instructions and Book 8 R free.

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to cut, and everything else necessary to install the piping before the plastering was done, so that all we'd have to do then would be to set the fixtures in place. He did not say anything about a cat running a mouse in the open end of the pipe, nor how to get it out. But we had to take the darned thing to pieces every day for a week before we got it right, anyhow, so it didn't make any difference.

It was about this time that the carpenter began to complain of head noises. He said that the left side of his head felt full and stuffy. That in the night he heard things. "It bothers me a heap," said he. "Sounds like a Mexican learnin' to play La Paloma on a juice harp, an' I can't sleep."

Bill got the carpenter to lay down in the sun, and fished a tick out of his ear with a hairpin. Bill swore it was a wood tick.

THE plasterer, Joe Dillingham, was a long, rangy individual that had learned the trade prospecting for silver in Old Mexico. I had to pay him twenty cents a yard to furnish everything. I wanted smooth finish, but he insisted on "sand" finish. He said he could put on the smooth finish all right, but that the sand finish was all that was being used nowadays. We had sand finish.

There was no cement in town, and I wired the outfit I bought the laths from. Yes, they had cement, and quoted me a price f. o. b. El Paso, "subject to prior orders, fire, strikes, and acts of God over which they had no control."

They had it committed to memory. When I got home I found Dillingham driving my nice adobe walls full of eight-penny nails at the rate of three to the adobe and ten cents a pound. I demanded to know what he was doing any such fool thing for.

"Why," said he, waving his hammer, "that's to plaster to. The cement plaster won't stick to them 'dobses after the first freeze if it ain't nailed on." Then he stopped waving his hammer and dug down in his pants for his chewing tobacco. "Down in Mexico we used to have the 'plows' break up rock and drive the slivers in the walls to plaster to. I remember one time—" and he followed with a long-winded yarn about the Governor's Palace in Chihuahua. I sat down to listen to him. He was working by the yard, not by the hour. I found it a pleasure to have someone tell me the story of his life on his own time. Of late, such entertainment had been costing me at the rate of eighty cents to two dollars an hour. He was the most interesting talker I had heard recently.

When Dillingham finished his job, there was plaster over everything. I don't see how he had enough left to go on the walls after he got through spreading it over the floors and woodwork.

THEN we installed the furnace. It is a pipeless affair, with a pipe about forty inches in diameter. It is guaranteed to burn any kind of fuel known to man. According to the maker it has been known to heat a big house and a thirty-gallon range boiler full of hard water on nothing but cobs, and keep fire all night. And, what's more to the point, it does it too—on coal. I don't know about cobs. If there is a cow ranch in New Mexico that burns cobs, something ought to be done about it.

Then came the painter with his snow-white overalls. He put Bill in the bathroom with a bucket of "under coat" and told him to paint the woodwork that was to be enameled. The door of the bathroom was shut, and after Bill had inhaled the "under coat" for about half an hour he staggered out and wanted to buy the formula for making the stuff.

When the painter had finished and the varnish was dry, we moved in. I then figured up what it had cost.

Now, my better nature prevails, and I will not blab the amount without first preparing you for the shock. The whole thing as it stands, with the "squat adobe building," the "patio," the "arched openings," and—oh, yes, a "water jar in its horsehair sling," and everything else that a regular self-respecting ranch house ought to have, even to the "notes that will soon fall due at the bank and must be met by a sale of cows." And it cost me—it cost me—No, I refuse! Though it is less than the contractor's estimate, I cannot bring myself to say the cruel words!

Many farmers feel the need of a water system, and realize its value, but think that it is too expensive. They are overlooking the fact that there is a successful and practical water system which is within the reach of every farmer. Ask the state college or your county agent.

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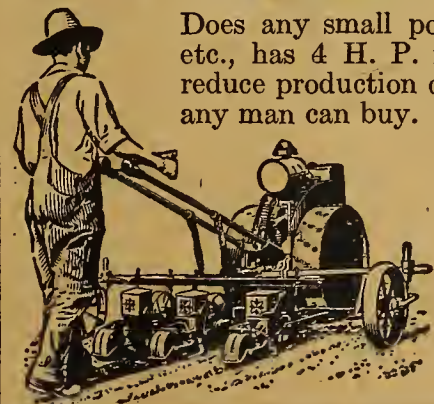
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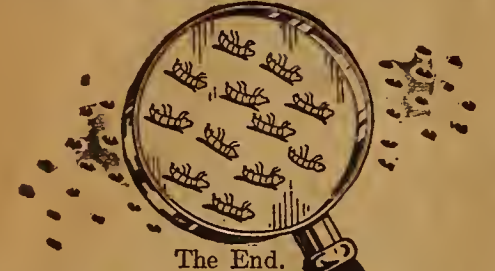
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The Shadow Ghost

[CONTINUED FROM PAGE 4]

Tim—he waved me down, flitted along a hundred feet ahead of the train like a gigantic ghost flapping its arms.

"But now a new man will take my place, and this warning is for him. If he sees anything from the cab of old 99, tell him to give her the air and pray for Tim's soul."

"Before God, I'm telling you the truth, girl, and a man about to shuffle out wouldn't swear to a lie!"

Katharine choked.

"That's all, Frank. He died an hour later. I don't understand my remembering his very words, but the whole thing stamped itself on my brain just as if—as if I were listening to Gospel. I think I shall always see his face as he lay there—so gray, so death-like—and Frank, when he finished I was terribly afraid."

Hawthorne wet his lips.

"You—believe this, dear?"

"I don't know. How could I know? I've never believed in ghosts—"

He drew her to her feet gently.

"Then you advise me to pay no attention to it?"

Her startled eyes flashed him the answer he had been praying for.

"No, no! If you see anything ahead of the Limited in Big Cypress, stop! Even if it's a shadow. Please, Frank, for my sake."

"Then you do care!"

He drew her to him firmly.

"I'm not going to wait any longer, dearest; you've got to admit it now—you do care!"

When they walked home the girl's cheeks were flushed and her eyes were bright with a joy that not even her father's death could eclipse.

II

THE following morning Hawthorne sought his fireman at the roundhouse, where that worthy was busy tinkering with engine 99.

"Look here, Uncle Bill; I want to talk to you! Climb up in the cab a minute!"

There was no one to hear, and so the younger man repeated Katharine's story precisely as he remembered it, concluding with the remark:

"When you mentioned spooks to me last night I laughed at you; I never gave such a thing a serious thought. But now, after that confounded message from Fipps—holy smoke! He meant every word he said. I somehow got the impression of facts when Katharine told me—of a certain, positive thing—not a dying man's fancy. Besides, he *did* save the Limited twice when, by all that's reasonable, she ought to have been ditched.

"Suppose I get to imagining when I'm hitting the high places in Big Cypress; suppose I jam everything to pieces stopping for a shadow? They'll say 'Poor Kid, he hasn't the nerve! He'll do better on freight.'"

Suddenly Hawthorne was leaning forward, his eyes pleading.

"Uncle Bill, you've got to understand! It's not a blooming ghost I'm afraid of; it's myself! We're all human; superstition is an instinct, and when it's fed, strengthened—"

"Wait a minute!" the fireman interrupted. "You listen! Can't you guess why I'm not an engineer? Has it ever struck you I am the oldest fireman on the division with enough experience behind me to handle anything with drivers? Frank, a long while ago I made up my mind I hadn't the nerve to stand it. Firing was all right, but driving—well, I didn't want to lose my health. Then, to clinch matters, oil burners came in; and that took away the only barrier threatening my future. A man sixty years old can fire an oil burner. And so I'm doing it to-day—will always be, while I live.

"The very thing that scared me off is getting your goat now; you're up against a flat proposition of nerve. You've got to decide—and stick to it—whether you'll be a three-hundred-a-month man and look at death occasionally, or whether you'll be content to be another 'Uncle Bill'."

Hawthorne brought his fist down.

"I've got to earn the three hundred for Katharine—more, if I can."

"Oh! That's the lay of the land, eh?"

"Sure. . . . We make our first run to-day; Limited leaves at four-four."

Hawthorne saw Katharine at lunch time. She appeared tired and worried.

"Did you know, Frank, there was a big

AGRICULTURE is, of all industrial pursuits, the richest in facts and the poorest in their comprehension. Facts are like grains of sand which are moved by the wind, but principles are these same grains cemented into rocks.
VON LIEBIG, 1859.

row in the division superintendent's office last night?" she asked. "Edward Adler, the man who expected to land Dad's job, made an awful scene—threatened the old man himself. Somebody said he'd been drinking. Of course, he was fired outright. He blamed you, and swore he'd get even. He swore he'd make you wish you'd never heard of the Limited. Yes, the police are going to watch him, but there's a—a chance—"

"And you think—"

She nodded soberly.

"An accident might occur so easily in Big Cypress."

"We'll watch out for Adler, honey," he promised grimly.

And that was the last they saw of each other before the Limited made her run.

There was a time when 99 thundered through Big Cypress sending the echoes crashing into the moss-draped trees—a time when the men in the cab braced themselves and watched the track unreel with uneasy eyes. But the headlight found no flitting figure blocking the right of way; nor was Adler's work in evidence. Lonely? Yes. It was the loneliest run on the division; but that first night, whatever secret lay concealed in the depths of the swamp, remained hidden, allowing the train to pass unwarned and uninjured.

AT Jacksonville, Hawthorne and Uncle Bill spent an hour in the dispatcher's office waiting for the northbound Limited, which arrived some fifteen minutes late. At 6 A. M. they rolled back into Savannah, none the worse for Big Cypress—tired of course, but far more confident. Frank went to bed almost convinced that Adler had been one hundred per cent bluff, and that old man Fipps' message was the product of a disordered brain.

That was on Thursday. On Friday several disturbing things occurred. To begin with, it rained hard all day. Also, the police lost track of Adler, the ex-engineer. He had skipped, bag and baggage—which might mean a great deal or nothing. Toward evening reports kept coming in from the towers about the high water. The weather bureau callously promised more rain.

No. 86 left on time, but lost a half-hour crawling across Big Cypress behind an extra freight with a hot journal. Fortunately, the right of way through the swamp had been constructed with due attention to the possibility of a flood. The fill was wide and sufficiently elevated to defy the rapidly deepening pools on either side; the trestle

had been built on triple rows of piling, creosoted and driven through the muck to hard bottom. In spots the water had eaten into the bank, but not dangerously.

A few miles out of Jacksonville the train was held up while a wrecking crew removed some box cars which had split a siding switch. And always the rain fell steadily out of a black sky that seemed to lay its finger tips on the locomotive stack.

The northbound Limited made up a little time on the return run; but the injectors gave trouble, while two miles from Savannah a duck flew straight into the headlight, smashing the glass and snapping both arc carbons. After uncoupling and shunting 99 into the roundhouse, Frank and Uncle Bill walked home together.

Dawn was just breaking; the yards showed a dirty black in the gray light. Pools of water stood everywhere, track walkers loomed out of the mist like dejected ghosts, and disappeared, slouching their rounds with hunched shoulders. The noise of locomotive drivers was half drowned by the hiss of falling rain; the smoke hung in a great blanket, dimming what little light there was.

"I reckon," said the engineer with the tolerance of a man in love, "we'll see some more rain to-day. Pretty soon the water will be over the tracks in that rice field this side of Big Cypress. Lord, listen to it!"

THEY parted under the shed of the union depot, Hawthorne stopping for a cup of coffee, while Uncle Bill went home to bed.

At twelve o'clock the engineer dropped in at the dispatcher's office. The wires were hot with trouble—a wash-out here, a freight ditched there, water everywhere, except in Big Cypress.

"You're lucky," the chief said to him.

"You've got the driest run on the division. Funny, too! You'd think a swamp would just naturally forget its manners a day like this, yet reports have it the flood's three feet from track level in Big Cypress."

Four o'clock came around at last. Hawthorne backed 99 into the shed, coupled, and climbed out of the cab. Katharine was waiting on the platform. They talked a little way off, and when they came back there was a tender light in his eyes.

"Nothing like a woman to make life worth-while!" he beamed, cleaning his goggles industriously. "Take Katharine, for instance—"

But Uncle Bill wasn't in a mood to agree.

"Women cause half the—"

His words were drowned by the safety, which popped opportunely. Frank got the conductor's signal and the drivers turned; 99 crawled out into the yards and into the storm, which presented an indefinite, gray barrier. Switch lamps burned a sickly yellow—they had been lighted early, for one couldn't see a hundred feet away.

"Damn thick!" said Hawthorne cheerfully around the end of the boiler.

"Take it easy," advised the fireman.

"Remember that rice field."

Presently the yard-limit sign flashed past. Now the Limited was alone in a world of mist, thundering out of nothing into a receding wall.

"Green!" yelled Hawthorne as the first tower lights glimmered ahead.

"Green," repeated Uncle Bill.

Sixty miles an hour now. On either side lay inundated fields. Once they swooped across a bridge where the water ran sullen and yellow hardly a foot below the track.

"Green!" shouted the engineer a moment later.

Another tower swam by like a rigid ghost. The rain drove against his goggles, found the crack between overalls and coat, rain in disgusting streams down his neck. As the cross-boards of a highway leaped out of the mist the fireman reached for the

whistle cord. But the sound didn't seem as pleasant as usual; the drizzle drove it back, muffled it, proving conclusively that 99 was a prisoner of the storm.

Then, suddenly, there wasn't any track ahead—just a placid lake!

"Look out!" Uncle Bill's warning brought the jar of brakes. The train closed up, bucked, lost momentum, while spray flew from the pilot.

"The rice field," Hawthorne explained unnecessarily.

Three hundred feet beyond, the water rose to the trucks. Then they caught the signal from tower BB-17.

"Red," grunted Frank.

"Red," repeated Uncle Bill as the Limited took the air again.

SWINGING abreast of the tower, 99 came to a dead halt with only the noise of the injectors to break the stillness. The mirror surface of the flooded field stretched to the near horizon, deserted except for the two-story structure which reared up on the right like a lighthouse on a barren coast.

Hawthorne stuck his head from the cab as a window was raised above.

"What's the matter?" he yelled.

"No O. K. on 62 yet. Maybe she's in over her boiler. Pretty slushy going, eh?"

"How's William's Creek bridge?"

"All right, so far as I know. But watch your step!"

The limited waited fifteen minutes—fifteen minutes of rain and silence and darkening sky; night was coming. Then the semaphore flashed green.

"Good luck!" shouted the operator.

Slowly the train crawled under the signal span, picked up speed. A mile beyond lay William's Creek. As the superstructure of the bridge appeared, Frank cut down to five miles. The water was over the stringers; there was no defining the original creek bed. He nosed the pilot forward, felt a slight sag.

"Whew!" muttered Uncle Bill as the engine gained the fill on the farther side. "She's going out pretty soon!"

A mile beyond, a two per cent grade brought the track to the surface, and the train increased pace. When darkness settled, the white shaft of the headlight groped futilely in the fog like the finger of a blind man, but Hawthorne did not slacken speed.

"O. K. now," he grinned. "We'll make up a bit of time. Big Cypress is dry enough."

Sixty, sixty-five! They settled down to the roar of the drivers. Now on each side marched gnarled trees, indistinct, grotesque sentinels of the swamp. The locomotive lurched and swayed, the white path of the headlight suggested a lurid wound to the darkness.

BEHIND, Pullman after Pullman followed with the trusting confidence of a dog at his master's heels. That was the responsibility Uncle Bill had always side-stepped—all those innocent people back there, cozy in the brilliantly lit diner, or watching the porter make up their berths, or swapping lies in the smoking compartments. And, in the cab, two white-faced, rain-soaked men with nerves as taut as bowstrings, hurling the train onward like a meteor.

Another hour of it. Still the trees peered at them; still the drizzle blinded them. They were halfway across now. Frank settled back, trying to shield his chest and throat as best he could.

"God in heaven!"

The words were Uncle Bill's, but so sharp, so desperate, they sounded like an explosion.

"Look!" he yelled. "Look!"

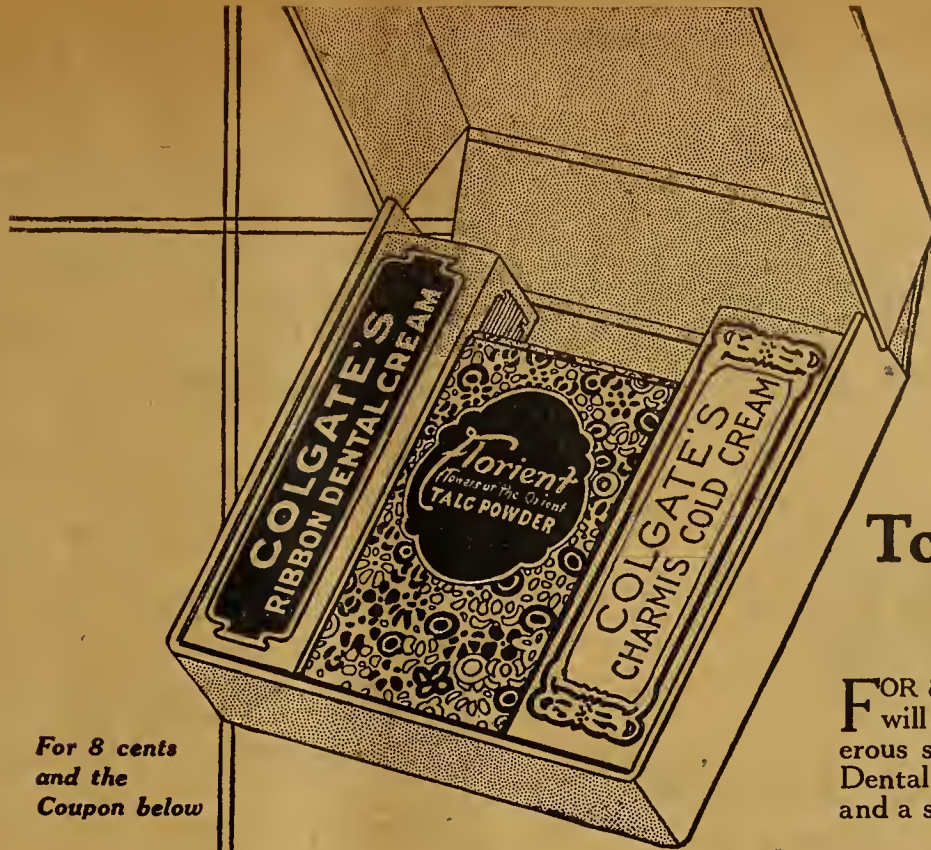
Something inside of Hawthorne froze; he could hardly bring his eyes to focus on the track.

There, in the headlight, an indefinite distance beyond the pilot truck, danced a gigantic shadow. The shape was a caricature of a human being, headless but with arms fluttering. Directly over the rails, receding with the rush of the train, it sped. The light did not pierce it. There could be no doubting, no reasonable explanation; nothing was between that gleaming arc and the grotesque shadow. Nothing could be except—Tim McFarland!

Frank was rigid, his hands idle, his profile bloodless in the radiance of the gauge lamps. He too had fallen under the spell. The horror, the surety of the supernatural proved now beyond a doubt, held him like a vise. The trees leaned closer as if to get a better view, and the Limited rushed on.

What a moment! Things to do and do quick, yet neither man moved. Their bodies were powerless; their nerves shud-

[CONTINUED ON PAGE 20]



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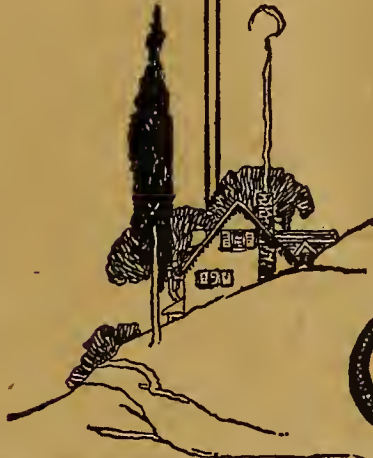
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The Shadow Ghost

[CONTINUED FROM PAGE 19]

dered, refusing to control their limbs. Something as intangible as the shadow itself, yet clinging, persistent, enveloped 99. It was almost as if the mists of the night had successfully braved the heat of the boiler fires and flung their shapeless arms through the cab windows. The flying thing in the searchlight was to blame—the thing they called Tim's ghost. . . . Tim's shadow, headless, animated by an unearthly power, was routing the last doubt of engineer and fireman; they faced irrefutable, blood-chilling proof—such proof as is only offered those about to die.

DIE! Ah, Frank's brain worked normally again. The word had broken the spell. He thought of old man Fipps' warning; that was tangible, a basis for action—

"Stop her!" Uncle Bill's voice came thin with fear. "For heaven's sake, stop her!" Hawthorne mechanically strained at the throttle; there was the uneven jar of air against the brakes. The train closed up, surged forward, slackening speed. Forty-five miles!

Beyond the dancing shadow a ray of light caught an ugly, black spot—an empty place where there ought to have been a trestle!

Thirty—twenty-five! The Pullmans were piling against the tender as if eager for their destruction. Nearer leaped that awful void—nearer. Frank braced himself, his face a gray mask of putty. The brakes screeched, the locomotive trembled like a live thing condemned. Twenty miles! They were almost on it! The Limited must plunge into that filthy water. Already he imagined the mire closing over him. Fifteen miles—ten—

There was a crash, a sudden downward tilt as the pilot left the rails. The drivers gripped hard, slid, gripped again. He closed his eyes. What was wrong, anyway? Why didn't he feel the final, dizzy plunge—?

Uncle Bill spoke after a long silence. "That was close," was all he said.

Shaken, scarcely crediting such a miraculous escape, Hawthorne and the fireman stumbled from the cab to the fill, while behind them surged a mass of passengers. The locomotive hung half over the wrecked trestle, and in her headlight the shadow of Tim still danced.

The conductor pushed forward, his grizzled face white and drawn.

"A wash-out!" he muttered. "How in the world did you see it in time?"

Uncle Bill pointed to the splintered piling.

"Not a wash-out—a deliberate attempt to ditch us. That was done with dynamite!"

"But who—"

"I think I know," interposed Hawthorne grimly. "Adler said he'd get square. Another yard or so—"

A shiver swept over the crowd. But the uniformed man's horror was eclipsed by his curiosity.

"Hawthorne, you couldn't have seen that hole three hundred feet away! What warned you?"

The young engineer laughed queerly.

"That—thing in the headlight waved me down. See!"

Passengers and crew looked up. Over them hovered the shadow, strangely alive, yet with no more substance than the night.

The conductor was a material person; also, he knew nothing of Tim McFarland.

"Nonsense!" he scoffed. "Let's have the truth. You didn't stop for a shadow? Look at your headlight—nothing but a leaf stuck to the glass!"

Sure enough, on the powerful lens was a small object—a leaf caught and held by the rush of the Limited. Even as engineer and fireman exchanged glances, it trembled uncertainly and fluttered to the pilot, and the shadow disappeared.

"Well," snapped the conductor, "how about it? Loosen up!"

Uncle Bill flushed.

"Go on, run along back to your Pullmans, Haynes. Frank told you 'twas a shadow, and I'm telling you 'twas Tim McFarland!"

"Who's Tim McFarland?"

The grizzled fireman mopped his face with his red handkerchief.

"Nobody in particular; he used to drive the Limited, but he's dead these ten years."

EVENTUALLY Edward Adler was caught. He confessed to wrecking the trestle, and received a life sentence. As for Frank, he and Katharine are married, while over their mantel hangs a singular trophy. It is a small leaf under glass and handsomely framed. Below are the words:

"The Shadow Ghost.—In memory of Father and Tim McFarland."



Five Kitchen Helps

From other farm women to you



THROW away your blackening brush and try this simple plan of caring for your range. If your range is not a new one, and has had many coats of blackening, first scrub it all over with hot suds; dry, and apply with a flannel cloth a mixture of equal parts of linseed oil and kerosene. Afterwards polish with another cloth. By going over the range once a week, and using the polishing cloth on the top of the range after each meal, you can keep your stove in fine condition. It will have a dull glow, much more attractive than the usual shiny polish. It is easier to apply and cheaper.

Mrs. L. A. Houston, Bowling Green, Mo.

* * *

One of the most useful things I have ever seen in a home is a small platform on rollers, made as follows:

Take a board 18 inches square and 2 inches thick for the top. Finish the edges with a narrow strip of molding. Under two ends nail a piece of wood 4x2x18 inches, and place a caster in each corner. Finish with a coat of paint. This movable platform is easily pushed with the foot from place to place, even when it holds such

articles as a mop pail full of water, a heavy coal scuttle, oil heater, or, in fact, any household article that you desire to move.

Mrs. I. M. K., Missouri.

* * *

Another muscle and back saver for the housewife who cooks for her own family is a shelf near the cookstove high enough to elevate the fuel so she need not stoop down to reach it when it is necessary to replenish the fire. The shelf should have a narrow board nailed to the outer edge to keep the wood from falling off.

Mrs. B. N. H., Georgia.

* * *

I keep all my recipes, sorted and in special envelopes. When I want to use one I fasten it to the inside of my left forearm. It is always clean and saves me running from one side of the table to the other to see what to add next.

Mrs. T. M. S., Iowa.

* * *

It is impossible to do the weekly wash without getting one's apron and dress wet, and the damp spot so quickly becomes soiled. Why not make a bib-shaped apron of oilcloth, bind the edges with tape, fasten a piece of tape to each corner of the bib, to slip over the head, and attach a piece of tape to each side, to tie in the back? Splash all you want to, your clothing will keep dry.

Mrs. C. W. S., Oregon.

Better Farm Babies

A WEEK from to-day our Better Baby will be a year old, and it was with genuine regret that we received our last letter from you.

But I can never express my gratitude for the start you gave me in the raising of our first baby. Everything was new and strange, and just as some perplexing problem would arise your wonderful letters would come, and the trouble vanished.

Our girl is a Better Baby in every sense of the word, and has been such a joy to us. She is now entirely weaned, and I am feeding her according to the schedule you sent. So many people criticize my method of feeding her—no candy, nothing between meals—but when I see her brown sparkling eyes, rosy cheeks, and clear firm flesh I am satisfied your plan is best.

Please accept our sincere thanks for the help

you have given us. I am keeping all your letters to recommend you to my friends.

Mrs. G. R., Nebraska.

I AM enclosing the registration card, which will show that our Better Baby has arrived. He is a real Better Baby, and I am trying hard to keep him so. Thank you very much for your letters; they were a great help to me. I would get excited at times and think things were not right, but when the next letter came it contained just what I wanted to know.

I enclose 50 cents in stamps, for which please send me the series of letters covering the care of Baby. I'm alone a great deal, and haven't any near neighbors, so feel sure the letters will be a great help to me as were the others.

I told my nurse about your Bureau; she also thinks it is very helpful.

Mrs. J. B. J., New Jersey.

This is Grace Hanwood, a Texas Better Baby. She was just six months old when they interrupted her to snap this picture



21 Letters About Your Baby And How You Can Get Them

THE EXPECTANT MOTHERS' CIRCLE: Any woman eligible may become a member, receiving each month a letter of advice on the care of herself and the preparation for her baby. Several practical little pamphlet circulars showing designs for maternity dresses and a common-sense layette are some of the helps sent with the letters. No matter at what period you enter, everything from the first month will be sent. No mention of the Better Babies Bureau is made on the envelopes in which the material is mailed. Enclose a self-addressed envelope with *Fifty Cents* in stamps, for postage, and state what month you expect your baby.

THE MOTHERS' CLUB: Every mother of young children is eligible. Pamphlets, together with monthly letters of instruction on the care and feeding of babies under one year of age (covering such subjects as colic, constipation, weaning, teething, etc.), will be sent to any mother who sends *Fifty Cents* in stamps and states the age of her baby. There are also leaflets giving diet lists, and other helps for babies from one year of age to three years. This literature is all included in the Mothers' Club's monthly service, but if the letters are not desired the additional literature will be sent for *Ten Cents*. A self-addressed stamped envelope will bring a prompt reply to every inquiry. Address all inquiries to

BETTER BABIES BUREAU

or to Mrs. Caroline French Benton, Counselor

FARM AND FIRESIDE

381 Fourth Avenue, New York City



A Surprise awaits you in this ten-day test

This is to urge that you brush teeth for ten days in a new way. Combat the film. Bring other good effects. The whiter, cleaner, safer teeth will be a delightful surprise.

To millions of people this method is bringing a new era in teeth cleaning.

It combats film

One object is to fight the film—that viscous film you feel. This is the teeth's great enemy. It dims the teeth and causes most tooth troubles.

Film clings to teeth, gets between the teeth and stays. The ordinary tooth paste does not effectively combat it. So night and day it may do a damage which few people have escaped.

It is the film-coat that discolors, not the teeth. Film is the basis of tartar. It holds food substance which ferments and forms acid. It holds the acid in contact with the teeth to cause decay.

Millions of germs breed in it. They, with tartar, are the chief cause of pyorrhea. Despite the tooth brush, all these troubles have been constantly increasing.

New methods now

Dental science, after diligent research, has found effective film combatants. Able authorities have amply proved them. Now leading dentists, in Europe and America, advise their daily use.

The methods are embodied in a dentifrice called Pepsodent. And millions of people have already adopted it.

Watch these desired effects

Pepsodent combats the film in two effective ways. Then it leaves the teeth so highly polished that film-coats cannot easily adhere.

It also brings other effects which modern authorities desire. It multiplies the salivary flow, as certain foods would do. That is Nature's great tooth-protecting agent.

It multiplies the starch digestant in the saliva, to digest starch deposits which otherwise cling and may form acid. It multiplies the alkalinity of the saliva, to neutralize the acids which cause tooth decay.

Thus twice a day it brings to users unique tooth protection.

Send the coupon for a 10-Day Tube. Note how clean the teeth feel after using. Mark the absence of the viscous film. See how teeth whiten as the film-coat disappears. Read in our book the scientific reason for each new effect.

Do this now. It is most important, both to you and yours. It may lead to life-long benefits which you cannot afford to miss.

Pepsodent

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The New-Day Dentifrice

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Ten-Day Tube Free

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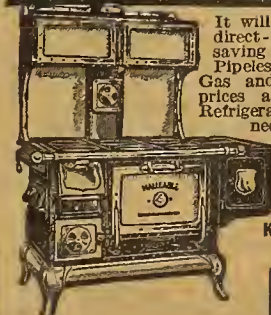
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Kalamazoo Stove Co., Mfrs.
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A Kalamazoo Direct to You

Our Home Lighting Plant Makes Chores Easier

By Russell Adams

WE EQUIPPED our home with electricity because it is safer, more convenient, more healthful, and more useful than any other method of lighting.

Besides taking care of the lighting problem, the farm electric plant provides our house and barn with power for running washing machine, ironer, vacuum cleaner, water-supply pump, separator, churn, grinders, clipping machine, etc. This power is ready to use at a moment's notice.

Is the individual electric plant expensive? Yes and no. The initial cost of a good plant is considerable, but the upkeep cost is very low, amounting to only a few cents an hour. Money put into a home light plant is an investment, not an expense. It is an investment from which all members of the family will receive benefit. Too many of us plan improvements for outside the house only. Time- and labor-saving machines for the shop and field are necessary, but is it good business to provide them at the expense of the home, the inside partner, and the kids?

Too many expensive monuments are to be seen in country churchyards, erected to women who were denied labor-saving household equipment. Too many farm girls and boys are in the cities to-day because life in the country was one eternal chore.

That's one viewpoint, and here's another. Isn't it worth a whole lot to be able to go to the barn at any hour of the night and flood it with a bright, safe light? Lanterns, hay, and straw are a mighty dangerous combination. It was Mrs. O'Leary's lantern and cow that started the Chicago fire.

Unless you can connect direct with a reliable municipal electric power plant, it is usually best to have your own private plant. Many of the small-town plants are entirely too small for the service their owners try to get out of them. It is far better to have too much power than not enough, for an overworked plant is a short-lived

plant, and for that reason an expensive one.

It is well to remember that the number of lights almost any plant is supposed to supply is based on 20-watt bulbs, and that in many places about the house and barn a 20-watt light is not strong enough. For halls, bedrooms, closets, and porches the 25-watt light is sufficient, while for the library, kitchen, or living-room the 40-watt is much better, and if you wish a brilliant light you will be pleased with the 100-watt.

At the barn you will want a number of 25-watt bulbs, and one or two 75's. And by all means have a 20-foot extension or "trouble" cord equipped with plug, and a guard-protected 75- or 100-watt bulb kept in a place where you can easily find it in case of accident. Attached to any socket, it will give you an ideal light right where you need it.

OF COURSE, a 40-watt light requires twice the energy of a 20-watt light, and a 100-watt bulb requires five times the amount necessary for a 20-watt; so bear this in mind when figuring the needs of your lighting plant. While the nitrogen-gas-filled lamps cost almost twice as much as tungsten lamps, we find that they are worth the difference, for they produce a brilliant white light.

When wiring a house already finished and in use, it is a good idea to use metallic-armored cable, as it is much easier to install in difficult places, and it has the advantage of being absolutely rat- and mouse-proof. A good, dry basement or cellar is an ideal location for the farm light system, as it will give more protection from both heat and cold. Extreme cold will freeze and render useless a weak storage battery, and extreme heat will cause rapid evaporation.

Independence is the greatest thing in the world, and electricity makes us independent as far as light and power are concerned.



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Equipment
Pays**

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In the Kitchen

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Aluminum Cooking Utensils

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Hearty Dishes the Men Will Like

Tested in Farm and Fireside Kitchen

RICE cooked in this way will be white, and every grain will stand apart:

2 quarts boiling water
1 cup rice
1 teaspoon salt

Into the boiling water drop the rice which has been well washed; add the salt. Stir well until the boiling is resumed, then do not stir again. When the rice is done, remove from fire, and drain off all water. Place in the oven ten minutes. Rice cooked in this way will be white, and every grain will stand apart.

Mrs. H. A. Lyman, Massachusetts.

CHEESE AND RICE FRITTERS

1½ cups cold boiled rice
¼ cup milk
1 egg
¾ cup grated cheese
¼ cup flour
½ teaspoon baking powder
1 teaspoon salt
3 tablespoons melted butter or drippings

Combine the rice and milk; add the beaten egg and cheese. Beat well, and add the flour, baking powder, and salt. Drop small portions into a frying pan containing the melted fat, and brown. Serve hot with fruit preserves, honey, or syrup.

Mrs. H. A. Lyman, Massachusetts.

SURPRISE CROQUETTES

1½ cups chopped raw beef
1¼ cups boiled rice
1 teaspoon salt
¼ teaspoon pepper
1 tablespoon chopped onion
¾ cup tomato juice
12 large cabbage leaves

Mix together the beef, rice, salt, pepper, and onion. Cook the cabbage leaves in boiling water three minutes; then in each leaf wrap some of the meat and rite mixture. Place the croquettes in a baking dish, pour over them the juice from canned tomatoes, and bake in a moderate oven. Serve with tomato sauce.

TOMATO SAUCE

1¾ cups canned tomatoes
1 slice onion
3 tablespoons butter
½ teaspoon salt
3 tablespoons flour
¼ teaspoon pepper

Cook onions with tomatoes, rub through a strainer, and add to butter, flour, and seasonings, which have been combined. Cook together five minutes.

Edith C. Armbruster, Illinois.

OYSTERS AU GRATIN

1½ pints oysters
¾ cup milk
1 tablespoon flour
2 teaspoons butter
1 teaspoon salt
¼ teaspoon pepper
Speck paprika
¾ cup grated cheese

Drain oysters, put in a small stewpan, and steam for a few minutes until they are plump. Drain all the liquor again. Then make a cream sauce from the milk, flour, and butter. Place alternately layers of oysters, cream sauce, and grated cheese in a buttered baking dish, add seasonings, and bake in a moderate oven until the layer of cheese on top is brown. Serve immediately and very hot.

MEXICAN ROAST

2 cups cooked beans
½ pound cheese
5 chopped pimentos
Bread crumbs
Salt

Put beans, cheese, and pimentos through the meat grinder. Add bread crumbs until it is stiff enough to form into a roll. Brown in oven, basting with tomato juice.

CREAM OF LAMB STEW

1 pound shoulder of lamb
1 tablespoon flour
1 tablespoon butter
1 cup milk
3 cups water
1 teaspoon salt
½ teaspoon pepper
2 egg yolks
4 tablespoons cream

Cut the meat in medium-sized pieces, cover with the water, and stew gently until tender. Blend the flour and butter together, then add the milk, salt, and pepper. Stir this combination into the tender meat. When it thickens slightly, remove from the fire, and add the egg yolks, which have been beaten with the cream. Return to the fire just long enough to reheat but not boil, and serve at once with a border of boiled rice.

Edith C. Armbruster, Illinois.

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Because Dan Boone's Rifle Club stands for manliness, self-control, and expert marksmanship. You get the Dan Boone pin free. You get the bull's-eye-hitting rifle free and the privilege to compete in the big National Shoots and win handsome bronze medals for excellence in shooting—Marksman, Sharpshooter, and Expert Rifleman. All this will be yours without one cent of cost to you. So write to-day. Be the first Dan Boone member in your neighborhood. You can do it. Any real American boy can.

DAVID BLAIR, National Secretary,
Dan Boone's Rifle Club,
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Dear Mr. Blair: Please tell me how to earn the Hamilton and join Dan Boone's Rifle Club.

Name _____

Box No. _____
or R. F. D. No. _____

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Mail
Coupon
To-Day



After three attempts on any one person the spoon stirred the pudding for a new victim

A Saturday Social

By Emily Rose Burt

BECAUSE Saturday's child must work for a living, the following invitations went out for a Saturday Social:

Saturday's child must work for a living, And that's the sort of social we're giving— Wear the garments of toil and labor, And see if you can't look worse than your neighbor!

Naturally everybody made a joke of it, and came ready for fun. The girls and women had on such things as frivolous pink bungalow aprons, gingham dresses, hair tied up in bandannas or sweeping caps. The men's costumes ran to overalls, dish-washing aprons over everyday suits, and flannel shirts.

The first thing, everybody was ticketed as either a snickerdoodle or a hermit—two well-known kinds of cookies. Cookies, as anyone knows, are a product of Saturday morning's baking. Red ribbons were snickerdoodles; and blue ones, hermits. Snickerdoodles tried to beat hermits in several exciting contests.

First, the two sides stood in opposing rows, and the members passed a whole egg-shell from hand to hand down the line, each side vying with the other in speed. There was much squealing lest the frail eggshell drop on the floor in its hasty transit.

The next stunt was similar, only that this time it was a handful of beans. What a scramble there was when a bean was dropped, for that delayed the progress mightily! If you have never tried it, pass a handful of beans quickly to another person and see how difficult it is to transfer them safely.

A third stunt was a spelling bee, using Saturday words—the words of baking day. People get surprisingly mixed on such simple ones as chocolate, saleratus, molasses, banana, cinnamon, and the like.

Presently it was suggested that snickerdoodles and hermits give a Saturday matinee of cake charades. Each side received the names of cakes, as for instance:

Angels' food, devil cake, White Mountain cake, Lady Baltimore, and so on.

A game for everybody was called "Stir the Pudding." The players stood in a ring around a blindfolded leader, the "cook," holding a spoon, and they circled till the leader said, "Stop!" At the same time the leader pointed his spoon at someone in the circle, and asked a question—any sort that came into his head, the crazier the better. The one pointed at was supposed, by disguising her voice, to conceal her identity. If she failed to do so, she had to take her place in the center and become the "cook." After three attempts on any one person, the spoon usually stirred the pudding again for a new victim.

Saturday's child was there—forlorn in long-sleeved gingham and pigtailed. She had big pockets in her apron, full of fortunes about future jobs and destinies, and soon the dimes began to jingle together gayly in those pockets as the fortunes began to be demanded.

THE refreshments were real Saturday-night ones, and consisted of baked beans, steamed brown bread, and coffee. Everyone in paying a quarter for supper felt as if he or she paid cheaply, for all the fun was thrown in.

The social was combined with a Saturday sale. For instance, there was the Saturday-morning baking booth, which held homemade cakes and pies; there was the Saturday-afternoon matinee booth, full of frivolities, such as little bags, camisoles, beads, or the like. And there was the famous Saturday-night booth. Saturday night has long been "tub night," and the booth held wash cloths, embroidered or crochet-edge towels, oilcloth-lined bags, and traveling cases.

The sale part may be omitted.

NOTE: Saturday's child fortunes will be sent on receipt of a stamped self-addressed envelope. Address, Entertainment Editor, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

How I Test Your Recipes

[CONTINUED FROM PAGE 10]

materials and time which come when inaccurate recipes are used.

So the test is made to make certain that the necessary ingredients are listed in the proper amounts. Then, whenever it is feasible, the recipes printed provide for serving six persons. It is a waste of time, energy, and fuel to bake rolls, breads, cakes, cookies, and doughnuts for six persons. Consequently, the recipes for these foods are always in larger amounts; surely, no person wishes to bake six doughnuts or six cookies.

After the recipe is tested by being cooked, the texture and flavor of the product are considered. The texture must be good and the flavor must be liked by all, or at least a majority, of the persons who taste of it before the recipe is printed. Personal dis-

likes are not considered. If a person doesn't like cake, her judgment is not used in passing on the flavor of any cake made.

If there is a request from the author to have the recipe sent back to her for inspection before printing, this is done. No deliberate attempt is made to alter the individuality of any recipe. In reality, FARM AND FIRESIDE wishes to make it possible for every woman, regardless of her experience in cooking, to follow with success the recipes printed in the magazine.

HONEY POPCORN BALLS

2 cups strained honey 6 cups popped corn

Boil the honey until it becomes very thick; stir in the freshly popped corn, and mold into balls when cold.

ONE POUND NET

20 MULE TEAM

99 1/2 to 100% PURE

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The Cleanser that Nature Makes

Years of use by untold thousands of particular women have proven 20 Mule Team Borax to be Nature's Greatest Cleanser.

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Twenty Mule Team Borax in the dish pan or the wash-tub, besides being the most perfect cleanser, has a soothing and healthful effect on the hands. Twenty Mule Team Borax has a hundred important uses in and about your house.

Get the cleanser you can depend on. Buy 20 Mule Team Borax by the case at your grocer's.

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YOU can make your own cooking fuel and light as easily as a power-churn can make a batch of butter. And the fuel will give the hottest cooking flame known to Science; and the light will match the sun in quality. How?

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Makes gas as you need it

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It gives to every room, barn, outbuilding and drive the strong, steady light of a miniature sun, the mellowest light that man can make. No fuss. The simple mixing-machine has an automatic shut-off that fits the supply to your demand. You pay only for what you use.

Even the residue of the carbide can be used as fertilizer, for it is just pure, slaked lime.

Let us tell you, without obligation, just what Union Carbide will do on your place. Ask us on a postcard. We'll tell you what it will cost you, and all about it.

Write our nearest office at once for details.

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Better Meals Cook in 30 Minutes

NATIONAL Pressure Aluminum Cooker provides better-cooked meals with less labor. Whole meal cooks in 30 minutes, at one time, over one burner—any fuel. Cannot scorch. Whole ham or pot roast cooked in 50 minutes; pork and beans in 30 minutes.

Saves 2/3 the Time; 3/4 the Fuel

The NATIONAL, endorsed by Good Housekeeping Institute, pays for itself in four months, lasts a lifetime. Write for free book on Pressure Cookery.

National Steel Canner costs less. Full information upon request.

Northwestern Steel & Iron Works, Dept. L. Eau Claire, Wis.

A Poor Boy Who Paid for a Farm in Six Years

By J. Elmer Russell

DAVE JONES is an illustration of what an American boy can accomplish in spite of a big handicap if he has the proper stuff in him.

Madison County, Virginia, was Dave's birthplace. When he was seven his father died, and to help support his family the boy had to begin working out at the age of thirteen. That marked the end of his school days.

Dave and his family soon moved to New York State, where for several years he worked in a large dairy near New York City. There he learned modern farming methods, and especially to know good cattle.

The next turn of the wheel took Dave to northern New York, where he was hired by a St. Lawrence County farmer. After a year on this place he went in with his mother and younger brother and rented a farm. In two years of renting they accumulated 16 head of cattle, a pair of horses, and a few tools. Their debts totaled \$40, and they had \$25 in cash.

In the neighborhood was a run-down farm, which the owner, who had taken it on a mortgage foreclosure, was very anxious to sell. Dave bought this farm on contract for \$3,600, getting possession in December, 1907, and agreeing to make his first payment one year later. The farmhouse was fairly comfortable, but the barn was so ramshackle that he had to rent a barn on an adjoining farm in which to keep his cattle.

Two years later Dave married, and in 1912 his brother, who had been his right-

hand helper, started out for himself. Thereafter Dave had to depend on his own efforts and on such hired help as could be secured. The first year on his new farm Dave planted six acres of potatoes and harvested 800 bushels. Each year since he has raised from 1,000 to 1,500 bushels of potatoes. Gradually he has increased his dairy herd, and at the end of three years he built a modern dairy barn with stanchions for 32 cows. He also erected a silo, the lumber for the barn and the silo being cut in his own woods.

Dave's largest monthly milk check the first year on his own farm was \$60. During his sixth year after he had improved his herd, and was milking 27 cows, his milk checks ran from \$225 to \$365 per month. By hard work and careful management the farm was paid for at the end of six years, and Dave had not reached his thirtieth birthday. In addition, he owned 29 head of cattle, six horses, and all kinds of farming tools, including high-priced dairy equipment.

Most men would have been satisfied, but Dave wasn't. He decided he wanted a better farm in a finer location. So he disposed of the now fertile but once run-down farm, with 20 cows and quantity of fodder, for \$6,000, and purchased a larger farm, with up-to-date buildings and on the main road, which he expects to pay for in the same manner.

There are other hired men and tenant farmers who might just as well own farms of their own. Is there anything in what Dave Jones did that any man with health, courage, and determination cannot do?

A SACK of 1,000 silver dollars recently delivered to a San Francisco bank had been in the vault of the subtreasury since the day the coins were minted, October 21, 1891. The bank figures that if the money had been drawing interest from the date it was coined the sack would be worth \$3,000 instead of \$1,000.

Bank Notes.

Practical Farm Bulletins Just Issued

ONE of the best farmers we know says that a large part of his success is due to careful study of his farm problems. By reading books, bulletins, and periodicals he has acquired a knowledge of scientific agriculture that many college graduates might envy. A valuable reference library can be formed by selecting a few good books and by adding the bulletins which are issued by your state agricultural departments and by the U. S. Department of Agriculture.

From the many farm bulletins we receive, we have selected the following as being useful and timely for the practical farmer. They can be had free by checking the ones you want and mailing this list to your congressman, to the Division of Publications, U. S. Department of Agriculture, or to the Superintendent of Documents, Government Printing Office, all at Washington, D. C. It is better to ask your congressman, because congressmen get a larger supply for distribution than do the other offices.

One of the most valuable forage crops for Southeastern States is the little lespedeza, or Japan clover. It often volunteers, but is improved by correct culture. *Farmers' Bulletin 1143* contains useful information about it.

Best known of Southern legumes is the cowpea. It also has uses in Northern States. *Farmers' Bulletin 1148* contains interesting and valuable information about this useful plant.

Sugar beets are now grown commercially in seventeen States, in eight of which no irrigation is practiced. If you are interested in growing sugar beets without irrigation, *Farmers' Bulletin 568* will be found helpful.

The properly handled farm wood lot is a source of income. *Farmers' Bulletin 1177* tells how to care for and improve the farm woods.

While tile-ditching machinery does not cheapen the cost of making ditches, it does hurry up the work and reduces the number of men needed. Interesting pointers on this subject are given in *Farmers' Bulletin 1131*.

"It would help anyone in their baking," is the way Miss Elizabeth Fitch, Household Editor of FARM AND FIRESIDE, describes *Farmers' Bulletin 1136*, "Baking in the Home."

And if you haven't already received a copy of the 1921 *Agricultural Almanac*, issued by the Department of Agriculture, send for it at once, and I think you will agree that it is one of the best farmers' almanacs ever published. It is interestingly gotten up, and contains valuable information that every farmer can use.

Same Old Lies

Two Dixie boys who had fought the battle of Siberia were matching experiences. "It was so cold where I was," said one, "that we couldn't shave. We just broke off our whiskers when the icicles formed." "Nothin' a-tall," broke in the other. "It was so cold where I was that our whiskers never had the nerve to come out."

The American Legion Weekly.

Your Farm Question Box

Maybe the answers will help you, or if you have a question of your own send it in



Victor G. Aubry, who answers your poultry questions, examining a White Leghorn hen

THERE is an old saying to the effect that a man does best the thing he is happiest doing. Anyone can see, from the accompanying photograph, that Victor G. Aubry likes chickens. In fact, Mr. Aubry has been a chicken "fan" all his life. Starting with a flock of 1,500 fowls in Indiana, he left to take charge of a large poultry farm in Switzerland. Later he returned to the United States, where he graduated from a poultry course at Connecticut Agricultural College. In 1914 he had charge of the poultry department at the University of Maine. From there he went to New Jersey, where he was associated for several years with the extension work of New Jersey State College. This work took him out in the field, where he built up a wide acquaintanceship among leading Eastern poultrymen, adding to his store of knowledge of practical poultry husbandry at the same time.

Although in commercial work now, Mr. Aubry is just as interested in poultry as ever. He knows the problems of the farm-flock owner as well as those that beset the large commercial poultryman. In the two years he has been with FARM AND FIRESIDE as a Corresponding Editor, he has answered letters about poultry from every section of the country.

If you have any questions about your own flock, he will gladly answer them. And if there are any questions on any other farm subjects, our staff of Corresponding Editors will do their best to help you. State your problem fully and clearly, enclose self-addressed stamped envelope, and address Service Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

THE EDITOR.

Better Hens Needed

J. S. B. of South Carolina asks about increasing egg production and other poultry problems.

REPLY BY V. G. AUBRY: I would advise that you do not change your feeding formula. You are getting a good production. There is nothing you can do in feeding which will make your hens lay an egg every day if they are only bred to lay an egg every other day. Either hens on a full feed do not lay at all or else they lay their full capacity, so that if you want an egg every day from these birds you will have to breed them to lay that way.

If you have a hen that wants to set now (January 15th) and have the eggs, I believe you will find it to your advantage to set this hen, as early chicks are much more desirable than later ones. If kept properly

in a cool place, hatching eggs can be kept two or three weeks without much harm, but it is much better to hatch them as quickly as possible. A Bantam hen should lay about 100 eggs a year.

Horses Have Skin Trouble

Some way we have got a contagious disease among the horses. The first sign is very heavy dandruff, then the trouble begins. The horses try to rub all the hair off. Where they succeed in getting a patch bare it gets scaly. F. D. M., Kansas.

REPLY BY DR. A. S. ALEXANDER: Lice or eczema are the probable causes of such itchiness of the skin. Parasitic mange would be a possibility if the disease spreads from horse to horse. We should advise clipping affected horses at once; then singe with a special lamp, and wash affected parts with a 1-100 solution of coal-tar dip, such as zenaleum, kreso, or creolin. Blanket after clipping if the stable is cold and when horses are out of doors.

Concrete Post Reinforcement

W. K. A., Illinois, asks about concrete post reinforcement.

REPLY BY F. W. IVES: From data secured by the Ohio Agricultural Experiment Station it has been shown that the patent form of fence-post reinforcement has not been a success. It was shown that reinforcement consisting of square twisted rods or of strands of heavy wire twisted together was far superior to the patented sorts.

Any large builders' supply concern can furnish you with regular standard reinforcing rods. No. 9 wire twisted into double strands is as good as any of the regular reinforcement, and has the advantage of being galvanized.

How to Start Alfalfa

I would like to know about growing alfalfa. The land is sandy and dry, slopes to the south. Should I seed to alfalfa in the spring with oats, or would a full seeding be better? Should I use lime and manure, or both? What kind of alfalfa seed should I use? R. G. M., New York.

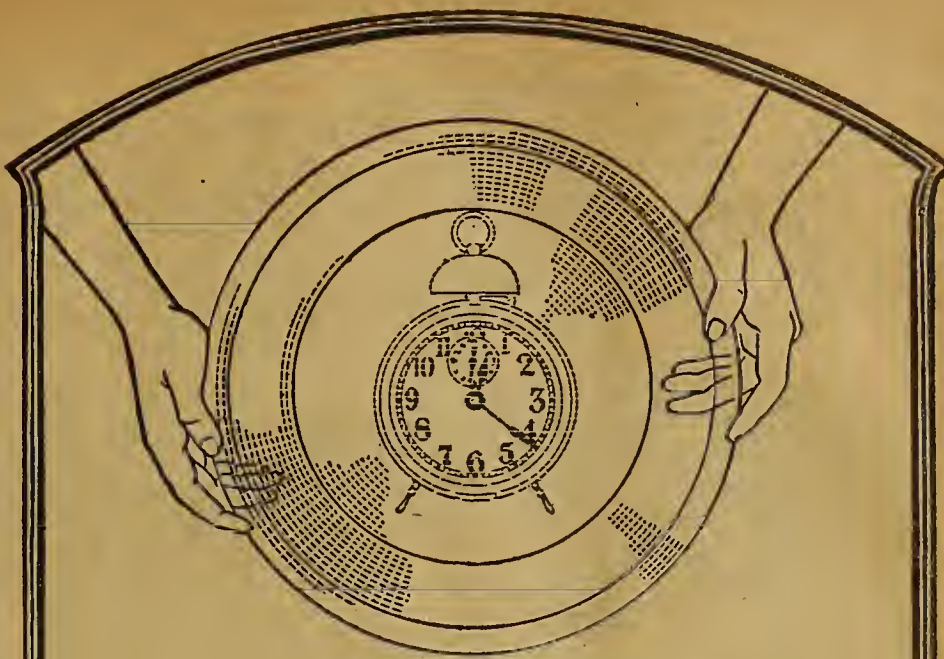
REPLY BY L. E. CALL: Sandy land that is inclined to be dry, provided it is limed and properly fertilized, as a rule is much better for alfalfa in your section of the United States than land that is of a heavy clay character and poorly drained.

Sandy soil is almost always sour and in need of lime for such crops as alfalfa. It is usually deficient in plant food. The best plan would be to cover the field this winter with a dressing of manure at the rate of about 10 tons to the acre. This manure should be plowed under in the spring, and the land worked under a crop from the time of plowing until late June or early July, when the alfalfa should be sown. After the ground is plowed, it should be top-dressed with ground limestone at the rate of about two tons to the acre.

It will also be necessary for you to inoculate the alfalfa before the crop is sown. This can be done by means of commercial cultures of bacteria which can be secured from any reliable seed house, or from the United States Department of Agriculture.

If there are fields of alfalfa in your neighborhood that are healthy and making a good growth, you can inoculate your field by securing soil from one of these old alfalfa fields, and scattering it over the field that you wish to sow, at the rate of 200 to 500 pounds of soil to the acre.

Common alfalfa will be the best variety to sow. Try, if possible, to secure seed from the west central part of the United States. Seed grown in this country is much more satisfactory than seed imported from Turkestan or other foreign countries.



Pyrex Saves

Cooking-time!—Bakes everything faster and better, and brings out the full flavor of the food.

Serving-time!—You serve the food from the same Pyrex dish in which you bake it.

Cleaning-time!—No extra pans to scour or clean.

Time is so important in the life of every farm woman that she deserves the best and latest kitchen time-saver.

PYREX

TRANSPARENT OVEN DISHES

See Your Baking Bake in Pyrex

Use these time and labor saving dishes in the kitchen every meal, every day. You see your baking bake—sides, bottom and top.

Pyrex is used everywhere for baking purposes. Pyrex does not chip, discolor, nor wear out. Genuine Pyrex is guaranteed against breakage from oven heat. Any Pyrex dealer is authorized to replace any piece of Pyrex that breaks in actual use in the oven.

Pyrex is the original transparent ovenware. Always look for the Pyrex label—and the name Pyrex stamped on each piece.

You don't have to go to the city for Pyrex. Your own storekeeper has Pyrex or can get it for you.



Virginia Farms and Homes.

FREE CATALOGUE OF SPLENDID BARGAINS. R. B. CHAFFIN & CO., Inc., RICHMOND, VA.

Want to hear from party having farm for sale. Give particulars and lowest price. John J. Black, 71st St., Chippewa Falls, Wisconsin

"Diamond Dyes" don't stain hands or pan

EACH package of "Diamond Dyes" contains easy directions for dyeing faded, shabby skirts, waists, coats, stockings, sweaters, draperies, coverings, everything. Beware! Poor dye streaks, spots, fades, and ruins material by giving it a "dyed-look." Buy "Diamond Dyes" only. Tell druggist whether your material is wool or silk, or if it is cotton, linen, or a mixture.



BOYS - Earn this real Moving Picture Machine and run it in Your Own Home



A Home Show with the Little Giant Machine

A GENUINE moving picture machine that shows real honest-to-goodness movies is yours if you are willing to do a little easy work. Not one penny will it cost you. I am going to send one of my wonderful machines with three films absolutely free to every live two-fisted boy who can show me he is a real "go getter."

See All the Big Stars

Wouldn't it be great fun to have movies right in your own home any night you wanted them? To watch Charlie Chaplin go through his funny capers and "Doug" Fairbanks do dare-devil stunts as only "Doug" can. And all the rest of them too. Sure! Most any movie star you want to see. They will all act

for you just as they do in the big picture theatres. Good movies right at home any night. Every night if you want them! Great stuff, boys! If you could see that dandy machine and those movies—well, I know you wouldn't rest until you had a machine of your own. And, listen, if you get one

You Can Give Shows at Your House

That's what lots of boys do. Sell the tickets they get with their machine, put up a few of the hand-bills, and get a nice little crowd any time. A few cents' ad-

mission from each of your friends and neighbors soon mounts up. Gives a fellow a chance to buy more films or get something else he needs.

You Run the Machine Yourself

That's half the fun. Before long you get so you thread a film in a jiffy, set the lens so your pictures show up nice and clear, and change reels quickly. You'll

have good reason to swell out your chest when you're giving a show, because it isn't every boy who can own and run a real movie machine.

It Sure is a Dandy

The Little Giant is made of steel and with reasonable care will operate for years. Easy to run and not dangerous. Every machine is guaranteed and will be repaired free of charge if it does not give satisfaction or if you should happen to damage it. Three ten-foot films, also printed hand-bills and admission tickets, come with each machine. Most boys could not afford to buy it, but any boy can quickly earn it on our easy plan.

How to Get Yours

Do not send any money. Simply cut out the coupon below right now and mail it to me. I will tell you by return mail how to get your machine, free and postpaid. Hurry! Be the first boy in your neighborhood to own a real movie machine.

Mail Coupon To-day

D. S. Stephens, FF-256
Dept. 256, Springfield, Ohio.

Dear Mr. Stephens: Please tell me how to earn your Little Giant Moving Picture Machine and the three films.

Name.....

Post office.....

R. F. D. No.....Box No.....State.....



When the Crows Come Back

I CAN stand it well enough in the dark of the year,
When I know the earth is frost-bound and the woods are sere;
Though even then I'm thinking of the sledding track—
But my heart grows sick with longing when the crows come back.

I listen, listen, listen, as I walk the streets.
Oh, I know the lark's note well enough—it's rare and sweet;—
And I love to hear the robins, with their saucy clack—
But something grips my heartstrings when the crows come back.

And twice good luck has found me as I walked the street;
Far overhead their wings went, with their steady beat.
"Unhalting and unresting," with a good ship's tack—
And I heard it like a whisper: "We've come back, come back!"

O Mother Earth, dear Mother, with your cool, soft arms,
When the grass waves, and the wind sings, and the sunlight warms,
I am sick for you, I pine for you, and most I lack
All your light and love and comfort when the crows come back!

MARGARET VANDERGRIFT in *Scribner's*.

My Visit to England's Glass-House Farmers

By Dr. Charles E. Thorne

Former Director of Ohio Agricultural Experiment Station

THE little river Lea, rising in southern Bedford, flows eastwardly across Hertford to the border between Hertford and Essex, where it is joined by the Stort, coming down from the north, and, turning south in a broad, flat valley, it reaches the Thames near the eastern limit of London, a total course of some 50 miles.

In this Lea Valley, there has grown up a great glass-house industry, more than 1,000 acres being now covered with glass in a district some 12 or 13 miles long, in which are half a dozen towns and cities of 5,000 to 50,000 population each.

The men engaged in this industry had become so impressed with the value of scientific research in the problems related to their work, largely as a result of the Rothamsted investigations, that in 1913 they decided to establish an experiment station in their midst, having for its sole object the study of these problems. They therefore organized an association for this purpose, under the name of the Nursery and Market Garden Industries Development Society, Limited. In the spring of 1914, a site of about two acres, within the limits of the town of Cheshunt, on the main London to Cambridge road, was purchased and buildings were erected, consisting of an office, one botanical and one chemical laboratory, five cucumber and five tomato houses, and an isolation house for pot experiments and disease inoculation work.

THE county councils of Hertford and Essex made small grants in support of this work; the Duke of Bedford contributed \$2,000, the members of the society raised among themselves about \$4,000 for construction and as much more for a maintenance fund, and the National Board of Agriculture and Fisheries agreed to furnish nearly \$10,000 for construction and maintenance. The equipment was not completed until September, 1915, and by that time the war had seriously interfered with the work, although the work was kept alive and some progress was made during the strenuous period of the war.

From the outset the work has been closely associated with that at Rothamsted, a part of it being conducted in the Rothamsted laboratories. With the end of the war increased interest was taken in the work of this station. The number of shareholders increased, and the larger annual subscriptions permitted the employment

of specialists in entomology and plant diseases. Some idea of the character of the work may be gained by the following brief summary of the work reported for 1919:

In an experiment on *slow versus forced growth of tomatoes* the forcing of the crop by raising the heat caused an earlier ripening of a small part of the crop, but decreased the total yield by about 10 per cent.

Houses in which the moisture in the air had been increased by overhead spraying have given somewhat larger June pickings of tomatoes, in three seasons out of four, than those not so treated.

IN EXPERIMENTS with fertilizers on tomatoes the omission of nitrogen increased the yield, while the omission of potash caused a material reduction in yield. The largest yield was produced by phosphates and potash combined. No further increase was produced by the addition of manure to the chemical fertilizers.

In the case of cucumbers, increasing the temperature above 85° F. sufficed to prevent the leaf-spot disease, and considerably increased the weight of the early pickings as well as the total yield.

Experiments in soil sterilization are being made in cooperative commercial greenhouses, under the guidance of extensive research conducted in the Rothamsted laboratories, in which the effect on the soil and on the growing plant of a large number of chemical substances is being studied in comparison with steam.

Most of the difficulties encountered by the gardener, under glass, are due to microscopic soil organisms. These, under the glass-house conditions in which the natural action of such organisms upon each other is interfered with, attain an importance that is not reached in the open field. Among these are the nematodes (small eelworms that infest the roots) and the bacteria and fungi that cause the "damping off" of seedlings, and some forms of blighting of the mature plant. All these may be reached by soil sterilization; but there are other organisms in the soil that are beneficial—for example, the nitrifying bacteria. How so to adjust our treatment as to hit our foes without injuring our friends is a delicate problem of strategy calling for the most elaborate scientific research. To the solution of this problem a very large part of the resources of the Rothamsted Station are now being directed.

This Farmer Shares Profits

By Clarence M. Baker

ML. RUETENIK, market gardener of Cleveland, Ohio, and member of the board of control of the Ohio Experiment Station, has devised a unique profit-sharing plan. He has eight men who have worked for him for twelve years. Here is the way it works, as he told it to me:

"When a man begins working for us he is paid a salary corresponding to the salary paid by other growers in this vicinity. He works at this salary for one year, before deriving the benefits of the profit-sharing plan. After working for this year he is entered on the books, and is entitled to his share of the dividend declared at the next dividend period following this entry. At this time he is also paid a dividend on his salary for the year previous. The following example will explain the details more clearly:

"A man starts working January 1, 1920, and earns \$500 up to July 1, 1920. From July 1, 1920, to January 1, 1921, he earns \$600, and from January 1, 1921, to July 1, 1921, he earns \$650. On January 1, 1921, having worked one year, he is entered on the books, and at the following dividend period, July 1, 1921, he receives a dividend on his salary for one year previous. Thus, having earned from July 1, 1920, to July 1, 1921, a total of \$1,250, he is paid a dividend on \$1,250. Again on January 1, 1922, he draws a dividend on his previous year's salary, and so on as long as he continues to work for me.

"AFTER he has worked two years, he is permitted to invest \$200 a year in the business, until he has invested \$2,000. This investment pays a dividend at the same rate as that on his salary. A limit is set on the amount a man is allowed to invest so that it is impossible for the employees to own more than half of the capital. When an employee makes an investment he is given a one-year note, and in the event he quits work the note is taken up and paid, so that none but employees have an interest in the business.

"A profit-sharing plan of this nature, no matter how well arranged, will be useless unless the employer is an efficient manager and has proved himself a success to his men. It would be impossible to

induce the men to invest their money into the business unless they had some assurance that they were to receive a dividend at the end of each period. This plan of having the employees own an interest in the business is an inducement for them to work to the advantage of the business. The real success of the plan, of course, will depend almost entirely upon the managing ability of the employer."

Mr. Woodpecker

[CONTINUED FROM PAGE 12]

mournfully, then flew away to another tree, where his tat, tat, tat, tat, as he hunted for bugs and worms and also sought his feather hat, was heard.

When she walked back to her nest, Mrs. Squirrel found a fuzzy caterpillar crawling across the floor. She bowed politely to the worm, and remarked that she was very, very glad to see him. "Make yourself at home," she said, and the worm took her at her word, for at once he set to work rolling himself in a web bed, there to sleep until he might come forth a gorgeous butterfly.

When Mr. Squirrel came home to his family he would have thrown the caterpillar out of the nest, bed and all; but his wife repeated to him the story of Mr. Woodpecker.

"Don't!" she cried. "True, the caterpillar and the troubles of the woodpecker have nothing to do with us, but the lesson taught the bird is a good one. While we know there are no elves to-day, let us play that the fuzzy worm might be an elf in disguise, and treat him accordingly. I am sure it would be terrible were we to bring a lasting disgrace and sorrow to all the squirrels of the world."

"Besides," mused Mr. Squirrel, agreeing with his wife, "a caterpillar is almost an elf, anyway, for he can change himself from a worm to a pretty butterfly."

Who says families no longer stick by the old homestead? Wayne County, New York, boasts a farm which has been in the same family for six generations.



At the Price of Two Eggs

At the cost of the price of two eggs a big Jell-O dessert can be served—and it will serve from five to twelve persons, according to the manner in which it is prepared.

If plain, it will serve five or six persons; if whipped, Bavarian cream style, ten or twelve may be served.

There are so many possibilities—so great a variety of delightful dishes made without cooking or fussing—that every farmer's wife is urged to send her name and address in order that she may receive (free) a copy of the Jell-O Book, which has everything on the subject that any woman could wish. Among other things it tells how whipped Jell-O takes the place of eggs and cream in desserts.

Jell-O is put up in six pure fruit flavors: Strawberry, Raspberry, Lemon, Orange, Cherry, Chocolate, and sold in all general stores and groceries at 25 cents for 2 packages.

THE GENESEE PURE FOOD COMPANY
Le Roy, N. Y., and Bridgeburg, Ont.

It is to your interest to mention Farm and Fireside in answering advertisements.

Why His Berries Won

By H. L. Walters

NOT many years ago a gardener I know, named Brown, determined to put one over on the weather man and, for once, to raise some really monstrous blackberries. That spring he rigged up an irrigation system to use as soon as dry weather showed up. The canes flowered profusely, and a bumper crop of berries set on. When dry weather came, the gardener set his windmill going. Whenever the moisture got low, the patch got a good wetting, and the berries flourished.

A MAN can be as wise as an owl about the way to raise crops and the way to sell them and get good money for them, and then make a downright fizzle, after all, of farming because he doesn't know how to make the most of living.
DR. J. C. GALPIN.

At marketing time Brown supposed his berries were the best in the section, so he set his price a little above the market and began to brag. Customers came, looked, and went away empty-handed. After a little he learned what was the matter. A few miles away another gardener, named Thompson, had berries of the same variety that were just a little bigger and nicer than this, and he was selling them for less money. Finally an irate customer told my friend what he thought about it.

"What's the reason you are charging three cents more a quart than Thompson, when his berries are bigger and nicer and better flavored than yours?" he said.

"His berries aren't bigger and nicer and better flavored than mine," Brown hotly replied. "They can't be. I've gone to a big expense to irrigate these berries, and there hasn't been a day when they lacked water. It takes plenty of water to make blackberries. I'm the only one around who has irrigated. I have fertilized my berry patch and kept it in the best condition. This other man simply can't have better berries than I've got."

"Yes, they are; and if you don't believe it jump in the buggy with me, and I'll take you out there and prove it to you."

So Brown climbed in, and drove out to see those wonderful berries. He was from Missouri, he wanted to be shown.

But on arriving at Thompson's patch he was astonished to find long canes loaded down with fine fruit. There were more canes and more berries per cane than he had, and he readily admitted it. The berries were a little bigger too, and were selling at three cents a quart less. He admitted his defeat, but started at once to find out why.

It developed that Thompson ran a cane mill each fall, and utilized all the crushed stalks as a winter mulch for his berry bushes. The water from the winter snows and rains soaked down into the soil around those briers, and some of it was stored up for future use. As the soil was well drained, I suspect that a greater portion of the surplus water ran down into the neighboring creek. Yet the stalks themselves absorbed a large amount of water, and held it. During the drought this cane mulch did not dry out, and the soil underneath remained well filled with water. The root bed was like some enormous sponge that held an unlimited supply of moisture. The rainfall soaked down into the cane mulch, and the soil became capable of holding more water each succeeding season. Evaporation was stopped by the loose mulch. Artificial irrigation was wholly unnecessary.

Judging from these two gardeners' experiences it seems folly to use irrigation with berries. Instead, let's utilize the old corn and cane stalks.

Sing again the songs of your Childhood.

We will send them free. Write today for our

NEW FREE SONG BOOK

"The Tunes Dad Whistled"—words and music of the popular songs of a quarter century ago. We will also tell you how

The Manualo

The Player-Piano that is all but human

permits you to play the grand old tunes of long ago, as well as the latest jazz, in just the way that your musical feeling directs. It responds to your pedaling as a piano responds to fingering; gives you the heartfelt satisfaction of actually playing the piano.

Send for the free song book today.

The Baldwin Piano Company
Dept. 4-B

CINCINNATI INDIANAPOLIS CHICAGO LOUISVILLE ST. LOUIS DENVER NEW YORK DALLAS SAN FRANCISCO

Baldwin

Builder of Incomparable PIANOS and PLAYER-PIANOS

The Baldwin Piano Company
Dept. 4-B Address nearest city.
Send me "The Tunes Dad Whistled."

Name.....
St. or R. F. D.....
City and State.....
Have you a piano?..... Player-piano?.....

Same Stock-but Better Results

There are two ways to get more from your live stock. One is to increase the NUMBER of animals. The other—the better way—is to make each animal YOU NOW OWN do better. The latter is the safer, the more profitable method. It is "intensive cultivation" applied to live stock.

Pratts Animal Regulator

is compounded for one purpose—to make poor stock good—to make good stock better. And for nearly fifty years "Pratts," America's original stock tonic and conditioner, has been doing this work—doing it WELL.

Pratts Animal Regulator is a real builder and preserver of health and strength. It helps to put live stock in such perfect physical condition that best results are SURE to follow.

- FOR—Greater strength and endurance from your work animals—
- Increased flow of milk from your cows—
- Healthy, vigorous young from your breeding stock—
- Rapid and healthy growth from your young stock—

USE PRATTS ANIMAL REGULATOR
Our Money-Back Guarantee protects you

Pratts Dip and Disinfectant

is a big help, too. By killing disease germs and skin parasites, and by keeping stables and pens in sanitary condition, it protects the health and promotes the comfort of live stock. That means but one thing—better results—bigger profits.

"Your Money Back If YOU Are Not Satisfied"

See the Pratt dealer near you—at once. Insist upon getting "Pratts."

PRATT FOOD CO. Philadelphia
Chicago
Toronto
Makers of Pratts Poultry Regulator, Cow Tonic, Buttermilk Baby Chick Food, Stock and Poultry Remedies. AD-54



Loveliest of all flowers are the old-fashioned perennials. With a little trouble and small expense you can have a perennial garden as fine as this

An Inexpensive Flower Garden for Every Farm Home

By Andrew S. Wing

I SUPPOSE it is because I grew up on a farm where there were a great many flowers that I always hate to see a farm home without them. Living on a farm without flowers would be, to me, what it is to the city dweller to be without a steam-heated flat and a movie house around the corner. They are one of the privileges a farm family can enjoy which are denied to most town folks. And their cost is negligible when the pleasure they give to the owner as well as the passer-by is considered.

Of course, I realize that no real farmer nor farmer's wife has the time or means to go in for elaborate formal gardens such as you see illustrated in books and periodicals that circulate among people of wealth and leisure. Indeed, I would be the last to urge such gardens, even on farms where expense is not to be considered. Formal gardens have a place, but not on American farms. Much better are the simple, informal gardens that are not only easy to achieve but also in tune with the natural beauty of our countryside.

To me, most flowers are beautiful, some more beautiful than others. I think that I like the old-fashioned perennials best of all, especially some of the irises, peonies, larkspurs, and foxgloves. The annuals are pretty too, and come at a time when few perennials are blooming.

I HAVE found that the three essential things for succeeding with flowers are: 1. A really fertile soil. 2. Plenty of moisture. 3. Careful cultivation.

Given these essentials, you can have flowers of some kind, regardless of other factors. In addition, most flowering plants require plenty of sunlight and freedom from intruding tree roots. A few are shade lovers, and others seem to be able to compete with tree and shrub roots.

Good arrangement is important to get really beautiful effects, although I would never let that consideration deprive me of a flower I loved. In most cases it is possible to combine happily artistic arrangement with an ideal growing location. Few farmyards are so cramped that crowding flower beds into the middle of the lawn is necessary. Not only does this detract from the beauty of the home grounds, but it also is likely to arouse the ire of the one who runs the lawn mower.

I have found that a little time spent in advance, sketching with pad and pencil the places where different flowers are to go, saves time in the end, and makes for more charming effects. Especially is this true with the hardy perennials which live for several years without being moved. Taller varieties, such as hollyhocks, naturally make the background, while low-growing ones, such as dwarf iris, form the finishing edge. Crowding must be avoided, especially with those hardy plants which have spreading roots. Given abundant room, these will bloom abundantly, and at the same time grow into thick clumps that in a few years can be divided up, furnishing plants for a new location or for a neighbor.

Most flowers harmonize marvelously in color, but care must be used not to get color combinations that actually clash. Feminine judgment can best be trusted when questions of color combinations arise.

IF YOU are just beginning to grow flowers, or if you have been growing a few and want to enlarge your selection, I suggest that you confine yourself to a modest list. A few choice blooms are much more satisfying than many plants and few flowers. I always like to send for a number of catalogues from different seed plant houses, and get a good deal of information from them about the different varieties and methods of growing them. No two flower lovers will agree as to what kinds to plant. I believe, though, that the following list will furnish sufficient variety for the average farm home.

Hardy Perennials. The iris, peony, and phlox should be on every list.

These can be planted either in the spring or fall, but preferably in the fall. The plants come in a wide range of varieties of varying shades and colors. They are quite hardy, and with moderate care will live and multiply for many years.

If you want more perennials, add larkspur, foxglove, hardy poppies, columbine, Canterbury bell (these live but two years, blooming the second year, but are very lovely), chrysanthemum, hollyhock (best grown from seed), sweet william.

All of these are hardy, and can be had in many lovely forms, colors, and shades. All are grown from seed planted in the spring or early fall, blooming usually the second year, excepting chrysanthemums. For quick results they can be bought as plants from most any plantsman.

Annuals. Aster, cosmos (late and early), marigold, four o'clock, sunflower (there are several variations of the common sunflower that are charming), zinnia, nasturtium.

If you want a longer list, add sweet alyssum, calliopsis, sweet peas, morning glory, moonflower, portulaca, poppy, castor-oil plant.

ALL THE annuals are planted from seed in the spring, and live and bloom but one year. Those listed above are easy to grow, and most of them can be had in different colors and shades.

Bulbs. Under bulbs we have hardy ones and also tender sorts that are planted in the spring and taken up before freezing weather comes. The hardy ones include tulips, narcissuses, daffodils, snowdrops, and crocuses. They are best planted in the fall, and will bloom the following spring and, with reasonable care, for many years, or they may be set in pots for winter-blooming indoors. Some of them, notably snowdrops, crocuses, and narcissuses, may be planted in grass which is not cut too closely, and will become naturalized, blooming in little clumps, like wild flowers, in a very fetching way.

Of all the tender bulbs the gladiolus is

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the loveliest. It is easily grown, of exquisite form, and there are hundreds of varieties in almost any color and shade. They can be relied upon to bloom, and will divide, when given good care, so your collection will be constantly growing.

The dahlia is another tender bulb of great beauty, especially the newer cactus and peony-flowered varieties. The better varieties of cannas are pretty, but their use in conspicuous beds is not to be commended.

Plants. Of these probably the geranium is the best for outdoors. Some of the newer and more delicate shades are very lovely, and all are easy to grow.

After you have made your selection, do not delay too long in ordering, as you will want to be ready to plant them as soon as the ground gets warm enough, and after danger of serious frost is past. Often a good selection of plants to start with can be obtained from neighbors. I have found that only the best seeds pay.

I like to have my flower beds covered heavily with rich manure during winter. After this is spaded under, a top-dressing of well-rotted manure is worked into the top soil with a rake. The top soil cannot be too finely prepared, especially for seed-planting, as many flower seeds are tiny and after germinating are unable to push their way through a heavy covering of

earth and clods. A dressing of complete fertilizer or nitrate of soda, although not absolutely necessary, will give them a good start. If you have a stiff, stubborn soil it will pay to mix in some sand, loose black earth, or leaf mold. I have found by sad experience that it is useless to try to grow flowers in a poor soil.

YOU can get helpful directions for seeding and planting from any seed catalogue or book on flowers. The most important thing with seeds is to cover *lightly*. With some of the finer seeds, merely pressing with the hand or with a board will suffice without adding any soil.

If you can have an overhead irrigation system, it will make flower-growing easier. However, that is not necessary, as a few buckets of water or a good soaking with a hose in dry spells will usually keep them thriving. When rainfall is plentiful, an occasional scratching and weeding is sufficient. But in dry weather a frequent and thorough hoeing is needed to save the soil moisture. Flowers will not thrive in dry earth, no matter how rich.

I am aware that I have barely touched the high spots of flower-gardening. If there are any questions that you would like to ask, write to me, care of FARM AND FIRESIDE, 381 Fourth Avenue, New York City, and I will be glad to answer them.

I Grow My Own Roses

By Agnes Hilco

I HAVE often been asked how I grow rose cuttings or new plants from choice bushes. There are a number of ways to do this. Which you will want to use will depend on how many plants you need and the trouble you are willing to take in growing them.

If you want only one rose, you can layer a cane or root a cutting right in the garden under glass. If you want as many cuttings as you can get, you will not want to use the layer method, and you will find the other method not so easy, unless you are supplied with plenty of empty tumblers or glass jars. I have found that the best method with a number of cuttings is to use a cold-frame or a cutting box covered with glass.

To layer a rose, bend a cane so it is almost ready to break, or else cut a chip out of one side, to about the middle of the cane. Bury the cut or bent part, and pin in place to prevent its being whipped around by the wind. Keep the soil moist to prevent the cane from getting dry, and it will callous and form roots at the wound. Layering is best done when the cane is dormant. Any hardy bush or climbing rose will root readily by this method.

WHEN I root cuttings in the garden, I cut them from wood that is not soft and pithy. A blooming shoot will usually do. You can cut into pieces with two eyes, if you wish, setting so one eye is well buried. Probably the best cuttings are made when a short, firm branch is cut at its juncture with the older limb, taking just a little of this limb with the cutting. The base of a branch is in ideal condition to root easily and quickly. When set in a loose, rich soil, which may be right in the rose bed, turn a glass tumbler or fruit jar over each cutting and leave it alone. You need not do anything with it until it starts growing, when you can remove the glass, and it will take care of itself. It is a good idea to remove it for a short time in the morning, at first, gradually lengthening the exposure, so it will not suffer from too quick a change.

Rooting cuttings in a cold-frame or box covered with glass is no different in principle from the above methods, except that you root a number at once, setting them in rows with the cuttings close together, and covering with a glass hotbed sash.

Make the soil about half sand and half mellow soil. Water well and keep moist, but not wet. If a box is used, put

in plenty of drainage and have a hole in the bottom.

A little time and trouble will give you splendid home-grown roses. You will have fun growing them, too, at least I do.

Minerals Your Hogs Need

THE simplest mineral rations, particularly as regards the number of ingredients, are giving the best results in supplying the mineral requirement for swine. Common salt and bone meal, in equal parts, make about as good a combination as any I know of. Equal parts of common salt and raw rock phosphate are another very good combination; as are also equal parts of wood ashes and common salt, and equal parts of common salt and air-slaked lime. These combinations furnish the elements that are most needed in the formation of the skeleton of the hog—namely, calcium, phosphorus, sodium, chlorine. Other elements are necessary, but in much smaller amounts, and they are usually supplied in sufficient amounts in a well-balanced ration.

The average porker should consume about one pound of any of these mixtures a month. They can be fed in a number of ways, the one that best suits the circumstances being the best to use. The Iowa Experiment Station recommends that minerals be mixed with tankage, and fed in a self-feeder at the rate of 10 pounds of the mineral mixture to from 50 to 60 pounds of tankage, according to the amount the pigs will eat. It is possible to mix minerals with the grain feed in sufficient amounts so that each animal will get approximately one-fourth pound each week. Minerals can also be fed alone in a self-feeder, although some animals will not eat them this way. Regardless of the feeding method used, the mineral ration should be kept as dry as possible. They can either be mixed in with the ration for several feeds or supplied with one feed each day.

DR. GEORGE H. CONN, Iowa.

OF LATE years there is a growing distrust of sentimentality. "Of all broken reeds," said Theodore Roosevelt, "the most broken reed on which righteousness can lean is sentimentality." Millions of others are thinking the same thing. Sentimentality has become the world's greatest curse, although no one of sense actually has much respect for it.—*E. W. Howe's Monthly.*



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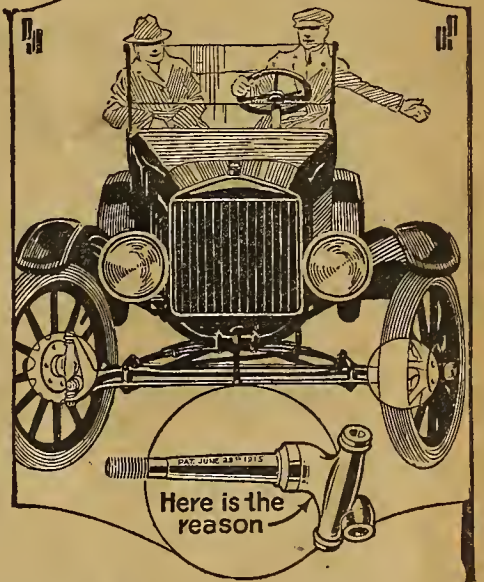
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She Says He Hitched Her to the Cultivator

MRS. EDNA MAY WARDELL of Moscow, Pennsylvania, has sued her husband for divorce because she says he harnessed her to a cultivator and made her live all last winter on rutabagas.

That is very bad. But is it any worse than harnessing your wife to a pump when it wouldn't be much trouble to install running water?

Is it any worse than hitching her to a 24-hour schedule that keeps her nose to the domestic grindstone with never a chance to have a little fun?

Is it any worse than keeping her in the traces of unnecessary housework from which modern household appliances would relieve her?

I don't say you do these mean things to your wife. Of course you don't, because you are intelligent enough to see that whatever saves her drudgery makes it possible for her to give you a pleasanter, more comfortable home, and keeps her looking young and happy and energetic for your benefit that much longer.

I know that you are shrewd and acute enough to realize that it is foolish, and not economy, to delay installing those time-, money-, and labor-saving conveniences, both for your farming and your wife's house-keeping, that you can possibly scrape up the money for.

I know that you know that these things lengthen your life, make it more enjoyable, increase the value of your farm and the value of what it produces, and help keep your children and your hired hands happy and glad to stay on the farm.

I know that you know these things.

But some farmers don't know them.

The young farming gentleman you see grinning at you in this picture is Fred Letson, whose father has charge of the prize herd of Guernseys on the farm of Clarence H. Mackay, at Roslyn, Long Island. Fred thinks a great deal of the porkly friend you see with him, but they had quite an argument about this picture. Old Snout-and-Jowl was for letting Mr. Purchase go home without it, and Fred was for having it taken. Well, you see who won. And all we can say is that if Fred handles his hogs as successfully when he grows up as he handled this one as a boy, he'll make a fine farmer.—The Editor.

They are the dear old boys who howl their heads off about low prices, and go shovel a few more dollars' worth of feed into a scrub herd.

They are the Sweet Williams who peddle little packages of neighborhood arsenic in the form of sneers at all "new-fangled notions"—the same being anything they never happened to have heard of.

They are the Rollicking Rudolfs whose natural instinct is to wield the hammer first on every idea, and investigate later to find out if it really should have been used.

But, thank heaven, these farmers are like the kings—there

aren't many of them left, and they are getting fewer every day.

The kind of farmer I like is the kind who knows his farm thoroughly, has studied his market and his production cost, and knows what pays him and what doesn't; who believes in sharing the proceeds as well as the labor with his wife and children; and who looks on farming not as an end in itself, but as a means to an end—that is, a pleasant home, a happy, healthy family, a good education, a little fun out of life as he goes along, and something put by against old age and the rainy day.

I like the kind of farmer George Ade—who by the way, is himself one of the best farmers in Indiana—mentioned the other day in talking about the popularity of golf and other sports and amusements among his Hoosier acquaintances. He said:

"Golf is on its

Photograph by Clarence A. Purchase



way to being the national pastime. I don't mean the national pastime for spectators, but for players. In fact, I believe it has already arrived neck and neck with baseball as a playing game. It is no longer directing its main attack upon the cities. The contagion has spread to the smaller towns.

"In Indiana the farmer is now going fifty-fifty with the hoe and the mashie, the niblick and the plow. He digs up the corn patch in the morning and the golf course in the afternoon, with especial attention to Saturdays. He has suddenly found that a fourteen-hour stretch of hard work can stand for an hour or two of recreation without diminishing the potato crop. He has found that it relieves the monotony of keeping an eye on the beet to lift an eye from the golf ball."

Being that kind of farmer doesn't indicate weak-mindedness, nor foolish waste of time. It indicates that a man has mixed enough brains with his brawn to farm profitably without breaking his own back and his wife's spirit.

George Ade

ED HOWE says original sin is eating too much.

"I get along fairly well," says he, "with everything except my stomach; and there is nothing the matter with that except I do not properly care for it."

"I rarely pick up a paper that I do not see a remedy advertised. I have tried some of them; they do me no good whatever, and most of them do harm."

"If I feed sensibly a few days, I feel fine, have ambition, and am able to work easily. During this season of abstinence I also acquire a fine appetite, eat too much, and for a day or two thereafter am in the dumps again."

"I have a dread of a good dinner; as I write this, one is being prepared in the kitchen. There are two wild ducks in the oven, mallards, and I know that within two or three hours my present cheerful disposition will change."

"The brimstone devil has never once bothered me; a good dinner tempts me every day, and harms me."

E. W. Howe's Monthly.

And So He Died, the Same Old "Monk," for All His Years in France

By Bruce Barton

A NOTORIOUS gangster named Eastman, and nicknamed "The Monk," was found dead in New York a few weeks ago, his body riddled with revolver shots.

This would be hardly worth recording in a family magazine except for one significant fact:

When the draft law was enacted "The Monk" marched away to war, together with the sons of good parents and bad. He made a creditable record in the service, and the papers were full of rather gushing articles about the transformation that the war had wrought in the character of this hitherto unprofitable member of society.

Now, two years afterwards, it appears that "The Monk" went straight back to what he had been—he is shot in a quarrel over the profits of illicit liquor-trading. He dies in his sins, neither better nor worse than he was before he sailed for France.

So one more little item is written off the credit side of the bloody ledger of the war.

I write this in no spirit of criticism of the war. We had to fight it; we fought it bravely; and any man who by his act or speech delayed the hour of victory was a traitor, and deserved any punishment that was meted out to him.

But now that it is safely over, there ought to be a determined effort to destroy the mass of illusion and false sentiment by which the worship of war is kept alive in men's hearts.

The whole tendency of histories is to make you feel that war is glorious; it is no more glorious than a bad fire or the bubonic plague—

all are horrors to be fought when necessary, and conquered as quickly as possible.

There is the false notion—fostered by many novels and plays—that war turns cowards into heroes, and selfish men into unselfish men, and knaves into honest citizens.

War does not make men; it merely unmasks them. It was not what the drill sergeants put into men that came out at Château-Thierry; it was what their mothers put into them.

Some time, perhaps a quarter of a century from now, there will be another time of national tension, and another generation of young men will be eager to hear their country's call.

When that time comes there ought to be a few of us old graybeards who would rise and utter solemn words, saying:

"Just a minute! There was another war which we remember.

"We went into it to make the world a better world, and for years thereafter the world was harder and drearier—with less to eat, less to wear, and less to live in than ever.

"For a time the war made everybody rich; but the bottom dropped out, and everybody was poorer than before.

"Fight this new war if there is no other way to preserve your independence; but don't go into it with any notion that you are going to profit instead of having to pay.

"For the last war didn't make us rich; it didn't make us more unselfish; it didn't make us happier. It didn't make wicked men good men; it didn't even reform 'The Monk.'"

FARM & FIRESIDE

The National Farm Magazine

MAY 1921

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Robert Frost—J. F. Duggar—Grace Margaret Gould—
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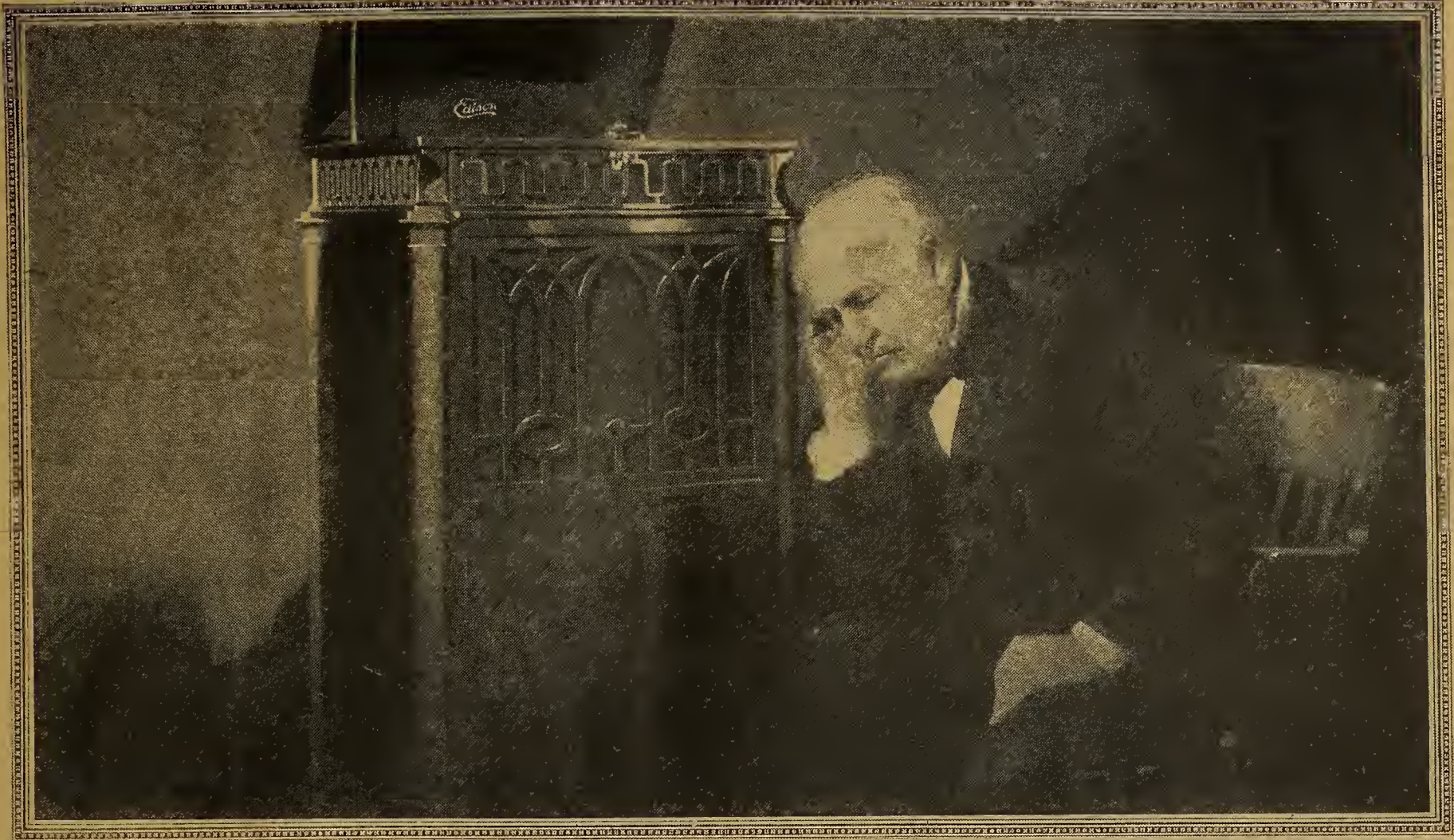
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The NEW EDISON

"The Phonograph with a Soul"



What Edison Likes in Music

THIS photograph was taken recently in Mr. Edison's Laboratory. Mr. Edison still devotes from 16 to 20 hours, daily, to his never-ending research work. Occasionally, he steals away to the Music-Room in his Laboratory to listen to music.

The phonograph is Edison's favorite invention. He spent three million dollars in research work to develop a phonograph that would give perfect music to the entire world. This new phonograph is so perfect that it successfully sustains the test of direct comparison with living artists,—and is the only phonograph that can sustain such test.

Mr. Edison has probably listened to more music than any other man in the world's history. His views on music will be of great interest to everyone. They were recently expressed in an intimate personal interview. This interview and a list of Edison's twenty-five favorite compositions are contained in the pamphlet "What Edison Likes In Music."

Ask the Edison dealer for a copy of this new and interesting discussion of music. An exact duplicate of the phonograph, which Mr. Edison personally uses, can be heard at your Edison dealer's store.

THE price of the New Edison has increased less than 15 per cent since 1914. Mr. Edison is a firm believer in the benefits of good music, and, in order to keep his favorite invention within the reach of everyone, he sacrificed millions in profits, he might have made. Why and how he did this are told in the bulletin "What Did Edison Do During the War?" This bulletin also contains the Navy Department's official announcement of Mr. Edison's war work.

Ask your Edison dealer for any or all of the items listed below. You probably know him from reading his advertisements in your home papers. He is glad to distribute Edison literature. No obligation on your part.



- Free for the Asking**
- 1—"What Edison Likes in Music."
 - 2—A proof of Booth's famous etching of Edison. Suitable for framing.
 - 3—"Edison and Music." The story of the New Edison. Handsomely illustrated.
 - 4—Mood Change Charts. Show you how to test the effects of music on yourself.
 - 5—"What Did Edison Do During the War?"

ALL the various elements of exceptionally high value in the Hupmobile, go directly back to the way the car is built.

Practically every important production operation and process is performed in Hupmobile factories by Hupmobile workmen of skill and long training, or under our own close control and supervision.

Thus, Hupmobile manufacturing development and improvement have full sweep. They are individual to this car, and are entirely free from outside influences which might hinder and hamper.

This being so, it is easy to see why the Hupmobile is so superior in performance, and economy, and long life; and why it is regarded by buyers, and the public at large, as such an unusually good value.

"What's the use of my working like this if you're going to fill up on that stuff and ruin your appetite all th' time?"



WITH our rapidly increasing national population there is little hope that we shall produce in coming years large agricultural surpluses except possibly in cotton and pork; in fact, with present ratios of increase, ten years more will find us on a basis of home consumption for practically all our products."

The above statement is credited to Mr. James R. Howard, president of the American Farm Bureau Federation, and I am asked to express an opinion as to the soundness of the statement.

I have not taken the pains to secure a confirmation from Mr. Howard, because the main question is not so much whether he has been correctly quoted, as whether this statement, which has gone over the country, is in all probability sound; and it is that question which I am asked to discuss.

First of all, let the reader be urged not to read Mr. Howard or anybody else too hastily in matters of this kind, and not to jump to conclusions which are developed from a single point of view. The statement attributed to the wise and able president of the American Farm Bureau Federation is, I believe, in the main correct, if we do not read too much into it; but it is stated in extremely conservative terms, as any such statement should be, and because the conditions are exceedingly complicated it can be read from many angles, each leading to its own interpretation.

FOR this reason it is doubtful if any two men would get precisely the same idea in reading this quotation; certain it is that the hasty reader would be almost certain to deceive himself.

To the writer the significant meaning attached to this statement is the query whether after a decade or so we shall continue to be a food- and textile-exporting nation; and that turns upon a great variety of considerations, first of all upon the amount of food likely to be produced upon American farms a decade from now.

In other words, this is not a neck-and-neck race between population and the power of this country to produce food, but rather between food production and other lines of industry bidding for the favor of the American citizens.

It might be truthfully said that a quarter of a century ago agriculture was the favorite American occupation, but it would be a bold man who would affirm that thesis to-day. Only forty-nine per cent of our people live in the country, as the census defines the term, and that includes towns of twenty-five hundred and below, of which there are thousands; and everybody knows that the average inhabitant of the country town of one or two thousand inhabitants has no more effect upon agriculture as a pro-

Will We Continue to Export Farm Products ?

A Discussion and an Opinion

By E. Davenport

(Dean of the Illinois College of Agriculture and Director of Experiment Station)

ducing enterprise than has the man in the moon.

The exodus to town began about the opening of the present century. It was greatly accelerated by the war and by wages in factories such as had never before entered into the wildest dreams—wages, indeed, with which the farmer never can hope to compete; wages that will constitute, so long as they last, a practical bar to food production by hired help, and applicable to large sections of our best producing areas.

Whatever may happen later, a whole generation of young people have been spoiled for the land. Their fathers and older brothers have worn out fast during and since the war, and thousands of them will not last another ten years. It would surprise no thinking man, therefore, if fewer people were engaged in actual farming ten years hence than are farming to-day, many of whom are farmers because it is the only business they know.

IT MUST not be forgotten that not a little good land once under cultivation has very recently been abandoned in this country. We are blind to this obvious fact, and will remain blind as long as our papers continue to print huge tables of bumper crops without appropriate comment. We do not stop to think, if indeed most of us have ever heard, that recent seasons have been exceptionally good. So we have not realized

that any backward steps in production have really been taken.

Psychology too has been influential in keeping up yields. During the war, farmers produced to the limit as a patriotic duty. Thousands were relieved from military service in order to sustain production. Such young men felt that under all the conditions nothing was too hard, and many of them did the work of two men throughout the growing season.

THIS fact, together with the practical impossibility of hiring help in many sections, has created a psychology for hard work that no one but the farmer ever practiced, unless it be the captains of industry, for whom no task was too great. This will not last, and as matters stand now production per man will certainly decline.

The high cost of farm machinery will contribute still further to the decline of agricultural production. Manufactured at labor rates far beyond anything the farmer could ever hope to make, even with heavy investments in capital, the farmer will not buy the machinery necessary to maximum results unless prices follow the value of farm products, and that the manufacturers are resisting to the limit.

More and more the American farmer must invest in fertilizer if he is to maintain permanent yields. We are probably to-day at the very peak of the unaided power of American lands to produce, and yet few

farmers will feel able to feed their lands on falling prices.

Considered in the light of all these facts, it is an open question whether food production will increase or decrease in this country during the next ten years.

After all, the price of foodstuffs will go far to fix the amount that will be produced, as of course it should. It needs no discussion in this connection to demonstrate the fact that the higher the price the more will be produced, because there are always those who will do anything in the way of hard work for a price—indeed, take long hazards for even a good prospect.

Just now, however, there is no incentive to maintain the present level. The buying world has said very plainly, "We have more food than we need, and we prefer other commodities."

The manufacturer can "stimulate consumption" of automobiles, for example, by elaborate advertising. He can do the same with clothing by a judicious change in fashions and by timely warnings about what "they" are going to wear.

Not so the farmer. He cannot stimulate the people to eat any more than their fill of bread, potatoes, or what not. He has tried it on meat consumption with indifferent success. The experience is that rich people will live on the fat of the land under all conditions, but there are few of them; that the laboring people will eat meat in large amounts and of the best quality when they can get it; the great middle class will always give economically but well, and that the foolish class, of whom there are many, would willingly go half-fed if only they can wear "the latest"—on the installment plan.

And so it is that the magnitude of the farmer's business is practically independent of the farmer's influence, and so it is that prices—and therefore production—are bound to be functions of the world's activities as a whole and the ideals of men and women generally. It looks now as if there is little to expect from European markets in the next decade, and unless things improve there we shall be thrown more and more upon home markets as an outlet for staple stuff.

THESSE are the conditions that bear upon production in the immediate future. Most of them tend to depression. Whether and to what extent they will all be operative at any one time no man can tell, but those which discourage production seem clearly to outweigh those which would stimulate it. They have already seriously affected the livestock interests.

Added to it all is a kind of lofty "don't care, serves them right" attitude in many quarters that will have to be exchanged for one of real helpfulness before agriculture can become firmly established as a national industry. In [CONTINUED ON PAGE 22]

"Toby This an' Toby That"

The story of a cowboy who had ancestors—and a temper—
and it didn't pay to fool with either

By Carl Elmo Freeman

BILL had been on a short vacation, and when he returned to the ranch he presented rather a "used" appearance, like some of the second-hand goods sold at auction and labeled, "Used but serviceable. Sold as is."

Bill's nose was swollen and his lip was cut and bruised. His left eye was surrounded by an area of discoloration; blending shades of blue and yellow extended up on the bridge of his nose. In the two-day stubble on his chin there was a bit of surgeon's tape stuck over an abrasion. The outside seam of one of his silk-stitched morocco boot tops was ripped down to the spur piece. One vest pocket was torn and hung pendant; his coat was gone, and one shirt sleeve was in shreds. He caught me looking at his blackened eye.

"Ain't she a bear?" he grinned.
"She must have been," I remarked, dryly. "Did you invade Mexico?"

"I'd tell a man!" Bill answered. "You couldn't expect a feller to have a humdinger of a time if he confined his celebratin' to the greatest dry area known to geographers. Especially when a matter came up that required special and expert attention forthwith and at once. Some good Samaritan slipped us the dope that there was a damp spot in Mexico, so we went across to Juarez, me and Tobe did. An' I'd tell a man we found a damp spot—Juarez is so damp it's boggy!"

"The Rurales must have resented your intrusion—"

"No, sir; not a bit of it. None whatever. These decorations are for lack of valor in action and ancestor worship—mostly lack of ancestor worship. I run into Tobe Leek, he ain't no pig-tailed Chink, but he's sure got a notion that his ancestors ain't to be regarded lightly. . . . Give me the makin's and I'll slip you the whole story."

Bill rolled a cigarette, moistened the flap gingerly because of his swollen lip and began:

YOU see, me and Tobe Leek was on the ranger force a while and rode line together down on the Mexican border. We had about thirty miles to cover twice a day. At one end of the stretch was Old Man Thomas's home ranch, and at the other end the Old Man had a water camp, and he kept Joe White there to look after the windmill, pump, and things. We camped about halfway between the two places. One of us rode out each way daily. The one that rode the east end could always bank on gettin' a good feed at the home ranch, while the one riding west got a batch dinner with Joe. We took turn about at it—Tobe rode east one day, and me the next.

'Course the west end wasn't bad, 'cause Joe had a bunch of hens and had gentled a cow to milk, but it wasn't no ways like the good woman's cookin' to be had at the home ranch. Then, too, at the home ranch it was rather nice to have Cora, the old man's daughter, pass the pie she'd baked herself, and insist on me havin' another slice.

Tobe up and fell in love with Cora the very first roll out of the box. I didn't blame him none, 'cause she sure was a good cook. An' believe me, if you want to catch a cow-puncher in the cactus country, use dried apple pie. Yes, sir, it's the best bait goin'. I could see that she thought rather well of Tobe, 'cause it was "Toby this" an' "Toby that," an' "Toby somethin' else," till I began to feel like a stray dog at a farm sale.

Tobe had the field all to himself, and was

just havin' the time of his life. About every other trip Cora would ride partway back to camp with him. The only thing that wasn't just as it should be was me takin' my turn at the east end of the beat. That made them go a whole day without seein' one another.

Things was goin' along well enough, considering that handicap, till they sent some soldiers down to help us rangers keep an eye on the boundary during the election of a new Mexican president for some one to assassinate. There was a young lieutenant in charge, and they camped right alongside of Thomas's home ranch. The loot was a good-lookin' young feller in his shiny boots. Cora had never seen his kind before, and I guess he didn't know they grew girls like her in the mesquite and cactus country. They took to each other just like two kids.

IN a few days Cora began to call Tobe "Mister Leek," and plumb forgot the "Toby this" an' "Toby that" stuff. She treated Tobe just like he was some of her sister-in-law's pore relation from up-state.

Then was when Tobe got onery to live with. He found fault with everything. Even his cigarettes didn't taste right. He'd smoke about half of one, throw it down, and build another. Then he'd hunt around for the butts he'd throwed down to get a light before it went out. I never saw a feller take down with the lap-cy-lalls like he did. One morning I was fryin' pancakes, and I put a couple on Tobe's plate. He poked them with his fork, smelled of them, and then looked at his boots and says, says 'e, "They don't need half-solein', do they?" and pitched them flapjacks into the brush.

Now, right there and then I appointed myself a committee of one to take charge of the education and enlightenment of a fellow Democrat and voter of the Great Commonwealth of Texas.

"They can't no mud head slur my cookin' and pitch the products of my culinary activities in the sand like that," says I.

"Ah, go to hell!" says 'e.

"I don't feel like

travelin'," says I. "I'll just start a little hell of my own, right here and at this time," and I reached across and grabbed him by the collar and drug him over where I could rub a little sand in his hair. Squatin' as I was, I didn't get good action on my footwork, and I set my left knee right smack dab on a live coal. That kind of diverted my attention a minute, and the next thing I knew he had me down with my face in the sand, and was tryin' to pour the batter out of the fryin' pan down the back of my neck. I didn't know how much lard it took to fry a pancake in, before. There must have been a pint of fried meat grease run down the inside of my shirt. The batter was too done to run; it just tilted over and leaned against my ear, and when I wiggled it scooted down inside my collar.

That put new life in me. I twisted about and got him between me and a mesquite snag, jammed my knee into the small of his back and grabbed the coffee pot.

With the snag gouging him in the tummy and me pouring hot coffee in his right hip pocket, he promptly decided it was time to arbitrate.

"I apologize, Bill," says 'e.

"You won't never do it again?" says I.

"No, néver! I'll eat 'em raw and now, if you'll just save some of the coffee to drink."

"Then you think the coffee is strong enough this mornin'?" says I, and I let him up.

"Gosh, yes! It's hot enough to have boiled a week!" says 'e, holdin' the back of his pants away from his person.

IT WAS Tobe's day to ride the east end, and he spruced all up. He put on a pair of new silver-mounted spurs, carved and shaped like a swan's neck from the crow up, and a new black silk handkerchief about his collar an' a striped silk shirt, an' combed his hair an' everything. Take it all in all, he was a pretty nifty-lookin' hombre that morning. He's built like a he man, an' just as straight as a hoss's front leg. An' he looks best mounted. When he straddles a hoss, it jus' seems like he belonged there and was there to stay. But he sat kind of lop-sided in his saddle when he rode off, to kind of favor that right hip pocket. I went west to feed on fried eggs with Joe White.

That night Tobe was sullen and morose. I guess Cora must've slipped him the mitten, and it didn't fit.

"What's the matter Tobe, ain't you feelin' well?" I says, says I, tryin' to jolly him along.

"Naw," says 'e. "I want somethin' else to do besides ridin' around lookin' wise. I wish these damned

greasers would start a ruction. I'd like to see that little shave-tail get a mouthful of somethin', and maybe he wouldn't be so handy with his soft talk."

As if in answer to his wish, the next day we had a run-in with a gang of "plows" that was tryin' to sneak a bunch of stolen horses across into Mexico. There was eight of them, and we had quite a nice little rumpus. Tobe, as a rule, was a careful fighter and didn't take any unnecessary chances, but that day he didn't seem to give a whoop about nothin'. He got two of them, and captured three more before they could make their get-away.

THE soldiers heard the firin', and came down and took the horses and prisoners off our hands, and we buried the two "plows."

Things began to pick up from that on, and Tobe got more careless all the time. He didn't seem to care whether school kept or not. Why, one mornin', just as we left camp, someone took a shot at him from behind a clump of mesquite. That fool Tobe slammed his spurs into his horse and rode right for that bush, a-firin' into it with his six-shooter. A feller can't shoot straight from a running horse, and about the second shot a Mexican jumped out and threwed his rifle away and held his hands in the air.

Tobe brought him back to camp and tied him to a big yuca.

"Now," says 'e, "I'm goin' to take my quirt and give you a good lammin', so you know enough to shoot straight when you shoot at a feller from ambush."

"Why don't you turn him over to the soldiers?" I asked.

"What's the use? They'd just take him to camp, give him a good feed, and tell him that his conduct was an 'infringement on neutrality,' an' if he didn't behave himself we'd have to take the matter up or slap him on the wrist, or somethin'. No-sir-ee-bob! I'm going to handle this matter myself—it was me he shot at, wasn't it?"

After he got Mr. Greaser all tied up to suit him, Tobe backed off with his quirt ready to give his prisoner a good whippin'. He cussed, and fought his head, and tried to work himself into a rage so he could beat the triflin' devil within an inch of his life—but nothin' doing. He just could not hit the helpless wretch. So he untied the Mexican and led him over to the line, and with a kick put him in Mexico.

"Now," says Tobe, "dad-blame your onery picture, if I ever see you on this side again, I'll—I'll— Well, I don't know what the hell I'll do. I see a feller can't always sometimes tell just what he'll do till it comes to a show-down. But when I see you again I hope I have the toothache an' haven't had a smoke for a week, an' the lap-cy-lalls, an' everything. Then, maybe, I can give you what's comin' to you."

WE WERE busy then for a few days. It seemed like the *ladrones* tried themselves. Tobe got more careless all the time, and of evenings he'd sit around and mope like an old bull with ticks in his ears, or somethin'.

On the west end there was about a two-mile stretch of big mesquite. It was so tall you couldn't see a mounted man till you was right on him. We'd noticed a mess of wagon tracks in there, and one afternoon we were riding it out when when we ran onto a couple of "plows" tryin' to smuggle a wagonload of ammunition across the line.

Tobe rode up to the wagon, and I took a circle around.

through the brush to make sure there were no more to give us trouble. I came out in a little open patch, and could see Tobe and the wagon. Just as I moved out of sight of the outfit I heard a shot, and whirled back in time to see Tobe slump off his horse and the driver lower a [CONTINUED ON PAGE 32]



With the snag gouging him in the tummy, and me pouring hot coffee in his right hip pocket, he promptly decided it was time to arbitrate

"I Haven't Found the South 'No Place for a Northern Farmer'"

By John F. Guth, Snowdoun, Alabama

THE South is no place for a Northern farmer." This piece of time-worn advice is often handed out by people who pretend to know the problems of the Northern settler in the Southland. After three years on an Alabama farm, I challenge the person who makes this statement. I find that the opportunities for the man with small capital to get a good farm are greater here than they were in my home state, Indiana. Not only is land low-priced, but much of it is better than that on the farm we owned up North, and we find the climate much more to our liking.

There are disadvantages here, of course, as there are in any undeveloped country, but we have not been troubled with the much-talked-of social problem that is supposed to exist in rural Dixie. I work with my hands in the field, and so do my neighbors, many of whom are Northerners like myself, and we do not find that we are ostracized socially for so doing. The negro farmhands are faithful workers, for the most part, and we have no trouble with them.

In 1916 we got discouraged trying to make a decent living on our 65-acre farm in Spencer County, Indiana, and after a year in Akron, where I worked in a rubber factory, we came to Alabama. The climate attracted us more than anything else, I guess. Then we had heard reports of rich alfalfa land at a very low price in the Black Belt of Alabama.

THE first year, 1917, we rented a farm adjoining the place we now own. After a year of renting, in which we got acclimated and saw first-hand the opportunities, as well as the problems, here, we decided we liked it well enough to stay, and so we bought a farm.

This farm, purchased in 1918, consists of 212 acres of level or gently rolling land. We paid \$50 an acre for it, getting half the money from the Federal Farm Loan and giving a second mortgage to cover the part we were not able to pay in cash. The former owner, who was also from Indiana and from whose widow we bought the place, paid \$40 an acre for the farm, and we have been offered \$75, which shows how farm values are advancing here. There were practically no buildings on the place, except a few negro shacks and some tumble-down log barns. This condition is typical of this country and, in fact, is true of much of the Cotton Belt. The needs of the negro cotton farmer are simple as regards buildings, and his landlord, naturally, gives him no more than he needs.

We solved the housing problem by renting 197 acres adjoining our farm, on which there is a fairly comfortable house and some other buildings worthy the name. We expect to do some building on our place as soon as prices come down.

The naturally fertile soil was what attracted us most to this particular farm. There are a great number of different soil types in the region known as the Black Belt, ranging all the way from a heavy clay down through sandy loams to black muck lands. The best soils are full of small, soft pieces of carbonate of lime, which makes them ideally adapted for the growing of alfalfa and other legumes. Two distinct soil types are found on our farm. One of them, known as Houston clay, is light colored and full of lime. The other, a black soil, is also good land, but not so desirable

as the Houston clay. The soil on this farm is naturally much stronger than that on our little hill farm in southern Indiana, but it has been sadly abused by continuous cotton-cropping. This practice of growing cotton year after year until the land refuses to respond has been all too common here.

Only since the advent of the pernicious little immigrant from Mexico, the cotton-boll weevil, have the farmers taken up diversified farming and the raising of livestock.

We decided that diversified farming (they call it "safe farming" down here), including the raising of livestock, was what would pay us best. So the first year I sowed 65 acres to alfalfa. This

be taken safely, without danger of winter-killing.

Baled alfalfa hay has been selling at local markets as high as \$42 a ton. So you can readily see that it is a profitable crop. Of equal importance is the fact that it not only improves the physical nature of the soil, by boring into the subsoil with its long roots, but also adds much humus and nitrogen. We decided that the cheapest way to build up fertility to a point where maximum crops could be grown was to grow legumes liberally, such as alfalfa, velvet beans, soy beans, crimson clover, etc., and by returning all manure and crop residues to the soil.

It is probable we will find it necessary to use some commercial fertil-

permanent system of crop rotations and fertilization.

Next to alfalfa, Johnson grass is the greatest hay crop we have, and it is one of the most profitable money crops that can be grown in the Black Belt. This plant is a virtual godsend to the South, because it is volunteering in the fields left idle by the abandonment of cotton-farming. In a few years it makes a thick sod which has yielded as high as four tons of hay to the acre on our farm. It sells readily for about \$20 a ton, baled, on local markets. It is a little coarser than timothy, but stock like it, and it contains slightly more crude protein than is found in timothy. Of course, it is not a legume, and therefore takes from the store of fertility instead of adding thereto, as alfalfa does.

Corn-growing is a different proposition here than in the Corn Belt. The longer growing season makes it possible to grow a bigger, later maturing corn, but it also brings with it a host of insect pests that are not found in the North. Our corn usually averages about 40 bushels to the acre. With increased fertility, that yield can be greatly improved.

We aim to grow only enough for our own use—that is, for feeding our pigs, cattle, and mules. We get about one ton of velvet beans to the acre planted in the row with corn. They do not decrease the yield of corn, but make a very nutritious and palatable food, rich in protein.

OUR plan is to market most of our crops on the hoof, or through the milk can. At the present time I am milking 20 head of grade cows. They are rather a nondescript-looking lot of beasts, but are producing fairly well. By using a purebred bull, and by gradually eliminating the scrubs, we hope eventually to build up a herd that we will not be ashamed to show to anybody.

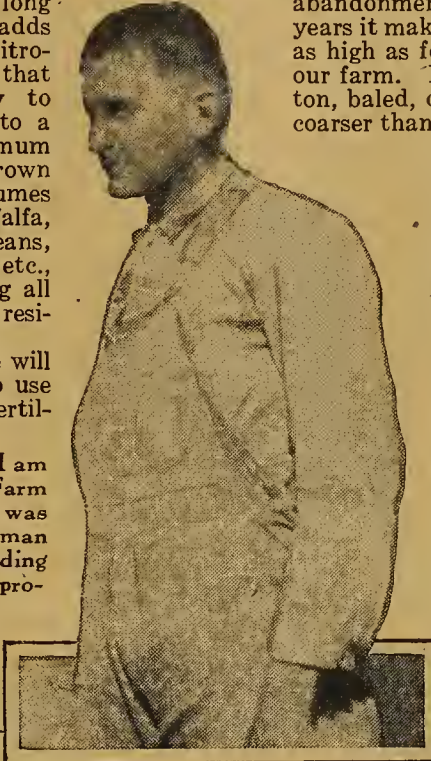
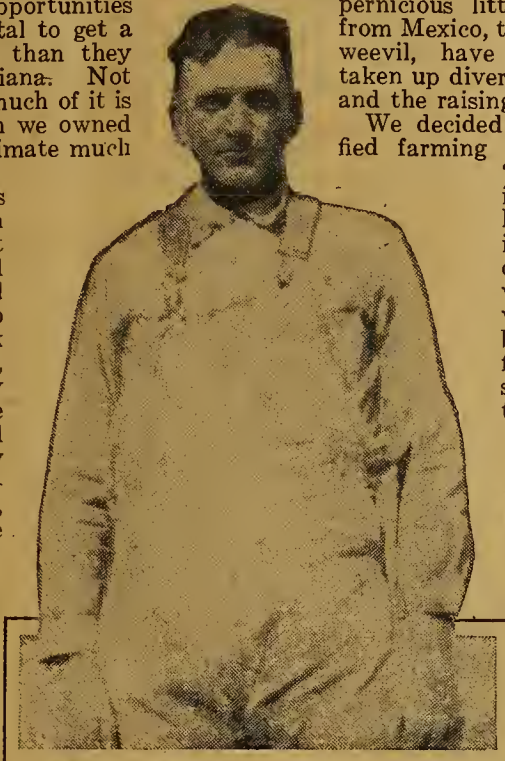
In addition, we fatten out about 20 head of beef steers, part of which we raise ourselves. The local market in the Montgomery Stockyards is good for this class of stuff. The native cattle are of very fair quality, but for the most part have received very casual attention. We expect to feature this beef-

raising end of the business. At the present time we are using a purebred Shorthorn bull of good breeding.

Last winter we grazed our cattle until January 1st without supplying any feed. From then on they received hay and velvet beans fed in the pod. We get about one ton to the acre of these beans, and they make a very nutritious and palatable feed.

Our purebred Duroc-Jersey hogs forage through the grazing months on alfalfa, with very little other feed. In winter they are turned into the fields where corn and velvet beans have grown together, and there they fatten out in great shape, requiring a very small outlay for feed and labor.

It might be worth while to discuss briefly the tenant system which is common here. In this community, and I am told that this one is typical of most of the South, it is not the custom to lease out a whole farm, or even large fields, as is done in the North. While cotton-farming was practiced, a negro tenant only needed a few acres—just enough to get a bale or two of cotton—to make a living. This custom still prevails to quite an extent. We have two negro tenants who farm about 20 acres each, raising mostly [CONTINUED ON PAGE 24]



"As you see in these two pictures, I am a real 'dirt farmer.' The day the Farm and Fireside photographer called, I was busy with our county agent and a man from the agricultural college, seeding some experimental plots. I protested, but everyone conspired against me, and so here I am in my best week-day overalls."

Some Facts About the Black Belt of Alabama and Mississippi

By J. F. Duggar

Director of the Alabama Agricultural Experiment Station, and Corresponding Editor of Farm and Fireside

WHAT is the character of this Black Belt country, a sample of which has proved so satisfactory to Mr. Guth? His farm is typical of the entire area of stiff lime soil of central and western Alabama and of northeastern Mississippi.

Location and Extent. Unfortunately, this belt of lime soil is quite narrow, in most counties not over 16 to 25 miles across, but fully ten times as long as wide. The counties containing the largest areas of lime land, locally known as prairie land—though most of it was once densely timbered with the largest specimens of the best species of hardwoods—are, in Alabama, Montgomery, Bullock, Lowndes, Dallas, Marengo, Wilcox, Hale, Sumter, and Greene; and in Mississippi, Noxubee, Lowndes, Oktibbeha, and Monroe. The most complete information about the varied soils

of these counties is contained in the reports of the soil surveys of the counties named issued by the U. S. Department of Agriculture. Some of these reports are out of print, but those that are in print may be had for a few cents a copy, sent with each application to Superintendent of Documents, Washington, D. C.

Suitability to Forage Crops. Mr. Guth's experience is typical of the general suitability of the lime soils of the Black Belt to Johnson grass and sweet clover; to a great variety of grasses and clovers for grazing, especially including Bermuda grass, white clover, black medic, (trefoil), and Japan clover, or lespedeza; and of the suitability of most phases of these lime soils to the profitable production of alfalfa.

Roads. But no country is free from disadvantages. You ask, what are the chief [CONTINUED ON PAGE 25]



"One of the things I like best about this region is the climate which permits grazing practically the year round. This picture shows some of my cattle on an alfalfa pasture"

succeeded from the start, with no special preparation, due, I suppose, to the presence of plenty of lime in the soil, and the fact that sweet clover growing wild had supplied the necessary bacterial inoculation. Alfalfa planted that spring made enough of a crop to pay the cost of seeding the first year. Since then it has yielded five cuttings each season. In most places north of the Ohio River only three cuttings a season can

be made. I have a two-acre experimental plot on the farm on which I am working out, in cooperation with the Alabama Agricultural Experiment Station, some of the practical problems regarding crops and fertilizers. I furnish the land and labor and they pay all other expenses. I expect the results of this experimental work to be of great value to me in working out a

"I Made a Paying Farm from a Timber Claim Bought for \$200"

By Christian Waite

I HAVE been told that an account of how my wife and I came to be the owners of our own farm on nothing but our settled determination to be our own masters, while still young people, may be of interest to you other readers of FARM AND FIRESIDE.

In the first place, we were very poor young people in San Diego County, California. When we married we resolved to rise above poverty, and that our every dollar should be an honest one, even if we lived grimly. We were farmers, and earned our livelihood by laboring for farmers; but we did not travel from one section to another, as so many in our position do.

In the ten years of our married life our mind was eternally set on owning our own farm. Meanwhile we, living by the most exacting economy, saw people with no more brains than we conceitedly thought we had make good money from their land. In time we saved \$400. That may seem mighty small for ten years of stern economy, but we had all our household outfit to pay for, and farm laborers then did not get one dollar where they get three now.

Our \$400 looked awfully small by the side of what we found we could buy a ranch for. About an acre and a half, I found our savings would buy. It looked gloomy, our ever owning a farm, we reckoned, until we got about ready to die. No wonder we sat up nights and talked over how impossible our plans had been. But I heard of 50 acres of abandoned timber land in the foothills, at the base of the mountains, that could be had for \$200. It was cheap because of the Herculean labor that would be required in clearing the trees and chaparral on the property. I saw a spring that might be developed into an irrigation resource. We were both delighted at finding a farm that could be had for \$200, and we bought it after looking it over carefully.

We had \$200 left as working capital for the land. I had to smile when I heard of a rancher in Orange County that had laid aside \$25,000 as his working capital for the next twelve months. A banker heard my story, and loaned us \$300 for five years. I can never tell what a benefactor he seemed. I could have kissed his hand in gratitude.

I HAD no time to lose in getting to work. My wife decided to stay in Riverside, at the shack in the suburbs. The baby was only a year old then. I went to the lower mountain land that same fall, and began work clearing the place into a farm. Meanwhile I did farm labor for wages. I did not realize what a tremendous job I had undertaken. I know that people smiled at my talk of how, all alone, I intended to create a farm there among the chaparral.

But how well we succeeded is denoted by the fact that we have been offered for my farm, several times, over \$5,000, and once \$6,500. Besides, I have stock worth fully \$620, two Liberty bonds for \$100 each, and unsold potatoes which are going to market for fully \$400. Besides, our home contains furniture that cost about \$450. We also have pigs, two cows, and poultry. In other words, we are about \$7,800 better off since we began to be our own bosses five years ago. Besides, we have two of the finest children anyone was ever blessed with.

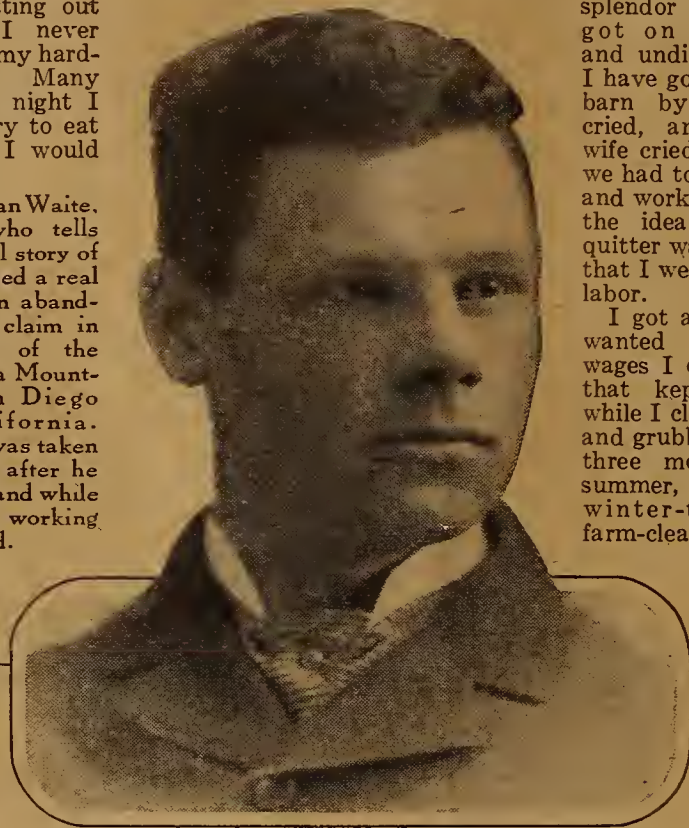
It would take pages to tell how I went at chopping, shoveling, hewing, grubbing, and hoeing day after day. While clearing the land I lived in the shack I had built in two days on the place. Not an unnecessary thing was in that most primitive sort of a human habitation. I quickly saw that I had assumed the very hardest agricultural proposition. Work as hard as I knew how for a month and the result was so small by the side of what remained to be done. I was completely discouraged. I could have run away, but my wife, who frequently came up to see me, always jollied me into hopefulness, and her remarks about quitters made me go at it again.

After the second baby was born to us in the next spring, I got work in the Riverside

County farms, and saved 75 per cent of my wages. That went into building a better shack at the mountain farm. My wife and children moved there. I found plenty of farm work all around. The demand was enormous for that all right.

When winter came I had enough money to carry us through another six months, while we devoted ourselves to cutting out a farm. I never worked so in my hard-working life. Many and many a night I was too weary to eat my supper. I would

This is Christian Waite, the farmer who tells this wonderful story of how he chopped a real farm out of an abandoned timber claim in the foothills of the Sierra Nevada Mountains in San Diego County, California. This picture was taken in 1910, just after he was married and while he was still working as a farmhand.



For Sheer Grit and Determination This Boy Takes the Prize.

IF YOU are feeling low and discouraged, if you think you have to work too hard and get too little for it, if life doesn't seem worth the effort, read this story.

For an exhibition of sheer grit and determination it beats anything I have ever seen. Here is a boy who worked ten years as a farmhand to save \$400 with which to buy an abandoned timber claim, and then slaved for five years hewing it into a real farm.

He is successful and on the way to being well-to-do now, but he has paid for his success, as every man must.

His story proves again the old truth that the only way to make haste is slowly.

Here is what U. S. Senator James D. Phelan of California thinks of the story: "Christian Waite's experience in creating a fruitful farm among the Sierras is as inspiring as anything I know of. There are tens of thousands of opportunities to follow Waite's example in the mountains which reach from Alaska to the Isthmus. I have seldom heard of such a strenuous period as he has passed through, backed by a pride to stand by his resolution. What a thing it would be if there were an army of Christian Waites!"

I second the motion.

THE EDITOR.

go immediately to bed, and be up at breakfast at 4 A. M. Hundreds of days I would do the hardest kind of work twelve hours a day. It all seemed such a hopeless job. The few acres I had cleared at the expense of smarting hands and an aching back, till it seemed as if I never could stand erect again, seemed so puny by the side of the area that had to be cleared that I would never have gone to work again had not my wife's remark, "You don't mean to say that you will undertake a job you cannot do." That roused my fighting blood again, and I went at it harder than ever. But—

YOU try cutting chaparral, digging and blasting out tree stumps ten feet in the earth, killing rattlers and hauling brush all day, for weeks at a time, and you will find what a job you have undertaken. Not an hour of respite or change from hard, grimy, dusty labor. Many's the time I have been black as a negro with dust, and, added to that, less than a pint of water within half a mile.

Think of doing that labor on only the hope of a cleared farm some day—not a penny income from your labor. Often my wife and I had long talks wondering whether it paid—all outgo and never an end to the work and our beggarly economy.

The invariable result was that our serious talks ended by our renewing our determination to keep at the "cut-out" farm a while longer. So many months of the fierce life had a decided physical effect on us both.

Sometimes our lonely lives and our daily tasks and our primitive mode of life, while we read in the paper of such extravagance in city society and splendor of lazy folks, got on our nerves and undid both of us. I have gone behind the barn by myself and cried, and often my wife cried bitterly that we had to live like that and work so hard. But the idea of being a quitter was so repulsive that I went back to my labor.

I got all the labor I wanted at the best wages I ever had, and that kept us living, while I cleared the land and grubbed. I worked three months in the summer, reserving the winter-time for the farm-clearing labor.

And from our own two cows, now, wife sells milk for \$35 a month. Besides, we have milk in plenty for the family and the growing babies.

Still clearing the land went ahead. Our sales put zest into the savage labor, and were sauce to our deprivations. We actually saw something coming in from the farm. Then we had sales of eggs and a dozen turkeys my wife had grown.

In a few weeks longer we sold cabbage, peas, and a calf. My farm was actually yielding an income. My days of working for other people came to an end at an age of thirty-three years.

AS THINGS stood with us on the first of March, five years after we embarked on the "cut-out" farm proposition, we had a farm of forty-two cleared acres. Eight more to be cleared at our leisure. I have twenty-six acres in crops, and the rest in pasture and brush. I have enough water for six acres of certain crops now; can develop more in a wet year. I have most of my land in oats, ten acres in potatoes, four in Egyptian corn and fodder corn. I plan planting soon two acres of apple trees. Besides, I have two acres of peas for vegetable gardening, also a lot of garden truck, carrots, rhubarb, cabbage, lettuce, and kafir corn, for chicken feed, for we are beginning a chicken farm on an extensive scale, having done well on the few chickens we have now.

We are happy now that the hardest of our task is over, but I realize what brute strength clearing our small acreage has required—five years at the most laborious job man ever invented. Of course, our career of being our own masters is only begun. We have wonderful plans, now that capital is coming our way. Of course, we shall grow. Fifty acres is too small for a man and woman who know what work is. We mean to have more acreage. We look to having a herd and a hog farm that will make us well-to-do. Not until I am at least sixty will we ever give up to a life of do-nothingness—I do not say a retired life. We will never retire, but we hope some day to ease up.

My Garden Pays Me

WHEN our early potatoes are up nicely I plant a good early variety of sweet corn between the rows. This is done at the second cultivation of the potatoes. By the time we cultivate them for the last time the corn is up nicely. About two weeks later the potato tops begin to die, and shortly the crop is dug and marketed, leaving the sweet corn. By the digging of the potatoes, there is plenty of earth to pull up around the corn and, regardless of the season, I usually have a good yield of second early or late corn. The surplus is marketed or dried, and sold by the pound during the winter months.

There has always been a good demand here in our market for late roasting ears. And the price they bring makes worth while the extra trouble in planting and cultivating this second crop. Any good early sweet corn will do, but a late variety should not be planted, as the season will be too short for it to make good roasting ears. It will pay to intercrop in this manner, and the second crop can be grown at a minimum of expense—a point worthy of consideration.

Last year I cultivated our sweet corn planted in this manner only twice. It made a fine yield of ears, and netted a nice profit. Between the rows of corn at the last cultivation I sowed thinly some turnip seed, as the ground was nice and mellow and had plenty of moisture to give them a start. That undoubtedly was the largest yield of turnips we ever raised on so small a plot of ground. It required no care, and produced 12 bushels of turnips, which were sold at a good figure.

Where ground is in a good state of fertility, intercropping means a second profit and will not prove detrimental in any way. MRS. E. O. SWOPE, Pennsylvania.

The first year I carried buckets of water for the home from a spring half a mile away. I saw a prospect of developing water in the mountainside above the house. I had to hire a man to help at that work. In two weeks we dug into the mountainside, and I developed a source of three inches of water. It cost me four weeks of hard work. To pay for pipe I labored three weeks at the Corona clay quarry—bound not to spend a penny unnecessarily at any time.

The first income from the farm was in the spring of 1919, when our potato crop was sold for \$157. To be sure, it was only a small one from the land I had so far cleared. Words cannot express the joy my wife and I had in actually getting money from our own land. It paid for months of the hardest and most constant labor and eternal saving we had practiced.

That gave us money to buy seeds and to do much with. I got hold of a Poland-China sow cheap, from a rancher who had tired of ranching in two years. It is a funny story how my wife hauled planks to build the pig pen. Now we have pigs to sell to the packers.

We sold fuel from the place—chaparral and cresote brush, which I had cut—for \$110. With it we bought a Guernsey cow.

The Questions That Farmers Ask Me About Buying Tractors

By F. W. Ives

Corresponding Editor of Farm and Fireside in Farm Engineering, and Head of the Department of Agricultural Engineering at Ohio State University



This is Mr. Ives

OF course, the first question will always be: "Can I use the tractor to advantage on my farm?" And naturally this is a hard one to answer. The second question is like the first in many respects: "Will it pay?" These two may be considered

as one for the purpose of this article.

First of all, your personality, mechanical knowledge, aptness, and ability in handling machinery is the biggest single factor. Unless you agree with yourself to set yourself to treat the tractor with respect and care, or unless you can hire someone who will, you had better not buy one. The success of a tractor is fully 75 per cent in the hands of the operator. Tractor builders have succeeded in building rather good machines, but they are not yet entirely fool-proof.

The size of farm, system of cropping, topography, and, in no small measure, the shape and size of the fields all have a distinct bearing on the practicability of the tractor. There are tractors built for every condition, from the small garden tractor to the mammoth tractors used on the large Western wheat farms.

So far, I am inclined to believe that the tractor is at its best on a farm where it can displace about one half or more of the horses in field operations. This farm is one having fields containing 20 acres or more, at least two times as long as wide—probably a farm of 160 acres or more, having fairly level fields and operated on a three-crop scheme of rotation.

This does not mean that smaller tractors might not be used on smaller farms. Besides field work, we must figure some on belt work to keep the tractor running as many days a year as possible. A small tractor of, say, 10-horsepower at the belt, might be used to advantage in operating silo-filling and threshing machinery, rock crushers, and the like.

AN INQUIRY among farmers of Ohio resulted in 656 of them saying that the tractor is a good investment, while 69 said that it was not. The farm management department of the Ohio State University, in a report covering the northern part of Ohio and including actual farm accounts of 84 Ohio farmers, found some very interesting comparisons. Farm accounts for the year 1918-1919 were kept while these farms were worked with horses. Likewise, the same farms kept account in the year 1919-1920 after the farm was using both horses and tractor. Table I shows the comparison:

TABLE I

	1918-1919 With horses	1919-1920 Tractor and horses
Average farm area	177.3	184.5
Average tillable area	113.7	122.5
Number work horses per farm	4.5	3.9
Tillable acres per horse	25.3	31.4
Productive live stock units	23.3	27.0
Productive man workdays per man	233.1	255.4
Productive horse work-days per horse	83.7	100.8

The data in Table I compare quite favorably with data obtained at the University of Illinois for the corresponding years. The average Illinois farm taken was larger than the average Ohio farm, and a larger displacement of horses was made by the tractor.

One of the notable points in Table I is the fact that for every work horse displaced a gain of four productive animal units was made, this very likely being due to horse feed turned to feed productive livestock. Another interesting disclosure is that in combination with the tractor each work horse retained is doing more days' productive work per year than formerly. This we might expect since the tractor car-

ries the peak load at plowing and seeding time, and for the most part the peak load of harvest time.

"Will the tractor eliminate the horse?" is another favorite question asked by the buyer.

I think most of us agree that the tractor's place is to aid and supplement rather than to displace the horse. True, some horses may be eliminated, but the man with really good horses will find a ready market. The tractor will do a lot of good for the breeders of high-grade horses if they only see that

should hardly expect a dealer or distributor to perform the following as free service:

- (1) Tell me that the fuel tank is empty;
 - (2) that the spark plugs need cleaning;
 - (3) that there is a loose connection in the ignition system;
 - (4) that the radiator needs water;
 - (5) that the motor needs oil;
 - (6) that the ignition switch is locked; etc., etc.
- Yet this is a service that is demanded.

I do not believe in free service. I believe that service should be paid for, whether it is time or materials, so long as the original materials are not defective. De-

may best be answered by quoting our experience testimonials of some 800 tractor users, as follows in Table II:

TABLE II

Average-sized farm using two-bottom rig	153 A.
Average acres plowed per day	5.56
Number farmers desiring larger rigs	136
Number farmers desiring smaller rigs	10
Number farmers desiring same size	202
Average-sized farm using three-bottom rig	183 A.
Average acres plowed per day	7.13
Number farmers desiring larger rigs	84
Number farmers desiring same size	125
Number farmers desiring smaller rigs	8
Average acres cutting grain per day	16.44
Average number of horses displaced	2
Average annual repair bill	\$21.00
Average number of days tractor is used per year	60

The plow rig stated in terms of average tractor-rating would be such sizes as 6-12, 8-16, 9-18. The three-plow rig would be the 10-20 and 12-25, and similar sizes. The tendency seems to be for the farmer to buy too small at the outset. He then finds that he needs extra power here and there, and the chances are that if he has a farm that is a real tractor-farming proposition one man may supervise three- or four-bottom plows as well as two-bottoms. Since the man-power problem is really a serious item in the expense of field operations, why not use the man to better advantage?

"Is the tractor suited to other uses than plowing, disking, and belt work?" Decidedly yes.

TRACTORS are successfully used for hauling, road-building, haying, harvesting, land-clearing, and a host of other things. Experiments at the Mississippi Experiment Station show that in very poor weather conditions the tractor put up hay with only 3½ per cent loss. Mowing attachments are now made for several popular tractors. Special mowers are made for tractor use, the cuts being from 7 to 10 feet wide. I have seen tractors hauling two-side-delivery rakes, two wagons with hay loaders, and other like stunts.

"How about motor cultivators?" There are a number of motor cultivators on the market. I am not yet prepared to say how many acres a man should work before the motor cultivator will pay. Many of the motor cultivators may be adapted to other uses, as small belt jobs, planting corn, plowing, etc. Many of the garden tractors may be used in much the same way as the motor cultivators, except that they are used mainly in cultivating single rows. Motor cultivators may cultivate two rows or, if a three-row planter is used, three rows.

I am asked so many questions about the care and operation of the tractor that it is difficult to classify them all and write them into a comprehensive article. May I suggest that for tractor troubles every man who owns or operates a tractor would do well to study the instruction book that accompanies the machine. Then there are numerous bulletins published by agencies such as the U. S. Department of Agriculture, state experiment stations, and colleges of agriculture. Many colleges of agriculture conduct short courses in tractor operation. Your county agent can tell you about these, or you can write these agencies direct.

Many tractor companies also conduct schools, giving instruction in the care and operation of their particular tractor. Numerous books have been published and widely advertised. Farm-machinery trade journals have issued many valuable books on the same subject. The agricultural engineering specialists in extension service at your state agricultural college are always ready to answer questions affecting the operation of the tractor.

One of the questions frequently asked me, and no doubt asked every person engaged in answering questions about tractors is: "What make of tractor would you buy yourself?" [CONTINUED ON PAGE 17]



Photo by Clarence A. Purchase

"Sumpin's wrong wif my Wivian's foot," complained little Gladys Fairchild of Rutherford, New Jersey, as Mr. Purchase pointed his camera in their direction. And "Wivian," who is a very expressive dolly, confirmed the complaint by making "goo-goo" eyes at her small mama's pink bow in an attempt to register misery. This picture was taken when Gladys visited her photographer cousin at his home in Jamaica, Long Island

what the tractor really eliminates is the unprofitable horse. A farmer with one really good team that can stand daily work, and who can work them daily, is much better off than the man with a lot of scrubs that play out in the middle of the planting season. Right here is where the tractor comes in.

It is time that the horsemen boost horses and stop knocking the tractor. The horse market is a long way from feeling serious competition from the tractor. For example, there are 256,000 farms in Ohio. There are in use on Ohio farms 8,334 tractors. Even if horses were entirely eliminated on farms having tractors, there are still 247,000 farms using horses, and many of these farms will never use tractors on account of natural difficulties.

"What shall I expect in the way of service after the dealer has my money?" That depends somewhat on your idea of service and the dealer's idea of service.

If by service you mean that the dealer should come out to your farm to tell you that the reason your tractor will not run is because the fuel tank is empty, you want too much. This is a service you should pay for so that next time you will look at the tank before you use the telephone. I

fective parts, within a reasonable time limit after the purchase of the machine, should be replaced.

What I mean by service is the ability to get help and get repairs made as soon as needed. A reasonable charge should accompany this service. I believe that owners would take better care of their machines and try to learn more about them if this were the general rule.

"SHALL I build a special building for my tractor and tools?" Yes. In the first place, there are far too many tractors and implements standing out of doors. The annual loss on these tools is hard to estimate, but certainly not less than 10 per cent per annum. This does not take account of time lost in making repairs, breaking rusted bearings loose, scouring rusty moldboards, etc.

Do not keep a tractor in the general barn. Many insurance companies would revoke their policies if they should discover tractors, automobiles, gas engines, or fuel tanks stored in the barn. And rightly so. The special tool shed enables one to store implements most economically in groups according to seasonal use.

"What size tractor shall I buy?" This

How We Found That the Lowly Sunflower is a Million-Dollar Crop

By F. L. Ballard

District County Agent Leader for Eastern Oregon



Here is F. L. Ballard, district county agent leader for eastern Oregon, and the man who wrote this article, looking over sunflower crops in Union County. Mr. Ballard is a sunflower silage enthusiast, and he knows what he is talking about, too. He lives at Corvallis, Oregon. Read this story of the discovery of the value of sunflowers as silage, carefully. Think it over. Think! Are there any good crops lying around your farm undiscovered? Are there any real opportunities for more profitable farming staring you in the face on your own acres that you haven't seen? Who would have thought that a common sunflower was any good? And yet, look at the millions of dollars it is worth to these Western farmers! The Editor.

OFTEN in your effort to solve some perplexing problem on your farm, you stub your toe on the very remedy you are looking for, fail to recognize it, and pass on. Later, in a more thoughtful mood, you come back to the very thing you stumbled over, recognize it for what it is, and, presto! your problem is solved.

That is what happened to the stockmen of eleven Far Western States. For years they had sought cheap forage for livestock. Twenty-dollar hay and low-priced steers, had caused more than one failure among both large and small livestock operators. And for years these same stockmen who cursed the price of hay had been staring with unseeing eyes at the big yellow sunflowers of the Mammoth Russian type that dotted the landscape.

The great nodding golden blossoms had long been found decorating the homesteader's little garden, withstanding frost and drought and lending brightness to an otherwise dreary outlook; or growing neglected in the fence corners, or perhaps grown on a small scale in a corner of a field to furnish chicken feed.

It never once occurred to them that this decorative weed was the solution of their feeding problem.

But one day a thoughtful, observing farmer discovered it; just as you, by being thoughtful and observing, can discover time, money, and labor-saving things on your farm; and this year sunflower silage is being grown on thousands of Western acres as a stock feed par excellence.

When the idea came to their attention, the men of the Montana Experiment Station harvested a crop of sunflowers, placed them in a silo, and fed the ensilage to various types of livestock, for which it was found well adapted—practically as valuable, in fact, as the corn ensilage of the Eastern States. This was done only in 1915, but the news spread rapidly, and there are many sections where this year the development of sunflowers as a cheap forage for livestock is declared the most important

aid to agricultural progress in these particular sections since the introduction of alfalfa.

One of those districts is Wallowa County, Oregon, and this year sunflowers have been recognized as one of the standard farm crops of the county, and a classification has been given in the premium list of the county fair. The enthusiasm of the Wallowa County people is not based on press articles or lectures, but on the actual experience of fourteen of their own substantial farmers who raised sunflowers on an extensive scale as demonstrators under the direction of the Farm Bureau, and later, finding the tonnage heavy, erected silos and fed the sunflower ensilage to stock cattle, fattening steers, dairy animals, and sheep. They invariably found the ensilage a success in reducing the cost of wintering their stock, and as a result there were last year 1,300 acres growing in the

county, and silos going up all around.

The sunflower in Wallowa County and other districts in the Far West has made silos practicable over many high-altitude areas where corn is an uncertain crop. Sunflowers out here withstand frosts that completely kill corn, and they outyield corn by 50 per cent under extremely dry conditions. For instance, corn cannot be grown successfully in the Wallowa Valley—elevation approximately 3,000 feet—yet last year the 14 fields of sunflowers withstood a temperature of 24 degrees in June, and produced from 15 to 35 tons per acre on irrigated land, while on the dry hill land surrounding the valley, typical of much of the newly settled land of the West, they produced from 6 to 8 tons where other crops dried out.

The adoption of silos by range cattle and sheepmen has been slow until comparatively recent years. Under former conditions stock was pastured on the public ranges and in the forest reserves, being brought to the valleys for a short period of winter feeding on wild hay. Gradually the range was taken for dry farming or irrigation projects, and that portion remaining lost its carrying capacity because of overgrazing. The developed, irrigated lands increased in value, and more intensive methods became necessary.

In Union County it was demonstrated by farmers that corn could be acclimated to the point of producing profitable

crops of ensilage. The ranchers found that on an average for all classes of stock two tons of ensilage saved a ton of twenty-dollar hay. Union County was more favorably located than many other Oregon counties where corn was uncertain. Wallowa County was one of these, and previous to 1919 there were but three silos in the county.

THE Wallowa County farmers found that the sunflower ensilage was equally as valuable to them as was the corn ensilage to the farmers in Union County, in that two tons of it replaced a ton of high-priced hay. Certain of the farmers reported even more striking results.

One farmer, Hugh Wilson, who constructed the first silo in the county, fed his sunflower ensilage to dairy cows, and found that it was possible to produce butterfat for 35 cents a pound, while on hay and grain ration it cost him 65 cents.

J. P. Gillespie was another dairyman who fed sunflowers. He was feeding alfalfa hay and mill feed at a cost of 75 cents a day for each cow. He changed to 40 pounds of ensilage a day, and what alfalfa the cows would eat, and reduced his daily feed cost per cow to 37 cents and increased the total milk flow three gallons a day, which increase was permanent throughout the ensilage-feeding period.

J. H. Dobbin feeds 25,000 sheep, and is an experienced range man. He fed one band on sunflower ensilage and hay, and found that two pounds of ensilage saved a pound of hay. He found that the ewes did unusually well on the ensilage ration, and that it had the same effect as a green pasture in that the ewes gave a good flow of milk, and raised their lambs equally as well as would be the case on grass pasture. Range cattle being wintered, and steers on fattening rations, did equally as well with ensilage added to the hay ration as did the dairy cattle and sheep.

Sunflower ensilage is as valuable as any succulent food. It is palatable, nutritious, bulky, and easily digested. No reports of poor success are available in Wallowa County, and the few which have been received by county agents and extension workers in the State have, upon investigation, been found due to spoilage of the silage from causes which would have had the same effect on corn ensilage or any other kind.

FARMERS have often found that, because of yields larger than had been expected, they did not have sufficient silo space for their crop. They accordingly cut the sunflowers and fed them green, as a soiling crop, and found that the cattle ate them as readily as corn.

Practical farmers in Wallowa County now state that a silo on every farm running ten head or more of cattle or a hundred sheep would completely solve the winter feed problem, and in addition provide a

surplus of forage with which to develop the dairy industry on the farms having no range permits, now raising hay to sell to the stockmen.

In central Oregon, in Deschutes County, the gateway to an immense livestock area extending east to Idaho south of the Blue Mountains and south to Nevada, we find hundreds of acres of sunflowers growing and many silos being erected as a result of pioneer work done there by enterprising livestock men.

One district planting sunflowers last year for the first time is Lake County. This county, larger than the State of New Jersey, ranks fourth in assessed valuation of beef cattle and sheep in the entire State, and yet there was not a single silo in the county, notwithstanding the successful experiences with ensilage in other stock-raising sections. One reason was that the entire county has an altitude of over 4,100 feet, and no successful ensilage crop had, up to last season, been developed.

Sunflowers were planted last year, however, by a few farmers in different communities—and the silo question is solved. The sunflowers grew successfully and silos are going up.

LAKE COUNTY, and its neighbor on the east, Harney County, even larger in size, are referred to in the Northwest as the last frontier, being districts where old-time cattle-ranching practices have continued to prevail. Changes to a more economical basis are coming, however, and the sunflower is leading the way.

In Union County, where acclimated corn can be grown, the sunflower finds an important place in the farming scheme, growing in comparative profusion on the drier hill lands, and serving well for replanting poor stands of corn on the valley floor. Sunflowers are also proving well adapted as a crop for the summer-fallow lands, for years left idle every second season for the accumulation of two years' moisture for a single crop of wheat. It has been proved that cropping these idle lands with a cultivated crop will only slightly reduce the following grain crop, while the gross returns for the two years will be greater than under the single-crop plan.

Sunflowers also inject diversification into the unsound single-cropping plan by making a livestock system possible. One farmer in Union County wintered steers on sunflower ensilage and straw with excellent success, while others are following the plan, using in addition a pound of oil cake a day to provide protein.

County Agent Spillman of Union County is enthusiastic over sunflowers.

"Sunflowers can enormously increase the livestock-carrying capacity of large areas in the West," he said. "Heavy tonnage on the irrigated lands, adaptability to cropping on grain summer fallow, and their ability to withstand drought and frost on many of the dry farm lands now being

homesteaded are qualities in a forage plant we have long been seeking. Many dry farmers, now failing, can by growing rye hay and sunflowers run sufficient livestock to succeed and increase the value of their lands."

Another and entirely different district in which sunflowers are proving valuable is in the coast counties of the State, where cool winds from the ocean make corn production uncertain because of low yields. On many soils in these counties the sunflower crop is better yielding than corn.

The [CONTINUED ON PAGE 26]



These sunflowers were grown under irrigation on the farm of J. P. Gillespie in Wallowa County, Oregon. The yield was 20 to 35 tons an acre

"Ah, Berkshire Goats, They Ripple So!"

A sheepman with a sense of humor holds class, and gives a few pointers on this strange animal

By James F. Walker

Secretary of the Ohio Sheep and Wool Growers' Association

IT WAS at a sheep show that I met him—a little, dapper, pompous fellow about forty years old, clothed in the latest style, swinging a light cane in one hand and carrying a pair of tan gloves in the other. I would judge his weight on the hoof at around 110 pounds, but if he were weighed on the scale of his own importance he would have pulled a ton easily.

His name I never learned, but he so resembled a pouter pigeon that I have always called him by that name. Accompanying Mr. Pigeon were two small boys, possibly six and eight years old, resembling in some respects their sire, but somehow leaving the impression that they would have been real boys had they not been so unfortunate in the selection of a father.

They arrived at the sheep tent just after the aged class of Delaine ewes had been called out. With a sweep of his cane that took in sheep and exhibitors alike, and almost made one wonder whether he referred to the sheep or the showmen, or possibly both, Mr. Pigeon turned to the boys and said in his quick, decisive manner:

"Now, Chester! Now, Arthur! Which is the best animal here?"

Whereupon Chester very dutifully walked over and put his hand on one ewe's back, while Arthur rather vaguely pointed in the general direction of the whole bunch.

"No, sir, this one right here will be the winner," said Mr. Pigeon. When later the blue was placed on the very ewe of his choice, he swelled up more than a bee-stung nose and remarked:

"Didn't I tell you! I can very easily tell at first glance about those things."

My ewe not having found favor in the eyes of the judge, I put her back in her pen and stopped to water some Merino rams, when Mr. Pigeon with his progeny approached. He began:

"Mister, are you the owner of these goats?"

I acknowledged that I was, and he next shot at me:

"Mister, I know these are goats, but I am not familiar with the breed. Will you tell me what breed of goats they are? Now, Chester and Arthur, listen while the man tells us about the goats."

Feeling sure in my own mind that if Mr. Pigeon had decided that my Merinos were goats it would not be possible to change his opinion, I replied:

"These are Berkshire goats."

"Berkshire goats! Berkshire goats!" puffed Mr. Pigeon. "I never heard of Berkshire goats, Mister. Where do they come from?"

Whereupon I launched into a learned dissertation on the Berkshire goat that originated in the Berkshire hills of Massachusetts, and was later crossed with the Rocky Mountain goat to improve the horn and hardiness. They were selected, with

"Mister, are you the owner of these goats?"

fleece improvement in mind, until the finished product was developed into the wonderful stage which he beheld.

"This is very interesting," Mr. Pigeon agreed, "very interesting, indeed. But, Mister," pointing to their wrinkly sides, "what makes them ripple so?"

SO ONCE more I was obliged to go back to my natural history and explain the fact that Rocky Mountain goats were the product of a cold climate, and the heavy fleece that had been developed on them, as well as the hot weather, caused them to lose flesh in the summer and the skin to sag down.

"And do they fill out in cold weather?" "Oh, yes!" I assured him and, pointing to a pen of smooth Rambouillets near, I said: "Here are some that have been kept in cold storage this summer, so you could see what they look like in the winter. You will notice that they are beginning to feel the effects of the heat since coming out, and are sagging on the neck some already."

"This is extremely interesting," Mr. Pigeon concurred. "I certainly feel that my time here has been well spent. One never knows what one can see in our country. I knew, of course, that these were goats, but you can readily see why I could not locate the species, as they are a hybrid variety. I am glad Chester and Arthur were here to have seen them; I want them to be as well informed when they grow up as I am. I am obliged to you, Mister, [CONTINUED ON PAGE 17]"



About "Picket Pin," the Indian on the Cover

By Remington Schuyler

The artist who painted the cover, and who knew "Picket Pin" in real life

NEGLECTING to knock or give any warning of his coming, he opened the door of our log house and came in—a dripping, blanketed figure.

He trailed muddily across the floor to the fire, spread out his bedraggled blanket on a chair, took off his moccasins, wrung them out into the wood box, and sat down. He spoke no word. We sat spell bound at the breakfast table, regarding our strange visitor. With a quick motion as though to remove his shirt, he brought forth a long bundle swathed in multi-colored wrappings. To relieve the embarrassing silence, I passed the formal greeting:

"How! Ta-a-ku?" Which means, "How do you do? What did you say?"

"How! Ko-pe," he replied.

"Oh, you are Ko-pe?"

"Me no Ko-pe, me Peek-eet Peen."

"Ko-pe," he reiterated, and concluded this explanation with a motion of drinking.

"Oh, you mean coffee! Do have some," and I passed the coffee pot and a large cup over to him. He must have been cold, for that coffee was assuredly hot. Yet with a sort of a mechanical motion he emptied three cups of the steaming liquid in rapid succession.

"Heap good Ko-pe," he volunteered.

Scorning the proffered shredded wheat, he devoured with great gusto half a loaf of bread, half a can of tomatoes, and a cup of sugar.

This finished, he set deftly to work to undo the many knots and bits of cord that bound his long bundle.

There were layers and layers of cloth, of gingham, of blanket scraps, and even fur. However wet he had been, the contents of his bundle were dry. From the many swathings he brought forth a set of arrows and a well-made Indian bow.

Beautifully feathered, straight in the shafts, grooved, and perfectly nocked, they bespoke careful and expert workmanship.

To digress a moment: All Picket Pin's movements were accompanied with furtive agility. In other visits and meetings he constantly surprised and puzzled me by doing things with cunning deftness. He created an atmosphere in which one readily believed that the hand was quicker than the eye. Nothing startled him. He seemed to foreknow all I intended to do, until at times it became uncanny.

So when, from a careful inspection of the primitive hunting implements, I suddenly glanced up, I found my friend sitting,

cross-legged, in the large rocking chair. "These arrows and this bow," I said, "are very good."

"One dollar," he replied.

This was eminently satisfactory to me, although afterwards I found dozens of bow and arrow sets at the Indian trading store. They were marked seventy-five cents.

Having paid him the sum agreed, a dusty and tattered brown bow case was surreptitiously produced from an inner fold of his gray blanket. An old gun, which was a veritable resurrection of Rip Van Winkle's, followed. I casually examined it.

"But I don't want to buy a gun," I protested.

"Picket Pin no

swap gun," he was quick to assure me.

So, freed from the danger of having to buy it, I quite willingly inspected the ancient muzzle loader. Six distinct wrappings of brass and two of bailing wire bound the barrel to the forepiece of wood. The butt stock was so screwed and riveted and bound together that it resembled a mosaic. The name was rusted and unrecognizable. The barrel seemed somewhat shorter than the lines of the stock suggested. It looked like a snub-nosed gun or a Winchester sawn short for purposes of easier concealment. And, sure enough, I found marks of rather crude filing at the muzzle end.

Picket Pin signed that it had exploded once, therefore the shortened barrel. Also that now he had to use much more powder than formerly to get the same range efficiency.

HE HAD brought it in to show me the kind of things he needed for it. The storekeepers would no longer send for the little caps which caused the gun to thunder. He was sure I could get them (percussion caps) for him. Then he could get plenty of prairie dogs and prairie chickens for food. Flattered by his confidence in my ability to procure them for him, I rashly promised to get the percussion caps, little knowing that that size and style were obsolete.

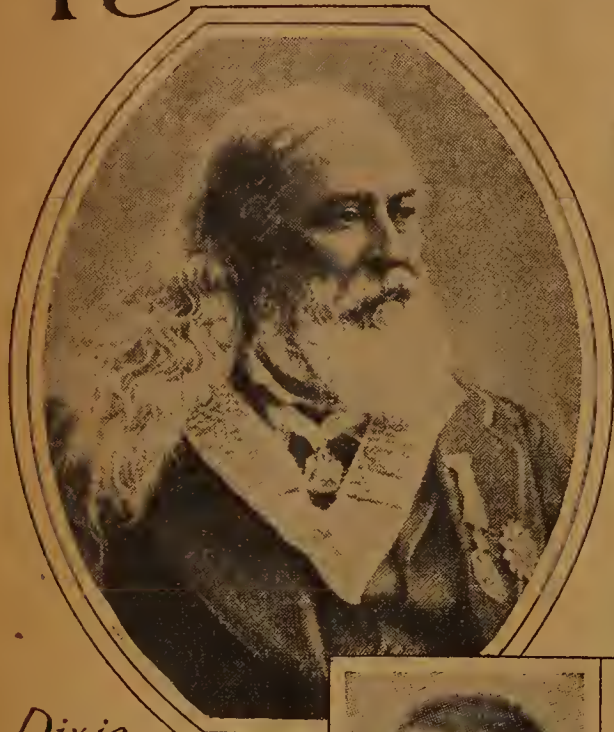
To tell of the search I made through the two agency trading stores for the percussion caps would be rather a painful reminiscence. It included even inquiries down at Valentine, thirty-five miles away. In fact, this still hunt for percussion caps of that particular style and size went on for several weeks. I consulted all the new ammunition catalogues and all the old ones. Weeks went by. I was almost decided to admit that his confidence [CONTINUED ON PAGE 30]



THIS is Remington Schuyler, or Ta-tan-ka-luta (Red Buffalo), as his Indian friends dubbed him because of his carrot-colored hair. He had never seen an Indian outside of a circus until 1902, the time he was going to college in his native city of St. Louis, when his uncle, Douglas McChesney, then brand inspector on the Rosebud Agency, South Dakota, invited him to come out.

While among the Indians, Schuyler spent his odd moments painting the scenes and people. His father detected a spark of genius in the boy's work, and sent Schuyler to New York City, where he studied for two years, and later to study art in France and Italy. Since then he has made his headquarters in New Rochelle, one of the suburbs of New York. It was there he did his painting of "Picket Pin." He is recognized as one of the leading young painters of Indian life.

They Wrote the Old Songs



Dixie

"DIXIE" is most generally associated with Dan Emmett of Bryant's Minstrels, who first sang it in 1860, and from whose original composition General Albert Pike got the inspiration for the song as we know it. General Pike was born in Boston, 1809, and became a teacher, went South as a trapper, and in the Civil War enlisted a force of Cherokee Indians, whom he led at the Battle of Pea Ridge.



Home, Sweet Home

JOHN PAYNE heard all the world sing his "Home, Sweet Home" while he starved in a Paris attic. No life was ever more tragic. Born in New York in 1792, he went on the stage at seventeen, then to England, and at twenty was acting in London. From then on his life was full of hard knocks. He wrote an operetta introducing his famous song, for which he received only \$100, though the publisher got \$10,000 from it in two years. Payne died miserably in Tunis, in 1852.



After the Ball

THE song business is one of the strangest in the world. A tune races through a man's mind. He writes it down, and it is sung suddenly all over the world. He may try all his life, and never succeed again in catching the public favor. But if he was shrewd and lucky in the first case, he may have enough to live on always in comfort. "After the Ball" brought Charles K. Harris \$500,000, and he still draws an income from it.



The Old Folks at Home

STEPHEN COLLINS FOSTER ended in poverty, and died in a hospital where he had been carried from a hotel in the Bowery, though "The Old Folks at Home" alone brought him \$20,000, at one time. Born in Pittsburgh, 1826, he early gave up his job as a clerk because of the success of his songs. Money came easily and went easily, and at last, in New York, he would sell, for a few dollars, songs which he had written in the back room of an old downtown grocery on pieces of brown wrapping paper.

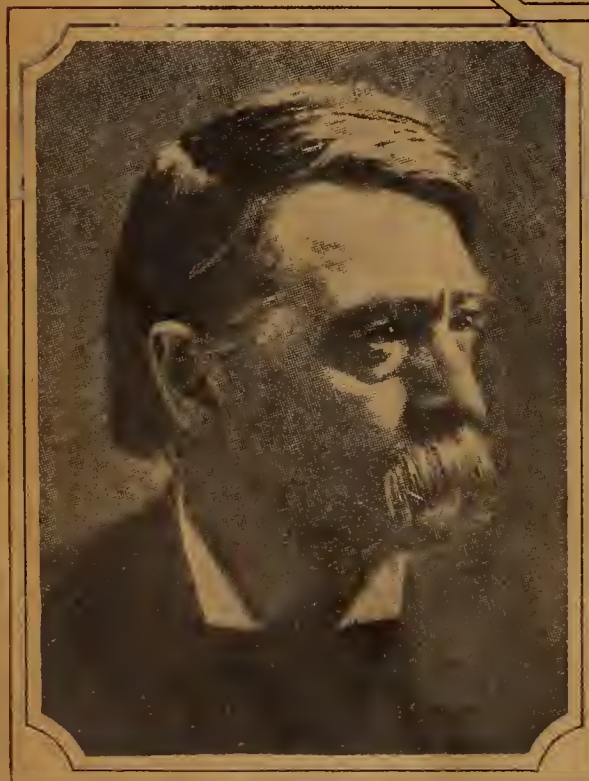
Alice, Ben Bolt

OVER seventy years ago everyone was singing "Don't You Remember Sweet Alice, Ben Bolt?" in London, Paris, and New York. It was written by Thomas Dunn English, born in Philadelphia, who became a practicing physician at Fort Lee, New Jersey. After much experimentation, Kneass, who became a negro minstrel, wrote the melody. It was another case of unrewarded talent, for he never received money for his tune, and died in poverty.



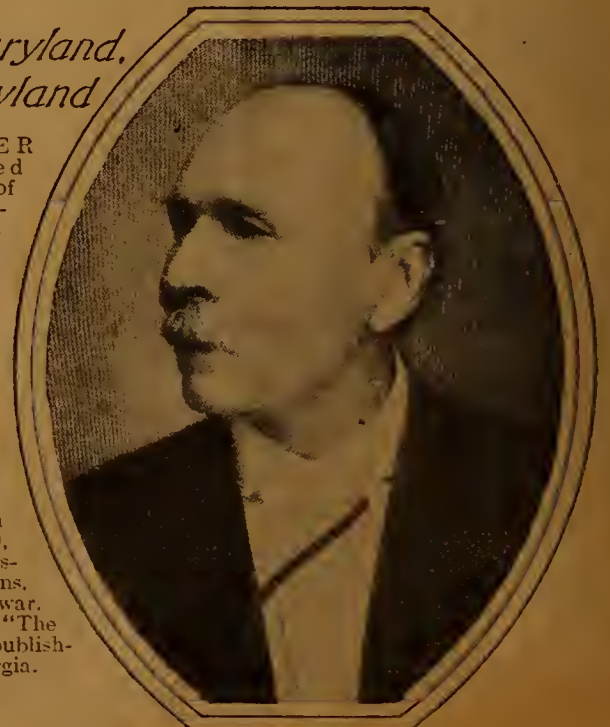
The Old Oaken Bucket

"THE OLD OAKEN BUCKET" was written, of course, by a farmer's son, but one who had gone far from the old homestead, and, in fact, was written on Duane Street in New York City. Samuel Woodworth, born 1785, left the farm as a boy, became a printer, got tangled up in various speculations, and even had to jump the State at one time. After many hazardous experiences and a long series of failures, he wrote this song (in 1817), and did achieve a certain prosperity.



Maryland, My Maryland

JAMES RYDER RANDALL led more nearly the life of an ordinary successful citizen than has been the lot of most song writers. Only the Civil War upset the even path of his career as a newspaper editor, and to this adventure he owes his fame. Certainly, without the war we would never have known "Maryland, My Maryland." Randall was born in Baltimore in 1839, later edited newspapers in New Orleans, and finally, after the war, became editor of "The Constitutionalist," published in Augusta, Georgia.



What I Saw in Broadbalk Field

Being the third of a series of articles written since his visit to Rothamsted Experiment Station, England, for Farm and Fireside

By Charles E. Thorne

Former Director of the Ohio Agricultural Experiment Station

IT IS but little farther from Paris to London than from New York to Boston, or from Columbus to Indianapolis, and but for the interruption which the Channel offers the trip would be made in half a day. As it was, on our European trip for FARM AND FIRESIDE, we left Amiens, which is halfway between Paris and Boulogne, in the middle of the forenoon, and by the middle of the afternoon we were rolling past the green pastures of Kent, dotted with white sheep, the ferry across the thirty-odd miles between Boulogne and Folkestone having been favored by a quiet sea.

On arriving at Harpenden, England, I was not long in finding my way to the Rothamsted Experiment Station offices, and Director Russell laid aside his work and started with me to Broadbalk Field, the goal of our long journey.

Our way at first led through a tract of a dozen acres or so that had been set apart more than sixty years ago by the owner of Rothamsted for allotment gardens for the use of laboring men, who for a small rental have the use of small plots of land, usually about one-eighth acre in size, for vegetable gardens.

Beyond the gardens lies Barn Field, of about eight acres, on which mangolds have been grown, with and without manures and fertilizers, since 1876, and other root crops for the twenty years previous. The crop for 1920 had but recently been planted, and the growth therefore was still small. Opposite this field, on the east side of the path, is a brick cottage roofed with straw thatch—an example of the laborers' cottages that are frequently seen in England.

For a few rods the path lies under the shade of large trees, with a meadow on the left and a pasture on the right; passing these, a small gate swinging within a semi-circle in such manner that the failure of the passer-by to close the gate will not give an inquisitive pig on either side the opportunity to strike out for pastures new.

This gate opens into an avenue of lindens, about half a mile long, leading from Harpenden village to the park in which the manor house is located. The lindens were in bloom as we passed between them, and the bees were busy gathering their harvest.

Without entering the park, the footpath turns to the right, and after a short distance we come to a rustic stile from which we get our first view of Broadbalk, still 40 rods away.

FROM here the path leads under a row of trees between two fields, which were in wheat that Dr. Russell expected to yield more than 40 bushels per acre. He explained that these fields served a very useful purpose in convincing a doubting farmer that it was as practicable to produce good yields in large fields as on small plots, and that he had found it well to take his visiting farmers to Broadbalk by way of these fields—a policy that has also been found useful at the Ohio Experiment Station.

From the stile one gets an excellent view of Broadbalk, which slopes gently toward the spectator, but superphosphate does not produce the effect here that it does in the Ohio experiments, and hence there is not the sharp contrast in color that is caused by the earlier ripening which superphosphate produces on land deficient in phosphorus.

Probably no spot of land on the earth is of greater interest to the student of scientific agriculture than a field of about 11 acres lying about a mile north of the laboratories at Rothamsted and a few hundred yards from the manor house, and known as Broadbalk Field, because of a strip a few rods wide across the lower end of the field that had been left uncultivated.

The soil of this field is described as "a

mineral elements found in the ash of the wheat plant, with and without materials carrying nitrogen, on the other plots, except plot 3, which was left without any manure or fertilizers, the object being to test the theory that had been advanced by Liebig, that if the plant were supplied with the mineral elements found in its ash it would obtain all the carbon and nitrogen necessary for its growth from the atmosphere.

Beginning with the crop sown for the harvest of 1852, the system of fertilizing was rearranged according to the plan shown in the following table, which has been followed since without material change.

Plot No.	Treatment	Yield per acre Bushels
2	Farmyard manure	34.5
3	None	12.4
5	Minerals	14.4
6	Single ammonium salts and minerals	22.8
7	Double ammonium salts and minerals	31.7
8	Treble ammonium salts and minerals	36.1
10	Double ammonium salts alone	19.6
11	Double ammonium and superphosphate	22.4
12	As 11, with sulphate of soda	28.6
13	As 11, with sulphate of potash	30.6
14	As 11, with sulphate of magnesia	28.2

The "minerals" have consisted of 392 pounds superphosphate, 200 pounds sulphate of potash, and 100 pounds each of the sulphates of soda and magnesia. The "single ammonium salts" were a mixture of sulphate and chloride of ammonium carrying 43 pounds of nitrogen.

PERHAPS the most surprising feature of this experiment is the fact that land which has had no manure nor fertilizer of any description, and no rest in clover or grass, has maintained an average yield of nearly 12½ bushels of wheat per acre for three quarters of a century. By way of contrast, wheat grown in rotation with corn, oats, and clover for thirty years at the Pennsylvania State College Experiment Station, on a natural limestone soil, has averaged only 13½ bushels per acre on the untreated land, four tracts of land being used in the experiment, so that the wheat has been grown every year.

At the Ohio Experiment Station, in a five-year rotation of corn, oats, wheat, clover, and timothy, each crop being grown every year, the wheat has averaged only 11½ bushels per acre for twenty-five years, and at the same station wheat grown continuously on the same land, as at Rothamsted, has averaged only 7¾ bushels per acre. At the Woburn Experiment Station, only about twenty miles from Rothamsted, but on a soil derived from sandstones and resembling the soil of the Ohio Station in this particular, wheat has been grown for forty years on the same land with an average yield on untreated land of 12½ bushels per acre.

The yield at Rothamsted has fallen to about 10 bushels per acre for the last twenty years, and that at Woburn to about 9¾ bushels; but whether this means a permanent reduction or only a temporary one, due to a cycle of less favorable seasons, is for the future to determine. The latter possibility is suggested by the fact that the yield at Rothamsted fell to about the same level of 10 bushels for the ten years 1872-1881, and then rose to nearly 12½ bushels for the next twenty years.

An annual dressing of 14 English tons, or 15 short tons, of farmyard manure has raised the yield on Broadbalk Field to 34½ bushels, or 1½ bushels of wheat for each ton of manure. This dressing of manure is estimated to have carried about 200 pounds of nitrogen, 78 pounds of phosphoric acid, and 235 pounds of potash per acre.

On plot 8 chemical fertilizers containing 129 pounds of nitrogen, 66 pounds of phosphoric acid, and [CONTINUED ON PAGE 29]



The man you see seated above with Dr. Thorne, in the office of the Ohio Agricultural Experiment Station is W. J. Holmes, affectionately known as "Uncle Billie" by members of the station staff, where he has served for many years as foreman in charge of the important work of planting, cultivating, and harvesting the experimental plots. "Uncle Billie" is a fair, though exacting, taskmaster in all matters that have to do with the experimental work, and woe to the man who slights his task. This installment of Dr. Thorne's series of articles describes his visit to Broadbalk Field at Rothamsted, so named because of a narrow flint-infested strip across one end which will grow nothing, and which really is a broad balk. The soil of this field, which is probably of more interest to the student of scientific agriculture than any other plot on the earth, is a loam, but filled with an abundance of flints. On this field the earliest scientific soil experiments were started, and are still continued.

stiff, grayish loam containing an abundance of flints, the subsoil is of similar character, rather stiffer and redder in color—the clay with flints of the geologist." And the flints are abundantly in evidence, lying scattered over the surface so thickly that a hoe can scarcely be struck into the soil anywhere without striking them.

THE underlying rock is chalk, lying at a variable depth, rarely less than 8 or 10 feet, and it is believed that the field had been limed near the beginning of the last century by digging into the chalk and spreading it over the surface, probably at a rate approximating 100 tons per acre—a practice common at that time.

For an indefinite period the field had been cropped on a five-course system, the last manuring being for turnips in 1839, and two grain crops had been taken since this treatment and prior to the autumn of 1843, when it was prepared for its future work by being divided into plots containing half an acre each. The plots are 351 yards long, northwest to southeast, and about seven yards wide. The field slopes slightly to the southeast, and the plots extend up and down the slope. They are separated by paths about three feet wide, and a tile drain, laid under the middle of each plot at a depth of 2 to 2½ feet, empties into a brick trench at the lower end, in order that the drainage from each plot may be collected and analyzed.

The first application of fertilizing materials consisted of 14 long tons (equivalent to 15 short tons) of farmyard manure on plot 2, and various combinations of the

The outcome of the first treatment was a yield of 15 bushels of wheat per acre on the unfertilized land, which was increased to 20 bushels by the farmyard manure, and to from 16 to 24 bushels by the applications containing both the mineral substances and nitrogen, whereas the minerals when used without nitrogen gave no increase.

Even superphosphate, made by treating boneblack with sulphuric acid, and applied in quantities ranging from 392 to 784 pounds per acre, produced no increase in yield, a result directly at variance with those since obtained on most soils that have been for any considerable time under cultivation, and indicating that this Broadbalk soil was naturally exceptionally well furnished with phosphorus.

FROM this time forth the treatment of plots 2 and 3 was unchanged, but during the eight years 1843 to 1851 the other plots were not uniformly treated. One plot received 500 pounds of tapioca for the harvest of 1845, and from 500 to 2,000 pounds of rice was applied to several plots for that of 1847, with results showing no other effect from these applications than would be accounted for by the nitrogen and mineral elements contained.

Wherever nitrogen was applied, however, there was an increase in yield, and in the eighth harvest, that of 1851, the yield from farmyard manure was 29 bushels, and that from several plots that had received respective dressings containing both nitrogen and the mineral elements reached 36 and 37 bushels per acre, although the unfertilized yield was again only 15 bushels.

"Apple Pie!"

If you want to know how to make it, and make it good every time, this article will tell you

By Nell B. Nichols

Household Corresponding Editor of Farm and Fireside



When we were looking for a picture of some apple pie in action, John, one of the boys in the Farm and Fireside office, promptly volunteered to pose on condition that he would afterward inherit the pie. This is John, and we'll let you judge for yourself whether he likes apple pie

schoolhouse when there is a box supper, and at the community feast. There is always a demand for more pie.

There can be no question about it, pie, particularly apple pie, is the great American dessert. Making pies is a household art in which every American housekeeper wishes to be proficient. Quite naturally so, for any meal is ruined if the last part, the pie, is soggy or tough. In fact, a poor

pie is a justification for copious tears in any kitchen, provided determination is accumulated during the weeping to overcome the obstacles the next baking day.

Every woman, regardless of her experience in cooking, can make pies—good pies, the kind for which America is famed. There are but a few things to remember. And here they are:

1. Have the ingredients cold. 2. Handle the pastry carefully. 3. Avoid using too much water. 4. Bake in a hot oven.

Nine chances out of ten the pie crust will not be a success unless it is cold when placed in the oven. Cold air has a greater expansion than warm air, and therefore helps to make a flaky crust. It is almost as easy to keep it cool as not. I have a glass jar reserved for pastry mixture the year around in my home. This jar, with the butter and cream, always gets the coolest place in the household for its home. In the summer this is the refrigerator; in the winter, a shelf on the back porch.

THE pastry mixture consists of the flour, salt, and fat blended together ready for the addition of cold water. This water cannot be added any great length of time before the baking, because it invites mold, which ruins the mixture. When a pie is needed, all there is to do is to add the cold water, roll out, fill, and bake. Think what a saving of time and worry in preparing a meal to have the dry ingredients cold and ready for use!

And there's this much about it: If the shortening, flour, and other ingredients are combined and blended immediately before baking, it is extremely difficult to keep them from getting warm, particularly in summer-time. Usually, after they have been blended, it is best to set the mixture aside in a cool place for at least two or three hours before adding the water and rolling out the crust. And the water should be as cold as possible.

In combining the ingredients and in rolling out the crust, care is needed to

handle the dough lightly. You would not think of taking a bouquet of beautiful, fragile roses or the lovely organdie sash on your summer gown and treating them roughly. Consider the pastry mixture in the same way.

Combine the ingredients deftly, toss the mixture on a floured board, pat lightly with the hands, and roll out with a rolling pin. The newest thing in rolling pins, by the way, are those made of glass in which the center can be filled with ice to help keep the pastry cold.

In dividing the paste, more is allowed for the upper crust than the lower one. It is rolled about one-quarter inch in thickness, and made a little larger than the pie pan to allow for shrinkage. The upper crust is always perforated to allow the escape of steam. When putting the two crusts together, the under one is brushed with cold water, and the then two are pushed together lightly. After the lower crust is in the tin, and before the filling is added, the pie pan containing the crust and the bowl with the paste for the lower one can be set in a cold place for a final chilling if one wishes.

PRECAUTIONS not to add too much water are necessary. I mention this because many teachers of home economics, who show hundreds of girls how to make pies in one year, say the most common mistake made is the addition of too much water to the fat and flour mixture. When this occurs, more [CONTINUED ON PAGE 30]

"GIVE me pie—American apple pie—the kind that Mother makes," cried the doughboy as he walked down the gangplank and set foot on native soil. "I didn't see a real apple pie all the time I was in France."

And you know the reception this dessert receives in your home. When the harvesters, threshers, silo fillers, or any other men file into the dining-room for dinner, the pie will not last. It's the same when the neighbors come to spend the day, at the

What Miss Gould Has to Say About Make-Overs

IF YOU can make, buy, or borrow a tunic these late spring days, half your make-over problems are solved. For transforming old clothes into new, there's nothing like a tunic. I can just see your last summer's cotton dresses, and perhaps you had a taffeta frock. There was a certain tightness about them—wasn't there?—which when you bring them to light to-day gives them an out-of-date look. Well, don't be discouraged. You can easily change your tight checked gingham dress into a stylish, exceptionally smart frock. Leave it just as it is, and add a tunic of organdie. This will give it the new bouffant look.

The tunic should be pretty long, as I want to have you cover up most of your gingham skirt. It ought to be two yards wide, and you'll need two yards to make it. Have a deep hem, and finish it at the waistline with a sash of the organdie. You'll need a quarter of a yard for that. And to give it a Frenchy little touch, and to cover where the sash joins, make an organdie flower. These fabric flowers are particularly smart just now, and from the center let a cluster of dark red cherries dangle.

It's the style to-day to combine different fabrics. If you think of any that you would never dream of putting together for a dress, you can be sure you have hit upon the two that are now considered smartest in combination. Organdie is quite the latest thing out in combination with taffeta, and fine linen and also crash is used much with crepe de chine.

Perhaps you are young and have that youthful propensity of quickly growing out of your clothes. Well, here's an idea to lengthen your skirt and make it prettier at the same time: Perhaps your best dress last summer was taffeta—dark blue or dark brown. You can easily make it longer by adding inset bands of white organdie, and piping them with some pretty shade of satin—pink, apricot, or jade-green.

If you have a hopeless, out-of-date looking dress with a tight, normal waistline, you can give it a straight, low waistline look with but little trouble. Cut the waist off about four inches above the normal waistline, and add an accordion-plaited chiffon section and a chiffon sash. Let the plaited section come about six inches below the normal waist. You have no idea how smart your frock will look if you do this.

Perking Up Your Old Sleeves

A puff here and a frill there and you wouldn't know your last year's sleeves. Many of the sleeves of our last summer's dresses were really unbecomingly short. A puff will add to the length, and at the same time put the sleeve into the fashionable class. If your taffeta or crepe dress of a year ago has a too short sleeve, another graceful way of lengthening it is to add two chiffon ruffles. To make a long sleeve short, try a puffed undersleeve, finishing it at the cuff with a band of embroidered beading run with ribbon velvet. A net frill will add a touch of beauty and newness to your last season's lawn blouse. Change it the way the picture shows and see how up-to-date it looks. The frill may be accordion-plaited, or it may be just gathered to the bottom of the collar. Trim it with a lace [CONTINUED ON PAGE 27]



Making Over Your Face

DOES your face need making over? Have you ever thought of renovating it? How about taking a tuck in your eyebrows, ironing out your wrinkles, shrinking your chin, and, if your hairline is not becoming, draping it at another angle? You wouldn't hesitate to make over your clothes, now would you? Well, why not make over your face?

There are your eyebrows: Perhaps you've never given them any attention. Perhaps you've never thought how much they have to do with the expression. Are they too broad and big for your face? If so, reshape and trim them down. Brush them as often as you do your hair. All the beauty experts sell special eyebrow brushes and little tweezers to pull out the unruly hairs. And I've just heard of a new kind of mucilage which has a magic way of making the hairs lie flat—giving the penciled look.

Iron out your wrinkles. Do it with massage and ice. You know how you pad your coat to make it fit without a wrinkle. Well, pad the sunken tissues. It is these that make the wrinkles. Tone the tissues up. Keep them from being loose and flabby. It is when they lack strength or are tired that the wrinkles come. Be sure that you select a cream for the massage that will strengthen these tissues. There are creams that are special tissue builders, and there is a right and a wrong way to use them. Rub the cream into the forehead with a firm upward stroke. Wait a few minutes, and then, with the thumbs above the ears, rub with the fingers along the line of the temples. Finish with a rotary movement, which means rubbing round and round. An application of ice to increase the circulation is a good finishing touch.

Freshen up your lifeless, sallow skin with a good face lotion. A purely vegetable lotion is best—one that will not dry the [CONTINUED ON PAGE 27]

How We Made a Poor Farm Pay

Prize letters by Farm and Fireside Readers

First Prize Letter

Won by G. W. Schuchman, The Fruitdale Farm, Shermans Dale, Pennsylvania

LIKE the "we" in connection with the contest title. That includes wife, and no poor farm can be made to pay without cooperation of man and wife.

My wife and I started life in the city. I had worked in a shop for about thirteen years, but always looked forward to the time when I might own a farm. We had had no previous farm experience. Through economy we managed to save enough to buy a poor farm of 70 acres, where the former occupants scarcely made a living. Our means prohibited the purchase of a good farm near markets. We are about eleven miles to market and seven miles from a railway. We found the farm in a badly run-down condition, with poor fences, buildings in the worst kind of shape, and soil everything but fertile.

Our first move was to procure lime, as I could see that that was what the soil needed first, for clover didn't thrive as it should. I took advantage of government bulletins, as well as farm papers and other literature, reading all I could about farming, especially about soils and fertility. I attribute our success largely to our knowledge thus gained. The first year we purchased several tons of hydrated lime and lump or kiln lime. We found that the farm had never seen lime. We limed about three fourths of the farm the first and second year.

We felt sure we could make it go, so undertook to seed 10 acres to alfalfa, and made a great success through liming, inoculation, and proper soil preparation. We broadcasted with the corn at the last working about 20 pounds of crimson clover seed per acre. At corn-cutting the clover was eight inches high, and the tops of the pumpkins looked like rabbits hiding. This field was again plowed in the spring, turning under the padded carpet of clover. We seeded this to oats that grew as tall as a man of average height.

This field was again plowed and prepared for wheat after oats harvest. In the meantime we purchased basic slag or Thomas phosphate powder to supply phosphorus, and sulphate and muriate of potash to supply potash, feeling we could mix our own fertilizer cheaper, and also feed the soil what it needed most.

We felt that we had won the day by obtaining nitrogen from the air through the clover, thus storing up this most costly element of fertility for future use. We next set about to balance a fertilizer for wheat, using the proper amounts of potash and phosphorus. Our wheat came up very soon, made a wonderful growth that fall, and by harvest it had attained such a

height that we had to take the butter off the binder in order to tie it. But not until threshing time was the tale told. The increase was eight bushels per acre over that not receiving lime or clover. It cost about \$7 per acre for lime, clover seed, and fertilizer.

The next year you could drive into the hayfield with 16-foot ladders and, in making one short turn, get a load. We have sold as high as 20 tons of surplus hay in a single season. Did liming pay?

As we planned to grow fruit, we set out the first year two acres of peaches and three acres of apple trees, and increased our planting of apples as we were able. We have also raised potatoes as a cash crop, and they have yielded as high as 400 bushels to the acre.

Perhaps you are thinking that we had plenty of money to go ahead with. Not a bit of it! We had to borrow heavily, but could easily see that it would pay. For how were we going to make the farm profitable unless we made the soil productive? Our only hope was in lime and green manures, as we couldn't keep enough stock to manure very much. Besides, I consider manure of secondary importance, for, with nine head of horse and cattle, we only got enough manure for about two acres. We will see the day when the manure theorists are out of date. We have proved it on our farm. Don't misunderstand me to say that manure is no good. It is very valuable, but it is impossible to make enough to fill our requirements as we can with green manures properly handled.

Now, eight years since we came here, we are commencing to reap our reward. Our apples are as fine as any that grow. Our peaches have paid, too, and we have raised some strawberries and raspberries which helped to swell

Here are Jesse Trimmer, Mrs. Trimmer, their three children, and the house they built on their farm near Traverse City, Michigan. Their story of how they made a run-down farm pay appears on page 20. They have learned what some farmers do not know—that it is possible to make money farming and to enjoy life at the same time.



Lime Made Us Rich

Second Prize—Won by C. W. Beam, Glenwood Farm, Cherryville, North Carolina

WHEN I was a nine-year-old boy I saw the best part of what is now my farm sold for 50 cents an acre. When I was twenty-one years old I bought 33 acres of this land for \$3 an acre. The last part I purchased for \$12.50 an acre. That was thirty years ago.

When I began farming this land it produced from three to five bushels of wheat, about the same of corn, and 100 pounds lint cotton to the acre. My first effort toward improvement was keeping it fenced and pasturing cattle. The land being a stiff red clay, pasturing caused it to clod very badly. Then I decided to try red clover, with only fair success. The clover was thin and uneven, but the wheat and corn that grew after only poor crops of clover gave me encouragement. [CONTINUED ON PAGE 20]

The Wrong System

WE BOUGHT a farm for \$12,000. It was indeed fine—that is, for the man who sold it, for we could not make the thing pay at all. But my wife and I kept at it. We resolved not to quit till we had gotten the best of the thing. We worked and worked, but at the end of each year we found ourselves deeper in debt. Then we resolved upon a new scheme which, when put into operation, has made the old farm pay wonderfully well—between six and seven per cent every year, without fail. Here is the secret—very simple and safe:

We sold the farm for \$15,000.

J. N., Millstone, New Jersey.

"I Saved Labor on My Farm Last Year"

Prize letters by Farm and Fireside readers

First Prize Letter

Won by Lester C. Drake
Sharonville, Ohio

I MOVED on my 86-acre farm last spring, and knowing that labor at present prices would soon make a large hole in the income, I figured on keeping this item to a minimum.

My aim is to sell nothing off the place but livestock and milk. The fields this year contained the following: 18 acres of mixed hay (of which I cut only what I could use myself, my 25 head of sheep taking care of the rest), 16 acres of pasture, 10 acres of clover, 17 acres of corn, and a 19-acre field in which I had 7 acres of oats and 12 acres of rye.

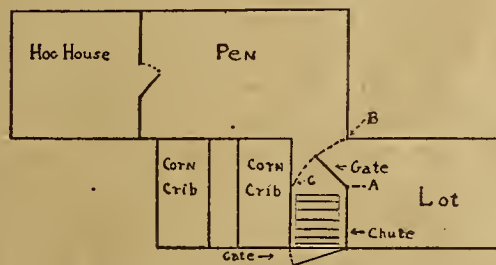
In the hay harvest and cutting of the rye I changed work with my next neighbor. My 75 head of hogs took care of the clover and six acres of corn and the rye. I turned them into the clover about the first of June. As soon as the rye was cut and shocked I began to haul it in by the load, scattering the sheaves around on the clover. As soon as they would clean up one load I would haul in another. I threshed two loads of rye so as to have my own seed.

A ditch runs through my pasture, and afterwards separates the clover-field from the cornfield. Just before it leaves the pasture, there is a never-failing spring. I use hog fountains, so I placed one by the fence next to the ditch, and, by making a sort of dam and digging a hole deep enough to sink a bucket in, I was able to fill the fountain without dragging it to the barn, and so the hogs had clean drinking water. I sent away 30 head of fall pigs July 25th. By the time the rye was used up the 90-day Whitecap corn was ready, so I took

down the hog fence next to the ditch and moved it over into the corn in such a way that the hogs cleaned up about two acres before I moved it again. They harvested six acres for me while I cut 300 shocks, hiring 55 cut, to facilitate seeding.

My spring pigs went to market the first week of November, on a 14½ cent market, averaging 200 pounds, at the age of seven months, eight head of old hogs having been sold the middle of October.

I consider hogs the best-paying "help" a small farmer can have, and the better you treat them the more "efficient" they become. The oats from the seven acres I am feeding in the sheaf to my sheep and cows. Later on I will feed some to my mules, of which I have four head. When they are hitched to my riding plow or double disk I would not trade with any tractor owner.



Next year I intend to hog off what rye I have, as even if there is volunteer rye in the hay the following year it will not hurt it for feed. I also want to have four acres of alfalfa, and intend to sow soy beans in the corn with the intention of feeding off about 100 head of hogs.

The accompanying drawing shows how I have my hog pen and chute fixed so that stock can easily be separated and loaded. The chute is stationary. By having the

hogs in the hog house and letting a few out into the pen at a time, driving them toward the gate, which swings on hinges at A and touches at B or C, and saying "Out"—meaning "to the lot,"—or "In"—for them to go to the chute—my wife can swing the gate—thus grading the hogs in a short time. By the time the truck arrives to take them to the stockyards, the number required for a load is in the chute without having been heated up. There is of course a temporary gate fastened at the top of the chute, so they will not jump out.

A Machine Milker Helps Us

Second Prize—Won by E. J. Rinehart
Union Bridge, Maryland

THE milking machine is a great help in solving our labor problem. It never gets sick or wants a holiday. Besides the comfort derived in flytime, we lose all dread of the evening milking at the end of a hard day's work. One man can milk a larger number of cows with a machine.

According to the experiment stations, the time required for hand milking and washing the pails is greater than time required for machine milking and washing.

We use a two-unit outfit on 12 cows. I cannot milk as fast as a machine, although I believe a good milker could milk a free-milking cow as quick as a machine. But for hard milkers, sore teats, and leaky teats give me a machine every time.

The yearly cost, counting interest on investment, taxes, depreciation, fuel, repairs, etc., amounts to about \$63. At two cents a cow per milking, the yearly cost of hand milking for 12 cows would run to about \$173. We cut the cost of fuel in half by pumping water while milking. [CONTINUED ON PAGE 20]



This is one of the ten-year-old Deglet Noor date trees grown from seed by F. A. Stahl of Beaumont, California. The girl to the right is Mr. Stahl's daughter

Ten Ways to Prevent Fires on Your Farm

By Harry Botsford



Fires every year cause a loss of millions of dollars to American farmers. What would you do if fire broke out on your farm? Are you prepared to fight it? In this article valuable information is given that will help you reduce this risk

OVER \$18,000,000 worth of farm buildings are destroyed annually, according to the latest figures tabulated by the National Board of Fire Underwriters. This figure represents only farm buildings that were insured, and whose owners were partly reimbursed for their losses.

Much of this loss can be prevented by proper fire precautions. An analysis of the 38,000 fires will serve to bring before us some facts that are rather surprising:

Lightning is the chief cause of fires on farms. This danger may be removed by the installation of lightning rods, for the whole of a loss of \$3,933,950 is due to lightning striking unrodded buildings.

The second great cause of fires in farm buildings is *defective flues and chimneys*, with a net loss of \$1,962,031.

Sparks on roofs stand third as a cause of fires, and from this there was a loss of \$1,181,171.

Exposure—really a result of fire, and not a primary cause—is responsible for a loss of over a million dollars.

Matches—*Smoking* is responsible for about 1,500 fires, with a total loss of over a million dollars.

Spontaneous combustion is one of the nastiest hazards of the whole lot, and cost farmers in 1918 nearly three quarters of a million dollars.

Poor electrical wiring and faulty insulation were responsible for losses that averaged almost a quarter of a million dollars.

Let us consider possible ways and means of preventing this huge national loss:

The lightning loss may be readily eliminated by rodding every farm building, including barns, houses, outbuildings, silos, and all structures. Even wire fences should be "grounded." Farm animals in pasture usually drift along with a storm until they come to a barrier, often a wire fence. In an electrical storm this fence will be charged with lightning, and, unless grounded, there may be a loss of valuable animals. Allowing the ground wires to project a few inches above the top of the fence will prevent strokes. If your wire fences are connected with farm buildings, a ground connection should be made at the first post from the building.

TO GO into detail relative to the proper methods of chimney construction is not the purpose of this article. The following, however, may be used as a proper standard of construction: Solid brick or concrete chimneys should be at least four inches in thickness, exclusive of flue lining; concrete should be reinforced vertically and horizontally to prevent cracks; stone chimneys should be at least four inches thicker than required for corresponding concrete or brick chimneys, and should have flue linings; rubblestone chimneys should be at least 12 inches thick. Chimneys should never rest on wooden beams or brackets.

Flue holes, when not in use, should be covered with tight-fitting metal covers, and never pasted over with paper. A metal

collar should be used, at least 12 inches larger than the stovepipe, at every place where the pipe goes through a floor or roof. No bare stovepipes should ever be placed within 12 inches of any wooded part of the building. A stovepipe often gets red-hot, and the fire hazard is obvious in cases of this kind. It is advisable to have all wooden surfaces near the stove protected with sheet metal or asbestos. If metal is used, there should be an air space left behind it.

Accelerating a sluggish fire with kerosene has long been a butt for humorists, and yet this form of gross carelessness is responsible for many destructive fires and much loss of life.

DUMPING ashes in a wooden barrel has caused many fires. Ashes should be placed in metal containers with tight-fitting covers, a safe distance from all buildings.

Threshing time is a dangerous time on the farm from a fire-prevention standpoint. A farm agent told me of a terrible fire that he had witnessed in which two men were trapped in a silo that they were helping to fill. A spark from a gasoline engine flew into the adjacent barn which was filled with grain. Within one minute the building was a mass of flames, and the two men in the silo died a terrible death. A spark arrester on the machinery would have saved this terrible loss of life and property.

Every stray spark from a chimney is whirled through the air, and at last finds a resting place. If that resting place is a shingle roof, a fire may result. With timber cheap, there was a good excuse for roofing with shingles, but at the present price of

shingles there is no reason why a safe material may not be used.

The mysterious chemical action that we know of as spontaneous combustion can be practically eliminated by the use of proper precautions. Wooden beams that stand in the midst of damp grain or hay are often charred by spontaneous combustion before the hay or grain blazes. It is strongly urged that all such wooden pillars be covered by asbestos or metal covering. Keeping grain or hay in well-ventilated rooms will tend to reduce this particular hazard.

Despite every reasonable effort the farmer may take, a blaze may develop, and proper provision should be made for just such a condition. Buckets of water, properly protected against freezing, should be kept at convenient places in all buildings. A pail of water at the right time will do more good than hundreds of gallons after the fire gets under way. A small amount of bicarbonate of soda placed in each bucket will add to the extinguishing qualities of the water. The patent liquid extinguishers are excellent fire-fighting tools, and their use is urged.

AROUND the farm garage or tractor, where there is a possibility of an oil or gasoline fire, is an excellent place for buckets of fine sand. Sand smothers an oil or gasoline fire in short order, while water will only serve to spread the flames.

Community fire-fighting plans can be profitably laid in every farm district. Several districts have carried out plans in this direction, including the purchase of some fire-fighting apparatus. The advantages of such organizations are obvious.

His Farm Was Sandstone, But He Made It Pay—Big

By W. A. Freehoff

IF YOU traveled clear from Rhode Island to a Wisconsin farm you had never seen, and found it mostly sand, what would you do?

This was the problem confronting the father of William Toole, the Pansy King of Wisconsin. The elder Toole did not waste any time in pining, but, selecting a few sand ledges nearest the road, quarried out a bunch of sandstone and filled the cavity with nice black soil.

He now had some flower beds upon which it was possible to grow something, and before long Toole's flowers were the surprise of the countryside. This love of flowers was inherited by his son. The Tooles soon moved from this unpromising sand heap. At the new farm young William had every opportunity to nurse his love of flowers, and before long he achieved a neighborhood reputation. He was "lucky" with all flowers, but had particular success with pansies.

Most people find the pansy rather difficult to grow, as it is not a flower to thrive under neglect. So Toole's neighbors came to him to get pansy plants and seed. That gave Toole an idea. Why not capitalize his skill in growing pansies? He began advertising. Before long he had 20 acres of pansies. In Wisconsin they call Toole "the Pansy King," for the fine work he has done with pansies.

His present farm, two miles south of Baraboo, is just on the southern edge of the snow line. This makes it a little harder to winter plants. The pansy is a cool, moist weather flower requiring plenty of cultivation. Most people plant the seed too late, and do not cultivate enough. Toole plants the seed in April. He transplants in June, and by August can begin a light picking of seed, taking the main harvest in September and October.

Twenty years ago Toole had large acreages in pansies, but because of changing conditions he has cut down a little on the beautiful little heartsease. His two headliners now are the larkspur and the phlox, although about 75 species in all are grown. The phlox is grown from rooting cuttings made in August and carried over winter in cold-frames. The advantage of raising perennials is that, if not all the plants are sold, they can be carried over, and sold the following year.

A 100x25-foot greenhouse has been built, with three 90x6-foot benches. The greenhouse is largely used in spring for plant-propagation purposes. Chrysanthemums in fall and sweet peas in winter are headliners.

His plants and flowers, which are sold at retail, mostly through grocery stores, go to a trade never reached by florists, and net him a neat profit. The flowers are sold without frills, in inexpensive bouquets, and bring the love of flowers to humble homes.

There are several hundred cities in the United States where someone could duplicate the business built up by Toole. Not all of these persons would care to go into the wholesale plant business,

but all of them could make a success of selling cut flowers and plants at retail, without competing directly with florists. It should prove especially interesting to women. The business could be started with practically no equipment, depending upon hardy perennials, annuals and a few potted plants which can be raised in the house. Grocery stores are glad to handle such business on a small commission basis.

As the business grows, capital can be acquired for the building of a greenhouse. There is only one word of caution: It is better to expand slowly as the business grows than to sink money in expensive equipment.



This is William Toole of Baraboo, Wisconsin, who is known as "the Pansy King." The future pansy grower he holds in his arms is his grandson

Federal Farm Loan Again Operating

By W. S. Andrews

A DECISION of vital importance to farmers was handed down by the Supreme Court on February 28th. On that date the Federal Farm Loan Act was declared constitutional, thus removing it from the enforced inactivity into which it was thrown by action of the farm-mortgage bankers. The point in question involved the constitutional right of the Federal Farm Loan Board to issue tax-exempt bonds for the purpose of obtaining money to loan. The Supreme Court, in a unanimous decision, held that Congress has the right to decide how the Government's money is to be raised and spent.

The important thing, however, is not how and why the decision was handed down, but what it means to you and every other farmer who needs capital to improve his farm. It means that you will not be at the mercy of farm-mortgage bankers when you seek a loan. The Federal Land Banks loan money to farmers on first mortgage at 5½ per cent, and the principal may be reduced at the same time by paying only the interest. These loans are payable over a period of several years, so you need not worry about your mortgage being foreclosed before you have had a fair chance to pay it off.

You can only borrow money from a Federal Land Bank through a local association. If you want further information

about how to get a loan, or about how to form a local association, write to the nearest Federal Land Bank as shown in the following list. Or if you will write to FARM AND FIRESIDE we will try to put you in touch with the proper authorities to get the information you need.

NOTICE WHICH DISTRICT IS YOURS

- District No. 1—Springfield, Massachusetts, serving the States of Maine, Massachusetts, Vermont, New Hampshire, Rhode Island, Connecticut, New Jersey, and New York.
- District No. 2—Baltimore, Maryland, serving the States of Pennsylvania, West Virginia, Maryland, Delaware, Virginia, and District of Columbia.
- District No. 3—Columbia, South Carolina, serving the States of North Carolina, South Carolina, Georgia, and Florida.
- District No. 4—Louisville, Kentucky, serving the States of Indiana, Ohio, Kentucky, and Tennessee.
- District No. 5—New Orleans, Louisiana, serving the States of Louisiana, Mississippi, and Alabama.
- District No. 6—St. Louis, Missouri, serving the States of Illinois, Missouri, and Arkansas.
- District No. 7—St. Paul, Minnesota, serving the States of North Dakota, Minnesota, Wisconsin, and Michigan.
- District No. 8—Omaha, Nebraska, serving the States of Wyoming, Nebraska, South Dakota, and Iowa.
- District No. 9—Wichita, Kansas, serving the States of New Mexico, Kansas, Colorado, and Oklahoma.
- District No. 10—Houston, Texas, serving the State of Texas.
- District No. 11—Berkeley, California, serving the States of California, Nevada, Utah, and Arizona.
- District No. 12—Spokane, Washington, serving the States of Idaho, Washington, Montana, and Oregon.

How the Weather Affects the Way You Feel

By Wendall M. Whiting

Weather Office, Navy Department, Washington, D. C.

VERY few of us, indeed, realize how much the weather affects our feelings. You get up one morning feeling fine, and the next day you complain of feeling "bum," and say:

"I can't understand why I feel so utterly wretched this morning."

Perhaps you had a good night's sleep, were careful about your diet, and have no cares nor worries, and so you are entirely at a loss to understand these occasional periods of depression. Perhaps you, as many others do, blame it on your liver, and straightway take a pill.

As a matter of fact, the "tired feeling" is caused by weather conditions three fourths of the time.

The normal weight of the atmosphere at sea level is about one ton to every square foot of surface. A change of one inch in the column of the barometer means a change, in pressure, of 70 pounds to every square foot of surface. Decided changes in atmospheric pressure must therefore exert a marked influence upon the body and its functions. A rise or fall of one inch of the barometer, which is not uncommon in many parts of the United States, will cause a change of about one-half ton in the atmospheric weight borne by the average human body.

The physical organism of human beings and many animals is extremely sensitive to pressure changes. Pains, aches, and nervousness in humans, and restless behavior of animals, birds, and insects, may often be attributed to low, rapidly decreasing atmospheric pressure such as precedes and attends storms.

In the dim ages of long ago, people began to note the effects of weather on animals and humans. The wisdom thus gradually obtained has been handed down to us, often in the form of trite sayings. Many of these gems of weather lore are undeniably dependable, and some of the most interesting ones are given below:

BIRDS fly high when the barometer is high, and fly low when the barometer is down. The explanation is that when the barometer is high the air is denser and has more sustaining capacity, and birds are therefore able to fly high with less effort than when the barometer is low and the air less dense.

When the cuckoo is heard in the low lands it indicates rain; when on high lands, fair weather. When the swallows in the evening fly high and chirp, fair weather follows; when their flight is low, a storm may be expected. Bees will not swarm just before stormy weather.

Smoke hovers close to the ground before a storm.

As changes in temperature are the direct result of wind directions, sayings regarding temperature are almost invariably associated with those relating to the wind. Flies sting and become more troublesome before a storm. Fish in general, both in salt and

fresh waters, are observed to sport most and bite more eagerly before a rain. Horses sweating in stable indicates rain. When horses and cattle stretch their necks and snuff the air, it will rain. Before a storm sheep become frisky and butt each other.

It is commonly believed that good weather may be expected when a cat washes herself; but expect bad weather if puss licks her coat against the grain or sits with her tail to the fire. Ants are very busy, gnats bite, crickets are livelier, and spiders come out of their nests when storms approach. When flowers are very fragrant, rain is due shortly.

IF BIRDS, fish, reptiles, and insects are so easily affected by weather conditions it is natural to assume that human beings are also affected.

Doctors generally agree that men work better, eat more, and sleep sounder when the barometer is high. Consumptives and invalids are generally sent to high, dry climates, and people often gain weight when living in a bracing air, especially if they have previously been living in a low, damp climate.

So do not be alarmed if some morning you feel as if you were "down and out," when only the night before you felt fine. It may be just a change in the weather that has caused the bad feeling, and your system has not yet adjusted itself to the change. In a few hours you may be yourself again.

This Might Help You in Your Painting

MUCH of our paint now comes ready-mixed—that is, the pigment is ground in oil and tempered with oil and turpentine and drier. While this paint is supposed to be ready for application, I find that after it has been in stock for some time the heavier ingredients settle to the bottom. A casual stirring is not enough to insure a uniform fluid for application.

The quickest and best method of mixing such paint is to pour off nearly all of the top liquid. Now stir thoroughly, with a medium paddle, the remaining liquid into the heavier pigment, stirring so that the motion is from the bottom of the container. Gradually add small quantities of the liquid poured off, stirring in each addition thoroughly before adding more. The paint will work much better. From time to time the paint should be stirred so that it will not settle again.

For old unpainted wood or for new wood, never apply thick paint. Always use a paint well thinned with raw linseed oil and turpentine in the proportion of about five to one. The wood absorbs much of the oil, and if the paint is thick too much pigment will be left on the surface, leaving a chalky or dry appearance.

For home-mixed paints, pigments ground

"When do I eat?" wonders Trixie, the fox terrier, while its master Mr. Hollingsworth of Tippecanoe County, Indiana, feeds his pigs. There might be a hunch for you hog feeders in this picture. For watering or slopping hogs or chickens this wheeled barrel is hard to beat. Notice also the sanitary galvanized-iron feed trough, with base so arranged that it can't be tipped over



in oil should be used as far as possible, as they will mix far easier and better than is possible with dry pigments. In mixing such paint, start with the pigment, adding the oil slowly as in remixing ready-mixed paints. This method will consume much less time and will give a better paint for the trouble.

White lead ground in oil requires the addition of about seven or eight gallons of linseed oil and one gallon of turpentine for priming coat, while for finishing coats four to five gallons of oil and one quart of turpentine make a satisfactory mix for brush application.

The pigments used in painting are either mineral or metallic. The principal metallic pigments are lead, zinc, and iron compounds. The lead and zinc are used chiefly as the base of white and lighter tinted paints. The iron gives reds and browns. Mineral tints are colored earths mainly, and furnish a large variety of colors and tints.

F. W. IVES.

Grant Made Him Eat Humble Pie

GENERAL GRANT once called his army into grand parade, and issued a formal order that had as its sole object the destruction of a pumpkin pie. The story is told in a biographical work by L. P. Brockett, M. D.

In the rapid marches of Grant's forces in southern Missouri their rations were often scanty and not very palatable. At length, however, they emerged into a better and more cultivated section, and Lieutenant Wickham, of an Indiana cavalry regiment, who with two second lieutenants was in command of the advance guard of eighty men, halted at a farmhouse. Pretending to be General Grant, he demanded food for himself and his staff.

The family hastily brought forward the best their house afforded. The lieutenants ate their fill, and went on their way.

Soon after, General Grant, who had halted his army for a short rest a few miles farther back, rode up to the same door and asked if they would cook him a meal. The woman, who grudged the food already furnished, replied gruffly: "No. General Grant and his staff have just been here and eaten everything in the house except one pumpkin pie."

"Ah!" said Grant. "What is your name?"

"Selvidge," answered the woman.

Tossing her a half dollar, the general asked: "Will you keep that pie until I send an officer for it?"

"I will," said the woman.

The general and staff rode on, and soon a camping ground was selected, and the regiments were notified that there would be a grand parade at half past six for orders. This was unusual, and neither officers nor men could imagine what was coming. The parade was formed, however, ten columns deep and a quarter of a mile in length. After the usual review, the assistant adjutant-general read the following:

"HEADQUARTERS, Army in the Field,

"Special Order No. —:

"Lieutenant Wickham, of the Indiana Cavalry, having on this day eaten everything in Mrs. Selvidge's house, at the

crossing of the Ironton and Pocahontas and Black River and Cape Girardeau roads, except one pumpkin pie, Lieutenant Wickham is hereby ordered to return, with an escort of one hundred cavalry, and eat that pie also.

U. S. GRANT,

"Brigadier-General Commanding."

Questions About Tractors

[CONTINUED FROM PAGE 9]

In general, these persons state that your answer will be held in confidence. We know that it will not, and that many times our questioners are dealers interested only in using our answers for their advertising or sales values. We therefore request, and I think I speak for editors, extension men, men in colleges, and experiment stations and the Federal Department, that this question be not asked, because we do not wish to embarrass either you or ourselves by refusing to answer.

We are willing to state whether or not a given tractor has given satisfaction where we know of its actual operation. We are not convinced that there is a "best" tractor, because there are a number of satisfactory tractors that work very well under conditions for which they were designed.

NOTE: If you have any tractor problem of your own that you want answered, Mr. Ives, who is the Corresponding Editor of FARM AND FIRESIDE in farm engineering matters, and also head of the department of agricultural engineering at Ohio State University, will be very glad to answer your questions if you will write him in detail, enclosing stamped self-addressed envelope.

THE EDITOR.

"Ah, Berkshire Goats!"

[CONTINUED FROM PAGE 11]

for your information. Now, Chester! Now, Arthur! We shall go and I shall teach you about the cattle."

Mr. Pigeon moved on, and I noticed a lady who had been standing off to one side, apparently interested in something on the other side of the tent. She approached me and said:

"It may be that you do not recall the name of Blank," mentioning a prominent Merino breeder of fifty years ago.

"Yes," I replied, "I have often heard of Mr. Blank."

"He was my father," she said, "and I was raised with Merino sheep. The gentleman with whom you were just talking is my husband. I thank you for the information which you have given him. I think possibly that I can use it some time in the future. Good-by."

I have never seen Mr. Pigeon since. In fact, I do not want to see him. I do not know of anyone I desire to see less. But I sometimes wonder whether I did right in giving any woman such a weapon with which to puncture her husband's egotism. My acquaintance with Mr. Pigeon, however, leads me to believe that I did.

Reprinted by courtesy of "The Breeder's Gazette."

The day of the poorly lighted, badly ventilated, dirty and insanitary city factory is passed. So is the day of the badly kept milk factory—the cow stable.

Prize Contest Announcement

How I Sell My Farm Products Direct to the Consumer

FARM AND FIRESIDE will pay \$10 for the best letter telling how you have built up a farm-to-consumer business. For the next best letters we will pay \$7.50, \$5, and \$2 each for all others that are accepted.

Many farmers are getting better prices for their crops and produce by selling them direct to the consumer. At the same time, the consumer is getting a better product, and often at a lower price than he pays his dealer.

Our only requirements are that this be *your* personal experience. Give full details, but keep your letter to 500 words if possible. If you live on a farm and have been selling grain, livestock, butter, eggs, fruit, or any other farm product direct, write us a letter telling about it. It might help someone else get a start. Photographs are desirable.

This contest closes May 31. Enclose a self-addressed stamped envelope if you want your letter back. Address, Contest Editor, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

THE EDITOR.

Wheel-Hoe Tricks That Save Me Work in My Garden

By Earl Rogers



The wheel hoe makes fun of gardening. Wives, take notice! It is a good way to get hubby or son interested in gardening

THE wheel hoe is very useful to both the gardener and the farmer. Its use is possible in many places. With labor shortage the investment of from \$3 to \$5 in such a tool pays big interest.

I have been using one of these tools for more than twelve years. The first year we had one on the farm I did not know what to do with it. It was unhandy, and I thought that it was easier to use a small hoe and a four-tined hook for the garden work. We had a one-fourth acre of seed onions, and it was big interest to keep the weeds out and the soil loosened. Now I can care for five acres with a wheel hoe under ordinary conditions, and have a lot of time to do other work.

In using your wheel hoe it pays to look out for the dirt on the wheels. A rim of dirt a half inch thick will throw the blades out of balance enough to spoil its work. This will happen if the soil is a little wet or if there is a heavy dew. Take a dull knife or a stick and keep this wheel surface clean and your hoe will work far better.

When you buy extra blades you can save by filing the rivets off and using the old casting and replacing the blades only. Then it is economy to get a blade about an inch longer than you wish, and cut the end off a half inch. Thus a seven-inch blade will cut 6½ inches, and be thicker all the way up. If it sticks out a little too far it will prevent any strips of weeds being left between the rows.

Let me say here that I am talking of a double wheel hoe—that is, one that straddles the row of vegetables instead of going in between. I like this kind because it does not matter if the rows are not exactly parallel, or if one row runs further than another. Anyway, it is not possible to get as close to a row with a single wheel hoe as it is with a double one.

On part of the blade of a wheel hoe there is an upright that cuts the soil and weeds next to the row. If this is left sharp a good many vegetables are ruined by cutting the edges or sides. File this blunt and save this loss. An onion, for instance, will be spoiled if the outer layers of skin are injured.

When I file or sharpen my hoes I grind down the lower side—as it sets on the ground—and then smooth it down on the opposite side. I think a better edge can be put on this way, and it lasts longer. I take the blades off sometimes, and put them on the grindstone or emery wheel.

After you use a wheel hoe for a few years the spindle becomes worn, and this prevents close working around vegetables, because the wheels do not carry the rest of the hoe where you want it to go. I bush them when they are worn by using a layer of thin sheet iron or tin. It lasts a season, and makes the hoe work almost as well as new. A washer on the end of the axle will help too. One can buy new axles for less than a dollar, but the other way is about as good, and far cheaper.

FOR the ordinary sandy soil the one drawback to a wheel hoe is that the soil is cut off in a thin layer on top and then dropped back again, and the weeds go right along with their growth. We have got around this by making rakes to go on behind the hoes. A block of wood about five inches long and an inch and a half square had five or six inch holes bored through it, and No. 8 wire cut in pieces about seven inches long is put through the holes and fastened securely with a staple. This is bolted in one of the slots to the rear of the blade, and by bending the wires a little they will break up this slice of soil and so leave a fine mulch and also kill the weeds. This beats the rakes furnished with some hoes, because they can be easily adjusted by bending the wires.

I like to have some sort of a box on the handles of my hoe to put small stones and trash in as I go along. If this is just pushed aside when the work is done, then the same stuff has to be pushed around again the next time. The stones will cause the hoe to jump out of the ground when a wheel hits them, and they are no good anyway. Put them in the box as you come to them, and just tip the hoe over at the end of the row and they're emptied.

When you buy a wheel hoe there may be a lot of attachments for it that look good. I have a small set of disks that I have used. Two small plows came with it, and the rakes that I mentioned above. There are four or six small cultivator teeth that I find handy, and like them very much for digging up soil that is badly packed. The hoes just take the surface, and sometimes deeper working seems the proper treatment. The wheel hoe should have an adjustable handle. In some work you want the handle higher, and in some lower. And you may have a boy who will want to run the hoe, and he will be shorter and so want lower handles.

Good Bulletins For May

THESE bulletins have been selected out of the large number we receive, as being useful and timely for the practical farmer. Many farmers keep indexed bulletin files. These make a valuable and inexpensive reference library. You can obtain the following bulletins free, excepting those marked, by checking the ones you want and mailing this list to your congressman, to the Division of Publications, U. S. Department of Agriculture, or to the Superintendent of Documents, Government Printing

Office, all at Washington, D. C. It is better to ask your congressman, because congressmen get a larger supply for distribution than do the other offices.

The *Monthly List of Publications*, which describes all the new publications of the Department of Agriculture, will be sent regularly to all who ask for it.

Out of 753 reports received from farmer motor-truck owners, 95 per cent said that they considered them profitable investments. You might find it worth-while, if

you are thinking of buying a truck, to send 10 cents to the Government Printing Office for *Bulletin 910*, which gives a detailed report of this study.

Practical methods for planting and caring for hardwood trees on the farm are described in *Farmers' Bulletin 1123*.

As much depends on the care of the beef calf as does on its breeding, if he is to be made into a profitable individual. *Farmers' Bulletin 1135* tells how to care for the beef animal from infancy up.

While Sudan grass is not the miracle worker that some have claimed, it is a very

valuable forage plant under certain conditions. If you want to know more about it ask for *Bulletin 1126*.

The sorghums are another valuable group of plants for grain, forage, and silage. *Farmers' Bulletin 1158* describes the principal varieties and tells about their use for different purposes.

From their pungent properties one might suppose that onions would repulse all disease germs. However, such is not the case, for they are attacked by various smuts, molds, and rots. How to fight these diseases is told in *Farmers' Bulletin 1060*.

How to Adjust Your Planter for a 100 Per Cent Stand

By Robert R. Thompson

Department of Agricultural Engineering, Ohio State University

ONE of the best and easiest ways to improve your corn yield is to get a 100 per cent perfect stand, or as near that as is humanly possible. You will need good seed corn, of course, but equally important is the kind of a corn planter you use and the way it is adjusted. I have tried here to give briefly and simply the methods for proper corn-planter adjustment:

The significance of corn-planter calibration is not fully appreciated by farmers generally. Very often the wise selection of the proper plate is the determining factor in an even or uneven stand of corn. Whether or not we shall put two, three, or four grains in a hill is largely a matter of soil fertility; but whether or not we can put two, three, or four grains in a hill is a matter of planter construction and operation. It is a source of great satisfaction to a man, after having decided, for instance, that three grains per hill is the proper amount of seed for his land, to be able to take out his planter and know absolutely that he is dropping three grains in every hill.

The accuracy of cornplanting depends, first of all, upon the construction of the machine. A planter which is not made right will not plant right. The dropping mechanism must act with continuous precision. The seed boxes and plates must be of a construction to prevent clogging or breaking of the grains. They should afford a constant and regular delivery of kernels to the planter shanks, which should be properly constructed and set with appropriate valves so that all danger of mixing the hills will be obviated. It is now generally conceded that the most accurate planting can be secured with the accumulative edge-drop type of planter.

WE CANNOT have accurate planting without proper machine construction, but having this we must, in addition, use diligence to see that our planter is adapted to the seed we are using. Since it is far easier to adapt the planter to the seed if the latter is uniform and of even grade than if it is composed of kernels of all shapes and sizes, it is advisable to grade the seed. No machine will do good work with a mixture of varying-sized grains.

Having taken pains to get uniform seed, the next thing is to find the right plate. The importance of this is emphasized in the accompanying sketch. The plate shown is of the proper size to use with kernels A, but for such kernels as shown at B, the cells are not large enough, and they are likely to be broken at the cut-off. It is too large a plate for such kernels as shown at C. The danger in this case is that two kernels may get into one cell, with the result that they both pass into the planter shank when one only should have passed,

or else one or both grains are broken at the cut-off, resulting in uneven planting.

It is not enough simply to fit a few grains to the cells in the plate in an effort to choose the right one. A more accurate method by far is to put the plate in the planter together with the corn, and actually run through a hundred hills or so. This may be done very satisfactorily on the barn floor.

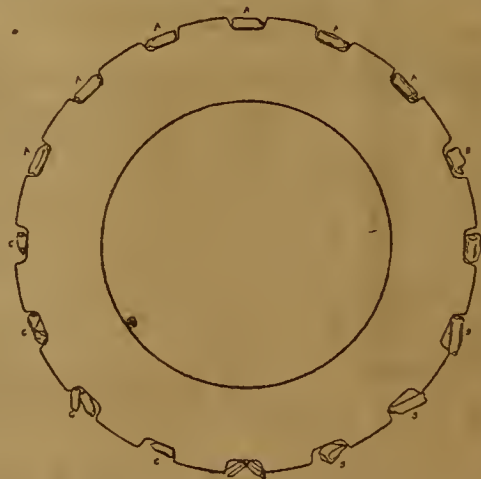
The planter should be mounted with the driving wheel free, so that it may be turned. The man turning this wheel should also operate the trip arm. Another should hold his hand under the bottom of the shank and catch each hill as it is dropped, count the grains, and call out the number to a third person, who should record them. This furnishes a simple and efficient method of testing the accuracy of the drop under conditions closely approaching those in the field. By trying different plates you will be able to choose with certainty the one best suited to the seed used.

THIS same method may be employed also in making comparative tests of different corn planters. To facilitate the operation of the test several convenient details may be introduced. The wheel, for instance, may be turned with ease if a wooden handle is clamped to it. A rod may also be fastened to the axle so that it will strike an arm on the trip rod at each revolution of the wheel. This times the dropping uniformly with the speed of the wheel, and also relieves the one who is turning it of this duty. The removal and counting of the hills may be very greatly facilitated by the use of a belt carrier driven from the axle by means of a chain and sprockets. Each hill may be easily counted as it passes along on the belt before being dropped into the pan at the end.

The best time for corn-planter calibration is during the winter. If put off until spring work has started it will often be neglected entirely or perhaps the hired hand will fill up the seed boxes and drive a few rounds in the barnyard. If he finds corn in his tracks, all right, and he goes to the field.

This is not good management, and will of course be reflected in the final returns.

The seed ears should be selected early, and put away to dry. After they are thoroughly dry they should be tested for germination, and then shelled and the corn graded. The planter test should then be made, after which these seeds should be carefully stored until planting time. It is well to place a tag with each lot of seed containing a record of the planter plate found suitable by the test. With these things done you will be all ready and "on your toes" when corn-planting time comes.



This plate is the proper size for kernels marked A but is too small for kernels marked B, and too large for those marked C

The Chevrolet Plan for Distributing \$4,000,000



THE production schedule of Chevrolet "Four-Ninety" Models for the seven months from January 1st to July 31st, 1921, is fifty thousand cars.

We will give \$70 to each retail purchaser of a new open car or light delivery model, and \$100 to each retail purchaser of a new closed car, provided we manufacture and sell fifty thousand Chevrolet Model "Four-Ninety" cars between January 1st, 1921, and July 31st, 1921. This offer to be subject to the terms as set forth in full in the refund certificate which will be delivered to each purchaser.

Fifty thousand cars is the minimum which will secure substantial savings in cost in manufacture. These savings will be passed on to the purchasers of these fifty thousand cars.

This plan is in keeping with the Chevrolet policy to make the price of its product as low as quality manufacture on a large scale will

permit. It is in keeping with the Chevrolet purpose of providing quick, convenient, economical transportation at a cost within reach of those who want an automobile.

Each purchaser of a Model "Four-Ninety" will receive a certificate from his dealer, or from the Chevrolet retail store manager. This certificate will be redeemed as indicated on its face.

This is a straightforward business proposition presented in a straightforward way. Whether you are in the market for a new car or not, you must not fail to learn the details of this unique and simple plan. It offers to every man of sound business judgment an opportunity to take advantage of the best automobile value obtainable.

Retail purchasers of Model "Four-Ninety" cars since October 1st, 1920, will receive their certificates through their local dealers or retail stores on application to them.

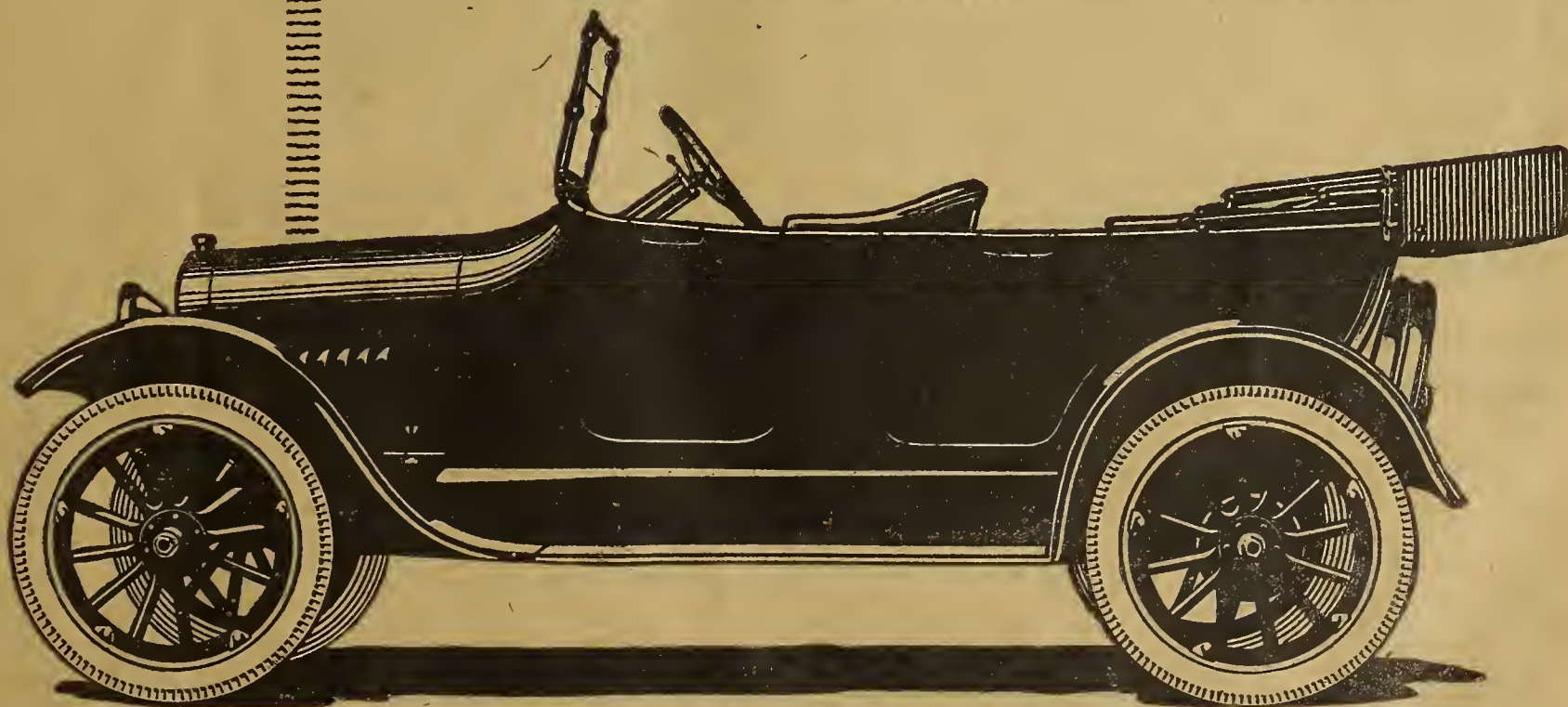


Chevrolet Sales Record

CHEVROLET MOTOR COMPANY

GENERAL SALES DEPARTMENT
NEW YORK

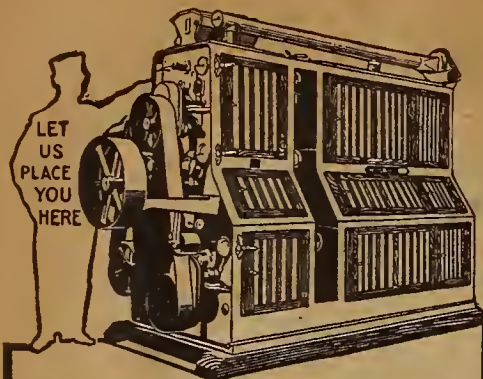
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THE A. I. ROOT COMPANY
122 Main St. Medina, Ohio

"I Saved Labor on My Farm Last Year"

[CONTINUED FROM PAGE 15]

In disking the corn ground for wheat this past fall, we covered more ground in a day by placing five horses to the disk harrow, three being placed in front and two right at the harrow. I have reached the conclusion that we farmers who do not feel able to buy tractors can increase the amount of horse labor per man if we will study the problem.

Having no disk drill, and the corn ground being weedy, my hoe drill would not cover well. A new drill would be expensive. A spring-tooth would take more time than a disk, yet it would remove the weeds. So we tried following the disk with a horse rake. This plan saved time and proved satisfactory.

A good carborundum wheel is a big labor saver. Harrow disks soon become dull, and then, of course, more work is necessary to prepare the ground. With a carborundum wheel the disks can easily be sharpened. Besides, it saves time for tools and mower knives. Before starting to plow, if your moldboard is rusty, take some steel wool, dip it in oil, and rub the moldboard thoroughly. Most of the rust will be removed in a few minutes. It saves both time and temper on the first round.

What My Tractor Does

Third Prize—Won by Charles S. Terrell
Bedford, Iowa

SOME years ago I purchased 160 acres of Iowa land. The soil seemed to be there, but had been rented, plowed shallow, and was badly infested with cockleburrs. My wife and I were young, eager to get on in life, and determined to make this farm pay.

It took four years to eradicate the burs completely. Each year I was plowing a little deeper and getting better crops. The amount of land for corn, oats, and wheat made lots of heavy work on my teams. Being lone-handed, it took considerable time to get my horses ready, to say nothing about other chores. My boy was begging to help me, which meant more horses. It seemed I did nothing but work horses.

In the fall of 1919 I made up my mind to purchase a tractor. I bought a well-known two-plow outfit, costing \$950 set up and demonstrated on the farm. It has proved to be one of the best investments in my farming experience.

The spring of 1920 was very backward and wet, just the worst conditions you can imagine under which to put a tractor in the field. We equipped our machine with a tank and a lamp from an old auto, thinking if the ground dried we could work early and late, and make up lost time.

About the first of May that long-looked-for dry spell came, and in less than three weeks we had plowed, disked, and planted 70 acres of corn. We immediately hitched the tractor to a heavy three-section harrow, and harrowed all of this corn three times, and some four times.

I husked one of the best crops I have ever grown—big, long ears of golden grain, of the finest quality and yield. I attribute my good crop to the tractor. The speed it travels, the weight of the plow, and the shape of the plow all tend to make an excellent seed bed. I always dreaded working horses to a disk. It is slow, hard, tedious work, especially if you set your disk deep. Not so with the tractor. You can cut just as deep as you wish, work from sun to sun, climb off your tractor, forget those sweaty horses, and refresh yourself choring.

We put 200 or 300 pounds of weight on our disk, sometimes tying on two sections of harrow. I don't like this plan, would rather disk and let dry a few hours, and then harrow. Seems to puddle the soil, especially if a little wet. This fall we had a good chance to see what our tractor would do, plowing in some oats stubble on heavy bottom land. I averaged 10 acres a day, and days are not long in September and October. I think I plowed up dirt that never saw light before, as I plowed mostly nine inches deep.

My daily expense was about 15 gallons of gas at 30 cents, and one-half gallon lubricating oil at 35 cents, making nearly \$5 a day for 10 acres plowed, or 50 cents per acre. The only other expense was for two fan belts, at \$2.50 each, and two spark plugs, at \$1, in twelve months' work. I think my tractor is good for another year without an overhauling. Not counting interest and depreciation on outfit, I think it was much cheaper than with horses.

The biggest point in favor of a tractor is that you get your crop in on time, and you can destroy weeds before your corn is up. Besides, there are numerous other jobs to be done with the belt.

We Made a Poor Farm Pay

[CONTINUED FROM PAGE 15]

I toiled and fretted over the secret of growing clover, still feeding some cattle, and thereby adding a little fertility every year. At this period I was getting 16 bushels of wheat and 30 to 40 bushels of corn, and three fourths of a bale of cotton to the acre. This was eight or nine years ago.

About this time the bulletins and farm papers began talking about the *litmus test for acid soils*. I straightway secured the litmus paper and went to different parts of my farm and secured nine soil samples. When I applied the paper, every one proved extremely acid. Not having the money to buy lime, I borrowed enough to buy a lime spreader and a car of lime.

That was six years ago. Last year I got 1¾ bales of cotton and 44½ bushels of wheat per acre. My success with crops is due to clover. My success with clover is the result of limestone. I use 11½ tons of lime per acre every three years. I use no fertilizer but acid phosphate.

I have refused \$200 an acre for my 145 acres. Once we decided to sell. We moved to town in September, stayed thirty days, and then moved back to our farm, Glenwood. This period of my life I shall ever refer to as "Thirty days on the Chain



A Prayer in Spring

OH, GIVE us pleasure in the flowers to-day;

And give us not to think so far away
As the uncertain harvest; keep us here
All simply in the springing of the year.

Oh, give us pleasure in the orchard white,
Like nothing else by day, like ghosts by night;

And make us happy in the happy bees,
That swarm dilating round the perfect trees.

And make us happy in the darting bird
That suddenly above the bees is heard,
The meteor that thrusts in with needle bill,
And off a blossom in mid-air stands still.

For this is love, and nothing else is love,
The which it is reserved for God above
To sanctify to what far ends He will,
But which it only needs that we fulfill.

ROBERT FROST from "A Boy's Will,"
Published by Henry Holt & Co.

Gang." To-day I would not consider \$1,000 an acre for Glenwood.

I could have brought the productiveness of this farm to where it now is in one-third the time but for the fact that I have reared a family of twelve children, giving them all a high-school and college education. This kept me too short of money to do my best for the land. Had I a chance to live life over, I would not keep stock and handle hay and manure, but instead would use a tractor, grow legumes, plowing them under, thereby saving a deal of labor.

We Take Farm Work Easy

Third Prize—Won by Jesse Trimmer
Traverse City, Michigan

I WAS married in the year 1904, at the age of nineteen. My wife was sixteen. I was raised on a farm where I lived until I was seventeen, when my parents moved to town and I worked in a factory, making very good wages, until about four years after we were married. Then I bought 40 acres of land with about five acres under the plow, the rest stumps and small timber. Everybody laughed, and said we would soon starve out. I took up trucking, for which I was well trained, having spent seventeen years of my life in that line. Failures were plenty the first year, for the land had been badly run down. My income was \$309.02, which was too low to meet payments on the farm and other expenses.

But we managed to pull through, and the next year I got all the manure I could in town, and all I had made on the place from one horse and one cow, and put it on the garden. Things were some better that year. I kept this up year after year. When I was short of manure I used fertilizer, but I got best results from manure.

I soon paid for our 40 acres, built a barn and a comfortable house. In five years I got a chance to buy 80 acres near by. This land was also badly run down.

I got more cows, and would mow all the old grass, and anything I could get to mix in, to make the manure pile grow. I take a few acres each year and manure them well, and plant potatoes one year, corn two or three years, and then seed for hay. It may seem queer to some to think of raising corn two or three years in succession, but it is one crop that will succeed one year after another for several years with but little fertilizer added.

I raise quite a good deal of hay, as my land is well adapted to it, and I like to work with it. We have three children—a boy aged nine, another boy aged fourteen, and a girl aged twelve. They are my only help. They love to help me, and I enjoy their company. My wife helped me a lot before the children were large enough, and now when the children and I go to the field she often goes with us, although it is not necessary for her to work. She seems to like good company. I think the three children and I can make as much hay as any six men in the country, and we enjoy it.

When I cultivate they are on the job with hoes, and when we get done there is not a weed. I usually pay them something, or take them in the car to the movies and an ice-cream treat.

I have nine head of cattle and two horses, and believe this is the only real way to build up poor land and make it pay. That is what put my place on a paying basis.

A farm woman, to be satisfied, must have an income of her own, so I let my wife have the money from the cows and chickens, which gave her a profit of about \$680 last year. She had more than she wanted, so she bought a fresh cow and calf for \$50, and got a real bargain.

We all enjoy the farm, make our living easy, and there are no fourteen- or sixteen-hour days put in. I think the trouble with most farmers is that they try to farm too much and get too much invested in hired help, and when they get a crop raised it has cost all it is worth. Farming is a real pleasure and a paying business if handled right. We make pleasure of it, for we never miss any amusement within driving distance of the car, and take a day off when we please.

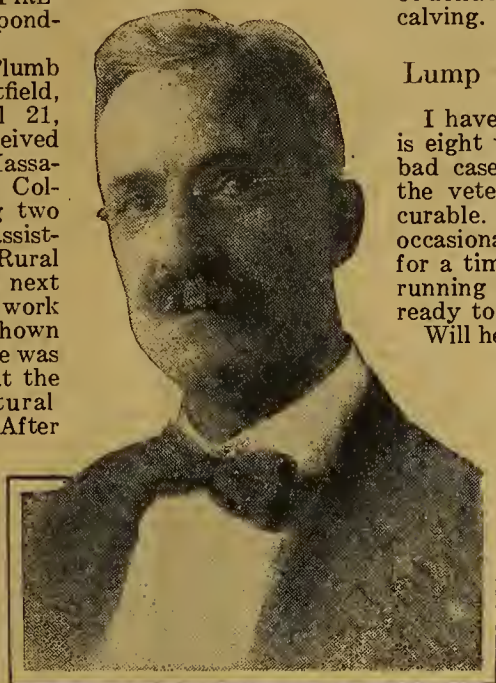
Last spring I bought 10 acres more good land, and this fall I bought a house and lot in town, paying cash for each. I have my stock and tools, a big auto, comfortable home, am out of debt, and have quite a roll besides. Add to this a good wife and healthy children, and I think you will agree that I made the poor land pay.

Farmers' Questions

Maybe the answers might help you, or perhaps you have a question of your own to ask

CHARLES S. PLUMB needs no introduction to any group of American farmers. He is known to practically every animal husbandryman in this country, and enjoys an enviable reputation abroad. But we are always interested in knowing something of the history of our farm leaders, and, thinking that you too might share this interest, we print this brief sketch of Professor Plumb, the latest addition to FARM AND FIRESIDE's staff of Corresponding Editors.

Charles Sumner Plumb was born in Westfield, Massachusetts, April 21, 1860. In 1882 he received his sheepskin from Massachusetts Agricultural College. The following two years were spent as assistant editor of the "Rural New Yorker." His next move took him into work for which he has shown eminent capacity. He was made first assistant at the New York Agricultural Experiment Station. After three years there he stepped upward, in 1887, to serve as professor of agriculture at the University of Tennessee and assistant director of the Tennessee Experiment Station.



This is Charles S. Plumb, who will answer your livestock and dairy questions

Indiana called him in 1890, and he responded, serving there in varied capacities, including director of the Indiana Experiment Station and professor of animal husbandry and dairying, until 1902, when he took charge of the animal husbandry work of Ohio State University. He is still connected with the Ohio College of Agriculture, but has given up his active work as head of the animal husbandry department to devote more time to research and journalistic work. In this way we were able to secure his services for FARM AND FIRESIDE readers.

Mr. Plumb is the author of many books and scientific treatises, but is best known by his "Types and Breeds of Farm Animals," which is widely used as a standard textbook. His "Judging Farm Animals" is another valuable addition to agricultural literature.

Although preëminently a scientist of the first order, Mr. Plumb has always kept his feet close to the soil, and has a wide acquaintance with breeders the country over. He is secretary and treasurer of the American Kerry and Dexter Cattle Club.

Valuable articles from Mr. Plumb's pen will appear in future issues of FARM AND FIRESIDE. Questions about farm animals and dairy subjects are welcomed and will be carefully answered by him.

Questions about any other branch of farming, or about problems of the farm home, will be answered promptly and without cost by our staff of Corresponding Editors. State your problem clearly, enclosing stamped self-addressed envelope, and address Service Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

THE EDITOR.

Cow's Milk Won't Churn

Last week we churned and churned, but got no butter. After churning each cow's milk separately, we found one cow caused all the trouble. She seems to be in perfect health. There is no bad taste to milk, but it will do nothing but foam when churned. We never had any trouble with this cow before this way. She will not be fresh before middle of June. She is a Shorthorn.

R. L., Virginia.

REPLY BY C. S. PLUMB: There is quite likely to be trouble in churning milk from cows that are long in milk, and about ready to dry off. There are several things you may do to remedy the difficulty. If the cream is very thick, thin it down a trifle with weak brine, and churn at a somewhat higher temperature than in summer. If the butter does not promptly come, then let the contents of churn stand a while, after which warm it up a trifle, and try churning again.

Sometimes fermentations occur from the

udder of a cow getting infected with bacteria, in which case there is trouble in churning. Then it is necessary to scald the milking utensils thoroughly, see that the udder and teats are perfectly clean at milking, and handle the milk under conditions of great cleanliness.

If the above suggestions do not help, the cow should be dried off. In any event, she should be dry about two months, under ordinary conditions, before calving.

Lump Jaw Not Incurable

I have a cow whose first calf is eight weeks old. She has a bad case of lump jaw, which the veterinary pronounced incurable. It discharges matter occasionally, and then heals over for a time. Her calf has been running with her, but is now ready to sell.

Will her milk be fit for human consumption after drying her up? Can she be sold for beef?
Mrs. L. W., Ohio.

REPLY BY DR. A. S. ALEXANDER: Lump jaw (actinomycosis) is not hereditary and not directly contagious. It is caused by invasion of a wound or abrasion of the skin or a mucous membrane by the ray fungus (actinomyces). An affected

animal may be slaughtered and the meat used if the disease has not caused emaciation and is not found affecting internal organs. Milk should not be used if the cow is emaciated or if pus from the growth could possibly contaminate the milk.

The cow should not be considered incurable unless a qualified veterinarian has dissected or sloughed out the diseased part, cauterized the wound, and given treatment with iodide of potash without success.

Best Time to Plant Berries

Will you please tell me when is the best time of year for putting out raspberry and blackberry vines?
D. C., Ohio.

REPLY BY F. F. ROCKWELL: Raspberry and blackberry vines usually do best if set in the spring, although where the winters are not too severe fall planting is satisfactory. If you are only going to put out a small number of plants, I should think it advisable to wait until spring, and then order your plants early enough so that they will reach you as soon as the ground is thawed out enough to work.

A Floor Wax That Lasts

My floors have always worried me. They get hard use. I was very much interested in your article in February FARM AND FIRESIDE about floors, and decided that oil and turpentine was what my floors needed.

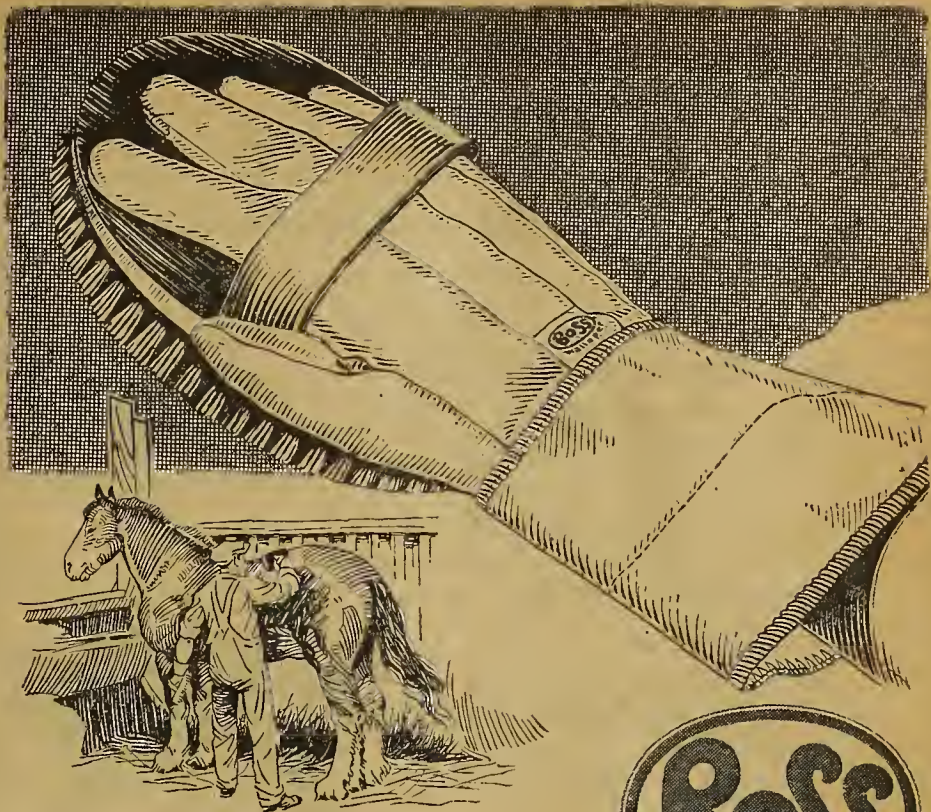
Will you kindly tell me in what proportion the boiled linseed oil and turpentine are mixed?

Mrs. E. M. B., Pennsylvania.

REPLY BY MRS. NELL B. NICHOLS: I am sending you directions for the use of boiled linseed oil and turpentine, and hope you will find them useful. The amounts given are sufficient for one heavy coat or two thin ones on the floor of a room which is 16 feet square.

Take two quarts cold-drawn linseed oil, one quart of turpentine, four ounces Japan drier, and mix thoroughly. Then stir in about two heaping tablespoonfuls of any pigment, or enough to bring the mixture to the consistency of lead or oil paint. Bring to a boil over a very slow fire.

Dissolve with gentle heat two or three ounces yellow beeswax in a little turpentine, taking care that the turpentine does not catch fire. Stir the wax into the turpentine and oil mixture, remove from fire, and when about lukewarm thin to the consistency of new milk with turpentine. Apply to the wood with the grain in the wood.



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Will We Export Farm Products?

[CONTINUED FROM PAGE 5]

the meantime, the farmer's policy will be one of waiting and of installing only inexpensive improvements against better days.

This may look gloomy, but I am asked to state the facts as I see them, and these are exactly the points that must be considered by any young man now about to enter the field of agriculture. That American agriculture is to be permanently depressed I do not believe, but I am convinced that it will go through a considerable period of depression unless the present conditions take a decided turn for the better very soon.

People generally do not realize the handicaps under which agriculture has been laboring for the last half-dozen years, particularly for 1920, nor do they realize the thousands of young men who have been permanently disqualified for the slow and seemingly unimportant processes and results of agricultural production.

The other half of the problem covered by Mr. Howard's statement depends manifestly upon the population which this country will probably enroll — and feed — in the year of our Lord 1931.

On this point no man dare attempt to prophesy. We have increased approximately ten per cent during the last decade, with immigration practically stopped.

We increased fifty per cent within the years 1880 to 1900, and man is capable of doubling his numbers in twenty-five years by natural increase alone.

Aside from all this, the pressure from Europe is bound to be enormous. If they cannot buy our food and pay for it from over there, they will come here by the millions to get it, expecting to pay for it through American enterprise. So will the Birnam woods be coming to Dunsinane — if we will allow it — and the greatest single problem involved in Mr. Howard's statement is the immediate immigration policy of the United States.

There is no question that many interests will welcome European cheap labor, whatever the ultimate consequences, and unless something is done to neutralize the combined push from Europe and the pull from over here we may well have more people on this side the water within the next ten years than American agriculture has ever yet fed, either here or there.

THE farmer wants markets for his stuff, but he does not want them at too great a cost, for that of itself would mean low prices. How can European markets be rebuilt if all Europe comes over here, and how can she pay us the little matter of ten billions if her earning power deserts the job and comes to our side of the account? That would be a new way of paying debts, indeed. Of course, nobody can foresee either the magnitude of this tide that will press upon our shores, or the policy of our people toward wholesale admission of the war-worn people of the most turbulent region of all the earth.

In the absence of such knowledge it may be roughly assumed that we shall have a steady but moderate flow coming in, and that the year 1931 will find us with about the same population we should have numbered had not the war occurred; at least, we have no basis for other assumption.

Such a population would keep our farms fully employed under about the normal scale of production, and that is what Mr. Howard undoubtedly had in mind.

If to somebody Mr. Howard's statement

raises the question whether after ten years we shall still be a food-exporting nation, I will venture the opinion that in all probability we shall be unless the rest of the world shall have so far broken down as to be unable to take our foodstuffs at reasonable prices.

It cannot be assumed that a nation must first fully supply its own needs before it may export foodstuffs. Any nation will export food irrespective of the needs of its own people whenever the rest of the world will take it at a better figure than its own people can afford to pay.

India, for example, is a heavy exporter of wheat, yet her people periodically starve.

By the time another ten years have rolled around, other people will have learned what the farmer knows already — namely, that the prices which will prevail and the production we can sustain will depend upon the stability and the productivity of both domestic and foreign enterprise.

Just now in domestic enterprise there is too much profiteering, to much of a desire to get something

for nothing, to make attractive or remunerative a business of straight and unadulterated production like farming. Capital is not willing enough to invest itself in durable enterprise with slow and moderate returns; labor is not willing enough

to bend its back and do an honest day's work for a reasonable wage; too many people are looking for ways of beating the game to make a stable business like farming look attractive, or to provide conditions under which it can thrive.

AGRICULTURE will therefore have to go into semi-hibernation until the industrial world at home gets sane again before it can expect much development. If the thing is all over in ten years, we shall be lucky; but if it is, we shall need to move faster than we have moved since the armistice.

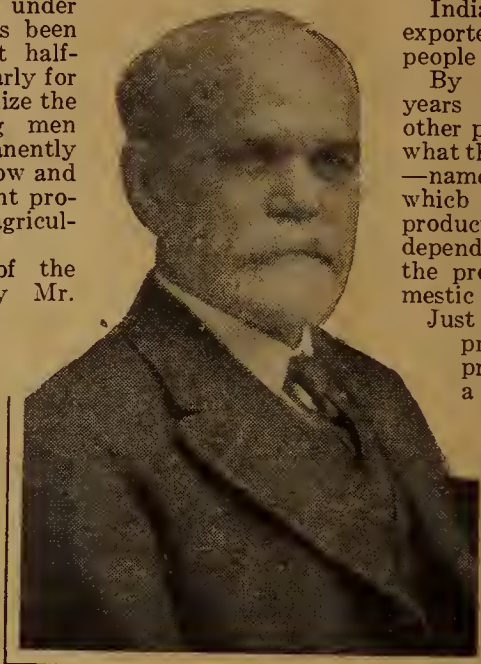
As to foreign enterprise the outlook is not attractive. Our political brethren have been going upon the apparent assumption that America can go it alone, and so we have lost our best customer. Of course, we have done a thriving export business — on paper — but it has not yet been paid for.

On top of a foreign public debt of ten billions and private debts of unknown billions, the farmers are now planning to give to the starving people of the earth three per cent of their last year's corn crop — half the profits of a normal year — and this too on top of losses for the year aggregating more than all the automobiles of the United States are worth, or ever cost, for that matter.

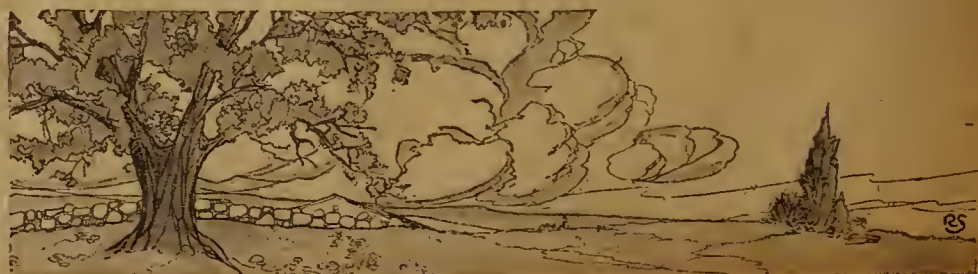
We are having a terrific time in raising the thirty-three million dollars that Mr. Hoover wants to keep alive those future customers of ours in stricken Europe. We have been at it for months now, and one man has given a million. The "Literary Digest" has devoted pages to statements of facts and columns to names of subscribers; starvation dinners have been given in many cities, and a country-wide propaganda organized, and yet it is not all raised. We are finding that thirty-three millions of actual dollars is a good deal of money when we try to get it together in one pile.

Yet what is thirty-three millions? It will not suffice to build and equip even one modern dreadnaught, of which we declare ourselves in need of several. Why? Whom are we going to shoot?

After all is said, this little matter of



Here is Mr. Davenport



thirty-three millions is a mere bagatelle. It would be paid out in any two and a half working days of our peaceful government. Mr. Hoover points out that thirty-three millions is only about thirty cents apiece for us, or a dollar and a half per family, but our national expense every year is one hundred and fifty times that much, and every family of us must find a way of putting into the national treasury an annual sum of two hundred and fifty dollars, or one dollar for every working day. This is twenty-five per cent of the earning power of the average family, and the total is over half the present value of all the crops of the country as a whole. Most of it is for war, past or prospective, and our people are full of it. When will the scales begin to loosen from our eyes?

Have we lost our national common sense? That is the question that is puzzling the farmer these days. It all looks to him like a financial madhouse or a bacchanalian revel of a bunch of drunken sailors, and what the farmer would like to know is:

When is the end to come of all this foolishness that was hatched in Europe a thousand years ago? It has been brooding ever since and was only scotched, not killed, by the war.

ALL this is going to enter into the problem of American family life in the next ten years, and undoubtedly Mr. Howard took it all into the accounting.

What effect it will have upon our dietary no man can tell, and until that is determined the effect upon the American farm will be entirely problematical.

Under these conditions it is the height of folly, indeed, it borders on national crime—to go on indefinitely piling up war expenses while so little is being done to set in order the demoralized economic life of the world, not to speak specifically of American agriculture.

Clearly, and to recapitulate, the amount of food that will be produced upon American lands ten years hence will depend upon two factors: First, the number of men and women remaining upon the farms; and, second, the intensity with which they can afford to work the land.

If then as now the world will pay twice as much for luxuries as it will pay for food, then as now men will leave the land for the better pay of the factory and the railroad. In that case our production will not increase, and Mr. Howard's statement will be more than true in its crudest sense. It is even conceivable that the passion for luxury, combined with easy living, may go to the extent of affecting the dietary, in which case food prices will remain the lowest of all commodities, though I do not anticipate so gloomy a chapter in our national foolishness.

But it must not be assumed for a moment that we must first be full fed before we can afford to put our money into other necessities, or even luxuries. The fact is that a people can cut the amount of its food one half or more, and the cost of it by half again, if it is fool enough to do it, and still indulge in extravagant living in other matters.

All this means, if it means anything, that we are not to read too much into Mr. Howard's statement, which in general should be construed merely as calling attention to the fact that at last we have reached the point at which population is close upon the heels of production as it has developed under modern conditions.

WHAT may happen to population during the next ten years, or how its demands may shift, only a fool would attempt to prophesy; but anybody can see that therein lies the key to the amount and the kind of food that will be produced by the American farmer.

A great many thoughtful young men are seeking advice these days as to whether they should begin farming at this particular time, and older men long in the business are debating seriously whether to proceed with improvements that have long been contemplated, or whether to wait until the immediate future is better known.

Clearly, no sane man would borrow money now with which to buy a farm, or even to stock it with buildings or with equipment under a modern scale of prices, facing as he does the uncertainty as to what the next decade will develop. Men who have money which they can afford to lose, or, more properly speaking, upon which they can afford to take small income, will of course be the first to make investments, as they will also be the first to take advantage of the new turn for the better when it arrives.

None but a pessimist will attempt to maintain other than a satisfactory future

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for American agriculture, because if it really comes to a show down all classes of thinking people, in this country at least, will ultimately realize what the agriculture of the country means, and the national policy of development so well begun through our colleges and experiment stations, and the agricultural courses in our secondary schools, will be followed up with other methods of mass development, of which the most optimistic of us have not yet dreamed.

There could be no question in the mind of any thinking man that the future of American agriculture is to be different than the agriculture of any portion of the world which has yet developed into what may be called an old country, but through just what process we shall pass before that development comes is a question of great uncertainty. The time just ahead is one of doubt for all kinds of business—for none more than agriculture. Nevertheless, the man who owns his farm and the farmer out of debt can, upon the whole, weather the readjustment more safely and with less discomfort than can most of their competitors in business.

What American agriculture needs is a world composed and willing to produce enough to meet its needs; that is to say, a world at work, in which each man is undertaking to produce a little more than he and his can consume. When that time comes America will produce considerably more food than her own people will consume, however well fed they may be. But a world disturbed will be a world ill-fed, and under it American agriculture cannot develop.

A Northern Farmer

(CONTINUED FROM PAGE 7)

cotton and corn. Renting is done on a crop-share basis. When they aren't busy with their own crops they work for me. I keep one regular man, and hire other day hands as they are needed.

A great many of the negroes left this country during the recent war. The ravages of the boll weevil made cotton-growing unprofitable, and they were forced to move away. Thus they were easily lured to the factories and cities of the north. This emigration left many of the farms tenantless, which usually meant unoccupied, as most of the landowners lived in the towns and cities. Now, however, these farms are being repopulated by whites, many of them from the Middle Western States. They are completely changing the character of the country in that they are building modern homes and farm buildings, improving the land and raising diversified crops and livestock.

SUMMING up the things that we like about the Black Belt, I would list them about as follows:

1. Good alfalfa land can be bought here at a very reasonable price.
2. The climate is all that could be desired. The winters are mild, and the growing season long, making a great variety of crops possible. The heat is no worse than in Indiana and, no matter how hot it is, there is usually a breeze. And the nights are cooler here in summer than they are in Indiana. We are never troubled with hot nights.
3. Markets are excellent for hay, grain, and livestock.
4. The people are pleasant, sociable, and progressive, and welcome the Northern farmer. Roads, schools, churches, and other social and economic factors are quite satisfactory.
5. Poultry of all kinds, especially turkeys and ducks, thrive unusually well on the prairie lands, due possibly to the unusual amount of lime in the soil and to the long growing season, with something green practically the year round.

Some of the disadvantages that a settler has to contend with here are:

1. Much of the land is worn. On the whole, it is naturally fertile, but it needs upbuilding.
2. The settler must come prepared to do a lot of building and fencing. The present buildings are usually not adequate for diversified farming, nor for comfortable living.
3. You will find the negroes ignorant of good farming methods. But they are willing to be taught.

In short, it will be pioneering. But if you have only a small amount of capital, as we had, you will find in the Black Belt an opportunity to acquire a farm and home at a moderate price that can be made into a really worth-while proposition. And it is a land where Nature smiles very fondly on the farmer.

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Facts About the Black Belt

(CONTINUED FROM PAGE 7)

disadvantages of the Black Belt? The answer is, "Mud," and according to my observation the richest districts are usually the muddiest. But the Black Belt is rapidly lifting itself out of its own mud, so far as its roads are concerned. For example, practically all the main highways and most of the secondary roads in Mr. Guth's county of Montgomery are graveled and as good after a week of rain as in dry weather. Other counties of the Black Belt and of other parts of Alabama are at work extending their present mileage of surfaced roads.

Some Soils Robbed of Humus. The second disadvantage lies in the fact that a large part of the vegetable matter and nitrogen has been drawn out of these soils by continuous cultivation in cotton and corn for many decades, without the growing of legumes and without the application of manure or fertilizer. Restore the vegetable matter, through legumes or manure, and you have converted even the worst soil.

Drainage. Possibly some will list as a disadvantage the necessity for some kind of drainage in the Black Belt. These soils respond to tile drainage, but only a small fraction of any typical farm of this region requires this expenditure; for tiling is needed only under occasional seepy spots.

ARE there drawbacks to this county in facilities for marketing, in banking, in schools and churches, and in the presence of the negro? Let Mr. Guth's location suggest the answers. A public milk bus runs near his barn daily to bear the milk of himself and dozens of his neighbors over graveled roads to either of two creameries in the city twelve miles away, or to a railway depot two miles away. The children are in walking distance of a school, reached over the best of roads. A few miles away, and throughout much of the county, the children are hauled in public auto-busses to consolidated schools, both of elementary and high-school grade. Two of the most complete rural high schools, besides the city high school, are within about fifteen miles of his home. Several country churches for whites are within walking or easy driving distance—and all the city churches can be reached in half an hour in a car.

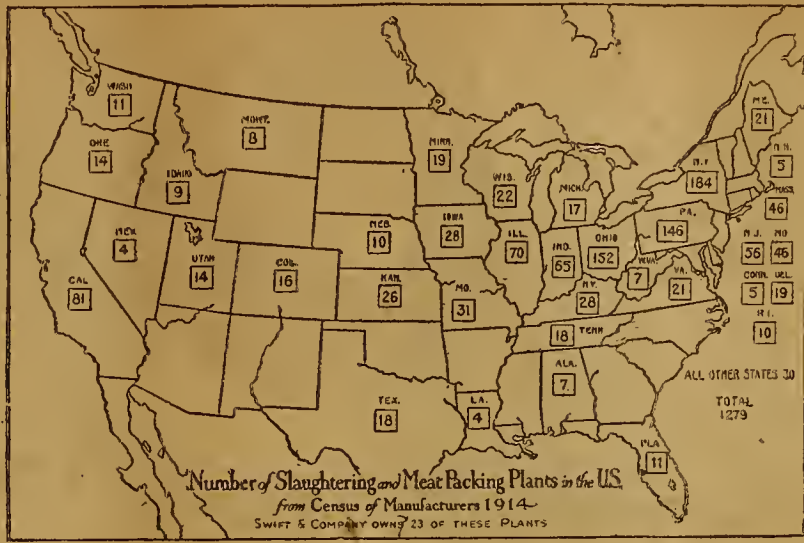
As to marketing facilities, it need only be said that Montgomery is a great railroad center, and that it contains one of the most complete and extensive stockyards to be found in the South. Its bankers are heartily desirous of doing their part in furthering the prosperity of the farmer, and are carrying in these times of depressed prices a large load of farm loans.

The presence of the negro does not constitute any hindrance to settlement of Black Belt lands by farmers from colder climates. Given enough white neighbors, not too far away, and the presence of the negro becomes an advantage in affording a supply of hired labor.

Come South to Avoid the Extreme Heat. "Can I stand the climate?" You will never feel in the Gulf and South Atlantic States as hot days as the writer has experienced in short sojourns in summer in several of the States of the Corn Belt. You will find fewer sultry nights in the Gulf States than there. While the Southern summers are longer, they are more comfortable, and no more unfavorable to work in the sunshine than are those of the newcomer's old home in the land of corn and hogs.

The Glad Hand. "Welcome!" This is the expression of the feelings of Southern farmers and business men toward newcomers from the North and West who come, like Mr. Guth, to make their homes on Southern farms. One instance of this cordial spirit is that when the hay growers of a certain Alabama county recently decided to form a cooperative marketing association and select a manager for it, the choice fell on a farmer from above the Ohio, who had been in our midst less than a year.

THIRTY years ago a newcomer might well have raised the question whether a white man who worked with his hands on a farm in the heart of the Black Belt would sacrifice any of the social standing to which his moral worth and culture entitled him. This question is now out of date in the South. For example, in attending an entertainment in one of the best county neighborhoods within the county where Mr. Guth has cast his lot, I was unable to detect any preference given by the young ladies of Southern parentage to Southern youths, and certainly none to soft-handed men, of which latter about the only specimens were a few visitors from a near-by city.



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This active, ceaseless, widespread competition means that there is always a going market price for your live animals which you get in cash, that it is the highest price which conditions permit.

It means that the cost of packing and distributing is held to a minimum; that the wasteful, inefficient, or careless lose out.

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In other words, every packer, large or small, has to do his best for you and for the public, or go out of business.

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Why English Roads Are Better Than Ours

By Charles E. Thorne

Formerly Director of the Ohio Agricultural Experiment Station

ONE of the very interesting trips during our stay in England was to Cheshunt, which is 20 miles southeast of Harpenden and a little to the north of London. Our trip across was made by auto, over the narrow but perfect roadbed typical of the English roads we traveled over. These roadbeds are often several feet lower than the adjacent fields, worn down by centuries of travel, and winding about to follow the cowpaths that first marked the route thousands of years ago.

Much of the way the roadside hedges had been permitted to grow until the fields beyond could only be seen through the occasional gateways. Piles of road material were passed at frequent intervals, and

occasionally a repairing outfit, consisting of a mounted tar boiler, a steam roller, and two or three men spreading the broken stone and applying the asphalt. This is the "stitch in time" by which English roads are kept in repair at a fraction of the cost prevalent in America. Our roads are usually neglected until their consequent injury to vehicles and impediment to travel have cost far more than would the timely repairs.

In this matter of road-building and repair, it would seem that America can learn a great deal from a study of European methods. For many of their roads that date back to Cæsar's time are in more perfect repair to-day than some of our costly macadam roads that are not yet five years old.

21 Letters About Your Baby And How You Can Get Them

THE EXPECTANT MOTHERS' CIRCLE: Any woman eligible may become a member, receiving each month a letter of advice on the care of herself and the preparation for her baby. Several practical little pamphlet circulars showing designs for maternity dresses and a common-sense layette are some of the helps sent with the letters. No matter at what period you enter, everything from the first month will be sent. No mention of the Better Babies Bureau is made on the envelopes in which the material is mailed. Enclose a self-addressed envelope with *Fifty Cents* in stamps, for postage, and state what month you expect your baby.

THE MOTHERS' CLUB: Every mother of young children is eligible. Pamphlets, together with monthly letters of instruction on the care and feeding of babies under one year of age (covering such subjects as colic, constipation, weaning, teething, etc.), will be sent to any mother who sends *Fifty Cents* in stamps and states the age of her baby. There are also leaflets giving diet lists, and other helps for babies from one year of age to three years. This literature is all included in the Mothers' Club's monthly service, but if the letters are not desired the additional literature will be sent for *Ten Cents*. A self-addressed stamped envelope will bring a prompt reply to every inquiry. Address all inquiries to

BETTER BABIES BUREAU

or to Mrs. Caroline French Benton, Counselor

FARM AND FIRESIDE

381 Fourth Avenue, New York City

The Lowly Sunflower

[CONTINUED FROM PAGE 10]

sunflower used for cultivation is the Mammoth Russian. It is not a new type, having been grown in all parts of the world, according to the New Mexico College of Agriculture. It is stated that it spread from Spain all over the world. Neither is its use as an ensilage crop entirely new, it having been ensiled by the Maine Experiment Station men in 1896. However, it remained for Montana to introduce it in all its possibilities to the West.

Very few unfavorable reports on sunflower ensilage are received from Western States, and season before last there were farmers feeding it in practically every State. Large yields seem to be the rule. In comparison with corn in Nevada it produced 23 tons of ensilage, while corn produced 14 tons. In Klickitat County, Washington, on the summer-fallow lands, it yielded 50 per cent more tonnage than corn. Yields of 15 to 39 tons per acre are reported from irrigated land in numerous States.

The feeding value seems practically equal to that of corn ensilage. A chemical analysis of sunflower and Eastern corn ensilage is shown in the accompanying table.

Sunflowers are handled under cultivation much like corn. However, sunflowers may be planted usually from two to three weeks



Here is a field of sunflowers, grown without irrigation, on Mr. H. A. Talbot's farm in Klamath County, Oregon

earlier than corn. In eastern Oregon they are planted during the first two weeks in May; in western Oregon, in April. Seed may be planted with a corn planter or, if not too large, with a grain drill. Seed is planted two to three inches deep. From five to eight pounds of seed is sufficient per acre, planted in rows three and one-half feet apart, and five inches apart in the row. A thicker seeding would make thinning necessary to prevent a spindling growth. In very dry areas the rows should be four feet apart, and the plants 18 to 20 inches apart in the rows.

In order that there may be sufficient moisture for the crop, cultivation similar to that given corn should be continued until the plants are 18 to 20 inches high.

Sunflowers are ready for the silo when the seed has filled and is beginning to harden. They may be cut with a corn cutter, with a corn knife, corn harvester, or a sled cutter.

Securing seed of high percentage germination has been a difficulty experienced in Oregon, therefore many farmers are interested in saving seed from their own fields. They are planning to use a small portion of one of their fields exclusively for seed. By selecting the ripest seed each year, they believe it will be possible to develop earlier maturing sunflowers.

	Dry Matter	Crude Protein	Crude Fiber	Ether Extract
Sunflowers	21.40	1.24	10.13	.37
Corn	26.1	1.1	15.0	.7

For just such happy moments as this, Coca-Cola was created delicious and refreshing.

THE COCA-COLA COMPANY
ATLANTA, GA.



A "henpeck" contest is just the thing if you think there is any danger of your party being stiff

A Pep Social

By Emily Rose Burt

A "PEP" SOCIAL ought to be the jolliest party of the season. You can have it afternoon or evening, indoors or out, free or paid. The whole point is—it is "peppy."

Somebody's barn or garage is even better than a house for the party.

A supply of peck measures (in honor of Peter Piper's peck) would make good seats—eked out by bushel baskets and barrels.

The minute the guests arrive, hang a little bell on a long cord around the neck of each, for this somehow helps to take stiffness from the first half-hour.

A fine mixing game to start off with is called "Pecks."

To every person present is handed a slip of paper containing a cryptic inscription. Announce that the room contains a peck each of onions, turnips, potatoes, and peppers, and that you would like to have the different pecks sorted out. Thereupon the slips of paper become more intelligent to their owners, for each slip contains the words "Quart of onions," or "Quart of turnips," or "Quart of potatoes," or "Quart of peppers," and as there are, of course, eight quarts in a peck, there are eight slips alike in every case. So there is a great scrambling about, and presently the eight quarts of onions get together, and likewise the eight quarts of turnips and the eight quarts of potatoes and the eight quarts of peppers. Finding the rest of your "peck" is a great leveler of barriers.

The number of pecks depends, naturally, on the number of persons present. Each peck is now expected to present some peppy stunt.

An exciting amusement in a barn or outdoors is a "henpeck" contest. A certain number of hens are provided, as well as some light switches, and the idea is to guide your hen to the goal at the end of the room. Try this if you think there is danger of your party's being stiff.

Another good contest for such a social is a relay race—each side trying to be the first to fill a peck measure with potatoes or any other vegetables you select. One of the bits of fun in this race is that each run-

A PECK of pep did Peter pick
(Peter Piper—Oh!)
So name it fun or jazz or kick
(Some folks call it "go");
It's what we'll have on Tuesday night,
If everybody's heart is light!

ner must thrust his hand into a sack for his potato, and must run with whatever potato he touches first. Sometimes this is so small that it helps very little in filling the peck, and it may be an opponent's luck to

draw a giant potato at the same time. The rival race takes place at the same time.

At a pep social that old sneezing stunt is highly appropriate. Divide the company into three groups, and whisper to the first group the syllable *Hish*, to the second group the syllable *Hash*, and to the third group the syllable *Hosh*. At a given signal let all shout their syllables, and the result is one giant "ker-choo." You can repeat this as long as it fascinates the crowd.

Speaking of ker-chooing, a handkerchief game is not out of place. Seat the company in a circle, and knot up two handkerchiefs separately. One person stands in the center of the ring. The game consists of tossing the knotted handkerchiefs back and forth among the members of the circle. If the person in the center can catch either handkerchief in the air flying past, or locate it with any person in the ring, the thrower of the handkerchief or the possessor of it when located must change places with him.

IF YOU want to make the affair more of a money-maker, be sure to have a "pickles" table. Peter Piper, you know, picked pickled peppers. Every housewife or every housewife's child would be proud to donate her special brand of pickles, marmalade, preserves, or jelly. There are so many delectable kinds of pickles, too, nowadays.

Nothing would be more appropriate at a "pep" party than "red devil," which is just a simple cheese rabbit cooked with tomatoes, or rather tomato soup. Serve this on crackers with a big dill pickle, or a trio of baby cucumber pickles alongside, and hear the "Ohs" and "Ahs." Ginger ale certainly seems the liveliest drink for the occasion.

NOTE: Stunts for the Pep Social will be sent on receipt of a stamped self-addressed envelope. Address Entertainment Editor, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

Make-Overs

[CONTINUED FROM PAGE 14]

inset or a narrow band of colored organdie. The fichu collars of cream net and lace also give a quaint pretty touch to a last summer's waist. A silk waist may have a new lease of life given it by a pretty white organdie collar—long, narrow collars which reach from neck to waistline are much the vogue this year.

Inquiries promptly answered

Making Over Your Face

[CONTINUED FROM PAGE 14]

skin. Use it in place of soap and water, applying it with absorbent cotton. Wash your face this way in the morning, and at night use a cream. One with peroxide as its special ingredient will whiten your skin.

Then health, you know, is about the best beautifier I know. It freshens the skin and gives charm to the expression.

Inquiries promptly answered



This Test

Told Millions the way to pretty teeth

Millions of people have already made this simple ten-day test. And the glistening teeth you see everywhere now are largely the result of this method.

We urge you to make it. Then see and feel how your teeth conditions change.

Must fight film

You must fight film to keep your teeth whiter, safer and cleaner. Film is that viscous coat you feel. It clings to teeth, gets between the teeth and stays. The tooth brush, used in old ways, does not remove it all. So very few people have escaped the troubles caused by film.

It is the film-coat that discolors, not the teeth. Film is the basis of tartar. It holds food substance which

ferments and forms acid. It holds the acid in contact with the teeth to cause decay.

Millions of germs breed in it. They, with tartar, are the chief cause of pyorrhea. And all these troubles have been constantly increasing.

To daily combat it

Dental science has for years been searching for a daily film combatant. It has now been found. Careful tests under able authorities have amply proved its efficiency. Leading dentists everywhere now advise its use.

The methods are embodied in a dentifrice called Pepsodent. And to millions of people, here and abroad, it has brought a new era in teeth cleaning.

Ask for this ten-day test

Ask for a ten-day test. Then judge by what you see and feel how much this method means.

Each use of Pepsodent brings five desired effects. It attacks the film in two efficient ways. It leaves the teeth so highly polished that film cannot easily adhere.

It multiplies the salivary flow—Nature's great tooth-protecting agent. It multiplies the starch digestant in the saliva, to digest starch deposits that cling and may form acid. It multiplies

the alkalinity of the saliva, to neutralize the acids which cause tooth decay.

These results all accord with modern dental requirements. Everybody, every day, should get them.

Send the coupon for the 10-Day Tube. Note how clean the teeth feel after using. Mark the absence of the viscous film. See how teeth whiten as the film-coat disappears. You will be convinced. Then the benefits to you and yours may be life-long in extent.

Cut out the coupon now.

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The New-Day Dentifrice

A scientific film combatant, whose every application brings five desired effects. Approved by highest authorities, and now advised by leading dentists everywhere. All druggists supply the large tubes.

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Genuine Motion Picture Machine

A Few Hours' Easy Work

During your spare time will bring this Little Giant guaranteed motion picture machine to your home without the cost of a single penny to you. Hundreds of boys have easily earned my complete movie outfit. Are they pleased? I'll say they are. Wish you could read some of their letters. They just can't say enough nice things about the Little Giant.

Real Movies at Home

Yes, siree—that's what you'll have when you get your machine. You can give a show any afternoon or evening the notion strikes you. You'll soon learn how to thread a film, set your lens so the pictures show up nice and clear, and change reels in a jiffy. Fun—I should say so. The best toy you ever had

MAIL THIS COUPON NOW!

D. S. STEPHENS
Dept. M-3, Springfield, Ohio
Dear Mr. Stephens: Please tell me how to earn your Little Giant Moving Picture Machine and the three films.

Name _____

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R. F. D. _____ Box No. _____ State _____

could never compare with the Little Giant. And you may be sure that Mother and Dad will enjoy the pictures just as much as you or any of the little friends you entertain in your home.

Boys Go Wild About It

Why wouldn't they? What boy ever dreamed he would be able to give movie shows himself—least of all in his own home? The Little Giant isn't a professional machine, many of which cost hundreds of dollars, but it is fitted with Geneva movements and operates on exactly the same principle as the expensive machines. Having no open flame it is absolutely safe to handle. The Little Giant produces nice size moving pictures and is satisfactory for magic lantern slides as well. Body is made of steel. Machine has brass gears, red flywheel, nickel lens tube, and powerful double lens. With each one you get three reels, a strip of tickets, and hand-bills. All this is yours for a little easy work.

Write To-day for My Plan

Clip and mail the coupon below to-day. Don't delay a minute. Do it now. Hundreds of boys are earning my dandy machine. Get yours before the supply runs out. You'll be the happiest boy in your neighborhood when the postman delivers a Little Giant to your door.

New Designs in Cutwork

By Lillian B. Arthur

DAINTY, simple adaptations of the old Venetian cutwork are the newest decorations for our household linens. This work may look complicated to the uninitiated, but it is really quite easy to do. The only stitch used in making the Scarf and the Apple Blossom Luncheon Set shown here is the well-known buttonhole stitch.



THIS luncheon or breakfast set, with its dainty decoration of apple blossoms in cutwork embroidery, was designed for a long table, but, since the pattern is not entire, the size may be regulated by your own needs.

This scarf for serving table or buffet is seventeen and one-half inches wide when finished



FC-136—Apple Blossom Luncheon Set. Directions and transfer for centerpiece, six place cloths, and six napkins sent on receipt of 25 cents in stamps.

FC-137—Scarf. Directions and transfer for 18-inch material (scarf 17½ inches wide when finished) sent on receipt of 15 cents in stamps.

Address Fancy-Work Editor, Farm and Fireside, Springfield, Ohio.

For Your Strawberry Time

By Edith C. Armbruster

Tested in Farm and Fireside's Experimental Kitchen

HAVE you ever eaten frosted strawberries? To make them, beat the white of an egg until fairly stiff. Dip the strawberries one by one into the white, roll in powdered sugar, and let dry.

STRAWBERRY MARSHMALLOW CREAM

4 slices white cake 1 cup whipped cream
12 marshmallows 2 cups strawberries

Place a piece of angel or any white cake in a sherbet glass, mix the marshmallows, which are cut very fine, with the whipped cream and pile on the cake. Decorate with strawberries.

STRAWBERRY FLUFF

1 cup instant tapioca 2 cups mashed straw-
4 cups water berries
1¼ cups sugar 2 egg whites

Put the tapioca and hot water into a double boiler, and cook until clear; add sugar, strawberries, and the stiffly beaten whites of two eggs, and set aside to chill.

STRAWBERRY SPONGE

2 tablespoons gelatin 1 cup sugar
1½ cups water 3 tablespoons lemon juice
4 cups berries 4 egg whites

Soak the gelatin in one-half cup of cold water; mash the berries and add one half

the sugar to them. Boil the remainder of the sugar and the cup of water gently twenty minutes. Rub the berries through a fine sieve; add gelatin to boiling sirup; take from the fire, and add the berry and lemon juices. Place the bowl in a pan of ice water, and beat with an egg beater five minutes. Add the whites of eggs beaten stiff, and beat until the mixture begins to thicken.

GLORIFIED STRAWBERRY PIE

2 cups strawberries 1 package straw-
1 cup sugar berry gelatin

Fill a cool, open pie crust with the sugared berries. Prepare the gelatin, and when it begins to jell or thicken pour over the berries. Set aside to chill. At serving time spread whipped cream over the top, and decorate with a few choice berries, if desired.

STRAWBERRIES FRENCH STYLE

2 cups strawberries 4 tablespoons pow-
2 tablespoons orange dered sugar
juice

Wash and stem berries and cut them in slices. Put in tall sherbet glasses. Fill the glasses two-thirds full of berries, add one-half tablespoon of orange juice and one glass. Serve very cold.

What I Saw in Broadbalk Field

[CONTINUED FROM PAGE 13]

100 pounds of potash have produced an average yield slightly in excess of that given by the manured land. Pound for pound of essential elements, therefore, the chemicals have been more effective than the manure. Another of the surprises in the experiment is that it has been possible, by the aid of chemicals alone, and without any assistance from crop rotation or from any addition to the soil of organic matter, except the growth of roots and stubble formed by these chemicals, to maintain for sixty years an average annual yield of 36 bushels of wheat to the acre—the greatest yield, considering both duration and quantity, of which the world has any record.

The world's average yield of wheat is about the same as that of the unfertilized land in Broadbalk Field. This experiment, therefore, has shown that if the wheat plant be given suitable standing room, with a sufficient supply of water and of available nitrogen, phosphorus, and potassium, it is possible to double or even treble the present yield, without the use of any additional land or seed or labor, except the small item of applying the fertilizers and harvesting the additional crop produced.

ABUSHEL of wheat, with its straw, contains approximately two pounds of nitrogen. There has therefore been a recovery of about 48 pounds of nitrogen in the increase produced by this dressing, or nearly 37 per cent of that given in the fertilizer.

On plot 7 the nitrogen dressing has been reduced to 86 pounds, and the increase has been a little over 19 bushels, containing about 44 per cent of that in the fertilizer. On plot 6 there has been a further reduction of nitrogen to 43 pounds, and the increase has been 10.4 bushels, containing nearly 50 per cent of that in the fertilizer.

In the case of the fertilizers carrying phosphorus and potassium, the percentage recovery of these elements has been smaller.

The production of wheat upon chemicals alone has therefore not been an economical operation, at ordinary prices of wheat and fertilizing materials. At 30 cents a pound for nitrogen, 8 cents for phosphoric acid, and 10 cents for potash, prices considerably below the present retail cost of these substances in American fertilizers, the cost of a bushel of increase would be around \$2.50. The experiments have, however, demonstrated a fact of the greatest scientific importance: that with the wheat plant as our magic wand we can transmute into bread the vast deposits of phosphate rock and nitrogen—and potash-bearing salts that are found in various parts of the world.

As the demand for bread increases with the growth of population, the price of wheat will naturally move toward higher levels, and when the time comes that a greater production is necessary the way to attain it will have been pointed out.

Plot 5 in this test receives a mineral fertilizer only, made up of 392 pounds of acid phosphate, 200 pounds of sulphate of potash, and 100 pounds each of the sulphates of soda and magnesia. It is a surprise to find that this large dressing of phosphorus and potassium has added only two bushels to the average yield of wheat. The explanation seems to be that this soil has become so depleted of available nitrogen by the previous centuries of cropping that no fertilizing materials can produce any considerable increase of wheat without the aid of nitrogen; for the first addition of ammonium salts, containing 43 pounds of nitrogen, on plot 2, raises the yield to 22.8 bushels for the sixty-six years 1852-1917; doubling the nitrogen carriers produces a

PUBLIC prosperity is like a tree: agriculture is its roots; industry and commerce are its branches and leaves. If the root suffers, the leaves fall, the branches break, and the tree dies. *Chinese Philosophy.*

yield of 31.7 bushels, and trebling them, on plot 8, raises the total yield to 36.1 bushels, the mineral dressing remaining unchanged, while the omission of the minerals on plot 10, which receives a double dressing of ammonium salts, but no minerals, reduces the yield to 19.6 bushels, showing that nitrogen needs the help of the mineral elements before it can perform its full function.

On plot 11 the double dressing of ammonium salts is combined with the superphosphate alone, and the yield averages 22.4 bushels. When 200 pounds of sulphate of potash is added to this combination of ammonium salts and superphosphate, on plot 13, the yield is increased to 30.6 bushels, as against the yield of 31.7 bushels on plot 7, which receives the same dressing as plot 13, with soda and magnesia in addition. The substitution of sulphate of soda for sulphate of potash, on plot 12, reduces the yield to 28.6 bushels, and that of sulphate of magnesia on plot 14, to 28.2 bushels, thus showing the comparative unimportance of soda and magnesia.

On plot 9, nitrate of soda, in quantity equivalent to that in the smallest dressing of ammonium salts, has been used with the mineral dressing during the later years, and has produced a considerably larger yield than that given by the ammonia salts, thus indicating that any advantage in the soda, whether as plant food or as neutralizer of acidity, may be secured by the use of nitrate of soda as the nitrogen carrier.

ON PLOTS 17 and 18 the minerals, as used on plot 5, and the ammonia salts, as used on plot 10, have been used in alternate years, with the result that the average yield when mineral salts were used has been less than half a bushel greater than on plot 5, which has never received any nitrogen, while the yield for the years when ammonia salts were used has been about two bushels less than that on plot 7, where the same quantities of ammonia salts and minerals have been combined every year, illustrating the evanescent character of nitrogen. [CONTINUED, ON PAGE 30]



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"Apple Pie!"

[CONTINUED FROM PAGE 14]

flour must be added, and there can be but one result—a tough crust. When one is afraid of making this mistake, water can be added to one half of the pastry mixture first, and then the rest of the flour and fat combination added until the dough is of the right consistency to roll.

After the pie is filled and the upper crust added, it must be set in a hot oven to bake. The temperature of the oven should be about the same as for layer cakes.

And this brings us to the matter of temperature cooking. I am predicting that our daughters and granddaughters will not think of keeping house a few years hence without an oven thermometer. Experience is a grand old teacher, but her methods are sometimes discouraging.

Believing that some of the readers will be interested in knowing the temperatures for baking pies, I am going to tell you the ones used in our kitchen. For two-crust pies with raw fruit, such as apples, an oven having a temperature of 450 degrees Fahrenheit is correct. The pie should stay in the oven about forty minutes, and I find it more satisfactory to reduce the heat somewhat during the last ten minutes.

For pies in which the filling has been cooked previously, the same oven temperature is used, but the pie is taken out in thirty minutes. Open pies, such as custard and pumpkin, require a temperature of 450 degrees for twelve minutes, and then a reduction to 325 degrees for thirty minutes. Pastry shells or the lower crust are baked quickly at a high temperature, to do away with shrinkage. About 490 degrees for ten or fifteen minutes is sufficient. These temperatures are for ovens heated with direct heat, such as in kerosene and gas stoves, while with indirect heat, such as in a wood or coal range, the temperatures are from 70 to 85 degrees lower.

When a baked shell and a cooked filling are covered with a meringue, the temperature of the oven should be about 300 degrees; it will take about fifteen minutes to brown and cook the meringue.

Now for the recipes which will produce flaky pie crust:

NUMBER ONE

1 1/2 cups flour 1 1/2 teaspoons salt
1/2 cup shortening Ice water to moisten

NUMBER TWO

1 1/2 cups pastry flour 1/3 cup shortening
1/2 teaspoon salt Cold water to moisten
1/2 teaspoon baking powder

In both of these recipes the dry ingredients are mixed, the fat blended in, and the mixture chilled. Then the cold water is added and the crust rolled.

NUMBER THREE

1 1/2 cups flour 1/4 cup butter
1 1/2 teaspoons salt 1/4 cup water
1/4 cup lard

The dry ingredients are mixed, the lard is worked into them, and then the water is added. This mealy mixture is tossed on a floured board, patted in shape, and then rolled to one-half inch in thickness. Then the butter, which has been washed and chilled, is placed in the center and the pastry is folded over it. This is rolled, the pastry folded over, and rolled again. This process is repeated two times, then the pastry is ready for baking.

What to use in filling the pies depends largely on choice. Apples are always a favorite; the flavor of apple pie should depend on the fruit, not on spices. A pleasing addition to apple pie when it is served warm is a hard sauce made from brown sugar and butter.

HARD SAUCE

6 tablespoons butter 1 cup brown sugar
1/2 teaspoon vanilla

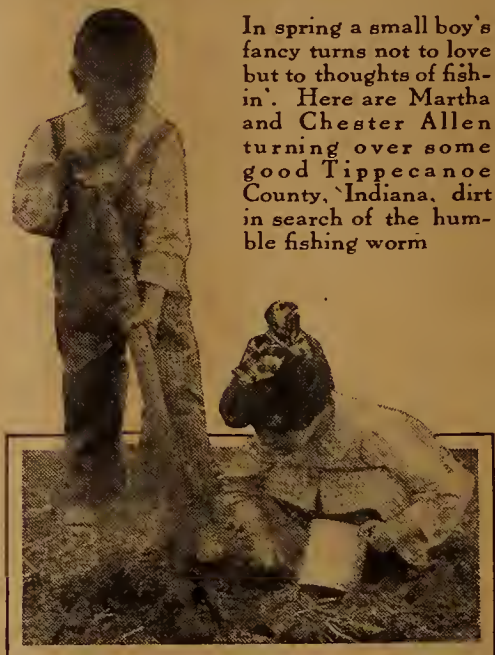
Cream the butter until very light, and add the sugar gradually, beating constantly. Then add flavoring. Chopped nuts or shredded coconut may be added if one wishes. Place this on top of warm apple pie just before serving, and let it melt.

Another way to vary the apple pie is to

leave off the upper crust; when the apples and lower crust are baked, add chopped marshmallows, and brown lightly in the oven. A baked pastry shell may be filled with cooked and strained apple sauce and topped with whipped cream.

Gelatin pies are also favorites. A thick pastry shell is baked, and, when cold, filled with chilled fruit gelatin. This is topped with whipped cream.

Individual pastry shells, made from bits



In spring a small boy's fancy turns not to love but to thoughts of fish-in'. Here are Martha and Chester Allen turning over some good Tippecanoe County, Indiana, dirt in search of the humble fishing worm

of pastry left from making pie, make welcome desserts. They are placed over inverted muffin tins, pricked several times with a fork, and baked in a hot oven. Then they are filled with combinations of fruit and topped with whipped cream.

Pies worthy of being called America's national dessert can be made in any home if the directions given here are followed. But if you have difficulties, why not find out what is wrong? Perhaps the experiments in the FARM AND FIRESIDE kitchen have solved your problems.

About "Picket Pin"

[CONTINUED FROM PAGE 11]

in me as a percussion-cap getter was misplaced.

A young clerk, fresh from the settlements, was in charge of the store when Picket Pin arrived one cold November day. He had not learned the lesson which all comers into the Indian country must of necessity learn—that is, of respecting these old Indians.

Stock-taking was but just completed. He was tired and impatient, this young snip from the town, and frankly told Picket Pin that he didn't want any old bows and arrows; in fact, Picket Pin would oblige him by "chasing himself."

Picket Pin was hungry. He also had a number of hungry people at home awaiting his return. So he swallowed his righteous anger at the insulting effrontery and discourtesy of this hireling. He inquired for "Johnnie," his friend and manager of the store. "Johnnie" was away. So also "Charlie" Jordan was not there. He had already been to my cabin and found it locked. It was near the end of the short November day. He hung around the store eyeing the well-stocked shelves, hungrily considering the luscious foodstuffs displayed by highly colored labels. It was darker and getting steadily colder. He lived ten miles outside the agency stockade. Shouldering his bundle he started homeward. His toil had been useless.

That same noon I had ridden out the trail towards Cut-Meat, and then had cut across the buttes towards Picket Pin's home. Only that morning they had come upon a number of boxes of percussion caps. They looked old-fashioned enough to fit Picket Pin's gun.

So in my excess of joy I took my pony and headed over the buttes to deliver in person the long-promised caps. I even

hoped to see our friend discharge that terrible weapon of his. I took along a few presents of food for the many younger Picket Pins. Altogether it was to be a gala occasion. His absence spoiled my plans, so I gave the food and percussion caps to Mrs. Picket Pin, and started homeward.

Along the Ridge Trail, near the crumbling rifle pits of Soldier's Hill I met Chief Picket Pin. His somber face lightened when he heard that at last the percussion caps had come. It was not till later that I realized the significance of his words of thanks.

"Good boy," he said, "now I get food."

He passed on into the gathering night. Next morning word was brought that Picket Pin was dead. He had died of starvation.

Broadbalk Field

[CONTINUED FROM PAGE 29]

In the experiments above described 100 pounds of the ammonia salts were applied when the seed was sown, and the remainder in the spring, in order to avoid the loss from leaching by the winter rains; but on plot 24 the double dressing of ammonium salts has all been applied in the autumn, with but a loss of two bushels in yield.

These experiments in Broadbalk Field were intended not as a guide to be blindly followed in farm practice, but as an inquiry into some of the fundamental principles upon which a scientific practice must be built.

As has been stated, when this work was first being planned, there were still some who believed that carbon might be fed into the plant through the roots. That point was soon settled. So great an authority as Liebig was teaching that all plants would obtain from the air a sufficient supply of nitrogen if only the necessary mineral elements were supplied. In so far as the wheat plant is concerned, Broadbalk has forever overthrown this theory, and in so doing has led the way to the discovery of the fact that only the leguminous plants have this ability.

Broadbalk has shown that on a strong soil, and under favorable climatic conditions, a yield of wheat approximating the world average may be obtained for a very long period without the assistance of manures, fertilizers, or crop rotation, and that this yield may be multiplied by three by adding to the land in chemical carriers the principal mineral elements, with nitrogen.

That the prices which have heretofore prevailed for wheat on the one hand and for nitrogenous and other fertilizing material on the other, have made the conversion of these materials into bread economically impracticable does not affect the fact that when the demand for bread shall have justified the increased cost of producing it we shall be in position to meet that demand. At present prices of fertilizing materials, the cost of such materials necessary to produce a bushel of wheat would be about \$2.50, and the extra labor required to apply the fertilizers and harvest the additional crop might be half a dollar more, but in the summer of 1920 wheat sold in New York at more than \$3 a bushel.

Broadbalk Field has shown that while the chemical elements in farmyard manure may be less effective, pound for pound, than those in chemical fertilizers, yet such manure has produced more than a bushel and a half of wheat per ton of manure for three quarters of a century, while other experiments have shown that when manure is used primarily as a carrier of the costly nitrogen and potassium of the fertilizer ration, and its deficiency in phosphorus is made up by reinforcing it with that element, it may be made an effective means of reducing the cost of the increase produced.

Finally, in demonstrating the fundamental importance of nitrogen fertilizing, Broadbalk Field has paved the way for a keener appreciation of the importance of securing this nitrogen, as far as possible, through crop rotation, with such treatment as will encourage the growth of the leguminous plants.



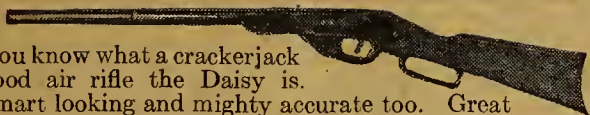
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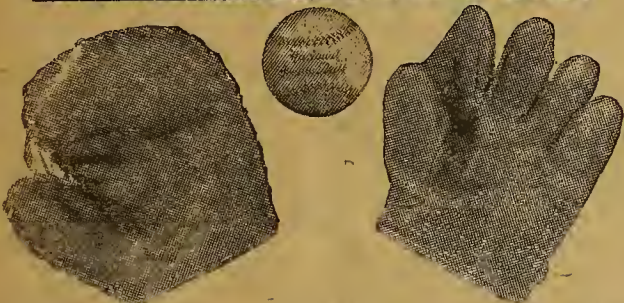
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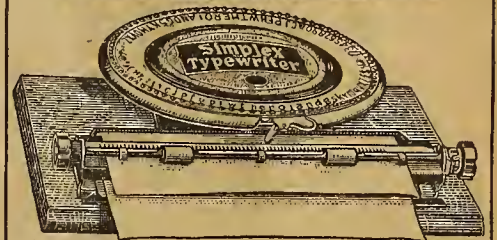


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"Toby This an' Toby That"

[CONTINUED FROM PAGE 6]

smoking six-shooter and grab for the lines. He was the greaser Tobe had kicked across the line a few days before.

Without any preliminaries, I plugged Mr. Driver as near the middle as I could, and then gave his pardner one for good measure. They both slid down off the spring seat onto the doubletrees behind the horses. This scared the team, and they started to run, but one line got twisted about the hub of a front wheel and turned them in to a big mesquite, where they stopped and began kicking at the dead Mexicans.

Tobe was breathing all right, but had a long gash in his scalp where a bullet had plowed through. Holy Moses, how he did bleed! I pulled the Mexicans out of the way, and piled Tobe in the wagon and drove to Joe White's shack and sent Joe for the doctor.

There was a few bottles of mescal in the wagon, and I gave Tobe a shot of the pungent stuff. Then I knew Tobe was in a bad way, 'cause he didn't open his eyes, an' he didn't swaller—just kind of let it run down. Now, any time a shot of tiger-tears don't make Tobe's eyes snap he needs some tender 'tention.

I buried the rest of the licker out back of the chicken house, and along in the night the doctor came and removed a piece of bone and took seventeen stitches in Tobe's scalp and twenty-one dollars, and said if the bullet had just been a little mite closer Tobe would have been in the happy huntin' ground—or somewhere.

We rigged up a good bunk in the back room, and Joe said he'd watch out for Tobe when I wasn't there. I turned the east end over to the soldiers, and stayed around White's shack as much as I could.

TOBE got along all right for a while. 'Course he'd take a spell of talking to Cora in his sleep, then cuss the lieutenant out, kill a few Mexicans, and such stuff, but that didn't worry me none. It was when he got quiet and just laid and looked up at the ceiling, picked at the covers, wouldn't eat, and didn't kick about nothin', then was when I got uneasy and went for the doctor.

The doctor came out, and after he'd thumped and listened and took Tobe's temperature and a collection of nine dollars—that's all we could find—said Tobe was all right except he just had a bad case of funk, and was not trying to get well. He said Tobe needed somethin' to put pep in him. I was for loading him up on the liquid lightnin' I had buried back of the chicken house, but the doc said that'd only make him worse. He said the best thing would be to introduce something that would give Tobe an interest in life and an unquenchable desire to get well pronto.

Joe and me got together, and decided that the thing for me to do was to go in and give him a cussin' out; rough him with my vocabulary and make him mad as a wet hen, so's he'd want to hurry up and get on his feet and work me over for being mean to a sick friend.

I went in and romped all over him. I called him all the ornery names I could think of, and, believe me, I have a collection. Then I began to work back through his ancestors. I pulled them apart and hung them up, exposing all their many crimes, such as stealin' barb wire, sheep, wolf traps, and everything, but I didn't get a raise.

I even went so far as to claim knowledge of an old guy on his father's side that came over here in a slave ship with his neck in the crotch of a mahogany saplin', and afterward married a squaw, and ate grasshoppers and dogs. But nothin' doin'—he wasn't the same guy that poured the hot lard down the back of my neck, a-tall. He looked over at me kind of mournful like, and said, "I want you to have my rifle, Bill, and my spurs. Give White my saddle and bridle and blanket." So what could I do?

I went out and climbed on my horse and rode up and down the line, milling it all over in my mind without much luck. While I was gone, Joe White got to ponderin' about what the doctor has said of giving Tobe something to think of that'd give him a desire to get on his feet. He had figured and milled and muddled it all up one side and down the other, when he saw Cora and her lieutenant drive up in a flivver that was marked "For Official Use Only." When they stopped at the gate, Joe had a sudden attack of intellect, and went in the house to tell Tobe.

"Here comes your shave-tail all rigged out in his shiny boots and spurs, ridin' a flivver," says Joe. "Now, you limber-spined tadpole, here's your chance to give him that cussin' out you been dreamin' of! If you've got the nerve of a day-old chick you'll let him know what you think of a man that'll come in and hoodwink an in-sent gal away from her rightful feller—but I'll bet you lay there and 'yes' everything he says," and Joe went out to meet them.

THE lieutenant took a folding canvas bucket out of the back of the car and went to the water trough to get some water for the radiator, and Cora asked Joe where Tobe was keepin' himself. Joe gave her the dope and says, says 'e, "He's layin' in that back room about dead. He's been out of his head and askin' for you every minute."

"Oh, Joe, honest?" says Cora. "Honest. Injin," says Joe, "cross my heart and body and soul, and hope to die and—"

But Cora was gone. She had made a dive for that door. When she stepped upon the porch, Tobe heard her, and thought it was the lieutenant.

"What in 'ell you comin' here for, you top-year'd horned toad in leather putts? For two bits I'd get up and mop the corners of this shack out with that eyebrow you carry on your upper lip! If I ever hear of you causin' Cora to shed just one little tear, I'll pull you all apart and use your liver for coyote bait. I love that little girl more than a regiment of such birds as you could—"

"Why, Toby!" says Cora, and Tobe saw who it was.

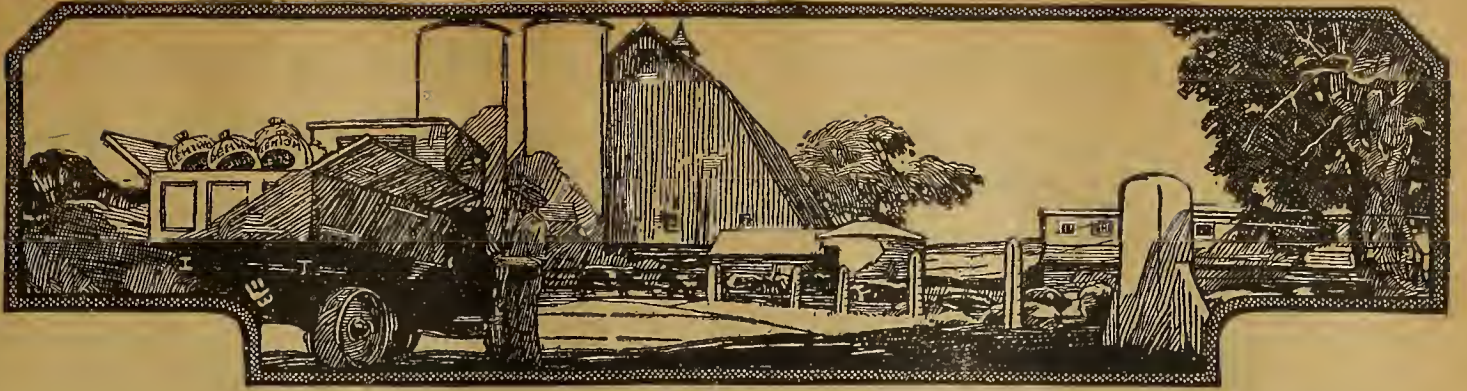
Well, sir, right then and there that fool Tobe had an attack of brains, and went right out of his head and began makin' love to Cora like a house afire. In a few moments Cora dispatched Mr. Lieutenant to the home ranch for some sheets and things, and with a note to her ma for some other things that she'd need the next few days. When I got back she had taken command, and had Joe moppin' out the place and sweatin' like a nigger at a camp-meetin'.

In about a week she had Tobe out on the porch, and it was "Toby this" and "Toby that," and "Toby some more," till I had to move out to the wagon shed. Then, along came a chaplain with the soldier outfit and married them! Yes, sir, it's a fact—I wanted them to get a justice of the peace or a preacher or somethin', but they said he'd do. An' say, do you know, that little ol' shave-tail was best man!"

AS BILL finished he tenderly fingered his cut and bruised lip, "It's gettin' bigger, ain't it?"

"I don't think so," I answered. "But I don't see why such good friends should meet a year or two later and fight like beasts."

"You don't, eh?" said Bill with a distorted grin. "Well, now you just listen: When I ran into Tobe he was all puffed up 'cause Cora had just presented him with a big boy! Yes, sir, it's a fact—an' they called him 'Toby'! Now, you know there ain't nothin' fit to drink in the State of Texas befitin' such a joyous occasion, so we went across the bridge to Juarez in Mexico, where we could do the thing justice. It's just as I said, a sip of tiger-tears sure makes Tobe's eyes snap, an' begin to remember things. After about the third drink Tobe proceeded to convince me that Toby's great-grandpapp on his dad's side was white folks to start with, never saw an Indian in his life, an' didn't eat no grasshoppers nor dog, a-tall!"



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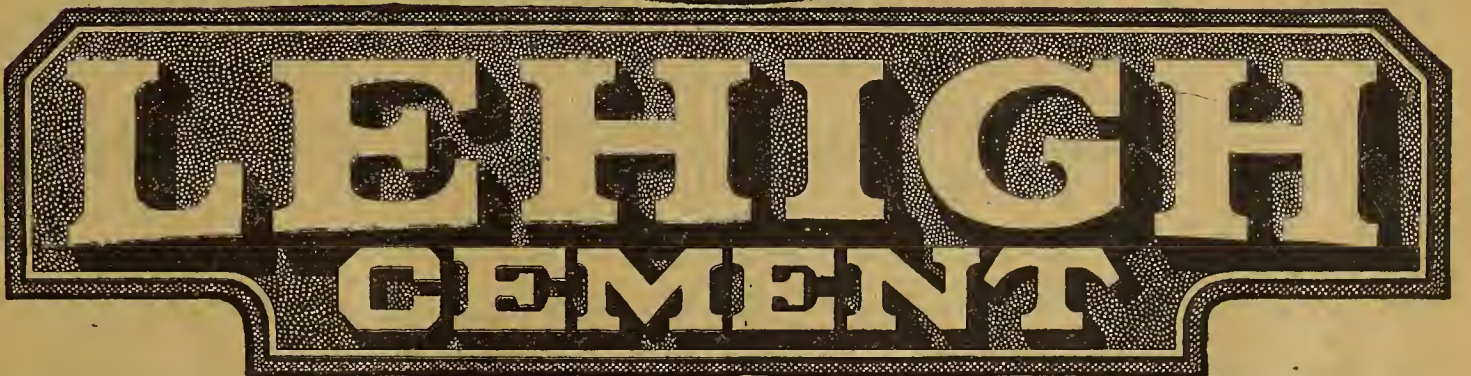
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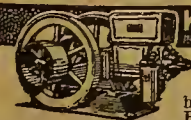
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"Isn't It Our Fault, After All?"

One farm woman who thinks there is too much bunk about hard-worked farm wives

ONE of the most pleasing kind of letters that I receive is the sort that, in addition to asking a question, also contains the answer. When I saw the question "Isn't it our fault, after all?" at the beginning of the letter from Mrs. G. H. M. of Ohio, I immediately thought that here was a lot of work already cut out for me. It naturally follows that I was pleased to have Mrs. M. answer her own question, and especially so when she has answered it so much better than I could possibly have done. Here is her splendid, sincere letter:

"Isn't it our fault, after all—this time-worn propaganda concerning the hard-worked farm wife?"

"All our married life I have had three men to feed—and they are always ravenous—and much of the time we have had extra help by the day, not to mention silo gangs and the threshing crews. I have raised the little chicks and worked in the garden and washed and ironed and mended and sewed and scrubbed and swept and dusted and cooked—cooked incessantly. And I love it all. It is but the means to an end—Home.

"But I refuse to be swallowed up by work. I do my work to the very best of my ability—I do despise dirt, and disorder—and then forget it. For, after all, *what we do in this life is not so important as the state of mind in which we do it.* Work is but the means to character-development.

"I make a big effort never to let my work drive me. For instance, I do very little sewing during the summer when I have the garden, little chicks, and canning. I try to do it in winter, and get house-cleaning done before garden-time.

"Down in my heart I wonder honestly if the farmer's wife is the hardest worked woman on the earth. I spent a few days last winter with a friend in town, and I came home thanking God for my many blessings, and feeling my life to be one of comparative ease. It was incessantly the telephone, or the front or back door. I had thought the dirt the men tracked in at home from the barn a trial, but it was nothing to the dirt from the furnace and the smoke that filters into my friend's house.

"And then the children! I frankly admit my children have never been a care. They are out farming all the time, and have been since they were tiny youngsters.

They are husky little animals, and rarely in the house except to eat and sleep. They are full of business, and the days are never long enough to carry out all their plans.

"I thought my friend's youngsters would distract me—and I love children. There was nothing for them to do, and no place to do it. No wonder the youngsters felt cramped—I felt as though I could not get a full breath. Any way you take it, it is an unnatural life for children.

"I would take my farm life a hundred times over in preference to my friend's life in town, with all her conveniences and her help by the day. God bless her, she needs help!

"But I rebel at the current idea that the farmer's wife must be a drudge. And she alone is to blame for the opinion the world has of us as a class. I say it is wrong. I writhe when anyone pities me because I am a farmer's wife. And as for the isolation of farm life, that is as you make it.

This is Frances Arline Hodgson, daughter of M. C. Hodgson, a farmer near Ottawa, Illinois, and two of her pets. The three of them offer a great study in human nature. The camera man said, "Look pleasant, please," and snapped the shutter. The result, as you see, shows Frances reluctant to obey orders. The sheep shows utter indifference, but "Shep"—well, he perked right up and registered joy to the best of his doggy ability



"I know whereof I speak, for we are eight miles from a railroad, and on dirt roads almost impassable parts of the year. But never once in our eight years here have I been lonesome. And never have I felt isolated.

"Good magazines and books are within the reach of all farmers, and during the seasons it is impossible to get away, read, read, read, and think, think, think.

"Good books are friends that one never tires of, and they continually open up new worlds for one. They fit into one's mood and freely give their all to enrich the human heart and mind. And if you are craving the human touch, you will come closer to the very best that human beings have had to give this world through their books.

"It would be a splendid thing if every farmer's wife would get a 'hobby' entirely apart from her 'home-ing' and ride it hard. Birds, trees, flowers, fancy work, photography, art, history—anything to keep one's mind actively employed and seeking new realms of thought.

"If there is not something entirely apart from everyday life to take up one's thought, it becomes easy, indeed, to dwell on petty, everyday grievances, to the exclusion of the better things. And right here is where too many of our farmer's wives become drudges. They allow them-

selves to dwell on grievances, real and imaginary, until they work up quite a case of self-pity, which is killing in its effects. Yes, that is what kills and makes drudges out of our farm women—no, no, it is not work. Even doctors (good ones), when they are honest, tell us work never hurt anyone yet.

"We read of so many of the great men of earth who began their lives humbly, on the farms. We have come to accept the fact that the boy who begins life on the farm has a better chance to achieve a chair in the Hall of Fame than the city boy. We read the reasons for it.

"Prophets and seers come out of the quiet places of life—rarely from cities. May it not have been that the farm mothers—wonderful women who have loved solitude, peace and nature, women not afraid to commune with God and their own souls—have been able to give their sons something the city mother never can give? For we do come closer to God in the quiet places, and may we not easier read there his plans for the lives he entrusts to our care?"

"Love of city life is a sign of depraved civilization. It is not God's way. Before we can ever hope to make the world any better we will have to get back to the soil.

"Let us farm wives hold up our heads and teach the coming generation an added respect for the farm and its people. Deep in our hearts we know there is no place like the farm, nor would we exchange places with anyone. And, above all, let us begin to instill into town people an added respect for the best job on earth—that of being farmers' wives!"

We are indebted to you, Mrs. M., for your inspiring letter. It seems to me you have made a mighty strong case with your arguments. Moreover, you've left a thought that applies not only to farmer wives, but also to every human being, regardless of his or her occupation—that "what we do in this life is not so important as the state of mind in which we do it."

I'm willing to bet my perfectly good last year's straw hat that with such a philosophy Mrs. G. H. M. is a real success in life. Are there any gentlemen—or ladies—who think they can win my hat?

George Martin

Concerning Journeys Into Spain

By Bruce Barton

AMONG my acquaintances is one to whom both fame and money came early.

I was discussing him recently with the Editor of this magazine. "Blank will never do anything of importance again," he said. "He is old and tired and utterly disillusioned."

Actually, he is not old at all—only fifty-two. Age is not the secret of his trouble; nor weariness, in the usual sense, for he has worked little these past ten years.

His real tragedy lies in the fact that he satisfied all his ambitions too early in life. He left himself nothing to look forward to, nothing to dream about, nothing to want.

Whether the most successful men are happiest is always debatable. Heine wrote of Baron Rothschild:

"I advise any man who is in great need of money to go to M. de Rothschild; not for the purpose of begging anything (I doubt if he would get very much), but in order to find comfort in the sight of his misery amid wealth."

Cecil Rhodes once confessed his discontent to a younger friend.

"What have I to look forward to?" he asked in effect. "I already have everything I want."

You and I lack some luxuries that wealth can give; but we have this luxury that wealth destroys: we have the fun of looking forward and saving up, of entertaining our dreams and our wants.

"God forgive me I did spend all day (Sunday) in reading of some little French romances," wrote genial Samuel Pepys in his diary on February 10, 1661. "At night my wife and I did please ourselves talking of our going into France, which I hope to effect this summer."

Summer came and they did not get to France—but what was the difference? There had been all the fun of talking about it and planning on it through the long winter evenings.

And next winter they could plan again; and next summer—or the next or the next—they would go.

A gentleman named St. Paul, who lived and traveled widely, had a secret ambition that slipped out in his writings here and there.

"Whensoever I take my journey into Spain I will come to you," he wrote in one place. And again: "When, therefore, I have performed this, and have sealed to them this fruit, I will come by you into Spain."

He never got to Spain. He laid down his life long before many of the things that he planned to do were done.

But think of the joy that he had for years out of that promised journey! In the dark hours in prison, on the hard miles of road, there was always before him the vision of the restful, balmy hours to come.

The trip he never took in the flesh he made a thousand times in his dreams.

All of us should have in stock certain private journeys into Spain. Always there ought to be something that we're planning next year to do.

The hours of enjoyment you have with your first automobile before you buy it; the joyous evenings when you pore over the plans for your house; the happiness that lies in seed catalogues and in railway time tables, though spring may be months away, and the journey long in the distance—these are among life's most precious gifts.

The rich have no portion in them. A want in their lives is immediately satisfied, and ceases to be a want.

We are luckier; we taste our joys for months in advance. We live two lives at once—the life of things as they are, and the life of things as they're going to be. Our feet may be sore with the stone bruises of Fate, but our spirits do not share the hurt.

They are far away in a balmier land, enjoying for the thousandth time their journey into Spain.

FARM & FIRESIDE

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*Frederic
Stanley—*

In this Issue:

Henry Irving Dodge—James Speed—Bruce Barton—Tom Delohery—
Joe Wing—Charles E. Thorne—Samuel R. Guard—Grace M. Gould



DODGE BROTHERS MOTOR CAR

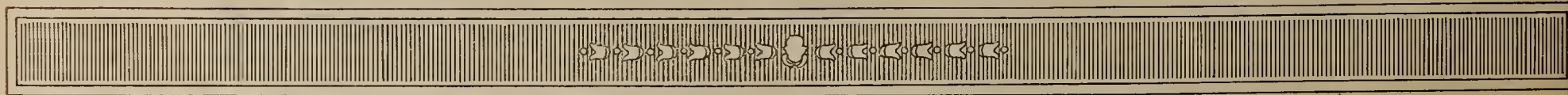
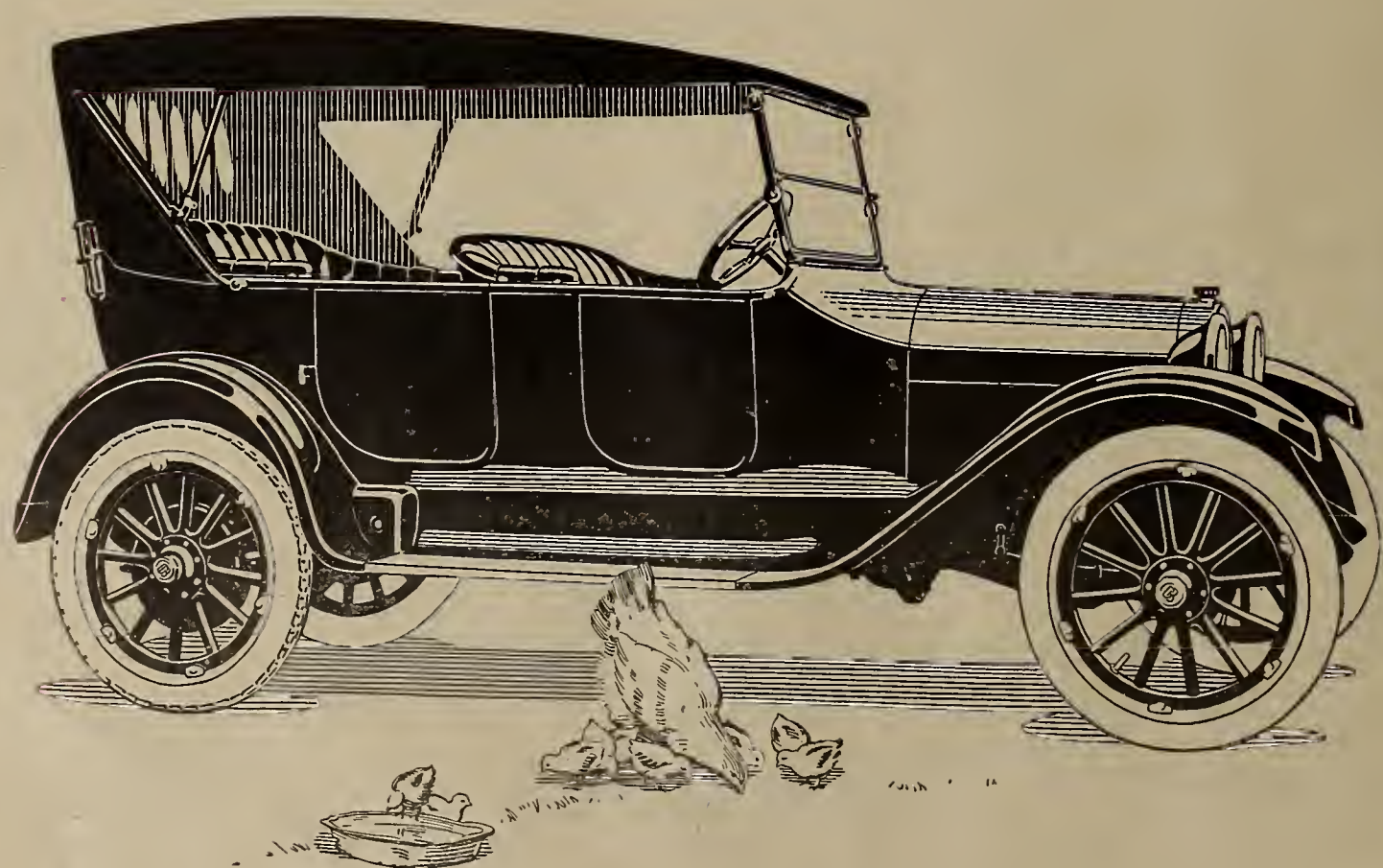
The reliability of Dodge Brothers Motor Car is almost always referred to when its name is spoken

It seems to stand as a symbol for the car itself—a symbol which everyone knows and recognizes

People speak of the car's economy and efficiency with high praise, but they speak oftener and with even greater enthusiasm of the way it can be depended upon

The gasoline consumption is unusually low
The tire mileage is unusually high

DODGE BROTHERS, DETROIT



What the Grain-Marketing Plan Means to You

By Daniel Lewis

THE American Farm Bureau Federation's Grain Growers' Committee of Seventeen has worked out a national grain-marketing plan that is calculated to give you and me and other farmers a better chance to make money on the grain we grow.

I am a practical farmer myself, and I have been looking into the details of this plan to see how it is going to work, from my standpoint. I will try to tell you what I have learned:

First let me go back a minute and trace the source of this national grain-marketing movement:

First came the county agents, who, with the help of us farmers, organized the county farm bureaus. Later the county farm bureaus got together in each state and organized state farm bureau federations. Something over a year ago the state federations got together and organized the American Farm Bureau Federation.

You and I control the county bureaus, and they control the state federations, and the state federations control the American Farm Bureau Federation. So, you see, this A. F. B. F. really is a national farmers' organization which is absolutely controlled by you and me and our fellow farmers. If

you belong to the County Farm Bureau you have something to say about how the national federation shall be run. It's *your* organization.

Well, after it was organized, your president, Mr. J. R. Howard, appointed this Committee of Seventeen to work out a national grain-marketing plan for you and me, and submit it to the national federation to be adopted and put into effect for our benefit, if we approved of it.

The plan is ready, and was adopted in April by the A. F. B. F., by vote of the delegates you and I elected.

TO BE members of the original Committee of Seventeen, Mr. Howard chose representatives of practically all of the important farm organizations—jealousies, rivalries, and all. They tell me that it was freely predicted by Board of Traders that the committee would not be able to get along long enough to organize itself, let alone work out any plan. But the committee did get along; more than that, I understand that not a single "No" vote was made on any fundamental proposal.

But I've always felt that that is just the way farmers as a whole would get single-minded on an issue, if they all had access to accurate information and a chance to mull it over in their heads as

they ride their cultivators up and down the corn rows.

Well, our committee went at the work like a bunch of business men. They elected C. H. Gustafson, president of the Nebraska Farmers' Union, which had already done millions of dollars' worth of cooperative business, chairman, and A. L. Middleton, of the Farmers' National Grain Dealers' Association, with some 4,000 elevators, vice chairman, and W. G. Eckhardt, head of the grain-marketing department of the Illinois Agricultural Association, to get the money—I mean, they elected him treasurer. They hired some experts—economists, statisticians, lawyers, and the like. They organized subcommittees and sent them off to California to study fruit-growers' cooperation, to Canada to study grain-growers' cooperation, to New York State to study dairymen's cooperation, to Kentucky to study tobacco-men's cooperation, and to the libraries, and back to the farmers themselves, to study all kinds of cooperation, and lack of cooperation. For six months the committee studied.

In February the committee met in Kansas City, and on the sixteenth voted, unanimously again, to adopt the essentials of an improved grain-marketing plan for all America—for the benefit of all growers of grain and of all eaters of grain. So vital, so definite, so prom-

ising is the program, that it appeals to me as just about the biggest thing in American agriculture to-day.

In that historic Kansas City meeting the plan was diagramed, practically as it stands to-day, ratified and ready for the farmers of America to take hold of and vitalize into the most gigantic business enterprise ever seen on the face of the earth, yet organized on the non-profit, non-capital stock basis, and built to function solely for the benefit of the public at large, of which the farmer who raised the stuff to feed 'em all is no inconsiderable part, you must agree.

NOW, the thing about this plan that interests me most is how it affects me as a farmer with some corn and wheat and oats to sell. Leastwise, some years I have some to sell, when I manage to escape frost and flood, fusarium and stinking smut, chinch bugs and Hessian fly, cockleburrs and mustard, drought and clogged tiles, weather too hot and weather too cool, fistula in the horses and factory wages in the hired men, and all the other ailments that go to make the farmer's life interesting. How do I become a functioning part of the new marketing machine? [CONTINUED ON PAGE 27]



"I've got hold of him, but it's up to you to make him stay quiet before he worries us both to death"

Robert Frost, the Farmer-Poet

By Joseph Anthony

ROBERT FROST is hailed by the newspapers as "the poet of New England." By the literary critics, who have placed him in the first rank of poets on both sides of the Atlantic Ocean, he is called all sorts of big names.

But now that the farmers of the country have begun to discover him and pass the word among themselves, the fact of the matter is that he is the farmers' own poet from coast to coast, whatever the other folks have to say about it. For he has made lasting poetry of the young calf in the barn, of the cutting of the hay, of the cow in apple time, of the struggle to get a living out of the stubborn New England land, of the happy days and the lonely ones of the farmer's wife, of the thousand and one notions that come into a man's head as he goes about his work mending fences, scything, planting—always busy, but always having a little time to think things over, and a little time to be neighborly.

HE IS always chatty, pleasant, with a good story to tell, or some interesting little fact about the land that you may or may not have noticed for yourself, but that somehow makes the whole world seem different once he has called your attention to it in his own particular way.

You are always being surprised to find him talking about things that belonged in your own boyhood, and that you thought were your own secrets. And the curious thing is that you never feel that you are reading poetry at all, until you find individual lines sticking out in your mind with a vigorous kind of music, and get to searching for passages here and there that you want to reread, and that grow stronger and more beautiful each time.

For a good many years of his life Robert Frost has been a farmer to get a living out of the soil. When it was no longer neces-

sary, he remained a farmer by choice, and he now has a patch of land at South Shaftsbury, Vermont. Many a farmer who was expecting that all a "literary feller" would know about the country would be the wild flowers and shrubs has had a pleasant surprise when the poet of New England became his neighbor.

This fact is not mentioned just as an interesting curiosity. It is something that must be thoroughly understood in order to get a real glimpse of Robert Frost, one of the greatest writers that America has thus far produced. To grasp Frost the poet, we must see him as Frost the farmer and the neighbor, wielding the ax and the scythe to clear his land, cultivating and getting the pleasure of seeing things grow, always doing things with joy in doing, but never in a hurry—



This is Robert Frost

"When a friend calls to me from the road
And slows his horse to a meaning walk,
I don't stand still and look around
On all the hills I haven't hoed,
And shout from where I am, 'What is it?'
No, not as there is a time to talk.
I thrust my hoe in the mellow
ground,
Blade-end up and five feet
tall,
And plod; I go up to the
stone wall
For a friendly visit."

You don't have to go far before you discover that the Robert Frost of real life and the Robert Frost of the poems are one and the same person. They both have their feet squarely on the ground all the time; they both have a deep distrust of fancy talk, in poetry and prose; and neither the poet Frost nor the farmer Frost is so much occupied with getting the beauty out of life that he can't get the fun out of it, too. When Frost comes on one of

his rare trips to New York, it is better than a circus to see him with some serious "literary man" with tortoise shell glasses and a project for remaking the world. He is apt to look very interested and innocent, just slipping in a word or two sideways, and the world reformer is encouraged to cut loose from plain facts even a bit more than usual, having this wonderfully receptive audience—until he catches a glint in a pair of shrewd eyes and in the lines of a rugged mouth; and maybe he wakes up next morning wondering whether it can be true that that quiet farmer-poet from up Vermont way was joshing him. If he is a bit uncertain about that, he is apt to continue uncertain for a long while to come.

ONE of the greatest services of Robert Frost to America has been to make people who thought they didn't like poetry understand what poetry really is. Not strings of words made up like perfumery or cheap jewelry; not a matter of preaching, of tearing the hair and waving the hands; but just that wonderful, stirring feeling of the high spots of life when the meaning of all creation seems to become clear for a moment, and every tree and hill and field seems to have a personality of its own—something that we knew ages ago and forgot, only to come back to it now with joy.

It's not the business of the poet to tell us anything that we didn't know already, but the way he tells it makes the whole world new again. And that's why many a farmer, catching hold of a Robert Frost poem for the first time, has had that same delightful surprise that you get in discovering a dollar bill tucked away in the pocket of an old coat that you were going to throw away. I don't think he will object to the homely comparison.

His temperament doesn't run that way.

Do You Like Poetry?

A GREAT many persons who do more talking than thinking say that farming people don't like poetry. Just in order that we may put these persons where they belong, we would like very much to hear from the readers of FARM AND FIRESIDE as to how they do feel about poetry in general and about the poems Robert Frost is writing for you, in particular. Mr. Frost has told me that he would like very much to have you write to him at his farm near South Shaftsbury, Vermont, and tell him how you feel about the matter. Will you do it?
GEORGE MARTIN, Editor.

The Grindstone

HAVING a wheel and four legs of its own
Has never availed the cumbersome grindstone
To get it anywhere that I can see.
These hands have helped it go, and even race;
Not all the motion, though, they ever lent,
Not all the miles it may have thought it went,
Have got it one step from the starting place.
It stands beside the same old apple tree.
The shadow of the apple tree is thin.
Upon it now; its feet are fast in snow.
All other farm machinery's gone in,
And some of it on no more legs and wheel
Than the grindstone can boast to stand or go.
(I'm thinking chiefly of the wheelbarrow.)
For months it hasn't known the taste of steel,
Washed down with rusty water in a tin.
But standing outdoors, hungry, in the cold,
Except in towns at night, is not a sin.
And, anyway, its standing in the yard
Under a ruinous live apple tree
Has nothing any more to do with me,
Except that I remember how of old,
One summer day, all day I drove it hard,
And someone mounted on it rode it hard,
And he and I between us ground a blade.

I gave it the preliminary spin,
And poured on water (tears it might have been);
And when it almost gayly jumped and flowed
A Father-Time-like man got on and rode,
Armed with a scythe and spectacles that glowed.
He turned on will-power to increase the load
And slow me down—and I abruptly slowed,
Like coming to a sudden railroad station.
I changed from hand to hand in desperation.

I wondered what machine of ages gone
This represented an improvement on.
For all I knew it may have sharpened spears
And arrowheads itself. Much use for years
Had gradually worn it an oblate

Spheroid that kicked and struggled in its gate,
Appearing to return me hate for hate;
(But I forgive it now as easily
As any other boyhood enemy
Whose pride has failed to get him anywhere).
I wondered who it was the man thought ground—
The one who held the wheel back or the one
Who gave his life to keep it going round?
I wondered if he really thought it fair
For him to have to say when we were done.
Such were the bitter thoughts to which I turned.

Not for myself was I so much concerned.
Oh no!—although, of course, I could have found
A better way to pass the afternoon
Than grinding discord out of a grindstone,
And beating insects at their gritty tune.
Nor was I for the man so much concerned.
Once when the grindstone almost jumped its bearing
It looked as if he might be badly thrown
And wounded on his blade. So far from caring,
I laughed inside, and only cranked the faster,
(It ran as if it wasn't greased but glued);
I welcomed any moderate disaster
That might be calculated to postpone
What evidently nothing could conclude.

The thing that made me more and more afraid
Was that we'd ground it sharp and hadn't known,
And now were only wasting precious blade.
And when he raised it dripping once and tried
The creepy edge of it with wary touch,
And viewed it over his glasses funny-eyed,
Only disinterestedly to decide
It needed a turn more, I could have cried
Wasn't there danger of a turn too much?
Mightn't we make it worse instead of better?
I was for leaving something to the whetter.
What if it wasn't all it should be? I'd
Be satisfied if he'd be satisfied.

Robert Frost

Misuse of Credit Ruined Me—Right Use of It Rebuilt My Fortune

By W. C. Rosenberger

IF I WERE to place my finger on any one thing that has been responsible for my success as a breeder of purebred Shorthorn cattle, I honestly believe I should point to my failure as the owner of a merchandise store.

This failure, which sent me back to farming, was caused by always being in debt to the other fellow, and having a long list of bills receivable on my own books. However, operating on credit was very valuable experience, on which I am cashing in now, even though it ruined me twenty-five years ago. I didn't recognize its worth at that time, but now I am fully aware that to operate on borrowed money is good business.

To-day I am still in debt to the other fellow, and expect to continue so for a long time to come. But I am solvent, and could close out to-morrow with a big balance on the credit side of the ledger. This is the reason for my being in debt: It is a sorry day that I cannot make more on an investment in good stock than the six per cent that I have to pay to the bank when I borrow cash. Moreover, it would be impossible for me to keep in a checking account all the cash I need to conduct my business throughout the year.

And I still have a few people on my books, in the bills receivable account, for cattle they have bought of me. I have never refused a reliable man credit for purebred cattle, because I figure if he has enough pride to want purebreds he must be too proud to raise scrubs. And any man who has real pride in himself and his business will not shirk his honest debts. I am sure my belief in human beings is right, for I have never lost a penny on cattle paper.

After quitting the merchandising business, I rented a farm near Tiffin, Ohio, where I now live, and in which locality I was born and raised. I moved on the place with my wife and family, and started grain farming, raising a few steers.

I was twenty-seven years of age when I quit business and started farming as a renter. I had the ambition to own a place of my own, and always regarded renting as a temporary proposition. The chance to buy came after renting for eight years. I took it, buying a 120-acre farm, a short distance from Tiffin, at \$100 an acre. I paid \$1,800 down in cash.

With the exception of a few dollars that I kept for living expenses until I could sell a crop, this was all of the money I had. Of course, I had stock and tools. I began work right away. Shortly after I took over the farm I decided it would be a good thing to go into the purebred cattle business, and accordingly I took \$75 of my expense money and bought a weanling heifer calf from Al Brown, one of the pioneer Shorthorn men of our county. This calf, a purebred, was really the foundation of my

success as a breeder of Shorthorn cattle.

I didn't know much about the calf's breeding; in fact, I knew little about the purebred business, and now, as I look back, I think that I was the greenest man that ever started in the game. Let me illustrate what happened to show how much I knew about blooded stock: After I had the calf a little while, a breeder happened over to my place, and naturally I asked him to look at my calf and give me his opinion.

After looking over the animal he asked to see her papers. I brought them out, and

pared with our own American-bred stock.

Naturally, I soon got the Scotch tribes well in mind, and after a bit it was plain to me that the Scotch cattle were better than our native stock, because the Scotch people are better herdsmen. These facts will be disputed by some breeders, but the next time you go to a sale, look around.

By fall of my first year with the Shorthorn heifer, I was well convinced I could make a go of purebred cattle, for I saw where there was plenty of chance to grow better cattle. Accordingly, I made up my

good breeder—something I have never forgotten.

The success I had at both the local and county fairs swelled my head a little, for the third show year found me at the Ohio State Fair. My confidence after the former victories lasted only until the Shorthorns were judged. Had the judge awarded the prizes beginning at the poor end of the line, I would have taken all of the blue ribbons. Beaten, but not downed, I resolved to find out why, and got busy with the judge and many breeders. I found out that while my stuff was of good breeding, and would have had a chance, they were not well enough fitted.

THAT advice sunk in deep when I watched the sales following the judging. I could plainly see that my animals were not top-notch, and I made up my mind to get the kind of stock that the breeders wanted, and were willing to pay good money for. By this time I also had learned that the sire means about 90 per cent of the herd, and since I had to get rid of my bull I made up my mind that I would get a good sire—one that would add class and value to his calves and to my herd as a whole.

I had, up to this time, been selling a few calves, here and there, that averaged about \$300 a head. This money enabled me to meet expenses, and to pay off some of my notes at the bank, so that my credit was still good. Taking advantage of this, I borrowed \$2,200, which I spent for Maxwalton Sultan, owned by Carpenter & Ross, the famous breeders at Mansfield, Ohio.

Paying \$2,200 for this animal was a mighty big jump—about seven times more than I paid for anything up to that time; and when I thought it over back home it occurred to me that perhaps I was beginning to plunge a little. However, the first two calves sired by Maxwalton Sultan proved that I had done the right thing, for, instead of selling at \$300 a head, or \$600 for the two, the calves netted me \$2,200, the cost of the bull.

AT THE time I had about 40 animals in my herd, counting the calves I had kept; and, while not all of them were of breeding age, I mated as many as I could to my new bull. His name on the pedigree, I found by the first sale, added a few hundreds to the value of each of the offspring, and I was quite anxious to have him breed as many females as possible.

My trade increased rapidly, for I had continued to show cattle at various fairs. About my fourth year in the business I put up some cattle at the International Livestock Show, and I have never missed one of these shows since. Of course, I haven't taken all of the prizes at the Chicago show, because [CONTINUED ON PAGE 16]

"I Promise to Pay" is a Mighty Persuasive Tin Can

AS A little fellow I remember my grandfather talking to my father about the danger of being in debt. And during my boyhood this myth grew to such proportions that "being in debt" seemed a terrible disgrace. Now, the trouble with me was that I didn't understand how the wheels go round in this money-making world, and it wasn't until I had to go in debt that I discovered that the old ogre Debt was one of my best friends, that it's good business to go in debt as deep as you can and still dig out. It is a spur, an incentive, to get ahead.

How did I find out? The answer is easy: Most human beings have a habit of not fighting their best until they are cornered. Moreover, I wish to testify that there is nothing that can be tied onto one that will get more action than a tin can in the form of "I promise to pay." I learned the truth about being in debt because I had to. I learned that I could borrow other people's money and make it work for me, so I could earn more money.

Mr. Rosenberger learned the same lesson. In addition, he had the faculty of capitalizing on his mistake—and he had made an outstanding success of his business.

Two points which he mentions in his article are things that all of us can use:

1. "It is a sorry day that I can't make more by an investment in good livestock than the six per cent my bankers charge me."
2. "If a man has enough pride to want purebreds, I know he will meet his honest debts. I have never lost a penny on cattle paper."

Any man who can borrow money to advantage, and who can judiciously extend credit to others, is moving ahead.

THE EDITOR.

directly he handed back the pedigree and said I had a very good Scotch-topped calf. He might as well have told me that she was the Queen of Timbuctoo. I made up my mind to find out, and accordingly went to another breeder I knew, and in a round-about way asked him what Scotch-topped meant. He told me what the term meant, and I have never forgotten it; in fact, I can't, for my business is with Scotch cattle practically all the way through. The word "Imp." was another stunner, until he told me what it meant. Whenever I read sale reports, this word puzzled me.

I ALSO learned that I could find out a lot about pedigrees by looking through the herdbook. Shortly thereafter I had a whole set of them in my home, and began to study the different families, and to connect up the breeding of the animals with those that brought big prices in the sales. This gave me a line on the relative value of Scotch cattle, either topped or imported, as com-

mind to get more cattle, and Scotch or imported stuff. So I went to the bank and borrowed a little money—enough to take me to Elora, Ontario, Canada, where I bought eight or ten head from J. A. Watt. These animals averaged about \$300, and were all Scotch. The cows were in calf, so I didn't buy a bull.

My herd was small, but I was justly proud of it—so much, in fact, that I showed some of the animals at the local fair the same year. I won all the first prizes in the classes I showed. The second year I took my herd to the county fair, seeking more worlds to conquer, and here again I was successful. By this time I needed a bull, so I stepped out and bought the sire which had been first-prize bull calf at the Ohio State Fair the previous year. He was an expensive investment at \$300, for he failed to breed as I thought he would.

This setback proved a valuable lesson; it showed me that prize-winning does not necessarily mean that a bull will prove a



Here is the whole Rosenberger family—Mrs. and Mr. Rosenberger, their son-in-law, Harry Baxter, and his wife, who is also their daughter, and Mickey Rosenberger, their son. Baxter and Mickey are partners in the business. A failure twenty-five years ago as a clothing merchant, Rosenberger, of Tiffin, Ohio, started in farming, and after renting for eight years, during which time he managed to save \$1,800, he bought a place of his own, going in debt many thousands of dollars. From a start with a \$75 cow, "Rosie,"

as he is popularly known, has risen, in seventeen years, to a place among the king-pin breeders of Shorthorn cattle. Probably no one man of this generation has done more for the Shorthorn business than Rosenberger, and surely no Shorthorn breeder is as widely known or liked. His business has increased by leaps and bounds. Last year his total sales ran close to \$200,000—quite a turnover for a man who, 17 years ago, had only a \$75 weanling heifer calf, and owed \$10,000. Rosenberger to-day is fifty-two years old.

There's No Accounting for Tastes



EDDIE CORFITZEN, whose dad runs the J. W. T. Nichols place at Oyster Bay, New York, likes turtles and pigeons. But his *business* is taking prizes at the state fair with his White Rock chickens, and he won second for the best-kept flock accounts once, too. So expert is he that the Nassau Farm Bureau hired him (aged ten) to lecture on selecting breeders and layers. Eddie also exhibits pigeons, rabbits, and trained squirrels.

LITTLE Isabelle Robertson, daughter of the superintendent of the M. S. Burrill place at Jericho, Long Island, has a terrible time because she loves both birds and cats. Blackie is being instructed to "let that house strictly alone," but he doesn't look convinced. However, a few good spankings will work wonders with him. The bird house was made by Isabelle's brother, who also makes them to sell.



THIS is Stanley Fish, aged six, son of Raymond Fish of East Meadow, New York, who is a Cornell graduate and one of the best fruit growers in the business—prize peaches, pears, apples, also sweet corn and potatoes. Stanley, unlike, Eddie Corfitzen, hasn't time to "fiddle" with *small* animals. He wants a little *bulk* in his farming. And he often spends the entire day with the men in the field doing "big things."

HERE we have Harry Lee, whose father is superintendent of the estate of Mrs. Willard D. Straight, out at Wheatley Hills, New York. When Harry was two years old he took a prize at a baby show, but he doesn't care a snap about that now. In fact, it makes him kind of mad when you mention it. What he's really interested in is these wire-haired fox-terriers. The pups are interested in Harry, too.



THAT boy there with the two-foot grin and the goose on his lap is Eddie Corfitzen's little brother Harry, whose home is near Oyster Bay, the town Colonel Roosevelt lived in. Harry's particular friend is the big prize Toulouse gander, Wiggle-Tail. He has won a prize every time shown, taking 41 prizes in three years, including some firsts at the state fair. Both Harry and the gander weigh about the same—26 pounds.



THIS is the only gentleman on the page who is undecided about how his tastes do run. He is Jimmy Lee, Harry's little brother, and lives with the folks at Wheatley Hills. Jimmy doesn't exactly know whether he likes pups or not. He complains that they kiss him. And, he says, as everybody does that, he's kind of tired of it. His taste in men and animals, he thinks, will run to the non-kissing variety.



The Plan We Worked Out That Got Us More Money for Our Cheese

By Henry Krumrey

President and General Manager of the Wisconsin Cheese Producers' Federation

NOT long ago the Western representative of FARM AND FIRESIDE, Mr. Delohery, came to me and asked me to write an account of how the Wisconsin Cheese Producers' Federation at Plymouth, of which I happen to be president and general manager, got its start.

He wanted me to tell you what problems we farmers of Sheboygan County faced before we were driven to work coöperatively, and what we have done since to build up the resulting organization until our annual turnover is now more than 14,000,000 pounds of cheese—sold direct to the large commission houses and grocers.

Mr. Delohery seemed to think that you who read this magazine might find some pointers in such an article which you might put to use in solving some of your own problems. I hope so. Anyway, I've taken Mr. Delohery at his word, and here goes:

As I happened to be the pioneer member of the federation—having conducted most of the preliminary investigations, and did the greatest part of the work of organizing—I've been credited with being very public-spirited and unselfish. The truth is that when I started working on the problem ten years ago I did so from selfish motives. I saw Henry Krumrey wasn't getting what belonged to him—so I put him to work to find out why.

At the time I was selling my cheese to dealers on the Cheese Board at Plymouth, with the rest of the farmers in Sheboygan County. When I came to figure up the cost of producing the milk and compared it with the price I got for the cheese, and then what consumers were paying, I saw that, strange to say, these dealers got more for handling the cheese than I did for producing it. Something was wrong. I did all the work, and had a big investment in cows and land. Somebody was getting what was mine.

I talked with my neighbors, and found that they had seen the same thing, and were dissatisfied with conditions, too. I decided to watch the markets, and see if this sort of a thing continued. It did, and the price I paid for cheese in the store was more than double what I got for it.

I HAD dabbled a bit in politics, served in both houses of the Wisconsin Legislature; but I was first a farmer, and my principal source of income was from the sale of milk which I hauled from my farm to the cheese factory. But the experience helped to fit me for investigations I concluded to make on my own hook.

For years we farmers let the cheese maker sell our product, paying him 1 3/4 cents a pound for making and selling the cheese. In return, he guaranteed to get us the best market price; but, since he was paid regardless of price, I figured he was not as vitally interested as he might be. The margin between the price we got and what the dealer resold the cheese for showed that.

The "market," by the way, was made by the Cheese Board at Plymouth, and the members of this body bought our cheese. The board was no small affair, and its prices practically governed the value of cheese all over the State of Wisconsin, which produces more cheese than any other State in the Union. The organization was a power in the State.

In the spring of 1911 I started my private investigation. At that time cheese was bringing from 11 to 13 cents a pound, or about \$1 a hundredweight for milk—little better than two cents a quart. There was no variation under or over these prices despite the large number of dealers, and I figured that unless the market was manipulated this competition should cause some price fluctuation.

I said nothing then, but waited until early winter, when the dealers began to move the cheese from cold storage. The price had jumped to 20 cents a pound, and the consumer was paying 30 cents for the same cheese. My suspicion was strengthened, for here we were only getting a little

more than one third of the price the consumer was paying. For storing the cheese a few months the dealer was getting as much as we farmers. Still I held my peace.

The following spring cheese opened at 15 cents a pound, but by May had dropped three cents. The dealers claimed the break was due to lack of demand. During this time, however, I had been in Chicago, and asked the produce houses as to the demand and if they were buying our cheese at that time.

One dealer declared he had tried to buy a large order of our cheese when it was at 15 cents, but the board refused to sell any.

Yet, "because of no demand," the dealers knocked off three cents a pound.

I asked this firm for a written statement of these facts, and they gave it to me. When I returned home I wrote an article telling just what I had learned, and sent it to 150 papers over the State. Some printed it; others probably were afraid.

A few papers in our county had the courage to print it, and it aroused the farmers; so, while the iron was hot, I

I had asked to come to the meeting and tell us what they knew about coöperation.

The outcome of the meeting was a set of strong resolutions urging that we sell our own cheese. A committee was appointed to work with Dr. Charles McCarthy, who was well experienced in this sort of enterprise, and form the organization.

Some of us figured all was over but the shouting, but such was not the case. By

August 1, 1913, our organization, the Sheboygan County Cheese Producers' Federation, was ready to do business, but due to the fight the board was making we were unable to procure a warehouse.

After much thought we decided to organize the Federated Farmers' Warehouse Company, the stockholders of which were to be federation members. We secured half of the capital stock of \$20,000 in a week, selling shares at \$10 each. The money went to build a warehouse and storage plant. The federation, in

In addition to this I made a flying trip to various parts of the country to interview these dealers and acquaint them with our plans. That did the trick. By the middle of the summer big grocers and wholesalers in all parts of the country were listed among our customers. The biggest fight was won, and we had licked the board to a standstill.

IN 1914, the federation's first year, we handled more than 6,000,000 pounds of cheese, at a cost to the farmer of little more than two tenths of a cent a pound. In 1915 the business jumped to almost 8,000,000 pounds, and last year we handled 14,000,000 pounds. The cost of handling since has practically doubled because of the increased cost of labor and materials, but the price of cheese has increased accordingly, so the members have not kicked.

Even at that, the members are getting this service at practically nothing. This is why:

When the dealers handled our cheese we got paid for even pounds only. Now we pay for fractions, and years ago I figured these fractions were worth \$40,000 a year to us farmers.

In 1917, by saving our surplus from year to year, we had \$28,000 in the treasury. With this money we bought the warehouse, and then spent \$6,000 to make improvements. Last March fire destroyed the warehouse. The cold-storage section was undamaged, so we rebuilt the warehouse, and at the same time changed the refrigeration system of the plant from ice to mechanical. The property as it stands day could not be replaced for less than \$70,000.

Our plan of operation is very simple. In the first place, the capital stock of the federation is only \$1,320, subscribed in shares of \$10 each, and held by various cheese organizations. By this I mean that the farmers around each of local cheese factories organize an association, with a capital of \$50 to \$100. Ten dollars of this money is invested in the federation, and the business of the federation is transacted on votes of the presidents of each of these local associations. They are branches which feed the federation, something similar to a lot of small streams feeding one big river.

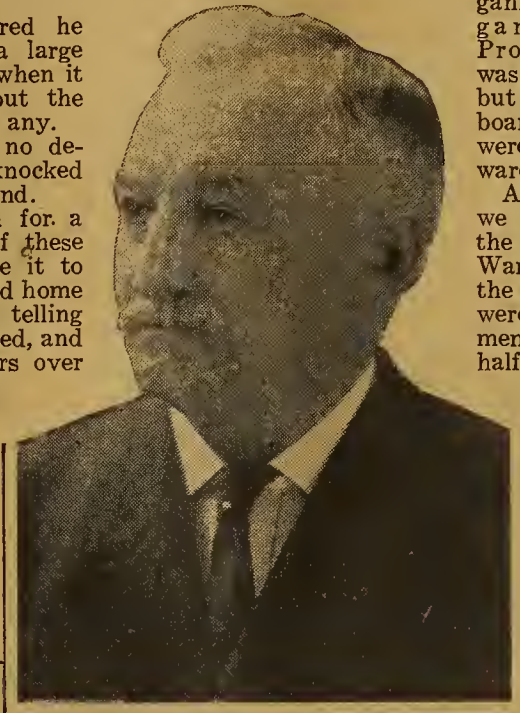
These associations or cheese factories send us the cheese. It is inspected, graded, paraffined, and weighed by us at the federation warehouse, and we sell it where we can. The farmers, if they wish, are paid cash for the cheese on delivery. We borrow the money to do this from local banks, at interest, and then, when we collect our bills, we repay the bank.

From the outset we insisted on having good cheese made. We campaigned the county, and told our farmers that if they produced good milk they deserved to get good cheese, and it was to their benefit that they did. We seldom get any off-grade product now, thanks to this campaign. We will never stop urging first-class production. We feel our business depends on the quality of our cheese.

IN 1917 we changed the name of the association to the Wisconsin Cheese Producers' Federation, because of increased demands from outside counties that we handle their cheese, too. When we first organized, ours was only a county association, but our success attracted the attention of nearby farmers, and they wanted in.

Recently the farmers in Sauk County erected a \$15,000 plant at Spring Green, to take care of their cheese, which is sold through the federation. They used the same method in order to build their plant that we did—formed a warehouse company.

I suspect that before long other parts of Wisconsin where cheese is produced in large quantities will do the same thing. The time is ripe for coöperation, for the farmer, as has been shown in more cases than one, is not getting what is coming to him, when you consider the cost of production and what the consumer pays for food.



This is Henry Krumrey

The Kind of a Man Krumrey Is

HENRY KRUMREY is known all over the country, and through him the association has gained much trade. Every time he starts out to visit Washington, he stops off here and there and sells a few carloads of cheese. On one trip to Omaha, on business, Manager McCready suggested that he stop off on the way and get acquainted with some of their customers.

"I didn't expect he would sell anything," said McCready, "but he had hardly gone twenty-four hours before I began to get large orders. In two days I had to wire him to stop selling, because we didn't have the cheese. You can't beat that fellow."

The University of Wisconsin recognized Krumrey by conferring upon him a testimonial for his "eminent services in the development of agricultural thought and practice, and in appreciation of his efforts in the improvement of the marketing of dairy products." The "Madison Journal" said the University honored itself by honoring Mr. Krumrey.

Krumrey says he investigated the cheese-marketing situation because he wanted to protect himself. This same spirit guided him all the way through, and when he found out enough he told his neighbors.

That's a good foundation for success—taking the community along.

THE EDITOR.

called a meeting of dairy farmers for June 22d. Despite the fact they only had two days' notice, and that it was in the midst of haying, 1,000 farmers were on hand. After I told them everything, we made a formal protest against the price.

Within two weeks the price of cheese jumped back to 15 cents a pound.

Encouraged, I decided to go a little further. I took the question before the State Board of Public Affairs. This body called a meeting of farmers and dealers, and the dealers admitted they fixed the price, allotting the cheese to the members from the various factories. It also came out that the dealers bribed the cheese makers, and that no one except cheese dealers could use the storage plant at Plymouth.

I CARRIED the message home to my neighbors. We decided the best thing we could do was to sell our own cheese. So I called a meeting for February 3, 1913, at the Turner Opera House in Plymouth. Fifteen hundred farmers packed the hall.

After telling them what had come out in the hearing, I introduced John Lee Colter of the U. S. Census Bureau, Professors Taylor and Hibbard of the University of Wisconsin, Charles Lyman of the American Society of Equity, and other speakers whom

return, agreed to pay the warehouse company five per cent on the investment, and the stockholders agreed to sell the property to the federation at any time it had the money.

By April 1, 1914, the warehouse was ready, and cheese began to pour in from the 43 factories patronized by our members. We graded, paraffined, inspected, and made the cheese ready for shipment. But there were no orders. We had tried to get trade, but were unsuccessful, as the Cheese Board had boycotted us with some of the trade and we were unknown to the big wholesalers. The board also refused us permission to offer cheese on the board, and penalized members who accepted cheese from our factories. It looked pretty bad for us, for they had us sewed up tight.

But that was no time to give up without a fight. So we worked all the harder. The cheese kept pouring in, and our warehouse soon was bulging—and no outlet in sight. The dealers made capital of our trouble, and succeeded in persuading a few farmers to desert the federation, but the great majority were loyal, and stuck.

To work up a trade, I hit upon the plan of sending letters to the big wholesalers, telling them just what we had done. Through them we sold a few cars of cheese at shaded prices in order to get it moving.

Everybody Has Something to Worry About—What Have You?

By Bruce Barton



Photo by Clarence A. Purchase

"THE PLOWMAN"

"Lo! on he comes, behind his smoking team,
With toil's bright dewdrops on his sunburnt brow,
The lord of earth, the hero of the plow!"

Oliver Wendell Holmes

HERE is a passage from a very discouraged man:

"If what I feel were equally distributed to the whole human family, there would not be one cheerful face on earth. Whether I shall ever be better I cannot tell. I awfully forbode I shall not. To remain as I am is quite impossible. I must die to be better, it appears to me."

Another man equally spiritless wrote this:

"Why, forsooth, am I in the world? Since death must come to me, why should it not be as well to kill myself. . . . Since I began life in suffering misfortune and nothing gives me pleasure, why should I endure these days, when nothing I am concerned in prospers?"

Poor miserable failures! When the price of white paper is so high, why should I be allowed to soil a page with the outpourings of such incompetents?

Well, the author of the first passage made a considerable reputation for himself in later life: his name was Abraham Lincoln. And the cry of defeat was uttered by a gentleman named Napoleon Bonaparte.

There is a very popular notion in the world that men are divided into two classes—the fortunate and the unfortunate.

In the one class are those to whom every good gift has been given. They have health, and joy in living, and the natural capacity for achievement.

The other class includes those who, by some handicap beyond their ability to conquer, are kept from being the successes that they ought to be.

This is the popular notion, I say—a notion invented by us ordinary folks as an alibi for our own shortcomings. We like to assume that the reasons for our mediocrity are beyond our control—that if only we

had been given more health or more money or more education or more something or other, we would have been something very different. It pleases us to indulge ourselves in envy toward those who just couldn't help succeeding.

But what are the facts?

If any man ever lived and attained remarkable success who did not have some serious handicap to contend with, I have failed to discover that man in my reading.

Beethoven could not possibly become a great musician. He began

to grow deaf at twenty-six.

Pope had a wonderful alibi for not trying to amount to anything. He was a hunchback.

Demosthenes stammered; Julius Cæsar had fits; Lamb was tied to a clerk's desk;

Byron had a club foot; Doctor Johnson was a constant sufferer.

Whether success is worth the effort and sacrifice to attain it has been much debated. You and I may, if we choose, decide that a comfortable mediocrity is the most satisfactory answer to the problem of living.

We have a perfect right to that decision.

But let's not fool ourselves with the idea that some handicap is responsible for our mediocrity. The difference between great men and the rest of us is chiefly a difference of spirit—of determination and the will that refuses to recognize defeat.

Nature is a very jealous distributor of gifts. Nobody gets a hundred per cent equipment for life. The game is to see how much we can do with the cards we have to play.

The real good sports do not talk about their handicaps; but you can depend on it that if you knew all the facts you would discover that every one of them has something.

Quick Action on a Perishable Crop

The story of how a group of Kentucky strawberry growers marketed \$750,000 worth of them in 24 days—it may have some pointers for you

By James Speed



I had forgotten all about the little lady, when I came upon her where she knelt among the berries, absorbed with the work of filling her six boxes

LAST summer, when I visited the headquarters of the Warren County Strawberry Growers' Association at Bowling Green, Kentucky, I was given a brief insight into the workings of one of the smoothest running and most successful cooperative organizations with which it has been my good fortune to become acquainted.

It is a wonderful story of quick action on a perishable crop, and one that may contain some valuable pointers that you and your community might use in marketing your perishable products.

You may know the operating machinery was well oiled when I tell you that in the twenty-four days of the 1920 picking season nearly three quarters of a million dollars' worth of strawberries were shipped by the association. So simple, yet efficient, was their method of doing business that I felt you readers of FARM AND FIRESIDE would be interested in knowing how they worked, so I am writing here what I saw and was told in the few hours I was able to spend there.

Ten years prior to my visit, a handful of growers, with less than 100 acres in berries between them, decided it would pay them to ship cooperatively in big lots. They believed it so hard that they secured H. D. Graham to act as their manager and sales agent, and under his tutelage the association has grown during the ensuing years to a membership of six hundred and fifty.

Mr. Graham first studied the markets from every possible angle, and installed a grading system which has been worked up to the degree where for their first and second grades—they have but two—last year the growers received \$7 and \$6, respectively, at the car.

THAT early June morning when I stepped from the train the weather was threatening, so I hurried first to the farms to secure an impression of the work there. Reaching one farm of about 100 acres, I found scores of pickers in the fields busy gathering the berries, and began to realize right then and there that organization of a very perfect type must be necessary to the success of such an enterprise. Big trucks loaded with crates of the luscious fruit were moving heavily out of the fields from small sheds where the pickers had their cards punched and their berries carefully inspected. Kneeling men, women, and children dotted the fields, while inspectors scurried among them to see that the plants were picked clean and the berries properly packed in the boxes.

Walking from one field to another, I overtook a dainty young lady of nine summers, who inquired:

"Are you goin' out to the patch to pick berries, too?" Without giving me a chance to reply, the trim little miss, in her dress of spotless gingham, prattled on:

"Mother says I'm foolish to pick while it's this hot; but, pshaw, I can do it all right." Then, glancing at her tiny gold wrist watch, she exclaimed:

"My, but I'm gettin' a mighty late start!" and abruptly left me behind.

I had forgotten all about the little lady, when I came upon her where she knelt among the berries absorbed in the work of filling her six boxes. Curious to know why such a well-dressed child happened to be working, I inquired of the man in charge:

"How does a child like that happen to come out here to work in the hot sun? From the way she's dressed she evidently doesn't need the money."

"She doesn't," answered the man, "but, you see, the pickin' of berries an' gradin' an' packin' them has got to be a big thing to everybody here. Lots of men and women come out to help because they feel that they ought to, especially since it's so hard to get enough pickers."

This sort of enthusiasm seemed to dominate everywhere.

On the main road through the farm to the fields was a big building, a sort of combination kitchen and dining-room, where three busy cooks were preparing the next

meal. This establishment, I learned, took care of 160 non-resident white pickers, while a smaller building near by furnished food for the negroes. On either side of the big dining-room were barns with small built-in compartments, each containing two straw-filled bunks, one above the other. These were the boys' dormitories. There was another dormitory, this for the women; also a number of brown khaki tents—sleeping quarters for the negro pickers.

LATER in the day, with many questions to ask, I returned to Bowling Green to hunt up Mr. Graham at the shipping office. When I asked to see the manager one of the bustling clerks laughingly remarked:

"Better hammer on his door mighty hard. He's busy as a beaver receiving orders."

Mr. Graham was in, and was most cordial when he learned what I wanted. So, between 'phone calls, flurries of telegrams, and other interruptions, we talked.

He quite naturally emphasized the value of cooperation, though modestly declined to say what his management has meant to the association. But the fact remains that the cooperation which has developed among the members of the association is partly due to his ability to inspire confidence in cooperation. He is trained in the business of selling produce; but at the same time he is quiet, and about as pretentious and assuming as an old shoe.

Of course, the first question I asked him was the secret of the association's success.

"The simplicity of our organization and the great care we take in grading our berries are mainly responsible," he said. "By careful grading we can guarantee our two brands to the wholesale merchant. The first grade is large, perfect, and uniform in color and size, and is bringing the grower \$7 per crate at the car. Even our second grade, which is as good as the other, but somewhat smaller, is bringing \$6 per crate. (I'm quoting this year's prices.)"

"Of course, the grading and inspecting is first done on the farm, but as they reach the car an inspector opens crates in each lot to examine the berries for size and color. Crates not up to the standard are put aside for sale on the local market, and the grower is notified. If he persists in sending badly graded berries, he forfeits his membership

in the association. So far we have had to drop but two members on this account, but both begged so hard to be reinstated, and made such earnest promises, that they are now back in the organization in good standing.

"We have 650 members who pay \$1 as an initiation fee and but 50 cents a year as dues," he told me, "and once in they must live according to the plans developed each season at our regular board meeting, when all rules are laid down for the coming season. Even the price to be paid pickers is decided. If we didn't fix the price, our big growers might take the pickers away from the smaller growers. The board even names the amount the pickers shall pay the growers for board and lodging. The wage for picking this season is 10 cents a gallon with a three-cent bonus if the picker stays the whole season. The growers furnish board and lodging for 45 cents per day; the pickers furnish their own bedding.

"I should say that next year, due to increased acreage, it will take from twelve to fifteen thousand

Now and then a whole rural school comes to the fields, with the teacher in charge, to make a sort of vacation frolic out of it—with profit to the frolickers. Some of our pickers come distances of from 50 to 60 miles.

"There is one point in our organization I am particularly anxious for you to understand. That is the protection the association gives the little grower with his acre or half-acre. One of the sections in our by-laws says:

"All berries delivered to the Association on any one day shall be paid for at uniform prices. When prices vary, each crate shall be paid for at the average of its grade for the entire sales of the day."

"Through us he is also able to buy his crates and boxes as cheaply as the biggest grower, and his little buggy-load of choice berries sells for just as much as those hauled by the big trucks from the fields of the man who hires 300 pickers.

OUR articles of incorporation contain only about 700 words, and read somewhat as follows:

"The object and purpose of this Association are:

"The raising, buying, and selling of strawberries by its stockholders, also the selling of the strawberries of others for a reasonable compensation fixed by the Board of Directors; the buying, growing, and selling of strawberry plants; the ordering and purchasing of material in big lots to aid the shipment of berries; securing and hiring labor, at uniform prices, to harvest the crops of stockholders; the improving of the quality and character of the berries; grading and inspection for the purpose of securing uniformity; and the securing of the best prices for the growers and stockholders obtainable in the market."

Excepting those sold on the local market, all berries must be sold through the association. I went down to the siding late in the afternoon to see the berries loaded on the cars and the cars iced for shipment. Long lines of autos, trucks, buggies, wagons rigged with hay frames, and spring wagons waited their turns to unload. Some of the buggies contained only four or five crates, while the truck next in line might carry a couple of tons of the fruit. Many of the berries came from farms quite close to Bowling Green, others from patches of two to four acres; and some from half-acre plots in the farmer's home gardens.

After watching the careful inspection, the handling of the berries, and the icing of the cars, I again looked up Mr. Graham to ask him how the marketing of this \$750,000 perishable

crop was done in less than a month. "The bulk of the crop," he told me, "goes to Philadelphia, Chicago, Buffalo, Detroit, and Cleveland. Of course, we do ship past these points, and on one or two occasions our berries have gone as far north as Winnipeg. We have had to develop and study the markets, and every season I make one or two [CONTINUED ON PAGE 14]



Picture taken by Clarence A. Purchase

Lookit, would you! Little Eddie Letsen's caught his big brother, Fred, short for once, and his grin proves he enjoys the novelty. They are the sons of the man who for the past seven years has managed the Guernsey herd on the farm of C. H. Mackey, near Roslyn, Long Island. Perhaps you've seen some of the prize-winning animals bred there—they're registered in the big shows as the "Harbor Hill" entries

people in the fields to handle the crop. That means we will have to open a strenuous campaign early in the season to get workers. Handling these campaigns for a good many years, I have found the older school children the best pickers, girls from fourteen to seventeen leading. We've had pickers who could gather from 40 to 50 gallons a day when the plants were bearing heaviest.

The Neighbors Made Him So Mad He Just Went and Succeeded to Spite 'Em

By Jay Lawrence

Who is one of the proprietors of Bonadel Stock Farm, Coshocton, Ohio, and himself a good farmer

ABOUT fifteen years ago Jacob McQueen of Baltic, Tuscarawas County, Ohio, was a traveling salesman, peddling medicine through the Southern States.

Having become broken in health, his physician advised him to quit this life on the road and hurry back to his old home, where he might be with friends and near relatives when his spirit took its flight.

To-day, Jacob McQueen is a living, human dynamo "hitting on all six." McQueen to-day is known from coast to coast, and a well-beaten path leads to his Rigby Farm, over which come men of every trade from many climes. His lasting experiments and agricultural research work have gained him a great reputation. His friends at one time laughed at what they thought to be ridiculous efforts, and some of them even went so far as to make plans for delivering Jake to the "bughouse," because of his "fool experiments" with what he called "bugs"—or soil bacteria. The days when he was the laughing stock of the whole community were not so long ago.

At one time McQueen's Rigby Farm was a barren hillside, producing nothing but a little poverty grass and a few scattering briars. Now it is known as one of the most fertile hill farms in America. When I asked Mr. McQueen for the rejuvenating secret, he said, "Lime, bacteria, and legumes, that's all."

McQueen's success is all the more noteworthy because as a young man, on his father's farm near the place where he now lives, he brooded a hate for farm work, and determined that as soon as an opportunity presented itself he would get away from the drudgery and get at something where he could make money easier and faster.

For a number of years his father operated a threshing outfit, and young Jake had the job of going out and collecting the threshing bills. They also dealt in farm machinery of various kinds, and young McQueen displayed an unusual ability as a trader. It is said that he invariably got the best of every bargain. Finally, after he had taken unto himself a partner, "for better or for worse," and a son had been born to them, a determination was made to cut loose from the farm forever.

LOADING his family and a few scattered belongings into an old covered wagon, they started for Jacksonville, Florida. Here he expected to get in with the Northern people who were "summering" in the South, and find an easy method to get rich quick. Two months were required to make the trip, and when rein was drawn in the land of the Everglades one dusty day late in autumn, a careful invoice was taken to determine their resources. A ray of ambition, a heart full of hope, and 17 cents was the total amount.

Fortune was kind to the little family, for a friendly band of gypsies took pity on them and furnished hospitality for a short time, and afterwards loaned them \$10, which was used to buy two nicely furnished tents, which were offered for sale by a tourist who was breaking camp.

After "going it" alone for a while, Mr. and Mrs. McQueen came across an Indian medicine man and his white wife, one "Rolling Bear." He needed one of McQueen's tents, so in order to make the deal a bargain was struck wherein McQueen was to become the "spieler" on the street corners after Rolling Bear had got the crowd gathered together.

His "waggin' tung" being peculiarly adapted to this line of work, the McQueens were soon in business for themselves. For seven years they traveled back and forth over the Southern States selling that historic "pain killer" which was guaranteed to relieve the most severe pain in man or beast. Once each year a visit was made to home folks back at Baltic, and the present residents of the vicinity well remember his Captain Jack garb—buckskin suit, wide-rimmed hat, some flashing "sparklers,"

and a roll of bills big enough to choke a cow. Then he met a Quaker medicine man from Cincinnati who made him an excellent offer to do business for him, but this partnership lasted but a short while, for just at the height of his medicine career McQueen suffered a nervous break-down. Not even his own medicine would effect a cure, so he brought the family back to the scenes of his youth, where he planned to buy a little



Here is Jacob McQueen as he looks to-day. The vetch plant he holds has 500 vines, and was grown right on Rigby Farm, which folks once looked upon as the greatest agricultural joke in Tuscarawas County

How a Dead Man and a Ruined Farm Became Famous

HERE is one of the most amazing and interesting stories about a real farmer that we have ever seen.

It proves conclusively that no matter how far down the scale you may have fallen, no matter how hard has been your luck, nor how complete your failures, you can *always* come back and win out if you set your mind to it.

It is the story of Jacob McQueen, a farmer near Baltic, Ohio. To see his strong, healthy body, and to read the income-tax figures from his fine, fertile farm, you would never suspect that it was only a few years ago that he moved on that farm so ill that his doctors had given up all hope, and said that nothing but death awaited him (they said he was just as good as dead right then).

The farm itself was so barren that it was a standing joke throughout that part of the country. It was said that even the jack rabbits carried their own provisions when they started across it.

Read this wonderful story of how Jake McQueen and his farm fought their way to fame and fortune from that hopeless starting point. It will make you forget *your* troubles, and give you new heart and courage to go out and lick every problem that's been worrying the life out of you for the last ten years.

THE EDITOR.

farm and rest up, even though doctors gave him little hope for recovery.

To foreclose a mortgage, Rigby Farm of 44 acres, located one and one-half miles east of Baltic, was put up at auction. McQueen made a bid of \$50 an acre to give it a start, and to his surprise no one else bid, and he became the owner. Perhaps, had he known the real condition of the soil and the trials and tribulations he and his family were to undergo with it, he would have been more cautious in bidding.

Having acquired some money in his medicine business, McQueen's plan was to take life easy and let someone farm his crops; but after renters had failed to grow enough to pay for their work two or three

times, he was unable to get anyone to farm the fields. The next year he managed to put in a field of oats himself, but the crop barely returned the seed. Clover wouldn't grow, corn was a failure, and neither would oats or wheat return enough to pay the taxes.

RIGBY was offered for sale at a price considerably below what it had cost. No one wanted it, and several neighbors told Jake that they wouldn't pay taxes on his brier patch if he gave it to them as a gift. This roused his ire, and he vowed he would restore Rigby to a profitable crop-producing condition or die in the attempt.

He began by studying literature regarding the restoration of worn-out soil. He stopped farmers along the road and put questions as to how he might improve his worn-out soil. None could answer, and finally Jake became such a "pest" in the village and along the highway that people would go out of their way to get away from him.

Fortunately, in his quest for knowledge he went to the Ohio Experiment Station at Wooster. They did not laugh at his ignorance, but gave him helpful suggestions. It was explained to him that plants like soy beans, alfalfa, sweet clover, and vetch were legumes which would draw nitrogen from the air if they were inoculated by the proper bacteria, regardless of how poor the soil was. Practical experience with bacteria and legumes was quite limited as yet, so even the farm experts had not realized the importance of lime where legumes were

to be grown. McQueen of course wanted to put the job over quick, so he told the experiment men that he would buy a whole train-load of bacteria and sow the entire farm to legumes. Needless to say, he was told that it could not be done that way, and that

on the roots of legumes, and extract from the air nitrogen, which is the most important plant food.

With the few strains of bacteria which survived, he began careful experiments out in the open air on numerous little plots of land. Persistently he toiled night and day with this work. From daylight till dusk he could be seen working among his plots; at night he worked inside; many times his light burned till the "wee small hours," and not infrequently morning's dawn found him pondering over his pots and pans filled with dirt.

Neighbors looked at the midnight lights with questioning glances, and more than once some kindly neighbor lady would call up to find out if anyone was sick. Each time Mrs. McQueen told them that it was only Mr. McQueen working with his bacteria experiments. All this time Jake's "bug experiments" were loudly ridiculed by the neighboring farmers.

AT LAST enough of the hardy bacteria was developed to raise a crop. Soy beans being a plant which would grow on comparatively shallow soil, he tried that first. The first crop of 30 bushels per acre almost surprised himself. This was followed with a crop of corn that made 80 bushels, and on a field that formerly had made but 18 bushels per acre. Wheat returned a yield of 30 bushels, while crops of alfalfa were cut three times a year.

McQueen's plan was to have the land working night and day, summer and winter. No field to lay over winter without a crop to protect it from the leaching elements of the weather. The soy bean having solved the legume problem for summer, he turned to hairy vetch to continue this nitrogen-gathering process throughout the winter. It, having originally come from the cold steppes of northern Russia, was well adapted to our winters. Rye is sown with the vetch to keep it from going down and spoiling. This crop of rye and vetch is frequently sown in corn at the last cultivation. It then furnishes a splendid cover crop, and is either harvested for seed, which is very profitable, or is hogged down and allowed to reseed itself from the shattered grain. The second crop is usually as good as the first, I am told. When the rye and vetch have been cut for hay, as high as seven tons per acre has been secured.

Another stunt of McQueen's has been to plant soy beans with the corn. The soys, being a legume, drew nitrogen from the air into the soil, where it was utilized by the corn crop. Except for the lack of moisture, neither crop was hindered in producing its maximum, and the corn was really benefited, McQueen says. The corn and soys are sometimes put in the silo, and often hogged down. In a four-legged red hog he has developed what he terms a combination harvester, thresher, and manure spreader. To everyone who visits his farm he makes it clear that this is not a patented method. *You* can use it if you like.

SOY-BEAN HAY has proved a most valuable feed at Rigby. A couple of years ago 60 feeders were fed on soy-bean hay and corn silage. No grain of any kind was fed. Some of the steers gained as much as three pounds

per day, and when they were shipped to Cleveland they topped the market. To show the nitrogen-gathering powers of the soy-bean plant, a single soy-bean stalk is preserved, at Rigby, on the roots of which are close to 1,000 nodules. A vetch plant is also shown which produced over 500 vines.

During the last three or four years the McQueens, for there are now two grown boys, have given considerable attention to sweet clover, and, as usual, with marked success. It is sometimes sown with other clovers in the spring on the grain fields, and on several occasions it has been sown in the corn at the last cultivation.

An unusual [CONTINUED ON PAGE 22]

Washington's Idea of a Farm Home

Most of the things he used to add charm to his place are lying around your home, waiting for you to put them to good use

By Aaron Hardy Ulm

IF YOU have ever been to Mount Vernon, George Washington's old farm home on the Potomac near Washington, D. C., you know what a charming and beautiful place it is. If you have never been there, by all means go some day.

No one can see Mount Vernon and not be impressed. And yet it is just a simple country home, less pretentious and expensive—but more charming—than hundreds of plain farmers' homes throughout the country to-day.

Why is this so? What is Mount Vernon's charm? And how can you capture that charm and apply it to your own farm home, regardless of how plain and simple it may be? This article will try to answer those questions.

Mount Vernon's charm lies in the fact that Washington built up the place as a home to live in and at, and not solely as a mere part of his farm plant. It was a part of the farm plant, just as every real farm home is, and it did its part in that respect. And Washington himself was a round, practical farmer, too.

The point I make is that Mount Vernon is so laid out and arranged that you can think of it only as a home. You really have to look for the barn and the stock lot and the smokehouse. That isn't because they are far away from the house or unhandy. It is because the house and its setting, as a home to live in, rules the view. The workaday things are screened, not hidden. Washington probably thought more about those little outside touches than about the buildings. Note this from a letter to his manager:

"I do not hesitate to confess that reclaiming and laying down the grounds handsomely in grass, and having the woods thinned or in clumps about the mansion house, is among my first wishes and objects."

Humanizing the farm home is the big lesson the Father of His Country gives to you to-day. And the humanizing as done by Washington at Mount Vernon can be done anywhere. It isn't a matter of money, but of thought and taste. It doesn't consist of costly and showy things. Aside from the way the buildings are grouped, most of it is done by the happy use of things found free on any farm. The secret is this screening the workaday things of daily toil so that those about the farm can get away from work without letting the work get away from them.

Let's see how it is done at Mount Vernon: There you find the barns and other outhouses spread out on the wings to the right and left of the main house. They are screened off by walls, vines, hedges, and trees. In front are lawn, trees, and the Potomac; nothing in sight that spells work. To the rear of the house there are fields, also screened off. You see at the opening of the rear vista meadow land blending into the woods. If you look over the front wall to the left a few hundred feet, you see the cornfields and the shocks of corn, in the fall, standing like outposts.

At the wings of the house you see the roofs of the big farm barns and the lines of the kitchen garden. The farm is around you, but it doesn't scream at you. It doesn't smother the home.

Washington's idea can be applied by you. Trees can be grown almost anywhere. In nearly every farming district there is native shrubbery which experts say is better than the foreign or the greenhouse kind you buy. Flowers are easily grown. Small walls can be built out of nothing but common earth. Dirt walls add much to the beauty of the countryside in England. And there is nothing more picturesque than stone walls. If you don't know how to build mud walls, write and ask FARM AND FIRESIDE.

TO CARRY out the idea perfectly would sometimes call for expert landscape work, and for the right layout of buildings in the beginning. But neither is always necessary, or at any time necessary for a great deal to be done.

Think of the farm place where there are no trees or shrubs and the barn and outbuildings overshadow the house, as is too often the case. The poultry house fights for notice with the rear porch or the kitchen door. The vegetable garden, maybe with a paling fence around it, refuses to be hidden. Tool and wagon sheds bar the views around the wings of the house. The front yard seems to be afraid of the nearby fields of growing crops that all but invade it. Everything suggests work.

Now leave the buildings as they are and dab the landscape with a few screens: trees, green lawns, flowers, and shrubbery at the front; hedges or vine-covered walls barring the view of the rear; tool and wagon sheds softened by bunches of shrubs or a tree or two, likewise the hog lot and the garden; the angles of the barn hidden by treetops or the walls [CONTINUED ON PAGE 22]



Photo by Harris and Ewing

Even in this rear view of Mount Vernon the house is still the center of the picture. The farm is all about, yet, by the arrangement of shrubbery, the workaday things are hidden

How the Trade Rat Got Its Name

A little story of my experience with the swapping rodents of the West

By J. Clinton Shepherd

Illustrated by the Author



OUR horses were getting fagged. Since early morning we had ridden through sagebrush and greasewood, through aspen and pine thickets, along treacherous trails that wound in and out of deep, almost impassable canyons.

It was past sundown when we reached Gold Town, a deserted mining camp on the east slope of the Bighorn range. Here we decided to camp, looked for a cabin in which to spend the night, and finally selected a tumble-down shack which could still boast of a door on antiquated hinges. There were cabins more habitable than the one we chose; but apparently they had been used by sheep herders and forest rangers and, as my partner assured me, were apt to be overrun by wood rats or, as they are commonly known, "pack" or "trade" rats.

We had barely finished unsaddling our horses and removing the packs, and were trying to start a fire in what had been a cookstove, when a scratching noise on the

roof of the cabin announced the arrival of what is, with the possible exception of the porcupine and the skunk, the most inquisitive, sociable, and annoying animal that I have encountered—the wood rat. This one must have been an emissary from a clan which had its headquarters in the vicinity of our cabin, and was sent out to report food prospects. Our packs evidently looked

promising, for in a very short time rats began to beat a tattoo on the walls and roof that sounded as though the whole tribe was about to pay us a visit.

Wood rats are strictly ground animals, living in burrows, clefts in rocks, and beneath the floors of deserted cabins. In spite of this, their agility in scaling walls, or even in ascending trees, is almost equal to that of the pine squirrel.

Probably not more than three or four rats all told were around the cabin, but all were drum-

ming with their hind feet, a signal which is sometimes given to indicate fear, but which was probably used in this case to show excitement at our unexpected visit.

Since the cabin was getting too warm, I opened the door, hoping that our visitors would come in and be more sociable. I had not long to wait. Soon they appeared in front of the shack, sniffed the odor of bacon and corn cakes, and, after wagging their slightly bushy tails much as a dog would do under similar circumstances, wasted no time about making themselves at home.

One large rat, a female with her young clinging to her sides, remained some distance away, presumably near to her nest, in order to make it easily accessible in case a retreat was necessary. The others pried



into boxes and cans, upsetting everything that was out of my partner's reach, and becoming generally troublesome.

When my partner lost his temper and kicked the rats aside, they would sit in a corner and stare at him with their round, prominent eyes. They evidently thought that their friendship was being entirely misunderstood. I could not help feeling more attached to them, for they tried to be friendly in spite of rough treatment.

I have since observed that they are even more friendly and sociable in their own homes. They are great visitors, and seem to waste much time in apparent gossip about the things that go to make up their existence. It is unfortunate that they have not been favored with a more suitable name than "rat," for they are far different from common barn rats in appearance, personal habits, and possible intelligence. Their fur is thick and glossy, and their tails are almost as bushy as those of the pine squirrels. Their color ranges from gray to buff or brownish-gray, their under parts being almost white. They gather stores of nuts, seeds, and roots such as squirrels do.

Having finished supper, we prepared to turn in for the night. My partner suggested that we stop up [CONTINUED ON PAGE 22]



Can You See the Things I See When I Take a Vacation?

By Joseph E. Wing

THERE are sermons in stones. There are poems in the running brook. There are grand hymns of sweet content in the snow-covered mountains. The voice of nature constantly calls to us, and would lead us up to nature's God.

And yet how few people can see these things! I well remember riding one day along the line of railway running through the Castle Valley desert and up through the wonderful Book cliffs, through Castle Gate and along the dashing Price River. With me were many tourists, people from the Eastern States who had paid dearly to ride over the railway on purpose to see the wonders reported to lie along the line. Yet, they sat absorbed over some book or played industriously at cards, while the most soul-inspiring pictures in the world passed by unheeded.

These people lacked the "eyes to see."

I would not take any sum of money that can be named for the pictures that are painted on my memory of some of nature's scenes. For instance, the grand old mountains, their bases green with tree and shrub and, above, the great rocks jutting out, sometimes in great cliff masses, telling of the old struggle with nature's immeasurable forces and unendurable fire.

Above are the peaks, white and cold with their snow masses, calm, serene, and changing not, keeping watch of the valleys below and watering them with their ever-running streams.



Photo by courtesy of the U. S. Forest Service

No pen can describe the beauty and majesty of these mountains, no soul that is alive can withstand their charm and power; it is better than ten thousand sermons to see them, standing there so pure and steadfast and unchanging; it gives to the soul new strength for new resolves, and courage to carry them out.

I think to-day that I am altogether too far from my glorious mountains. How ridiculous that I should be worrying that I have hay out and it threatens rain; that I should care whether what I touch turns to gold. I must go back there and let their peace and impassiveness sink again into my soul.

Perhaps you have climbed one of the foothills until you stand on its summit. When first you began the ascent you could see no higher mountain—you supposed that you would be at the summit of the world when you had scaled it. But as you look farther you see that there are yet many peaks higher than you, that in truth the next peak seems as far away and as high as this one did when we began to climb it.

This is a lesson in life. We are

This picture, taken on the north fork of the White River, gives you a glimpse of one of the world's most beautiful spots, the Trappers Lake district of the White River National Forest, Garfield County, Colorado. This is only one of the many delightful places to be found a short way off the beaten path

always thinking: "When I have attained this end I will have attained all that I can do or care for."

Yet there is always more to do just beyond.

From the top of the mountain you look down over the smiling valley, bathed in the sunlight and glowing with genial warmth. How tiny the houses look! How like playgrounds the farm and fields!

AS NOW you sit and look at man's fields of labor below, it does not seem very hard to see how it might be apportioned so that all could have to eat of the fruits of the earth and none go hungry. Little wonder that once the temples for religious worship were placed on mountain tops!

And then to stand on the brink of some precipice and look away down where a tiny thread of water winds about from side to side in the canyon, and to think that all those thousands of feet of rock have been worn away by the soft touch of that stream! What an idea of the immensity of time that gives, and of the infinite possibilities of perseverance!

And then as you go down into the canyon and look at the rocky walls, you are surprised again to see that they are made up of shales and sandstone, and that imbedded in them are many forms of animals and plants that lived when the rocks were but soft mud—how many years ago who can say!

Or to see a river flowing resistlessly to the sea, seemingly a live thing and conscious of its mission, hurrying not, loitering not, bearing a new land to build in the sea and coming again [CONTINUED ON PAGE 23]

What Miss Gould Says

About simplified sewing and the wrinkles that come from tired feet in wrong shoes

HOW do your feet feel? Young, strong, and ready for all the hard work you put upon them? Or are they old, tired, and full of aches and pains? If they are not in good condition, do give them attention. Wrinkles, you know, and a down-in-the-mouth look can be traced straight to painful, neglected feet. Don't wear tight shoes or short stockings, and don't forget that your feet need just as many baths as you have time to give them. If your feet are dry or cold, or there are uric acid deposits between your toes, try an alternate foot bath. It will quickly stimulate the circulation and make your feet feel young and ready for work. Incidentally, it will make you better looking.

The alternate foot bath acts as a general tonic for the nerves and other tissues. The way you take it is this: Place the feet in hot water for two minutes, then plunge them into cold water. Keep them there thirty seconds. Then put them back into the hot water for two minutes, and again into the cold water for thirty seconds. Repeat this a number of times, always starting with the hot water and finishing with the cold plunge.

To tone up your feet, try an alcohol rub. Toilet vinegar is also excellent to use if it's difficult to get the alcohol. This hardens the feet, and rests them too. Then there is a bath oil which has a wonderfully soothing effect if rubbed well into the feet after the daily bath. This oil is not only soothing, but also strengthening, and has the refreshing odor of balsam pine about it. Tired feet like powder. An unscented talcum is good to use, and there are powders for this purpose which relieve perspiration and also act as a deodorant.

If you are on your feet a great deal, there are creams that will take out the aches and soothe the tired nerves. A cream rub, at least once a week, will be found most beneficial. If you need arch supporters, don't wear them one day and forget them the next. If they are made of the right material and fit your feet perfectly, they should be worn all the time.

Don't forget that in caring for your feet you are taking a big step toward looking your best.

Miss Gould will be glad to help you to look your best if you will write, enclosing a stamped self-addressed envelope. Address Grace Margaret Gould, Farm and Fireside, 381 Fourth Avenue, New York City.

Miss Gould will gladly help you about your clothes, too, if you will write her at the above address, enclosing a stamped addressed envelope.

SOMETHING new in a blouse—why not try making it from this easy-to-use pattern? No. FF-4057—Slip-Over Blouse, Long or Short Sleeves (including transfer pattern for embroidery). Sizes, 36 to 42 bust. Price, twenty-five cents. Order from Pattern Department, Farm and Fireside, 381 Fourth Avenue, New York City, or Springfield, Ohio.



Organdie Fruit Now

THE organdie slip-over blouse is quite the newest thing out. It's a brand-new idea, this using organdie for a slip-over. It's so successful that I want to tell you about it, and about the pattern, should you want to make one of these smart blouses for yourself. The model I selected, which you can see in the picture, introduces a new trimming idea, too. The sash, which really finishes the front of the blouse and gives it the long-waisted look, is trimmed with a fruit design made of organdie. The cut-out organdie fruits are in contrasting colors, and are appliquéd on with embroidery stitches to the front of the sash. The stems and leaves are embroidered, too. If you choose, for instance, China blue organdie for your slip-over blouse, use yellow, lavender, and plum color bits of organdie for the fruit design.

There is one more new thing I want to tell you about the blouse: it's the way you make it. You cut out your material and really finish it in the flat before you sew up the underarm and sleeve seams. You haven't any idea, until you try it, how this simplifies the work! You do all the things first now that you used to do last. For instance, while the blouse is laid out flat, you close the shoulder seams, you put on the collar and the sash, you put the casing and the elastic in at the back, and you even add the cuffs to the sleeves and put the sleeves into the armholes before you fold the waist over and sew it up. If you don't care for China blue, you can get lovely crisp organdie in shell pink, canary yellow, peach, cream and apricot.

That Jocose Southdown Ram

Strick's friend Dick was a gentle sheep in all ways "butt" one—and he would do that

By Strickland Gillilan

Illustration by Tony Sarg



He struck her gently, just behind the knees, spilling her on the grass and the milk in her lap

TONY SARG

WHO says animals have no sense of humor? Huh! Anybody that ever watched while a puppy examined all the new galoshes on the front steps before selecting a pair to chew up knows that the practical joker instinct is strong in animals. And there comes to my mind right now the case of a sheep that had something of the same stuff in his woolly and muttonous make-up.

The sheep I refer to was not a lady sheep. He was a Southdown ram of about 250 pounds displacement, long wheel base, and low road clearance.

He was also provided with one front bumper. That was a part of his stock equipment.

He had no horns, not even little rudimentary ones. But his brow was seventeen times harder than the well-known and justly celebrated Rock of Gibraltar. His may have been the original marble brow that poets write of—how do I know? Yet I think if they had been writing of his they would have said granite instead.

That brown forehead above those innocent-looking yellowish sheep eyes was always aching—not in the migraine sense, but merely aching to hit something and

feel that something disappear from in front of it.

Dick was a gentle sheep at that, in most of his ways—in fact, in all of his ways but one—that was it, he *would* butt one!

My brother and I had voluntarily—now stop right there and consider a moment. My brother and I were thirteen and eleven, respectively (if not respectably or respectfully), at that time. And you know yourself that when two boys of that age do something—anything—voluntarily, the angels begin to wonder if they have clean handkerchiefs with them, for they know they are going to have to weep soon.

THIS brother and I had voluntarily taught that Dick sheep good manners. We had made it clear to him that it was a fearful breach of etiquette to turn one's back on somebody. He believed this, with all his quiet but forceful nature, and had the courage of his convictions. He saw to it that anyone who turned a rude back on him immediately regretted it. The other person furnished the back, Dick furnished the regret—fifty-fifty.

One day, about the time this story opens, I was engaged in the delightful old-fash-

ioned task of teaching a young calf how to drink out of a wooden bucket.

Anyone who has had that to do, or has even watched it done, will always remember the process in all its details. You took the calf by one ear and the tail, backed it into a fence corner, got astride its neck, shoved its nose down into the pail, placing two fingers that you might never need again for any sanitary purpose in the calf's mouth. The nose, your fingers and all, was submerged deep in the milk. The calf blew bubbles for a long, long time. He didn't even take the trouble to explain to you that he was forever blowing bubbles. You knew he was, and besides that his mouth was much too full to sing successfully. When he had made nearly enough lacteal lather to shave with, and was about to choke to death, and you were afraid he wouldn't, he would remove his nose from the pail, and snort. Whereupon all the air in at least nine directions, to the distance of a quarter of a mile, was crowded with milk particles. You got yours that way. If ever you taught a few calves to drink, you never needed to drink any milk afterward. You were saturated with milk to the marrow of your bones; and if the sun shone hot on you, you curdled.

When the calf had done this for a few times, he accidentally swallowed a little milk, and a great light dawned upon him. Thereafter he would progress more rapidly. But about one calf out of every five hundred is a congenital idiot and won't learn. This calf I was working with was a strawberry roan, line-backed, congenital idiot. He had had four lessons and wasn't yet through even with the finger exercises. I was rather hopeless about him.

THE sun was getting high in the heavens, and I was due in the wheat-harvest field. Being the youngest son, I was expected to do a day's chores at home and a day's work in the field on the same day, which is rather difficult when one has neglected to be born twins. Mother noticed that I was keeping one eye on that sheep Dick, which had been turned into the calf café that morning, and grew impatient. She said in peremptory tone:

"Quit fooling with that sheep, and feed that calf!"

"Mother," said I impressively, "I know why I'm watching that sheep!"

"Gimme that bucket!" she said, and made it snappy. [CONTINUED ON PAGE 20]

What Our Livestock Associations Do for Us in Illinois

By W. H. Smith

Assistant Professor of Animal Husbandry, University of Illinois

ILLINOIS has over 150 livestock associations. Other States have large numbers formed, and more are in the process of organization. Little argument is needed to convince anyone of the possibilities in these organizations for livestock betterment once they get a clear idea of the things that have been accomplished. In fact, argument must be used to steady the enthusiasm for starting them exhibited by breeders in many counties. This is necessary to make sure that the proper foundation is laid upon which to build the organization.

The purpose of this article is to review the work of the Illinois associations as a guide for those contemplating the formation of new associations, and as an inspiration for those organizations that are not accomplishing their purpose.

Livestock associations in Illinois are organized on a county basis, and are closely associated with the county farm-bureau work. In most instances the farm adviser has been instrumental in getting the work started. He also is an important factor in keeping alive the organizations of his county. His office provides the logical headquarters for the work.

Like all other organizations, a good start will do more to keep the livestock associa-

tion going than any other one thing. The usual procedure is first to organize a general livestock breeders' association which includes the breeders of all livestock classes. This organization handles the problems of general interest to all the breeders of the county. Such matters as the purchase of a sales pavilion, the holding

of community and county fairs, and general educational meetings are handled by this parent association.

The next step is the forming of class and breed associations such as cattle breeders' associations, Poland-China breeders' associations, etc. The general association usually assists in this work by administra-

tive support and by advertising. In a county where the various breeds of livestock are about equal in popularity, a good plan is to organize a swine breeders' association. Then, as practiced by one Illinois county organization, select one representative from each breed group for the executive committee, and two other members to represent each breed in the general association work.

In other counties, breed associations are formed first. I recently assisted in the organization of the Stark County Poland-China Breeders' Association, the first livestock organization of its kind in the county. This county is represented by several of Illinois' leading swine breeders who felt the need and realized the benefits of such an organization. Without waiting for any outside assistance, they have proceeded with their own organization. Other organizations will be formed in this same county, representing the other breeds, as soon as the breeders make the request.

The Jo Daviess County Shorthorn Breeders' Association is the oldest local breeders' organization in Illinois that has been continuously active. This association, organized seventeen years ago, has held sixteen annual purebred cattle sales. The following frank [CONTINUED ON PAGE 14]

It Won't Do Any Good Just to "Meet and Appoint"

ORGANIZATIONS are easily formed and die more easily. It is a simple matter to call a group of men together and form an association, adopt a constitution and by-laws, elect officers, appoint a lot of committees, and await results. They never come. The difficult part is to plan and follow out definite programs of work.

The first essential toward success in a breeders' association is a willingness on the part of the members to give some time and thought to the affairs of the organization. Unless the breeders unite their efforts, and support the various cooperative enterprises sponsored by the association, the organization is doomed to fail. The general attitude of the members and their willingness to support the work is far more important than the particular kind of an association they represent. In fact, some of the most successful associations are those that are short on fancy by-laws but long on public-spirited members who are willing to work.

W. H. SMITH.

"Gid-dap! You lazy thing!" Fred, Tony, and Dick are having great fun as water boys during threshing on the farm of George F. Clarke, Janesville, Wisconsin. Daisy doesn't enthuse. The cool shade of the woods would suit her better



Photo by J. C. Allen

One Way to Make Farming Pay in Spite of Low Prices

By William L. Calvert

THERE can be no doubt in the thinking person's mind that cooperative marketing has done great things for certain groups of producers, and that its principles are capable of much wider application. But cooperation is not a cure for all the ills of the producer, nor will it drown all the sorrows of the consumer. It is a good thing that we have men like William L. Calvert, of the University of Minnesota, to pull us back to earth occasionally. The following is an extract from a most interesting and pertinent article entitled, "Is Cooperative Marketing Economical?" which appeared recently in "The Breeders' Gazette," and in which Professor Calvert reminds us that there are other important things that we farmers can do besides cooperating:

"The writer believes that the general public has greatly overestimated the importance of central marketing agencies as a pressing agricultural problem, especially for such regions as Minnesota and some other States well provided with local cooperative societies.

"One of the chief opportunities in cooperative marketing is in the improvement of the business methods of the local societies. There may be something to be gained by building up more central cooperative exchanges, after a thorough study by competent men has shown just where the proposed organization is likely to effect economies; but the bigger marketing problem for those regions is in maintaining and improving existing organizations, so that they shall operate with a high degree of efficiency, and in encouraging the organization of new local societies at such points as are not well served by existing agencies.

"Assuming that the foregoing is an approximately correct statement as to the possibilities of increased income through cooperative marketing, the major agricultural problem becomes that of securing the most economical production. Recent studies by the U. S. Office of Farm Management prove conclusively that there are ample opportunities for increasing profits open to farmers of every region in the realm of more economical production.

"As an example, figures from forty-two farms in Traverse County, Minnesota, as to the cost of producing wheat for the year 1919 show the following variations in cost:

Range of cost per bushel, \$1.90 to \$2.40 on thirteen farms; \$2.40 to \$3 on seventeen farms; \$3 to \$3.60 on nine farms; and \$3.60 to \$4.90 on three farms. The average production per acre on these farms was eight bushels. If thirteen of these farmers could produce wheat in 1919 at \$1.90 to \$2.40 under the same climatic and soil conditions as prevailed on the twenty-nine other farms that produced wheat at a cost of \$2.40 to \$4.90 per bushel, it is apparent that for the great bulk of the forty-two farmers the big opportunity to increase their returns is through more economical production, secured through such inexpensive means as suitable rotations, timely plowing and seeding, the use of the best-adapted varieties, and careful use of manure produced on the farm. Furthermore, the means of finding out how to apply these more economical methods are right at hand, for it is largely a case of more widely applying the methods that are already being used by the farmers in the county who are securing the best financial results.

"A SIMILAR study of the cost in 1919 of producing burley tobacco on eighty-one farms in Fayette, Jessamine, Woodford, and Scott counties in Kentucky showed that twenty farms produced tobacco at a cost of 15 to 22 cents per pound, while the other sixty-one farmers had a cost per pound of from 23 to 81 cents. In like manner a study of the cost of producing lint cotton in 1919 on seventy-eight farms in Greene County, Georgia, showed that twenty-two farms produced lint cotton at a cost of 8 to 20 cents per pound, while fifty-six farms had a cost of 21 to 41 cents.

"The foregoing limited cost of production studies indicate clearly that in every community we may expect to find a wide range from one farm to another in the cost of producing agricultural products, and that the wide-open avenue by which the average farmer can increase his returns is through studying how he may be among the most economical producers of farm products in his locality. The economical producer will not necessarily make a profit, under adverse prices or weather conditions, but at least he will have the least loss, and in favorable years he will also occupy a highly advantageous position."

Our Livestock Associations

[CONTINUED FROM PAGE 13]

statement made by the secretary, D. L. Norris, Galena, Illinois, throws much light on the fundamental requirements of a successful breeders' association:

"We organized our association for the purpose of holding annual sales. Our first was a five-breed sale, and was very successful. For a number of years our sales were made up of two or more breeds. The last ten years it has been entirely a Shorthorn sale. The Hereford men sometimes hold a sale just before or after the Shorthorn sale. While we never make exceptionally high prices, we do succeed in finding a market for surplus stock in the hands of the breeders. One advantage of the association

sale is that it enables the man with a few animals to dispose of his stuff regularly. We can sell 50 to 60 head for practically the same advertising and sale expense as for 20 or 30 head. I think that the man with the small herd derives more benefit from it than the man who keeps 25 or 30 breeding cows. Also I think that the local farmer gets just as much benefit from it as we breeders. A good many attend these sales, and go home with a purebred bull where they have always used a grade.

"It seems to me that while most of the Illinois associations have started out with great enthusiasm, most of them have had difficulty in keeping their members in-

terested and their association thriving. This only goes to show that for any movement to succeed requires the efforts of a few who are willing to sacrifice for the good of the association."

That the Jo Daviess County Shorthorn Breeders' Association is permanent goes almost without saying. Its influence is felt over all the adjoining counties. It demonstrates clearly the possibilities of improving the livestock industry through local cooperative effort.

MCLEAN COUNTY, Illinois, provides another excellent study of successful livestock cooperative work. This county is the largest in Illinois, and a large livestock producer. In this county, class and breed organizations were first formed. First a Percheron and Shorthorn association were formed, because these represented the leading breeds of these classes of livestock. The various breeds of hogs were nearly equal in popularity, so a general association was formed to take care of the swine interests.

Commenting upon the work of the livestock associations, Lyle Johnstone, president of the McLean County Farm Bureau, and a prominent breeder of Duroc-Jerseys and Shorthorn cattle, said:

"We held one successful Shorthorn sale and contemplated holding a show but could find no available place. As most of our men are just getting into the business, and are buying rather than selling, it has not been possible to put on a sale which we felt would make a creditable showing.

"The Percheron Association held a very successful show upon the streets of Bloomington, with 100 entries. We have held no association sales, as we have had privately conducted breeders' sales. But as these are about to go out of existence, we shall probably conduct a sale of our own. The association has fostered many colt shows over the county. The breeders in these associations realize the necessity of putting their

animals before the public, and in this way demonstrate their superiority over the animals produced by the average farmer. Colt shows provide an excellent method to accomplish this end, as most everyone becomes interested in a group of good colts or horses. There is seldom any cheaper or better method of advertising purebred livestock than that of exhibiting.

"The McLean County Swine Breeders' Association has perhaps been the most active of any of our livestock associations," continued Mr. Johnstone, "having had 21 purebred hog sales, and one successful show which brought out 318 entries. This association, as well as many of the other swine associations of the State, has found it necessary to provide means of disposing of the small breeders' surplus stock. In some cases the animals do not deserve big prices, but a market should be found for a few of the tops. This encourages the small breeder, and makes it possible for him to buy better animals with which to improve his stock. The association sales provide the best means of taking care of this problem."

But what do these associations mean to the breeder in dollars and cents?

THE first two years the McLean County organization held 16 sales of purebred hogs. In all, 722 head were disposed of for a total of \$58,708.50, or at an average of \$81.31. Of the 16 sales, four were Poland-Chinas, four Duroc-Jerseys, five Chester-Whites, and three Hampshires. Considering the fact that these selling prices include both boars and sows, and were the first sales of the association, the average price of \$81.31 per head is certainly encouraging to the small breeder, and indicative of the kind of work an association can render to its membership.

"However, the primary object of the swine association has been to encourage the production of better hogs upon the farms of the county," continued Mr. Johnstone.

[CONTINUED ON PAGE 22]

Quick Action on a Perishable Crop

[CONTINUED FROM PAGE 9]

visits to our chief market centers, where I not only discuss our business with the wholesalers, but also visit their customers among the retail grocers and the fruit dealers, so I may learn how our pack and our fruit are suiting the consumer. I want to be able to see in my mind's eye the berries from the time they leave our fields in Warren County until they reach somebody's table in a big city.

"This type of marketing has got our organization to a point where few buyers come to Bowling Green to secure our berries like they did before they knew our pack was standard and guaranteed. Most of the orders come by telegraph—faster than we can fill them. You get an idea of the extent of our business when I tell you that in the past twenty-four hours we have shipped 80 carloads of berries from this point, and each car was worth \$3,000, or a total of \$240,000.

"Our season's shipments have varied somewhat in the past ten years. The lowest number of cars shipped in that period was 75, while the highest number shipped in any one season was 652 cars.

"Prices, also, have varied. The lowest price obtained during the same period was \$1.35 per crate, general average, and the highest price was \$5.71 per crate, general average. We presume for the ten-year period our general average has been somewhere around \$2.75 per crate.

"I hope I haven't given the idea that it taxes the grower heavily to pay his portion of the selling costs. This year it is much higher than usual; but berries are bringing correspondingly higher prices.

"In all, my salary, the cost of inspection at the cars, labor at the sidings; office help to keep the multitude of accounts, my traveling expenses in looking up markets, and other incidentals, it only amounts to

2½ per cent of the total sales. So, after all, it pays the grower big to cooperate and secure a stable market with big prices for his berries."

That night, as I went down to the train, I saw a line of wagons, trucks, and other vehicles several blocks long waiting their turn to unload. It was the scene of the afternoon repeated, except that in each box car portable electric lights swung so the night inspectors might look over each lot of berries as it was loaded.

At the station I found an express car being unloaded of about 50 crates of berries shipped from a point 30 miles away. The young fellow receiving them satisfied my curiosity.

"Sure," he told me, "we get a good many of these shipments. Small growers outside the regular district see the value of selling through the association, and as they're too far away to haul they ship by express. Of course, the expressage runs into money mighty fast, but when berries sell at \$7 a crate they can afford to spend something to get them to us."

If all cooperative selling or buying organizations of farmers selected men of wide business experience and large capacity to steer them properly and cautiously, I sincerely believe there would be fewer financial wrecks.

The Warren County Strawberry Growers' Association has grown to its present size and strength because its directors selected a manager who knew the markets and the growers with whom he had to deal, and because they have avoided the troubles and misunderstandings that arise in an organization hampered by a tangle of complicated and inflexible rulings.



"I have found that the older school children make the best pickers, girls from fourteen to seventeen leading"

NOTE: James Speed is a Kentucky farm writer, editor, and lecturer. He will be remembered by many of our readers as the author of interesting bird sketches and other articles which have appeared from time to time in the columns of Farm and Fireside. THE EDITOR.

Some Experiments on Permanent Meadow That I Saw in England

By Charles E. Thorne

Formerly Director of the Ohio Agricultural Experiment Station

NOTE: This is the fifth of a series of articles by Dr. Thorne, written from material gathered on his visit last summer to several English and French agricultural experiment stations. Dr. Thorne made this trip for *FARM AND FIRESIDE* and the articles will appear exclusively in this magazine. THE EDITOR.

IN 1856 about seven acres of the park at Rothamsted Experiment Station, England, were set aside for experiments in the use of fertilizing materials on permanent meadow. The land lies quite level, and the soil is the strong clay which predominates over the Rothamsted farm. The native timber, which occupies other areas of the park, is oak. The land has been in grass for centuries, and there is no record of any seed having been sown upon it.

The effect of a few of the treatments is shown in Table I for the average of the fifty-seven years 1856-1912, and for the fifteen years 1902-1917. This column shows that the only treatments that have maintained the yield during the later years have been the mineral fertilizers, used either alone or with nitrate of soda.

Phosphorus in this field, as in Broadbalk Field, seems to be of minor importance, while the omission of potassium from the fertilizer immediately reduces the yield.

A very interesting feature of this experiment is the influence of the different treatments on the character of the herbage. On the unfertilized land, weeds have largely taken the place of the useful grasses and clovers, the proportion of weeds having increased to 28 per cent of the whole produce, while a large proportion of the remaining herbage consists of the less valuable varieties of grasses. The total weight of produce, as given in Table I, therefore is not a correct measure of the full effect of the treatment.

This is merely another illustration of the familiar fact that the plants that are of greatest use to man must have his assistance,

WHEN Harry W. Frees of Royersford, Pennsylvania, R. F. D. No. 3, the man who took these pictures, sent them in, he wrote:

"These piggie pictures are the most difficult poses I have ever attempted during my twelve years as an animal photographer. My little model was only two weeks old, and was borrowed from his nursery only long enough to have his picture taken, and went back grunting contentedly.

"Pictures of this sort are only possible through great patience and unflinching kindness, and are not the result of either luck or accident, but born of a skill acquired through the taking of more than ten thousand animal pictures.

"I am convinced that there are no other pictures like these in existence—showing a wee piggie in costume standing erect on his hind legs. They show what can be accomplished through kindness with the most difficult of all domestic animals to photograph—a pig."



This picture, which was taken last fall, shows Dr. Thorne, then still head of the Ohio Agricultural Experiment Station, speaking to members of the Portage County Y. M. C. A. from the steps of the station's main building

ance, while weeds and brambles are able to take care of themselves.

In Broadbalk Field wheat was sown on a separate plot in 1882, and was allowed to stand and reseed itself, but by the fourth season only two or three stunted plants appeared, while the determination of certain weeds to possess the land there has been a constant source of difficulty and expense.

The battlefields of France that once were covered with luxuriant crops of grain and sugar beets are now clothed with thistles, nettles, and poppies.

On the other hand, a very little intelligent care may make the difference between loss and gain, as shown by the effect of the mineral fertilizers used on a part of the park meadow. On this plot leguminous plants, consisting chiefly of red and white clover, constitute one fourth of the total herbage, which has averaged nearly twice the weight of that on the unfertilized land over the half-century of the work, and is gaining in amount, while that on the unfertilized land is losing.

Comparing plots 7 and 16, it will be seen that the leguminous growth stimulated by the mineral dressing on plot 7 is now producing nearly the same total yield as that caused by the addition of 43 pounds of nitrogen in nitrate of soda to the same mineral dressing on plot 16.

IN THIS article Dr. Thorne points out that the Rothamsted experiment with permanent meadows is merely another example of the facts that plants which are of greatest use to you must have your assistance in return, while weeds and brambles take care of themselves.

Lime was applied to half of each plot in 1903 at the rate of 2,000 pounds per acre, and again in 1907 and 1915. The yields of the limed and unlimed land were first reported separately in 1915. For 1915, 1916, and 1917 the average yields for the limed and unlimed land were shown in Table II.

With superphosphate alone, or with that and nitrate of soda, liming has apparently been a detriment; but wherever ammonia salts have entered into the fertilizer, lime has been essential, as it has also been with the excessive amount of sulphate in the complete minerals when not partially

neutralized with nitrate of soda. The apparent incompatibility of lime and nitrate of soda, shown in this experiment, has not been manifested on the Ohio Experiment Station's acid soil at Wooster, where lime has in every case increased the yield over that produced by nitrate of soda alone, but on the soil of the Paulding County experiment farm, a soil naturally abundantly supplied with lime, the addition of more lime to land that has received a fertilizer containing nitrate of soda has invariably resulted in a lower yield than that given by the same fertilizer with lime omitted.

Another experiment in fertilizing permanent meadow, which should be compared with the one at Rothamsted, has been in

progress since 1897 at Cockle Park, the county experiment station belonging to Northumberland County and operated by Armstrong College, Newcastle-upon-Tyne.

The soil on which this experiment is located is a stiff boulder clay, but it has been derived chiefly from the decomposi-

TABLE I—FERTILIZERS ON PERMANENT MEADOW AT ROTHAMSTED

Plot No.	Treatment	Yield per Acre		
		57 yrs. 1856-1912 Cwts.	15 yrs. 1902-1917 Cwts.	Legumes 1856-1912 %
3-12	Unfertilized	20.9	15.1	8.9
4-1	Superphosphate alone ¹	21.6	19.8	7.4
7	Complete mineral fertilizers ²	40.9	46.9	24.9
8	Mineral fertilizers without potash	28.0	24.7	8.2
4-2	Superphosphate and ammonium salts ³	33.5	32.1	0.1
9	Complete minerals and ammonium salts ³	54.3	52.1	0.3
10	Minerals without potash, and ammonium salts ³	47.7	36.6	0.1
14	Complete minerals and nitrate of soda ³	56.9	64.5	3.1
16	As 14, with half ration of nitrate of soda ⁴	46.3	48.1	5.4

¹392 pounds per acre. ²500 pounds sulphate of potash and 100 pounds each sulphates of soda and magnesia per acre. ³Carrying 86 pounds nitrogen per acre. ⁴Carrying 43 pounds of nitrogen per acre.

tion of sandstone, and is in need of lime, in consequence of which basic slag has proved to be a more effective carrier of phosphorus than superphosphate or bone meal when used in the absence of lime. Some of the results of this work, averaged for the twenty-three years 1897-1919, are shown in Table III.

Basic slag has been used in all cases at the rate of 300 pounds per acre, sulphate of ammonia at 150 pounds, and muriate of potash at 100 pounds, thus carrying 50 pounds of phosphoric acid, 30 pounds of nitrogen, and 50 pounds of potash, as

TABLE II—AVERAGE YIELDS FOR LIMED AND UNLIMED LAND

Plot No.	Treatment	Yield per Acre	
		Unlim'd Cwts.	Limed Cwts.
3	Unfertilized	11.7	11.3
4-1	Superphosphate alone	20.8	16.3
7	Complete minerals	38.8	46.9
8	Minerals without potash	21.5	19.0
4-2	Superphosphate and ammonia salts	13.8	36.7
9	Complete minerals and ammonia salts	42.5	52.7
10	Minerals without potash and ammonia salts	28.7	42.0
14	Complete minerals and nitrate of soda	62.1	00.0
16	As 14, with half ration of nitrate of soda	59.5	45.2

against 60 pounds of phosphoric acid, 86 pounds of nitrogen, and 250 pounds of potash in the Rothamsted experiment.

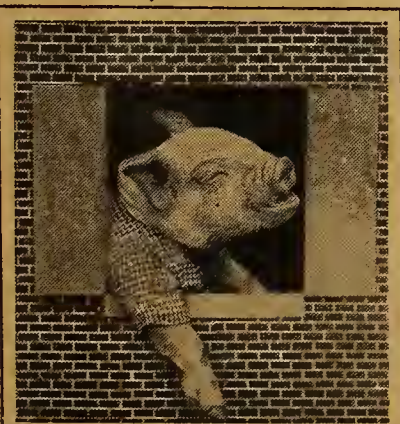
It will be observed that the phosphorus has been carried in superphosphate at Rothamsted and in basic slag at Cockle Park, and the question will arise as how much the difference in effect from phosphorus shown in [CONTINUED ON PAGE 21]

"This Little Pig—"

Photos taken by Harry W. Frees



This little pig went to market



This little pig stayed at home



This little pig had bread and butter



This little pig had none



This little pig cried, "Wee, wee, wee!" all the way home

There's Still Profit in Pigs if Handled Right

By W. C. Smith

I KNOW two doctors. They live in the same town, and both own farms on which they raise hogs on a fifty-fifty basis with their tenants. Both have good farms and good tenants. Last winter when the skids went under the hog market Doctor A said to me:

"I am not going to lose any money on hogs. There isn't anything that is a bigger gamble than the hog business. But we don't gamble. We keep enough brood sows and produce enough pigs to consume our skim milk and what corn we raise. Five or six brood sows are about our limit, and last spring we cut down to four. We breed them twice each year. Last year our sows averaged seven pigs each. We turned out 51 marketable hogs, besides keeping four for the home meat supply. We only lost one pig—a shote which got hurt in the pasture lot.

"We produced all of our corn with the usual amount of help, but let the pigs harvest it. We had clover pasture, and got a good price for our skim milk. Some people try to tell me that we could have sold our corn and made money, but I say not. We would have had to husk it and haul our milk to market. Furthermore, we would have lost a lot of the value of our clover. We can now safely grow two corn crops in succession, when we hog it down, where we used to rotate every year with wheat or oats and clover."

That sums up Doctor A's pig policy. He raised only enough to feed, and fed only what he produced on his 90 acres of land.

Doctor B. has 80 acres, and he stocked up heavily with brood sows. About a year ago when I was at his place he was carrying 27 brood sows. The next time I was at his place he said:

"Come out and make a poultry farm out of this place for me. We have tried cows and hogs, but they lose money. I am ready to quit. Cows are all right, but we have been up against it on the hogs. I am ready to turn the farm into a dairy and poultry plant if I can find the man to handle it for me."

IT WAS very fortunate that Doctor B had an excellent practice, for he certainly did lose money on hogs—gobs of it. His tenant said he absolutely couldn't stand it. He didn't. Under the new management they have cut the number of brood sows down to ten, and they still have too many. Three would be ample.

Now, if you are an 80-acre farmer who is in the habit of growing 100 to 150 hogs each year, and have always had lots of luck, you will probably smile and tell your wife that some of these writers can get up some "gosh-awful" ideas, and that they ought to get out on a farm and try them out. But how about the 80-acre beginner, the average man who has tried too many brood sows and paid dearly for it?

For the benefit of such as these, let us consider the man with 60 to 80 acres of good corn-belt land who carries, say, three brood sows through good years and bad. I know a lot of this sort of men. They take a good-sized chunk of money from their hog buyer every year, and their credit rating at the home bank is A-1.

Consider: Three good brood sows ought to average six pigs per litter, and if bred twice each year, which is good corn-belt practice, they will produce 36 pigs. This is merely an average. There are plenty of individuals which average higher. Take out four pigs for home use, and the thirty-two which are left for market ought to be made to weigh 225 pounds at shipping time. Figure that up at a dime a pound. Or say you lose a couple of pigs, leaving an even thirty, to make the figuring easier—6,750

pounds of pork at eight cents rounds up \$540. That's no considerable income from 80 acres of corn-belt land, but it is a nice little sum from one basket of eggs.

There are others. Counting 10 bushels of corn to 100 pounds of pork, that is high enough, if you have had plenty of skim milk or have supplemented with tankage, and you have fed not to exceed 15 acres of corn into them, and probably much less. This depends, of course, upon the yield per acre. If you have had plenty of milk you have bought outside feed. Then you should have been able to market some cash crops—oats, wheat, tomatoes, or whatever you happened to have a surplus of. You have had your cream checks, the chickens should have kept up the table and bought the clothes for the children, and if you have not gambled your books should show a neat profit on your year's work.

"That's the ideal," you say. "It doesn't work out."

Oh, yes, it does. It is working out every day in every farm district in the Corn Belt. We do not especially need more hogs on our farms. What we do need in order to average things up better is fewer hogs on some farms and more hogs on others. We have the habit of following the other fellow's footsteps too closely. If he makes money with 20 brood sows on 80 acres, we are apt to jump in for a try at it. If he buys feeders and feed and gets a good return, then we all want to take a shot at feeding. We all either want to produce all of the hogs necessary to supply the world with meat, or else we all take a notion to quit at the same time.

A lot of folks will deny this, but it happens to be almost fatally true. We suffer because of it. In the meantime Old Man Stay-at-It is curling his pig's tail over in the alfalfa patch, feeding the corn he grew on his own land, and continuing to have his checks honored. He lets the big feeder, the intensive grower, and the rampant breeder take most of the risks and all of the losses. He keeps his farm up, lessens chances for disease, has a minimum investment in buildings, and grows lots of green forage crops that improve his soil. At the same time he is making the little pig and the big hog profitable.

Edison Showed Them

IN THE old days, telegraphers copied messages from the wire with pen and ink in a beautiful, round, legible hand, at a speed of from 30 to 40 words a minute.

Thomas A. Edison, who started out in life as a telegrapher, invented the telegrapher's handwriting, and to this day he writes in the same style as he did when copying Associated Press dispatches from the wire in New York fifty years ago.

It has been said that Edison was the greatest telegrapher that ever sat down to a key.

A trampish looking man strolled into the Western Union office at Memphis one day, many years ago, looking for a job. Because he looked rather seedy, the manager decided to have some fun with him. Consequently he sat him down at the fastest wire in the office. The man answered the call, and the operator at the other end began to send a long press dispatch like a streak of lightning. The man leisurely picked up a penholder, examined the pen, pulled it out of the holder, inserted a new pen, dipped it in ink, lighted a match and touched it to the pen to burn off the finish oil, tried the pen till it worked to his satisfaction, then started to copy. He was three hundred words behind when he began copying a five-thousand-word dis-



Photo by J. C. Allen

Where is a prettier sight than a field of clover in full bloom? This one was so alluring that Chester and Martha Allen waded right in to pick some blossoms, while their father snapped this picture. The scene is in Tippecanoe County, Indiana

patch; he finished five words behind the sender, and turned out a perfect copperplate copy.

"You must be Tom Edison," gasped the manager.

"I am," was the answer.

"Name your salary and you can have any job in the office."

Misuse of Credit

[CONTINUED FROM PAGE 5]

competition is mighty stiff, the best herds in the country being represented. However, I am satisfied that I have always made a good showing.

About the first or second time I exhibited at the International, one of our females came away with the honors in the female division, being made grand champion. This victory gave me greater prominence among breeders, and it proved a very good topic for advertising in breed papers and farm magazines, as well as mouth-to-mouth advertising. I still continue to use plenty of newspaper space. I believe it is good business.

It is my idea that there are two ways of being successful as a breeder, and one of them is advertising. The other is to have the best cattle, and then you have something to talk about. Both ideas go hand in hand—one gets you the cattle; the other sells them.

After buying Maxwalton Sultan I sold some surplus stuff, but made it a point to

hold out the best breeding stock. I have never been guilty of selling one of my best producing females. Now and then I pick up females when they are the kind I want and the prices are right.

My stock is, as I said before, Scotch, and I have the Rosewood, Claret, Gwynne, and Mina tribes in my herd. I have never tried to stick to one family. I don't believe this helps any, because, if the stock is good, what difference does it make as to the tribe?

I continued to use the Sultan bull until he died some time ago. In late years he shared honors with a Rosewood bull, by Avondale. I still have this animal, and he is seconded by Village Royal, by Imported Villager; Imported Robert Bruce; and Cloverleaf Royal, reserve champion at the 1920 International.

THERE are two things I have learned since I have been in business, as to the making of a herd, and they are: Select a good bull, and once convinced you have a good breeding female, price her to no one. I can say that these two things are responsible for the development of my herd, and I know that if they are followed out carefully they will go far toward making the reputation of any herd.

Good cattle always pay out when handled right. That is why I say there is no danger in going in debt for the money to buy them. And good cattle will make you more money than the interest you have to pay the banker in order to get the capital.

My Farm Map Helps Me

By George W. Brown

I CAN'T expect to make my farm produce, and pay me profits as it should, unless I know my soil.

In my bookcase is a good-sized map drawn to an accurate scale, and on this map is an entire contour of my farm which tells me what I want to know.

No matter how dark the night or how stormy the day, I can go to this map and tell exactly where each tile drain has its source, and just what kind of soil it is trying to drain. On this map is an accurate outline of each field showing just what kind of soil is in each section of each field, and just what condition this soil is in. If it's sandy loam, it is so marked; if thin, well-mellowed, well-fertilized, but not sufficiently drained, it is thus marked. If it is heavy clay, underlaid with hardpan, or if a washed hillside, or if a depression exists, these features are recorded. And so I have a complete picture of the farm before me at my fireside.

THIS map-making has caused me to study closely our entire farm, and it makes it easier to plan how deep or shallow it should be drained for best results, just what crops to plant in different fields, and just how to fertilize certain sections of these fields to get best results.

Thus I grow barley in a black loam because I know it will grow barley best, following corn stubble; I sow oats on a sandy loam soil, following corn stubble, because it will produce oats better than

barley. I grow my sugar-beet crop in a black, loose sandy loam, following clover, because it gets me the greatest tonnage; and I grow our potatoes in a yellow sandy loam plot because I get a good yield of smooth tubers, with a flavor that the black loose loam will not give.

I can put this map on the table during a wet, stormy day, and tell almost to a point of accuracy how much water this tile-drain outlet is carrying, and just how much that lateral in the back field is drawing from that swamp where I never used to grow anything but tadpoles and mosquitoes.

I can also read on this map just the acreage for wheat, or that best for oats, or any other crop, without going over the farm to hunt the spot.

NOTE: We helped prepare such a map once, and know that they are a good thing. If you have any questions about how to make one of your own, perhaps we can help you.

THE EDITOR.

Two Seasons

KATIE was learning all about the three R's in one of the public schools, and was called a "bright" scholar.

One day the teacher asked her how many seasons there were. Remembering her father's talks to Mother at home about business, she answered:

"Two; slack and busy." Exchange.



Little white pigs, like little black, red, or spotted pigs, all grow into money. In the above article Mr. Smith gives some interesting thoughts on present hog prospects

The Sentimental Old Fool

Wherein two inseparable fishermen show that some folks never grow old

By Trel W. Yocum

Illustration by Angus MacDonald

WHEN the marked copy of the "Darbyton Item" that told of the discovery made by those two inseparable patriarchs, Billy Wharton and Charlie Hamlin, reached my desk, I was dumbfounded.

Not that I doubted the word of my old friends—I knew them too well for that—but I felt that the imaginative editor of the home-town paper might have taken certain liberties, so I wrote to the principals. One week later I received a letter in the cryptic scrawl of Billy's pudgy fingers. It read:

Its true as Gospil. I will show you when you come. Charlie ain't had no luck yet, and he won't have the way he goes at it.
Yours truly,
WILLIAM WHARTON.

Old Billy Wharton is neither a letter writer nor liar, and when I read his note I realized that the unusual had happened. In the past, the tranquil pools of Little Darby had yielded many a sizable small-mouthed black bass, but the one found by those two fishermen in Devil's Hole gave promise of being the granddaddy of them all.

According to the "Item" it was an old he-bass, estimates of his weight ranging from five to eight pounds. Nor were the tales of cunning attributed to this fish less remarkable. Two or three told of smashed tackle, others related yarns of bait stolen off "clean as a whistle," while still others vouched that they had seen the black-backed monster rise slowly to the lure, casually look it over, and then sink back disgustedly to his lair.

I knew that when Charlie found time to write he would give more details, and, sure enough, he did, as follows:

DEAR SIR: ' If things don't come to a show-down before your vacation in June, I'll make your eyes bulge out. No, sir, no one has been feeding you hot air; it's all wool and a yard wide. Bill has tried everything but nitergliserine, and I sometimes think he would use that if he got a chance. Ever since we made the discovery, Bill ain't trusted me. Every morning he steps out on the side porch before breakfast and looks over my way. If he don't see me in the garden he comes over for one thing or another. Old Bill was seventy-one last month, and I sometimes think he is getting into his second childhood.

The week before you come, school will be out, and I suppose every boy in town will be down at the Hole raising Old Ned. They won't do no damage, but it won't be worth while for me to try to do anything with all h— broke loose down there—will it? Will look for you on the 20th, and if I ain't delivered the goods by that time I'll make you set up and take nourishment. You will have to mind me—and Bill, if we take him with us. Aunt Jane is feeling good, and so is

Your humble servant,
CHARLES J. HAMLIN.

Four miles north of Darbyton, in the hollow of the gently rolling hills, lies a sheet of spring-fed water known as Fulton Pond. Two miles from its western end it narrows down to a bottle neck from which empties a sizable stream known as Little Darby. For a mile and a half the creek falls rapidly over a wide rocky bed. Then, swinging sharply toward the south, it drops into the Devil's Hole, a broad, placid pool at the foot of three great oaks. And at sunrise, June 21st, Bill, Charlie, and I stood on the boat landing of Fulton Pond.

"There's lots of bass feedin' in them lily pads," drawled Billy.

Charlie gave his companion a sidelong glance and said:

"You bet. Let's give them a try first."
"But I haven't seen that bass," I protested. "What's the use of waiting?"
My words put the odds against me.

"That old socker kin wait," Billy said quietly.

Charlie looked at me disdainfully.

"Don't you worry none 'bout that ole bass down there."

He shifted his fine-cut, and spat on the water as scornfully as he had spoken.

I knew that they were sparring for time: that the only thing in the world which kept them away from Devil's Hole was the fear that the other might land the old bass; so

themselves—since I had known them; politics, religion, education, Civil War, fishing lures—in fact, between themselves they agreed on nothing.

Naturally, the big bass in Devil's Hole was a thorn in their sides, for in addition to their normal disagreement the element of jealousy was injected. No two men ever were more proud of their prowess as fishermen, and as I pulled the boat around the pond that morning they went after each

other with verbal hammer and tongs. And, as in bygone days, they reprimanded me for my carelessness in splashing an oar, for not sitting still, for going too close to the lily pads, or too far away. Once when I shoved the boat onto a bank of moss, Charlie turned around disgustedly.

"Bill," he confided, "if he does that once more let's never take him with us again."
"Well, he don't seem to learn," Billy drawled.

DAD had told me of their jealousy and the deception it had led to. One morning when Billy came out on the side porch, it seems, he failed to see Charlie at his accustomed place in the garden. Immediately he went over, and Aunt Jane stated that Charlie had left on a trip in the spring wagon at daybreak. Billy didn't say a word, but when he reached home he 'phoned to Stuart's garage for a taxi. Jack Stuart, who drove him out, said he never saw a fox travel faster than Billy Wharton as he set off down the trail around the pond that led to Devil's Hole. What occurred upon his arrival no one knows, but the two old men returned after dusk, empty-handed.

Three days later Billy failed to put in his appearance on the side porch. Charlie waited until after breakfast, and then 'phoned Billy's house. No, Billy was not at home. Now, Charlie Hamlin, with his sixty-seven years, wasn't a spring chicken, yet he strapped his rods and tackle box over his shoulder, saddled old Polly, and started out in hot haste. Zack Wheaton was out at Fulton Pond that morning when foam-flecked Polly and her wild-eyed rider whirled up in a cloud of dust. With one motion Charlie leaped from her back, tossed the reins over a fence post, and struck off down the trail at a dog-trot. Zack followed to the pool, where, above the explosive outbursts of Charlie, he heard the insistent rejoinder from Billy that he "didn't need no guard-e-en!"

AT NOON I pulled the unwieldy scow ashore near the outlet, and in the shade of an ancient rock maple we ate our lunch. In comparison to the stormy discussions in the boat that morning the noon hour was as quiet and harmless as a Quaker tea party. While the old men lingered over their coffee I wandered off in search of bait. I am sure that I had not gone one hundred yards when, suddenly, I heard Charlie's high-pitched voice raised in excitement, followed by Billy's booming drawl. They were at it again. I stopped in my hunt for white grubs and watched them. Charlie, characteristically nervous, walked back and forth gesticulating. Billy did not move from his comfortable position. Presently the gaunt figure leaned forward and pounded his open palm. It was too much for Billy, who bounced up and shook his fist in the other's face. They stood glaring at each other like two bull dogs.

I didn't think they would come to blows, but I felt that it had gone far enough, so I shouted, "Hey!"

They both turned, a bit startled, like two schoolboys caught at some mischief. Then Charlie called sheepishly, "Prun-e-e!" and Billy crooked his arm for me to come.

When I had approached within a rod of the potential belligerents, Charlie shouted:

"He says I ain't to be trusted no more."

"Who?" I inquired.

"Billy."

"Who'd trust a weasel!" retorted that worthy individual.

"What do you mean?" screamed the enraged Charlie.

"Do I haf to write it out fur you?" asked Billy slowly, his eyes snapping.

They eyed each other like fighting cocks.

"Pruney," Charlie said, turning to me,

"I don't hold it agin him. He ain't like he used to be. He's gettin' childish."

"Childish!" bellowed Billy. "Childish—

your grandmother's nightcap! Where was you Thursday afternoon? Answer me that!"

Charlie gave me a long-suffering look, but did not answer.

"I know," the other continued, "you was down there at Devil's Hole."

"Ask him," Charlie commanded, disdaining to speak directly, "where he sneaked off to Saturday."

The cawing of a crow was the only sound to break [CONTINUED ON PAGE 19]



"You old hyena," he shouted, shaking the rod at Billy. "It's all your fault!"

we climbed into the boat and shoved off.

That morning, as of old, I furnished the motive power that forced the water-soaked flat-bottomed boat around the pond, while Charlie, hunched over the prow, and Billy comfortably in the stern, trolled for bass. Time has not changed those two fishermen, nor have others changed—from their viewpoint. It is over twenty years since they first initiated me into their order—more than a score of years since those red-letter days when I first basked in the sunshine of their pleasure as chore boy, camp dishwasher, and oarsman. The fact that I am now the head of a family has not seriously entered their consciousness. To them I am still "Pruney"—a chubby, barefooted, hungry lad who still comes at their beck and call.

It is seldom that one finds two men so devoted to each other whose expression of regard takes the form of violent disagreement. They always had argued—between

other with verbal hammer and tongs. And, as in bygone days, they reprimanded me for my carelessness in splashing an oar, for not sitting still, for going too close to the lily pads, or too far away. Once when I shoved the boat onto a bank of moss, Charlie turned around disgustedly.

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Drawing by Edward Ryan

My Wife and I Worked Out Our Finances Together

By Ralph Eastman

I SUSPECT that too many of us farmers do not give our wives credit for knowing anything about handling money—except to spend it. Oftentimes a man will call on the phone and want to talk to me. Yet what he wanted to know could have been told by my wife just as well. In fact, I doubt if there is any business on earth about which a man's wife knows as much as farming. The farm wife lives right on the job; she has a chance to hear what is going on, and to talk it over three times a day. I have learned to ask the woman who answers the phone before having her call her man in from the field. And I usually get the information I want.

When my wife and I started out on our farm-life honeymoon, after a few days of the usual kind, I decided it was time to get somewhere financially. Money—or the lack of it—was seemingly the biggest problem of the older folks I knew. The women hated to ask for money every time they needed it. The men usually gave grudgingly, or else forgot it altogether.

In our case we had just bought a farm and were in the hole quite a bit on it. Neither of us had any lifts from home, nor did we expect any. Both were able to earn a little on the side, which helped a lot the first few months. Anyone who has ever bought a "start-up"—furniture, farming tools, stock, and so on—knows what it means to start out in debt.

We have arranged our finances like this: We each have a check book, but we only have one account. When there is money to spend, my wife spends it as she needs or wants to. I do the same. I don't ask her how much her new waist or shoes cost. I don't care, and, anyway, I wouldn't know whether the price was right or wrong. I

know what to pay for my stuff, and she does too. That's all there is to the money division.

But I wasn't satisfied with just this arrangement. Supposing I died? I carry enough life insurance to cover our indebtedness, but insurance money won't do much good if you don't know how to use it. My wife now writes farm checks when necessary. In fact, if I have a few checks to deposit I sometimes purposely forget them and let her take care of them. It took quite a while for her to get accustomed to this sort of work. But it was worth the effort. Now she can borrow money at our bank if we need it. I don't need to make the trip to town to sign a note. The bank knows she does business as well as I do.

THIS training is not hard for some farm wives, but for many it is. It can't be done in a single month. I remember how my wife dreaded to cash her first check at the bank. She wanted some change, and I wouldn't get it for her. Instead, I went along and introduced her to the cashier. Now, after three years, she writes and cashes a check as easily as she buys a loaf of bread. She goes to the elevator and settles for what she brings home, and pays for whatever is delivered to the farm. Once in a while she forgets something; but so do I, and I've been doing business with banks for fifteen years.

Now, I am not advancing a theory, but, instead, advocating a practical working system. It's easy to say that a husband and wife should be equal partners, but it's pretty hard to practice it when the woman has to ask for \$10 whenever she needs it. She shouldn't have to ask for it, no matter how freely it is given.

Prize Contest Announcement

How It Paid My Wife and Me to Work Out Our Finances Together

ONE of the most successful farmers we know says his wife deserves most of the credit for his success. In a recent letter he writes:

"We didn't know where we were until Mary and I started keeping accounts. About all we could figure out was that we were making a living off the farm, until one day Mary rebelled, and said she wanted a regular allowance, like her sister in the city had. So we worked out a system whereby we know just where we're headed financially. Since that day we've been getting ahead, for now we know how much money we are making and, therefore, can figure how much we can afford to spend for different things."

This letter and the above article made us think that probably there are other folks in the same fix. If you have worked out a financial plan write us a letter about it.

We will pay \$10 for the best letter telling how you and your wife (or husband) have successfully worked out a financial plan together. For the next best letters we will pay \$7.50, \$5, and \$2 each for others that are accepted. All letters must be in our hands by June 30th.

Give full details, but keep your letter to 500 words if possible. Enclose self-addressed stamped envelope if you want your letter back. Address Contest Editor, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

THE EDITOR.

How I Save Myself Labor by Planning My Work

By Earl Rogers

EVERY year since I've farmed I have tried to have my hands do less and my brains more of the labor, so as to have some spare time to do certain beautifying that every farm needs, and also to get away for a little vacation. I haven't always succeeded. Yet there are some things that have helped.

Chores are a big job for most of us on working days. I once saw a man feed over a dozen horses, making a separate trip to the oats barrel for the gallon that each horse ate. I've tried to keep away from that sort of time waste.

Nearly four years ago, when we came on this farm, I arranged all the buildings, except the barn, as we wanted them. There are no long walks in doing the work around our farmstead. The workshop lies between the tool shed, the house, and the barn. The automobile is kept in that shop. The brooder house is within 60 feet of the kitchen window, though the chicken park is three times as far out as it should be.

I have water piped into the barn. I do not use an engine for pumping, as I plan to use a motor when the power lines reach us. Instead, I have a hand pump in the barn, which saves lots of water carrying and leading the animals to water. Nor do I need to stand out in all kinds of weather to use the pump.

I have saved a good deal of time choring by using a self-feeder for the hogs. A hog's time isn't worth even the five cents an hour

that I as a farmer realize for my work!

For field work I have a tractor for this coming year. I don't know that I can save much labor with it, except in getting a field prepared and seeded when in prime condition, which will sometimes save doing it over again. I have tried hitching a harrow behind a roller, but that is too hard on a team. The tractor will do that job easily. That will save labor.

OURS is a one-man farm, so the help question doesn't concern me much, unless I'm sick. When I hire a man I find he does best if he works his own way. I tell him to put a field in corn. I then let him decide how to plow, prepare, and plant it. This treatment gives him a keen interest in the job.

I figure out ways to save minutes on many minor jobs like unharnessing a team. I find it saves a little time in harrowing or fitting a piece of land to start a few feet back from the end. Then, when turning, the end space isn't harrowed six or seven times more than is necessary. I'm still learning that I do lots of fool things that take minutes.

But labor saving depends more on good management than on handy devices. Planning crops to suit the farm, the tools, and the local markets is the best way to save labor. The farmer who uses his head to figure out these things is the one who gets ahead.

Farm Bulletins You Might Use in June

WE GET many letters from farmers asking for information or books on different farm subjects. Now, we like to get letters, and we are always glad to give as much information as a letter will contain. But sometimes we think there must be a lot of people who aren't getting their share of the service which the agricultural colleges, the state experiment stations, and the U. S. Department of Agriculture are supplying. There are numerous bulletins issued by these offices which, if carefully studied, are of the utmost value to every farmer. It will pay you to send for these bulletins, if you are not already getting them. Study them and file them for future reference. It is the only way to keep up on the business of farming.

It is impossible to list state bulletins in space allotted to our bulletin review. They are available to residents of the respective States, and some can be obtained by outsiders. A postcard to your agricultural college and experiment station will put you on their mailing lists, without cost, to receive bulletins and lists of publications. Being local in application, they are sometimes more practical than the general bulletins issued by the U. S. Department of Agriculture.

THE following list of Department of Agriculture bulletins was selected from the large number we receive every month as being most valuable for practical farmers. They can be had free, excepting those marked, by checking the ones you want and mailing this list to your congressman, or to the Division of Publications, U. S. Department of Agriculture, or to Superintendent of Documents, Government Printing Office, Washington, D. C. It is better to ask your congressman, because congressmen get a larger supply for distribution than do the other offices.

Monthly List of Publications. This circular, issued monthly, describes the new publications of the Department of Agriculture. It will be sent regularly to all who ask for it.

Hail Insurance on Farm Crops in the United States. Bulletin 912. Like other business men, you can protect your farm business by various forms of insurance. The hail risk is great in some parts of the country. This bulletin tells how to get this kind of protection.

Corn-Belt Farmers' Experience with Motor Trucks. Bulletin 931. Out of 831 Corn-

Belt farmers studied, 57 per cent think their trucks will be profitable investments. The principal advantage, they report, is the saving of time; and the principal drawback "poor roads." If you are thinking of buying a truck, this bulletin might be helpful. Price, 10 cents, from Government Printing Office.

Growing Crimson Clover. Farmers' Bulletin 1142. If you live in the middle Atlantic or Southeastern States and don't know this plant, you are missing a real money-maker. It grows on poorer land than most clovers, does not require lime, and is valuable as a hay and green-manure crop.

Control of Diseases and Insect Enemies of the Home Vegetable Garden. Farmers' Bulletin 856. Prevention pays when dealing with garden pests. If you wait until the bugs or disease appear, your crop may be lost. This bulletin is not new, but is as good a treatise of this subject as can be found.

Cutworms and Their Control. Farmers' Bulletin 739. Fall plowing helps, but poisoning is best in dealing with these injurious insects. This bulletin tells how to do it.

Harlequin Cabbage Bug and Its Control. Farmers' Bulletin 1061. Another bug that causes great garden losses, especially in the South. June is none too early to get after them.

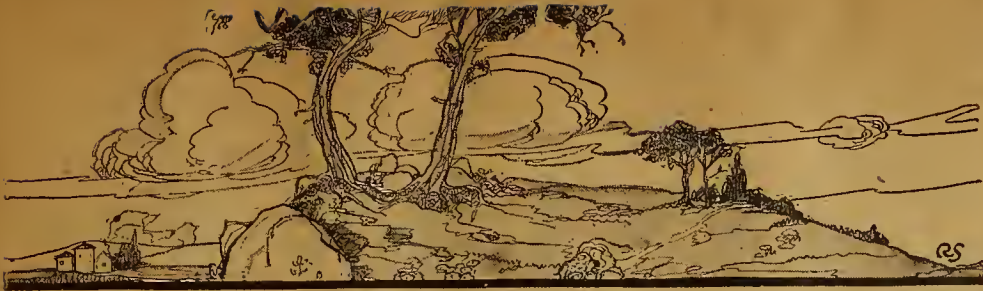
Dusting Machinery for Cotton-Boll Weevil Control. Farmers' Bulletin 1098. Every cotton grower should read this bulletin. It might help you save your cotton crop. The boll weevil can be economically controlled if the right methods are used, and this treatise describes them.

Developing an American Utility Horse. Circular 153. Horse breeders will find a great deal of interest in this account of the results obtained in the Government's effort to develop a new type of general-purpose horse.

Breeds of Dairy Cattle. Farmers' Bulletin 893. A new edition of this useful treatise of the five leading dairy breeds, with brief data about the most important families.

Castrating and Docking Lambs. Farmers' Bulletin 1134. Buyers scoff at rams and undocked lambs. Proper methods for performing these operations are given in this bulletin.

Water-proofing and Mildew-proofing of Cotton Duck. Farmers' Bulletin 1157. Mildew causes the greatest loss by deterioration of cotton duck. How to prevent it is told in this pamphlet. THE EDITOR.



The Sentimental Old Fool

[CONTINUED FROM PAGE 17]

the oppressive silence that ensued. Then presently from Billy:

"Well—ain't he my bass?"

"Your bass—your bass?" exploded Charlie.

"Didn't I see him first—and didn't I hook him once?"

"I suppose," stated Charlie caustically, "that all the bass that swims is your bass, that all the birds that flies is your—"

"Look here," I broke in, "you two old women are crazy. If—"

"Young man," interrupted Billy in his gravest manner, "you are not the person to git fresh with me—or Charlie. I thought you had better bringin' up."

Charlie cast a pitying glance in my direction, and shaking his forefinger, said:

"When I was your age, young upstarts wasn't in the habit of speakin' disrespectful to their elders." And as an afterthought he added, "I've a big notion to tell your pa on you."

I apologized. However, I had accomplished my purpose. With peace restored they immediately agreed that it was high time to give the elusive monster his daily *strafing*, so we gathered up rods and tackle and moved down the trail to Devil's Hole.

Why such a name was given to that peaceful spot no one knows, for the pool is a model of propriety. Its unruffled surface mirrors the high west bank and overhanging oaks. In the unusually clear water one can see every stone, pebble, and projecting root. At the lower end, just above the riffle, a number of half-submerged rocks extend into the pool, and from these more than one generation of boys have dived into the cool, sparkling depths. The open woodland, with its sunlight and shadow, the lazy rail fence which acts as a breakwater against the billowy June wheatfield, the white-faced Herefords grazing contentedly in the knee-deep pasture—all carry out the paradox of the pool's name.

AT THE foot of the three oaks, rods and tackle were deposited, and the two fishermen, side by side, crept stealthily toward the bank. A few feet from the edge they dropped to their knees and crawled slowly to a point of vantage. For several moments they peered intently into the pool. Presently Charlie nudged Billy and pointed, and Billy, looking carefully, nodded his head. Then both backed away and beckoned for me to come. Bear-fashion, I approached, and together we crawled to the brink.

"Under that old root," Charlie whispered.

As I looked into the deep water I could see the yellow sand in the bottom, with several small dark shadows darting over it. Directly beneath, a tangle of roots stretched their moss-covered tentacles to the floor of the pool. Here and there the sand was darkly splotched with a water-soaked limb or twig, but I could not make out the fish. Billy pointed to the root on my right, and suddenly I saw the massive head and part of the body of the largest bass I ever cast eyes upon. There he lay, half in, half out, of his den, his pectoral fins waving lazily, his nose up-stream, waiting for the current to bring a morsel worthy of his majesty's notice.

"Whew!" I exclaimed, backing away from the pool.

"Well?" Billy asked, his eyes twinkling.

"Didn't I tell you there wasn't no hot air about that fish?" Charlie asserted, and he and Billy winked slyly at each other, immensely pleased at their vindication.

A plan of action was discussed as they strung their rods and sorted tackle. Finally it was agreed that each was to take his turn at ten-minute intervals, I to act as time-keeper. We flipped a coin for choice, and Billy won. He chose his fly rod, walked down to the lower riffle, waded across, and stopped about a third of the way up the

pool on the opposite bank. With stripped line in one hand, he shook the rod that he was ready. Charlie whistled an answering signal that time had begun. As he paid out, the lithe rod arched gracefully back and forth. Suddenly the enameled line shot toward our side of the pool, and above the fair of the bass. It did not break the calm surface of the water. There was only the circular ripple from the fly—a scarlet ibis—where it caressed the mirrored oaks. The master was playing his sonata. The fly became a thing of life; with crescendo movement it struggled to rise from the surface, the water glistening from its wings; then on its side, diminuendo, as it gave up the struggle. Suddenly it was lifted, whirled back and forth in space once or

SIR, a woman preaching is like a dog's walking on his hind legs. It is not done well, but you are surprised to find it done at all.

SAMUEL JOHNSON.

twice to dry its feathers, and cast again onto the pool where the movements were repeated. Billy tried several flies unsuccessfully before his time expired. Then Charlie took up the post on the opposite side of the stream. If Billy exemplified the poetry of casting, surely Charlie, with his gaunt frame and awkward poise, exemplified the motion. But for all that he knew the tricks of casting, and no one could criticize the action of his flies on the water.

Once when Billy dropped a silver doctor above the nose of the old behemoth, we saw a dark form rise to within a foot of the struggling fly. He followed it slowly for several feet, eying it furtively. Charlie, at my side, groaned aloud, and as I glanced at him his face visualized the agonized torture of the damned. The bass came nearer, as though sniffing at the delicacy, then turned tail and sank back to his den.

"My," sighed Charlie as though the world had been rolled from his shoulders, "tell me that that fish ain't got sense! There's lots of human beings that ain't got half as much."

Two thirds of the afternoon passed uneventfully, save for that instance. Fly rods gave way to casting rods. Live minnows, spinners, wabblers, spoons—all were tried. At four-thirty Charlie had exhausted his entire repertoire, and offered Billy two turns in succession while he went in search of bait.

Fifteen minutes later he came back holding a spotted grass frog in one hand. Rigging his bait rod with a large snelled hook and linen line, he crossed the stream and walked up the low east shore to the head of the pool. Billy and I knew the trick, and we watched him with interest. When the frog's lips were firmly impaled he dropped it in the water and paid out the line. We watched the frog as it swam with the current to the center of the pool, its steady strokes kicking up quite a rumpus in the lengthening shadows. Suddenly there was a swirl of white water and the frog disappeared. Billy's intake of breath was a gasp and his hand gripped my arm. For one second, two seconds—minutes they seemed—old Charlie let his line run free, then he struck. His line straightened, his rod bent and his voice at its highest pitch shouted, "Lordy! Oh, lordy!"

ONCE, twice, three times that bass leaped from the water, shaking his enormous head like an angry bull, then bolted for the riffles at the lower end of the pool. Charlie stumbling along like a wild man, tried to keep up, his face set and eyes dancing. When near the riffles, His Highness decided to go up-stream. Charlie ran back from the pool, reeling like mad. Suddenly the bass began sounding bottom, and the fisherman seized this opportunity to work down to the riffles and wade out to the half-submerged rocks.

During this time Billy sat on his haunches, muscles tense, his face that of a sick man. Several times I spoke excitedly, but he did not avert his gaze.

[CONTINUED ON PAGE 20]



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The use of 20-Mule-Team Borax Soap Chips is not confined to merely fine fabrics, laces and georgettes. Twenty-Mule-Team Borax Soap Chips are the most modern form of laundry soap. They do away with the unintelligent waste and drudging of the old-fashioned bar soap and scrubbing-board—and at the same time, owing to the 20-Mule-Team Borax they contain, 20-Mule-Team Borax Soap Chips clean and preserve fabrics of all kinds in a way that has never been accomplished with old-fashioned soap.

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The Sentimental Old Fool

[CONTINUED FROM PAGE 19]

Unexpectedly the fish broke water again and started for the roots at our feet.

"Keep him away from them roots!" Billy warned.

Charlie spat spitefully, but did not glance up as he retorted:

"I'm ketchin' this bass!"

The contrary fish then made a bee line for the upper riffles, but, not finding these to his fancy, returned to the center of the pool. Again and again his thick black body shot out of the water as he strove untiringly to free himself. It was too much for Billy, and again he shouted:

"Keep a tight line on him!"

The kindly meant advice was not received in the same spirit. For the first time since the fish was hooked Charlie lifted his eyes to us.

"Keep a tight line on your mouth!" he growled.

WHETHER that ungracious retort alienated Dame Fortune, or whether Charlie merely shifted an ungainly foot to a mossy spot on the rock, will always remain a moot question between those fishermen. This do we know: The words were scarcely out of his mouth when we saw him slip. For an instant he poised uncertainly, struggling to regain his balance, then plunged like a plummet into the pool.

Billy and I jumped to our feet.

An instant later Charlie bobbed up, blowing like a porpoise, the butt of the rod still tightly clasped in both hands. As he found footing waist-deep in water, he lifted the tip of the rod to feel the tug of the fish. But the line hung limp.

Charlie didn't utter a sound. He stood like a graven image, tobacco juice running from the corners of his mouth, water trickling in a tiny stream off the end of his goatee, gazing blankly at his slack line. Mechanically he reeled. When he caught sight of the broken leader his smouldering emotions burst into flame.

"Oh, damn!" he shrieked at the top of his lungs, and he smote the water a mighty blow with his rod.

Billy Wharton's face was beet-red, tears streamed down his cheeks, and his whole body shook with laughter. It was not the boisterous sort, but the tumultuous, inarticulate gurgling and gasping of a man who has completely lost control of himself.

Charlie glanced at his boon companion. The disappointment and anger registered in his face changed to rage and resentment. With all the dignity that a man in his position could assume, he clambered up the rock from which he had fallen. His face was flushed and there was red in his eye.

"You old hyena," he shouted, shaking the rod at Billy, "it's all your fault!"

The man on the bank groaned, and wiped away the tears with his pudgy hands.

Goaded beyond human endurance, Charlie whirled the rod at Billy's head, but the enraged force carried the quivering piece of bamboo a dozen feet beyond its mark.

Haughtily he stalked to the riffle, rescued his tattered felt hat that had lodged on a stone, and then climbed up the bank. At the foot of the oak trees I met him. He gave me a stony glare, but when he caught sight of the red-eyed Billy he turned to me condescendingly.

"Didn't I tell you," he wailed, "that he is gettin' childish?"

JUNE 21st of last year marked the fifth anniversary of Charlie Hamlin's disastrous experience with the bass of Devil's Hole. On that date I wrote to both of the old fishermen, reminding them of the event and telling them that my vacation had been planned for the first two weeks in September. Of course, time could not dim the memory of that day. In fact, I knew that time had increased the vividness of it, for when I visited Darbyton the year previous Charlie related graphically in my presence the exact manner in which that bass had pulled him off the submerged rock! And he actually believes it.

Meanwhile, Bill and Charlie had pursued the old bass with unrelenting vigor and unvarying poor luck. It is true that with the passing of time some of their jealousy subsided, and they finally reached a gentleman's agreement not to fish in the other's absence. But the old rivalry remained, and they sought the sockdolager from the first warm days of spring until the ice of late autumn fringed the edges of Little Darby.

When I stepped off the train at Darbyton in September, Billy and Charlie were there to meet me, and that evening we discussed ways and means of circumventing the old

bass. In the days that followed we visited Devil's Hole faithfully, but that exasperating, educated fish never so much as batted an eye at the choice assortment of lures we placed before him.

THE last day of my vacation we arrived at the pool shortly after noon, and followed the procedure of previous days. As the old men strung up their rods I crawled up to the top of the bank. After my eyes became accustomed to the light in the green water that eddied below I made out the bulky form. There he lay in almost the same position I first saw him. It was not hard to explain his indifference to lures when one understood that the current brought the choicest morsels of Little Darby directly past his cavernous jaws. As I watched him I saw an injured minnow struggling against the current within three inches of his nose, and the old rascal turned away his head like a petulant, overfed child.

Charlie's whistle informed me that they were ready, so I crawled back in the shade of the oaks and assumed my duty as timekeeper. There was a tiny hint of autumn in the air that afternoon—not cold, or even cool, but just sort of a feel that the first frost was not far off. I didn't pay much attention to the fishermen as they went through their well-rehearsed parts—there are too many memories that come when visiting a boyhood haunt on the last day

of a vacation—and more than once my timekeeping was questioned.

By turns they continued their ceaseless, unavailing casting. Mid-afternoon wore into late afternoon. At five o'clock they agreed upon a truce for fifteen minutes, to be followed by one more trial by Billy, and then Charlie would finish the day's effort. Instead of resting, Billy busied himself turning over fallen limbs and decaying bark, and presently he came back with an enormous cricket.

"He's a granddaddy," Billy drawled.

"It's a waste of time to use him," Charlie chimed in. "Didn't you see me try crickets twice to-day?"

BILLY did not answer as he picked up his fly rod, crossed the riffle, and walked up the opposite bank, back several feet from the shore. When I waved my hand that time had begun, he hooked the black insect skillfully, stripped his line, and made a cast.

I watched him carefully. It was the last time I would see the old master fish that year. Gracefully the line shot out, and with precision the cricket fell softly on the surface. We watched the little black object struggle over the spot where the old bass lay, but nothing happened. A dozen feet below, Bill lifted the cricket for another cast, and as he did so both Charlie and I thought we saw a quick movement in the water, but in the lengthening shadow

neither of us were sure. Nor had Billy missed that movement either. Quick as a flash he dropped the cricket gently on the surface. The current had carried it perhaps two feet when we saw a streak of green and bronze leave the water, a yawning mouth snap viciously. At the same instant Billy Wharton struck. Charlie dropped to his knees and groaned, while I let out a shout that would have done proud an Iroquois warrior. Billy was the coolest of the lot. Holding the butt of the rod at forty-five degrees, while the tip bent at right angles, he gave the old bass the entire spring of his rod. For a moment or two he sulked in the depths, as though laying plans for the struggle. Suddenly the drag on Billy's reel let forth a screech as the fish made a mad dash toward the upper riffles. It was not a feint, and for all the fisherman snubbed he did not prevent the bass from reaching the lower edge of the white water. Billy's florid face went white as he tugged at the rod and fought for every inch of the line.

THE zest of battle eliminated the personal equation for Charlie, and he shouted advice at the top of his lungs:

"Don't give him no slack!... Away from them riffles!... Away!... O-o-o-oh! You'll lose 'im!... You'll lose 'im!"

Billy's ceaseless tugging, aided by the swift current from the riffle, gradually worked the fish back into the pool. Then the real fireworks began. With a crash the courageous old fellow shot out of the water and, clear of the surface, shook his gaping jaws like a terrier with a rat. He did not flounder as he struck the water, but took it in a clean, graceful dive. Out he came again, again, and again—the water showering from his glistening, quivering sides. Then followed moments of sulking as he tried to rub the hook from his jaw, or tempestuously scooted from one side of the pool to the other. Through it all Billy fought silently and grimly.

Once when the fisherman worked his quarry down to the lower end of Devil's Hole, Charlie gave an exclamation, joy tinged with fear:

"I believe the ole cuss's tirin'!"

But the bass was playing 'possum. No sooner did he reach the shallow water than he was off like a flash, fighting as fiercely as ever. Time after time did Billy bring him into the lower end, only to have the fearless battler strike to deep water and repeat the efforts to free himself. Once Billy brought him so close that I tumbled down the bank with the landing net, Charlie at my heels. But the bass started off on another series of runs, and Billy snubbed for all he was worth. The longer the struggle continued, the more certain became its outcome. Slowly but surely the fish began to tire, his dashes growing shorter and less ferocious. Foot by foot the line was reeled in, and Billy, holding the rod high in his left hand, stepped into the water and made a sudden swoop with the net. The next instant the old monarch of Devil's Hole lay wiggling in the wet meshes on the bank.

BILLY WHARTON dropped his rod and gently lifted the green bulk from the net. Carefully he removed the hook from the upper jaw, and holding the bass at arm's length surveyed it carefully from tip to tail. His figure was drawn to its greatest height, and his old eyes danced like a boy's with his first red wagon.

"Sorta—hefty," he said slowly, trying to hide his emotion.

Charlie stood at one side, shifting uneasily from one foot to the other as he took in every detail of the fish. It was not jealousy that shone in his longing eyes, nor was it envy: it was regret.

"Bill," he muttered as he shook his head, "you're a lucky dog!"

But when I brought the scales, Charlie stepped forward to hold them, while Billy handled the fish. We watched the indicator creep up to six pounds, then two ounces, then three ounces—and at four it stopped. "Oh, lordy!" gasped Charlie. "And it might have been me when I took my last turn!"

The intonation of genuine despair in Charlie's words made Billy turn toward his companion. The joy in the conqueror's face faded, and his lips moved uncertainly. Then he looked longingly at the finny denizen of Devil's Hole.

"Charlie," he mumbled to himself, half questioning, half exclaiming.

Suddenly he grasped the bass in both hands and, walking determinedly to the edge of the pool above the riffles, placed

That Jocese Southdown Ram

[CONTINUED FROM PAGE 13]

I hated to do it. She was the only mother I had. I hated to waste her to make a sheep's holiday. I knew his horsepower. But Mother had always told us to mind without talking back. I thought that would be a good time to initiate the custom. So I handed her the milk bucket regretfully, and went out through the gate whispering softly to myself that old Civil War melody, "Farewell, Mother, You May Never Press Me to Your Heart or Your Knee or Anything Like That Again," and hoping he would not give her all he had.

Mother approached the calf, seductively dabbling her hand in the milk, and saying, "Sook cuffy, sook cuffy."

The sheep turned his head on one side, as much as to say, "Bla-ah! Do my eyes deceive me? Has opportunity knocked at my door?"

And he trotted up behind Mother, struck her gently, just behind the knees, spilling her on the grass and every drop of that milk in

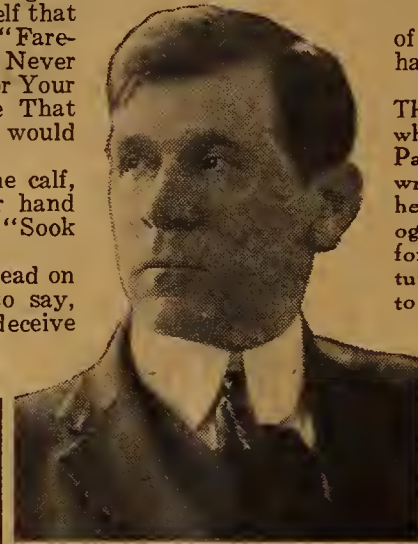
her lap. Soft music and no words.

When Mother arose drippingly and turned to make a few well-chosen remarks to that sheep, he was a hundred yards away, looking back through the corner of one twinkling yellow eye, and his sides were shaking with as pronounced laughter as I have ever seen.

Do animals have a sense of humor? I'll say they have!

This is Strickland Gillilan, whose home is in Roland Park, Maryland, the man who wrote this story of the hard-headed ram, and who is recognized as one of America's foremost humorists and lecturers. Gillilan made his bow to fame through the poem we reprint below. You are probably familiar with it; if not, you know the concluding lines—"Off agin, on agin, gone agin.—Finnigin." He is going to write some more for Farm and Fireside.

Photo by Bachrach



Finnigin to Flannigan

SUPERINTINDINT wuz Flannigan;
Boss av th' siction wuz Finnigin.
Whiniver th' cyars got off th' thrack,
An' muddled up things t' th' divvle an'
back,
Finnigin writ it t' Flannigan,
Aft' th' wrick wuz all on agin;
That is, this Finnigin
Reported t' Flannigan.

Whin Finnigin furrst writ t' Flannigan,
He writed tin pa-ages, did Finnigin;
An' he towld just how th' wrick occurred.
Yis, minny a tajus, blundherin' wurrd
Did Finnigin write t' Flannigan
Aft' th' cyars had gone on agin—
That's th' way Finnigin
Reported t' Flannigan.

Now, Flannigan knowed more than
Finnigin—
He'd more idjucation, had Flannigan.
An' ut wore 'm clane an' complately out
T' tell what Finnigin writ about
In 's writin' t' Musther Flannigan.
So he writed this back: "Musther Finni-
gin:
Don't do sich a sin agin;
Make 'em brief, Finnigin!"

Whin Finnigin got that frum Flannigan,
He blushed rosy-rid, did Finnigin.

An' he said: "I'll gamble a whole
month's pay
That ut'll be minny an' minny a day
Befure sup'rintindint—that's Flannigan—
Gits a whack at that very same sin agin.
Frum Finnigin to Flannigan
Repoorts won't be long agin."

Wan day on th' siction av Finnigin,
On th' road sup'rintinded be Flannigan,
A ra-ail give way on a bit av a curve,
An' some cyars wint off as they made th'
shwarrve.

"They's nobody hurrted," says Finnigin,
"But repoorts must be made t' Flanni-
gin."

An' he winked at McGorrigan
As married a Finnigin.

He wuz shantyin' thin, wuz Finnigin,
As minny a railroader's been agin,
An' 'is shmoky ol' lamp wuz burrin'
bright

In Finnigin's shanty all that night—
Bilin' down 's repoort, wuz Finnigin.

An' he writed this here: "Musther
Flannigan:
Off agin, on agin,
Gone agin.—Finnigin."

From "Including Finnigin," a book of poems
by Strickland Gillilan. Published by Forbes &
Company, Chicago. Price, \$1.35.

him tenderly in the water. For a moment the fish lay perfectly still, his greenish-black back showing out of the water. Then, with a sudden twist of the body and a mighty flop of his tail, the gamy old fellow shot out to the depths.

When Billy turned away from the pool, Charlie was at his side. The tall, gaunt figure stood motionless, looking deeply into the other's eyes, the muscles of his face twitching. Awkwardly he placed his hand on Billy's arm.

"You're a fool, Bill," he choked, "a sentimental old fool!"

Billy looked up, his gray eyes alight with happiness.

"Aw," he said gruffly, "he wouldn't have been good eatin' anyhow."

[THE END]

Permanent Meadow

[CONTINUED FROM PAGE 15]

the two experiments may be due to the lime of the basic slag. This question is partly answered by another experiment at Cockle Park, in which lime has been used in connection with the two carriers of phosphorus, superphosphate, and basic slag, with the outcome that the liming has materially increased the effectiveness of the superphosphate but has added nothing to that of the slag. On the other hand, lime has not rendered phosphorus unnecessary.

At the Ohio Experiment Station, lime has been used in connection with the two carriers of phosphorus for eighteen years, with the outcome that the effect of liming has been twice as great after superphosphate as after basic slag, although on the very acid soil at the Ohio Station basic slag has not obviated the necessity of using lime when used in practicable quantities.

While phosphorus has been much less effective than potassium at Rothamsted, the opposite has been true at Cockle Park.

TABLE III—FERTILIZERS ON PERMANENT MEADOW AT COCKLE PARK

Plot No.	Treatment	Yield per acre Cwts.
6	Unfertilized	19.25
8	Basic slag	25.75
12	Basic slag and muriate of potash	25.75
10	Basic slag and sulphate of ammonia	30.00
13	Basic slag, sulphate of ammonia, muriate of potash	30.50

In both experiments the addition of nitrogen to the mineral fertilizers has produced a marked increase of crop, but in neither case has the cost of this addition been covered in the increase of crop.

At Rothamsted, farm manure was used during the first eight years of the experiment at the rate of 15 tons (30,000 pounds) per acre, and was then discontinued. The effect of this treatment was shown half a century later, in the crop of 1917, the yield on the land that had had this yearly manuring being 15 hundredweights, as against a yield of 11.8 hundredweights on the land alongside that had never had any manure, while the average yields for the fifty-seven years were 28.6 hundredweights for the first tract and 20.9 hundredweights for the second, a total gain of 439 hundredweights, or 24½ American tons of hay for 120 tons of manure, or approximately a ton of hay for five tons of manure.

IF THE average ton of this manure has carried to the field 10 pounds of nitrogen, 5 pounds of phosphoric acid, and 8 pounds of potash, the total application of these elements has amounted to 1,200 pounds of nitrogen, 600 pounds of phosphoric acid, and 960 pounds of potash; and if the hay has had the composition of average mixed hay, the recovery of these elements in the increase of crop has been 580 pounds of nitrogen, 130 pounds of phosphoric acid, and 760 pounds of potash, or approximately 50 per cent of the nitrogen, 20 per cent of the phosphoric acid, and 80 per cent of the potash carried in the manure.

At Cockle Park one plot of land has received nearly nine tons (eight English tons) of manure every year for the twenty-three years, or a total of 200 tons, and has given an annual increase over the unmanured land of 15 hundredweights, or a total of 19 tons, of hay, or about a ton of hay for 10 tons of manure. Another plot, alongside, has received the same manure dressing on alternate years, or a total of 100 tons of manure, and has given an annual increase of 12.75 hundredweights of hay, or a total of 16½ tons, for the twenty-three years.

NOTE: Next month Dr. Thorne will tell of a most interesting permanent pasture demonstration on a farm in northeast England.

THE EDITOR.



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Two Farm Hunches I Found in Europe

They are both little things, but I know they both bring big results

By Charles P. Huntington

DURING the war I "got across," and had an opportunity to study agriculture in France and Luxembourg. Two things made a deep impression on me—things which we Americans can learn and practice to advantage.

The first, and the one of greatest importance, is the high value which Europeans place on manure. Not a drop is wasted, and it is returned in its entirety, practically, to their fields. The farmers in France and in Luxembourg do not live on their farms, but in little villages, going to and from their fields daily. Stock, crops, and people are all housed under the same roof. And the manure pile is an omnipresent part of the village home. We used jokingly to say that we could judge whether a family were wealthy or poor by the size of the manure heap. And we were usually correct.

When we first noticed the pretentiousness of these manure piles and the careful manner in which they were cared for, we thought that it was due to France's serious food situation, and to the fact that she had been in the war for four long years. But when I asked one farmer if it were a new practice, which they had acquired through the stress of war conditions, he replied that as far back as he could remember his father had taught him that his success as a farmer would be dependent, to a large extent, on his care in handling manure.

Whenever they cleaned their stables they piled the manure neatly, the dung from the cattle being mixed with that of the horses, swine, and chickens, and, if they had them, that of the sheep. The pile was always kept in a moist state, water being poured on it if necessary. Most of the year they were able to haul it out weekly, and so they had little trouble with fire-fang or burning. The liquid drained into a cistern from which it was pumped into large tank wagons. This most valuable part of the manure was thus taken direct to the fields.

I WONDER how many such appliances there are on American farms? Certainly too few. But with the increasing cost of every commodity, we too are coming to realize the true value of manure. Proper drains for our stables, gutters which allow no liquid to run off, cisterns, and tank wagons are coming to be a part of our farm equipment. And with them is coming a more profitable and more permanent agriculture.

Secondly, I was impressed with the care and attention European farmers give their livestock. It was untiring, practical, and almost paternal. An animal is, with them, almost a reverent being. Once we had a good night's rest continually disturbed by the frequent going out to the stable of the family with whom we were billeted. The cause of all this commotion was a mare about to foal. Farmer and spouse rested, in turns, for two whole days during this eventful time. The foal arrived in due time and in excellent condition. And at calving time, at lambing time, and during the period when the swine litters were arriving, their care was equally painstaking. They lost very few animals, and each one seemed always in good, healthy condition. They did not have more stock than they could properly care for, and so the few head they did possess were good ones.

The cattle received their care from the women. Cows were used to supply milk, to produce a calf each year, and in many instances, to be the beast of burden. A sight which I used to be extremely interested in was to watch the family—old men, women, and children—go forth each morning to the fields with the family cow leading the procession and hauling the wagon after her. I was surprised to learn that these cows, even after working throughout the day, returned at night with large, full udders.

In America we have always had a superabundance of things. One cow or a ton of manure has meant little to us. But with the skyward trend in the price of commercial fertilizers, with the need that the world has for food, manure and livestock have come to be of more significance to us. And as the population of our

country increases, and the demand for food grows, perhaps we will learn that conservation pays.

And in addition to the profits which these practices bring is the joy of making our farms permanent, a heritage for our posterity.

The Neighbors Made Him Mad

[CONTINUED FROM PAGE 10]

method which they have just recently tried out is to sow the seed on sod ground without plowing. After the ground is spring toothed, an application of lime and phosphate is given, then "bugs" and good seed do the rest. Mr. McQueen says that sweet clover, he finds, will grow and produce a fairly good crop even though the soil may be somewhat acid, but that, to be certain of alfalfa, an abundance of lime is essential. Within the last year, at Rigby, several large sod fields have been sown to sweet clover with no preparation whatever. We must pause here to explain that the Rigby 44 acres have grown considerably; for shortly after success at Rigby seemed certain two large adjoining farms were added to the acreage.

TWELVE years ago the hillsides of Rigby produced nothing but poverty grass and briars, now it will grow any crop which is capable of succeeding in the latitude. Mr. McQueen says, "Bacteria did it all, for it milked nitrogen from the air, where the supply was unlimited."

Another phase of Rigby's success is that of producing dahlias. The McQueens, being lovers of flowers, planted some dahlias along their yard and barnyard fences and in the gardens. For two years we gave these away as souvenirs to visitors who came to the farm. We soon found out that they would be a profitable money crop. So they were put on the market, and now several acres of them are grown each year.

Mr. McQueen says, "Our dahlia returns have been from \$1,000 to \$3,000 per acre." Over four hundred varieties are grown, many of them rare and very beautiful. Recently a new variety with a pure green flower has been propagated at Rigby. People come from many miles just to see the dahlia fields in bloom—2,200 by actual count came one Sunday afternoon.

Some very amusing incidents have occurred when strangers come to the farm. It seems that most folks fail to realize that Jacob McQueen is only a common "dirt farmer," very adverse to an office and a roll-top desk, yet in love with nature's great outdoors as he goes about his daily work clad in overalls.

IN RELATING these little incidents to me, Mr. McQueen says: "I recall a time when some of 'New York's 400' called to see my flowers; I was in my bare feet, hauling manure. Needless to say, they were shocked to find me doing such work."

"Strangers seldom take me for the proprietor; they ask me where the 'boss' can be seen. Some want to see my father, and when I tell them he has been dead for years they claim some of their friends talked to him only a short time ago."

"Some ride with me from town, and ask me what kind of a fellow my 'boss' is, how much he pays me, and how long I have worked for him. They are astonished when I tell them I get only 'my keep.'"

"At another time I got off the train and two men asked me about the farm, and I told them I was walking out that way, and would show them the way. They wanted to know all about the fellow, and invited me to stop and see them 'line him up.' When we arrived at the house and I walked in without knocking, they did not talk so freely. I told them I was the fellow they were looking for, and that everything that was claimed was to be found."

Mr. and Mrs. McQueen have boys from three to twenty-four years old. The older son has graduated from the agricultural college, and he and another grown son manage and operate the farms while their father is away lecturing at institutes, grange picnics, and such like. Needless to say, Mrs. McQueen has been an important partner in the business.

"My advice to other farmers who wish to build up worn-out soil," said McQueen, "is to grow legumes of some kind every year. Apply lime and phosphorus. Plow under humus. And, last but not least, work more with your head and less with your hands. What I have done anyone else can do—or he can do something just as interesting."

Jacob McQueen has recovered his health and redeemed an abandoned farm. He now owns the farm on which he was born, and a few others in the same neighborhood.

In spite of great disadvantages, he has accomplished what he set out to do, and clearly demonstrated that success is no gamble, but comes to him who puts himself doggedly to his task and "sticks."



In this picture are Mrs. McQueen and their four children. The two older boys manage and do a great deal of the work of the farm while Mr. McQueen is away traveling and lecturing about his work with legumes

Livestock Associations

[CONTINUED FROM PAGE 14]

"After three years the association can say that much interest in the purebred hogs has been created throughout the county. A great many farmers have bought two or three purebred sows, and are producing a much better grade of hogs than before. Their neighbors are beginning to realize that the better bred hogs are producing more pork upon the same amount of feed. More farmers have purchased purebred boars than ever before, and some farmers have purchased purebred sows for foundation herds for market purposes only. We consider this real progress."

The field of livestock husbandry is large, and organizations have ample opportunity to carry on many lines of work. One organization will find a certain project to carry out, while in another county an entirely different project will be launched. The fundamental object is always the same—namely, to develop better livestock. The benefits of the work are not limited to the breeders of purebreds, but are shared by all the breeders in the county. New breeders are made through the work of the organizations, farmers are influenced to improve their stock, all of which uplifts the standards of livestock in a particular county. From this there develops the county plan of advertising. Tazewell County, Illinois, is widely known for its Percherons due largely to the cooperative plan of advertising carried on by the Tazewell County Percheron Breeders' Association.

CHAMPAIGN COUNTY, Illinois, recently came into the limelight with a reputation for doing things with Shire horses. The Shire Breeders' Association pooled their animals, and exhibited them at several fairs, including the Illinois State Fair and International Livestock Show last year. Exhibiting under the name of the Champaign County Shire Breeders' Association, they were able to hold their own in compe-

tion with animals from the leading studs of the country, and won themselves a standing as Shire breeders which would have been hard to secure in any other way. The project was financially successful, as the premiums won paid for the expenses incurred in exhibiting the animals.

One of the latest moves on the part of the livestock associations is the purchasing of livestock sales pavilions. Many counties have found that the old dilapidated livery barns and garages are not fit places for holding sales, and the associations feel compelled to provide modern sale arenas. These are proving to be of much service to the livestock breeder, and a large number of associations have this matter under consideration at the present time.

NOTE: If you want to know more about how to start a livestock breeders' association, ask your county agent, your agricultural college, or write to FARM AND FIRESIDE, and we will do our best to help you. THE EDITOR.

Washington's Farm Home

[CONTINUED FROM PAGE 11]

and roof by vines. When the housewife seeks to rest her eyes by looking out of the kitchen window, her gaze may fall on things pleasing and restful. The family can get away from work without letting the work get away from them.

It isn't all a matter of growing things and walls and other screens. Paint upon woodwork does a lot, and good mingling of colors will make paint do more. Paint is a good index of the vision I speak of. But the best of all perhaps is a lawn mower. So far as the front yard goes great advance has been made all over the country. What is needed is more attention to the sides and rear of the farmstead.

You don't need to pay for detachment with added steps in doing your work. The farmstead must be an efficient part of the working farm plant. The farm home needs all the beauty it can get, and it can get more of it than other kind of home; but the beauty must be for those who use the home every day rather than for those who pass it now and then. It must serve a real as well as an art purpose. For the farmer to match minds with other people he must, like other people, be able to shift his mental gears often; he must frequently break contact with his daily run of work. When I say farmer I mean just as much his wife and children.

And one way to do that is the great lesson that Mount Vernon, George Washington's farm home, teaches us to-day. It is by seeming to detach the home from the workaday things of the farm. It can be done by the poor as well as the rich, by the small as well as the big farmer. In fact, it's the small farm home, the kind where its owners know they can't depend on huge and costly buildings to give the right "front" and make them satisfied, that usually applies the idea best.

The Trade Rat

[CONTINUED FROM PAGE 11]

holes in the walls and floor to avoid, as he said, having everything stolen. I laughed at him. I knew that their name of "trade" rats was derived from their habit of stealing things and leaving sticks and stones in place of the articles taken. Of these articles I am sure they had a good supply, for wood rats are by nature great little curio collectors. Their homes are nearly always surrounded by a variety of sticks, stones, bones, and small household articles pilfered from abandoned cabins. However, I felt that I had nothing that would be a valuable addition to their collections.

Being very tired, I slept soundly that night, although I remember being awakened a few times by a galloping sound on the roof. The next morning I noticed that our provisions had been tampered with. Then, when I started to dress, I missed a pair of socks, a neckerchief, a package of cigarette papers, and one boot. In their stead I found two sticks, a small stone, a piece of buffalo vertebrae, and a pine cone.

Truly, the pack rat is an amusing little thief.

We Ex-Service Men Must Watch This



I RECEIVED the following letter the other day from a young man in Indiana:

"Our postmaster recently resigned; the Post Office Department declared a vacancy. Six of us passed examinations, my grade being 86. I am the only ex-service applicant. Could you not intercede with the Post Office Department in my behalf?"

My reply in substance was as follows:

"It is the policy of FARM AND FIRESIDE not to mix in political matters. For that reason I am unable to help you secure your post-office appointment. But even if policy permitted I could not conscientiously try to pull political wires to help you secure an appointment on the grounds that you are an ex-service man. The country freely admits a great debt of gratitude to us who were fortunate enough to take an active part in the Great War; but the country cannot clog the wheels of government by putting its war veterans in office without considering the ability of all applicants. To do that would be gross injustice and an insult to the patriotism of those of us who served."

The American Legion has openly declared that it is not going into politics. It is having a struggle living up to its promise. Ex-service men in groups and as individuals can do much to keep the flaming torch of idealism, relighted during the war, burning bright and clear through this period of unrest and readjustment. Certainly, we can't expect to accomplish this if we besmirch our hands with political intrigue.

I am glad to say that this letter is the first, out of hundreds received, that has asked any political favor on the grounds of war service. Letters from ex-service men are always welcome. I have been able to assist many through the Service Department of the American Legion. If you have any questions to ask about claims against the Government, insurance, forming a Legion post, locating a lost relative or buddy, write to me and I will try to help you. Be sure to give full details, such as army serial number, organization, etc. Enclose stamped self-addressed envelope, and address Andrew S. Wing, American Legion Column, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

The Things I See

[CONTINUED FROM PAGE 12]

to water the earth in showers. Is it not a grand sight?

Or to stand on the seashore and see the hurrying waves chase each other up the beach and break with a thunderous report and run back sobbing to their sisters. What tales the sea tells! How small and insignificant you feel as you stand where the great waves break at your feet! What coolness and purity and health lives on the waves! To look at them banishes all thoughts of littleness, spite, and envy. How it broadens your thought to watch them and see the ships sail calmly in this direction and that, each bound to a different port—and our brothers living in each of them!

Or to come home again to Ohio's farms and watch the bending fields of grain, yellowing in the sunlight, food for the millions, to see the cloud shadows chase each other over the meadows and the great oak woods stand so solemn and grand. To go out early in the morning and hear the birds singing their songs of cheer and each happy with his mate. To see the quails running with their mothers along the corn rows.

Or to go to the pastures and have the sheep crowd around you for their salt, care-free, trusting to you for their wants to be supplied, the innocent frolics of the lambs and their sham battles.

Or to stroll through your wild garden, your baby's fingers in your grasp as you look at each tree and shrub and flower, seeing them rejoice in the moisture and sun that God has sent so abundantly, to watch the vines clinging to the logs of the stable or the ivies creeping over the house holding on fearfully by their tiny rootlets—can these things be making the man better that lives among them?

Is it well for man to live in lanes of brick and stone, doing others as they would do him? Or to labor ceaselessly in the brown fields, with never a thought of a little wholesome rest, recreation, and travel to cheer him up and revive his jaded spirit?



This map shows how the United States is divided into 12 Federal Land Bank Districts.

FARMERS! This Is Your Banking System —Stand Behind It

THE FEDERAL FARM LOAN ACT created a farmers' national co-operative mortgage loan system, and the United States Supreme Court has fully sustained this Act of Congress. Now millions of dollars are needed to loan to farmers. Help the entire farming business by putting your money into this safe, tax-free investment.

Buy Federal Farm Loan Bonds

Denominations: \$100, \$500, \$1000 and \$5000



5%

Tax-Exempt

Federal Farm Loan Bonds are safe. They are secured by first mortgages on productive farms, the kind of assets with which you are already familiar. And in addition, they are guaranteed by all of the 12 Federal Land Banks with a combined capital of over \$24,000,000.

Federal Farm Loan Bonds are tax-free. The principal is exempt; likewise the income from it.

Federal Farm Loan Bonds yield 5%—a better net income than from most farms rented to tenants.

Federal Farm Loan Bonds are staple. They bring a steady, dependable income twice a year; they are quickly convertible into cash; and they are A-1 security for bank loans to farmers,

merchants, millers, livestock buyers and others.

Farmers who buy Federal Farm Loan Bonds help to build a farmers' national co-operative banking system—profits earned are paid to the farmer-borrowers who will eventually own all the stock of the Federal Land Banks.

The farm tenant who invests his surplus every year in Federal Farm Loan Bonds is accumulating capital with which to own his own farm. Farm boys and girls who buy small Federal Farm Loan Bonds are on their way to farm ownership. The farm hand who purchases Federal Farm Loan Bonds is forming habits of thrift and sound investment which lead toward the ownership of land.

Locate Your Federal Land Bank on the Map

Locate your Federal Land Bank on the map above. Write to it for free bulletin giving detailed information as to these bonds. Consult your county agent or secretary of your local national farm loan association. Stand back of the Federal Farm Loan System.

Springfield, Mass. Wichita, Kan. Berkeley, Cal. Louisville, Ky. Baltimore, Md. Houston, Texas
New Orleans, La. St. Louis, Mo. Omaha, Neb. St. Paul, Minn. Columbia, S.C. Spokane, Wash.

FEDERAL FARM LOAN BOARD

TREASURY DEPARTMENT

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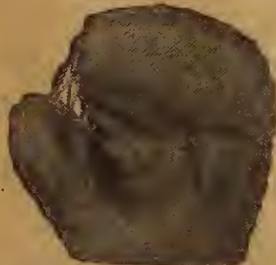
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No boy can be expected to put up a first-class game of ball in the infield or outfield, in the pitcher's box or behind the bat, unless he has a reliable honest-to-goodness baseball mitt. How can a fellow spear a long fly or dig a hot grounder out of the dirt when all he's got to play with is a worn, good-for-nothing glove? Or how can a chap hang on to the swift ones behind the bat when every one fairly burns through his poorly padded mitt? Can't be done, that's all. And that's just why *Farm and Fireside* is offering you this great chance to

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Write To-day And Get a New Glove

But do hurry. Our gloves are going like hot cakes. Seems that every boy who earns one of them tells his friends about it and right off the bat they get busy and earn one too. Clip the coupon and get it on the way without fail to-day. You'll be surprised when you learn what a cinch it is.

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F. F. June

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FARM AND FIRESIDE

The National Farm Magazine

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You are invited to ask questions of any or all of these in their respective fields. State your problem clearly and fully, enclosing a stamped self-addressed envelope for reply. Address each editor care of Farm and Fireside, 381 Fourth Avenue, New York.

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A Community Fourth of July

Here's an outdoor party for the whole family

By Emily Rose Burt

AT LEAST two weeks before the Fourth of July, posters for a community celebration on that day appeared in conspicuous places, so that folks for miles around could see and arrange to go.

Flaming red letters on a white placard with a blue border announced proceedings as follows in a certain picnic grove:

- Fourth of July Program.....10:00 O'Clock
- Patriotic basket competition and awarding of prizes.....11:00 O'Clock
- Basket Lunch.....12:30 O'Clock
- International Races
- 2:00 O'Clock
- Baseball Game.....
- 3:00 O'Clock
- Dads vs. Lads

Whole families, from grandmother to baby, planned to go, and those who drove in cars or carriages decorated them in holiday fashion. Bunting and flags were in evidence, and there were a number of vehicles made attractive with branches of green and garlands of flowers. For instance, one little roadster had crimson rambles climbing up lattices at the sides and arching over the top. Evergreen was used to trim another, which had a tiny spruce tree erect on the radiator, a little sentinel tree above each lamp and a hedge of them around the sides. And all the little trees were hung with red, white, and blue balls such as you put on Christmas trees.

A little wooden platform was built in the grove, and there it was that the program took place. As it contained several bright features and was not merely a prosy speech or two, it was well attended.

The patriotic basket competition was an exhibit of lunch baskets. All the housekeepers had vied with each other in the decorating of their family lunch baskets, which, in all their glory, were displayed on the long wooden tables provided for lunch. Awards of colored paper badges were made after everybody had inspected the baskets to their hearts' content.

The international races began at two, and were heralded in turn as the Chinese race, the Spanish race, the Irish race, the French race, and the Italian race.

The Chinese race, maybe because there is such language as pigeon English, meant a pigeon-toed race. The aim was to make the goal, pigeon-toeing all the way. In the Spanish race, each runner had a "red

rag" flung over his face, and had to progress thus as best he could to his goal. The Irish race was that old friend the potato race. Rows of potatoes were laid out to a certain point, and the object was to reach the goal, stopping and bending to pick up all the potatoes en route. The French race was appropriately enough an affair of fashions, only the men wore the skirts—very tight ones—and carried open umbrellas. The race, of course, was to the swift, and not to the strong. For the Italian race a spaghetti-eating contest was indulged in by two trios of boys.



Many of the "dads" had grown portly, but all were eager to show their boys they could run bases as well as ever

Possibly the baseball games were the jolliest diversions of all to watch. "Dads vs. Lads" was certainly amusing, for many of the fathers had grown portly, but all were eager to show their boys that they could pitch and catch and run bases as well as ever.

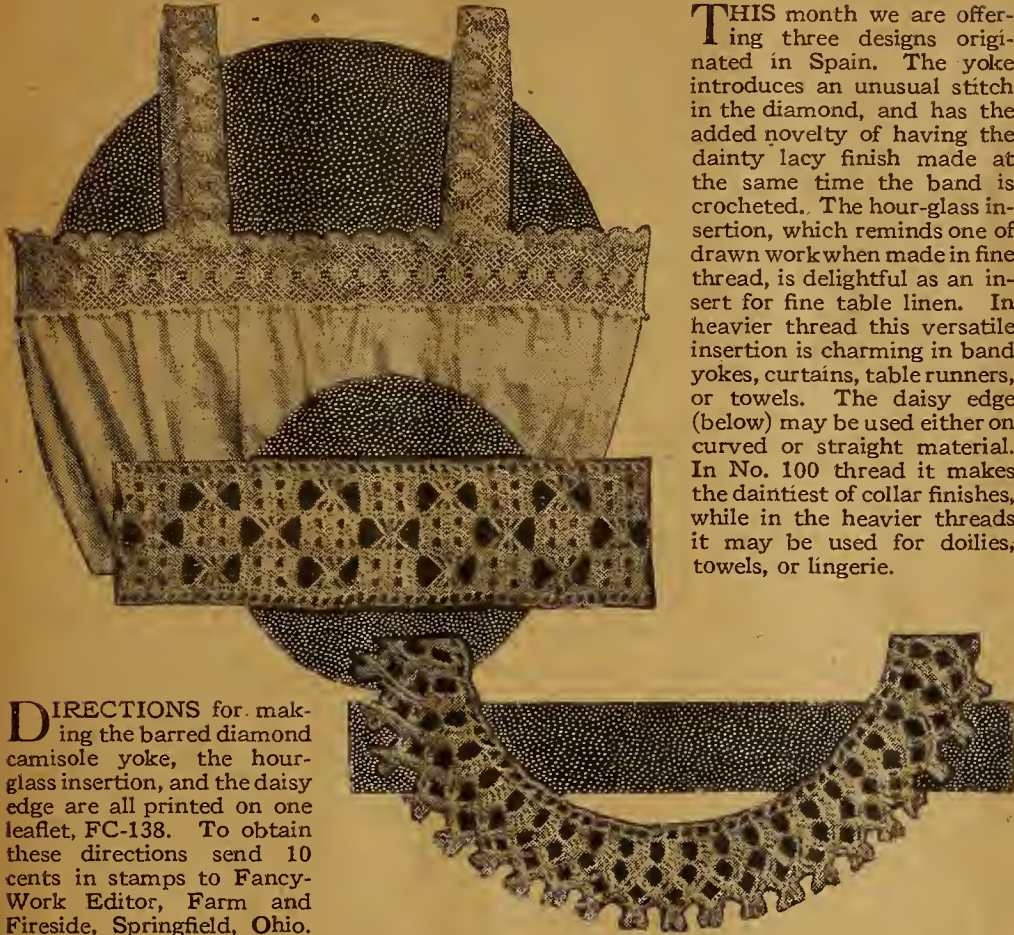
Meantime some games for the youngsters had been arranged and were looked after by a few kind big brothers and sisters. "Mr. Knock-off" was one of the games. An ordinary shoe box was set up on end on another box, and a funny old face, marked crudely on the up-ended box; then a tin cup was placed hatwise on the top of the box. The children were told to pick up three stones each and have a try at knocking off the cup. The children went into chuckles over it.

THEN they played the game of "Beefsteak." The one who was "It" shut his or her eyes and counted twenty aloud, while the others ran as fast as they could in different directions. At the word "twenty" they had to stop and stand still where they were. The one who was "It"—blindfolded, by the way—had to find and identify some one of them. If in his or her meanderings there was a sudden danger of running into a rock, a tree, a brook, or some other obstacle, the others shouted "Beefsteak!" That often, of course, gave a clue to their whereabouts. The first one found and identified by the touch system became "It."

NOTE: A Fourth of July program for the community celebration and plans for decorating lunch baskets will be sent on receipt of a stamped self-addressed envelope. Address, Entertainment Editor, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

Spanish Designs in Crochet

By Lillian B. Arthur



THIS month we are offering three designs originated in Spain. The yoke introduces an unusual stitch in the diamond, and has the added novelty of having the dainty lacy finish made at the same time the band is crocheted. The hour-glass insertion, which reminds one of drawn work when made in fine thread, is delightful as an insert for fine table linen. In heavier thread this versatile insertion is charming in band yokes, curtains, table runners, or towels. The daisy edge (below) may be used either on curved or straight material. In No. 100 thread it makes the daintiest of collar finishes, while in the heavier threads it may be used for doilies, towels, or lingerie.

DIRECTIONS for making the barred diamond camisole yoke, the hour-glass insertion, and the daisy edge are all printed on one leaflet, FC-138. To obtain these directions send 10 cents in stamps to Fancy-Work Editor, Farm and Fireside, Springfield, Ohio.

Better Farm Babies

I AM enclosing 50 cents in stamps so that I may be enrolled in the Mothers' Club. I shall look forward to your letters each month, and know I shall benefit by them. My baby arrived in January, and she is just doing fine. She has gained her eight ounces each week, and a little extra.

The Expectant Mothers' letters were a great help to me, and I got along just splendidly, and feel fine now. I also have a little boy three and one-half years old, but when he was born I did not get along very well during confinement, nor build up afterward as I have this time. I say the difference is all due to your letters.

I am sending the postcard so that our girl may be registered in the Better Babies Bureau. Please send me the letters from the beginning. Mrs. A. C.

I HOPE you will forgive me for not writing sooner to you to thank you for your



kind and helpful letters. I cannot tell you how they have helped me. Of course, I am not ignorant of children and how to take care of them, but I have never had the care of a wee baby, and I have never experienced motherhood.

My mother visited us just before Christmas. When I told her about the baby she was so pleased. You see, I am my mother's seventh and last baby. We were all born on a prairie farm, beginning as far back as thirty-two years ago and ending with my birth in July, 1895. Mother thought your letters were wonderful and a real life saver to young, inexperienced wives. Mrs. F. C. H., Canada.

Here is a Florida Better Baby. Page Grosenlaugl was just past his first birthday when his parents snapped him while he was exploring the inside of a flower

21 Letters About Your Baby

THE EXPECTANT MOTHERS' CIRCLE: Any woman eligible may become a member, receiving each month a letter of advice on the care of herself and the preparation for her baby. Several practical little pamphlet circulars showing designs for maternity dresses and a common-sense layette are some of the helps sent with the letters. No matter at what period you enter, everything from the first month will be sent. No mention of the Better Babies Bureau is made on the envelopes in which the material is mailed. Enclose a self-addressed envelope with *Fifty Cents* in stamps, for postage, and state what month you expect your baby.

THE MOTHERS' CLUB: Every mother of young children is eligible. Pamphlets, together with monthly letters of instruction on the care and feeding of babies under one year of age (covering such subjects as colic, constipation, weaning, teething, etc.), will be sent to any mother who sends *Fifty Cents* in stamps and states the age of her baby. There are also leaflets giving diet lists, and other helps for babies from one year of age to three years. This literature is all included in the Mothers' Club's monthly service, but if the letters are not desired the additional literature will be sent for *Ten Cents*. A self-addressed stamped envelope will bring a prompt reply to every inquiry. Address all inquiries to

BETTER BABIES BUREAU

or to Mrs. Caroline French Benton, Counselor

FARM AND FIRESIDE

381 Fourth Avenue, New York City



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FIRST thing you do next—go get some makin's papers and some Prince Albert tobacco and puff away on a home made cigarette that will hit on all cylinders!

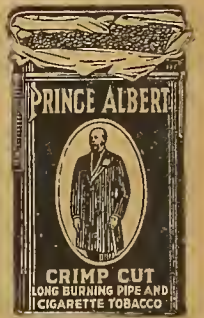
Do it while the going's good! Such flavor, such coolness, such more-ish-ness—well, the only way to get the words emphatic enough is to go to it and know yourself!

And, besides Prince Albert's delightfulness, there's its freedom from bite and parch which is cut out by our exclusive patented process! Certainly—you smoke P. A. without a comeback. Joy'us? You'll say so!

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to get this accurate, smart-looking, Daisy repeater without its costing you a single penny. If you want the best companion a boy ever had—if you want to enjoy your hikes out in the woods more than ever—if you want to train yourself to be a crack marksman—you'll get out your pen knife this minute, cut out the coupon and mail it to me. I'll tell you how other boys not a bit smarter or brighter than you have easily earned one of these dandy Daisy Air Rifles. You can do it, too, if you've got the right stuff in you. And I'm sure you have.

D. S. STEPHENS F.F. 262
 Dept. D-1, Springfield, Ohio.

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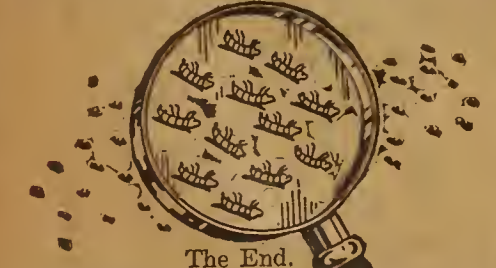
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Try the New Way To Kill Lice

A hen worried to death with lice cannot lay if she wants to. You might as well "throw money to the birds" as feed high priced food to lousy chickens. It's a dead loss—don't do it. Use "LICECIL." No dusting, no dipping, no painting. Hang up the bottle. It acts like magic. Testimonials from every state in the union tell of wonderful results from its use.



Simply put a few drops in nests and on roosts and hang uncorked bottle in coop or hen house. Powerful evaporating vapors which leave bottle are three times heavier than air descend in a misty form, penetrating feathers, cracks and crevices everywhere. Lice, mites, chiggers, bed bugs, ants, roaches, etc., have no lungs—they breathe through the pores of the body, and are destroyed by Licecil vapors. Will



The End.
 not injure chicks. Bottle, \$1.00; 3 bottles for \$2.50; 12 bottles, \$9.00. Prepaid. Money back if it fails.
 American Supply Company, Dept. 30, Quincy, Illinois.

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GIVEN to Boys



You can see the time as clearly at night as in the day time with this dandy radium-dial stem-wind stem-set watch. A fine-looking heavily nickeled watch that keeps right good time. Fully guaranteed. A handsome genuine leather fob goes with it free if you act quickly. Write today. I'll tell you how to earn this watch in jig time.

D. S. STEPHENS
 Dept. L-9, Springfield, Ohio

A Suggestion for Horse Owners

It will pay any horse owner to direct those who attend to his horse shoeing to use "Capewell" nails.



There's a great difference in horse nails. It's a well established fact that none equals

The Capewell in driving and holding qualities. For years the leading nail. Insist upon getting it.

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I Find It Never Pays to "Take a Chance" in Canning

By Elizabeth Fitch

COLD-PACK canning is the simplest and surest method we have for canning vegetables. The flavor, color, and texture of the product are conserved, and time and labor are saved. But canning by this method is easy, and simple, and sure only when we follow directions.

I always helped prepare the fruits and vegetables for Mother's canning, and so had plenty of chance to study her methods. She was quick, and didn't seem to get tired; but, secretly, I used to think she paid too much attention to the clock and her directions.

Mother always was a great believer in experience, so one day I got my chance. My packs looked wonderful. I had my jars, covers, and rubbers clean and sterilized, but it did seem so poky to test every seal, so I left it to luck. The time of processing wasn't always according to the clock, either.

Luckily, things began to happen very soon in spite of our cool and well-constructed storage closet. Of course, some things did keep, but I believe I had practically every misfortune a canner could have, and in almost every case I could trace this misfortune directly to my neglect of some, seemingly, small detail.

The right equipment for the canning season is simple and inexpensive, and having it makes such a difference. My small, stiff-bristled scrub brush, with an easy grip, is about as cheap as one with a sharp finger-cramping back. I use it to silk corn as well as for scrubbing vegetables. I also find several knives with edges that do not dull quickly, and handles which fit into the palm comfortably save not only my hands but my temper as well. One of my recent additions to my preparation equipment is a large pair of sharp shears.

They cut the time spent in getting greens ready amazingly. I've also found that a number of large basins for washing, rinsing, and draining make the work go faster. If you have running water, you can lessen the time spent in washing greens and other vegetables by attaching a short piece of hose to the cold-water tap. This stream of water washes off the stubborn particles of dirt very quickly.

Either tin or glass containers may be used, but I've found the glass most practical because they may be used over and over again. Since I inherited many of my jars, my collection isn't uniform, but each container has to pass a rigid test before I allow it to have its pack. I find it best to have the containers

tested out and standing in cool water on the stove ready to heat before I take the vegetables from the garden.

The jars should be free from cracks and uneven edges. I am especially careful about the rim upon which the rubber fits, since a small projection may cut the rubber and cause an imperfect seal. The covers, whatever the type, must fit perfectly. A good rubber is an economy. I buy new rubbers every year. If a rubber seems as good as a good new one, if it returns to its original shape when stretched, if it will not crease when bent double and pinched, if it fits the neck of the jar snugly, it might be used the second time. However, I'd make it pass a very severe test, because it's better to discard a doubtful rubber than to lose a jar of canned goods. If the rubber does soften or bulge when the jar is processed, I replace it with another sterilized rubber, and put the jar back in the sterilizer for five minutes. To test the seal, put a little water in the jar, put the rubber in place, and screw or clamp the cover on tight; shake, then turn over on the table and watch for drops of water.

WE FARM women have the best chance in the world for canned vegetables of the highest grade, since we can just about follow the "from the garden to the can" slogan literally. It's amazing how important this precaution is. Canned beans, peas, asparagus, and corn sometimes have a queer, sour taste which is called "flat" sour. This condition develops in any of these vegetables when the time between gathering and processing is very long, especially on warm days. Then, too, all vegetables have a better flavor if canned fresh.

There are a number of excellent bulletins published by the various States, and also a number of United States bulletins. I have always used "Farmers' Bulletin 838, Home Canning by the One Period Cold Pack Method." "Farmers' Bulletin 853, Home Canning of Fruits and Vegetables" is also good. Either may be obtained, free of charge, from the Division of Publications, United States Department of Agriculture. The directions and time tables have been very carefully tested out. In using the time table you may find that setting an alarm clock for the time the process should stop will help. Remember, though, to count time only when the water in the water bath is boiling.



This is Myra Jones of Blue Earth County, Minnesota, who, with two other fourteen-year-olds, made up the prize-winning demonstration team of that county. Among them they baked over 400 loaves of bread

The most important thing in canning, I think, is to use one reliable bulletin and to follow the directions exactly.

Suggestions for Threshing Time

From Women of the Middle West

WHEN preparing meals for threshers and other harvest hands I do not make the mistake of trying to have too much variety at a meal. I find it is better to serve a few dishes, well cooked, than a large number carelessly prepared.

I try to have most of the baking done beforehand. A fruit cake will keep for weeks, while doughnuts and cookies may be made several days before using, if they are kept in a tightly covered jar. I prepare enough pie crust at one time to last for two or three weeks. Mix the flour, lard, and other ingredients together. Then, when pie is wanted in a hurry, I have only to add water to as much of the dough as is needed.

Threshers like some kind of tart fruit to cut the dust from their throats. Cherries, plums, or jelly serve this purpose.

If you have pumpkins at harvest time, instead of stewing pumpkins for pies in the usual manner, try this way: Cut pumpkin in halves, and scoop out the insides; place

on a pie tin with a little water, and put in the oven. When done, the rind can be peeled off very easily. When the pumpkin is mashed it is ready for use.

WHEN getting ready to dress a chicken, if the water is boiling hard in the kettle, it is too hot, and is apt to cook the flesh, so that the skin will come off and make the chicken hard to clean, and also spoil the looks of it. I always put half or two thirds of a cup of cold water into the boiling water, and then it will be scalded just right. When I am dressing the chicken, I use warm water, as it cleans much easier than to put it in cold water. Some put some baking soda on the chicken and rub that over the chicken, as it has a tendency to clean easier. After dressing the chicken, I put it into cold water at once, and add just a little salt, as it helps to draw out the blood and makes the flesh white and clear.

What It Means to You

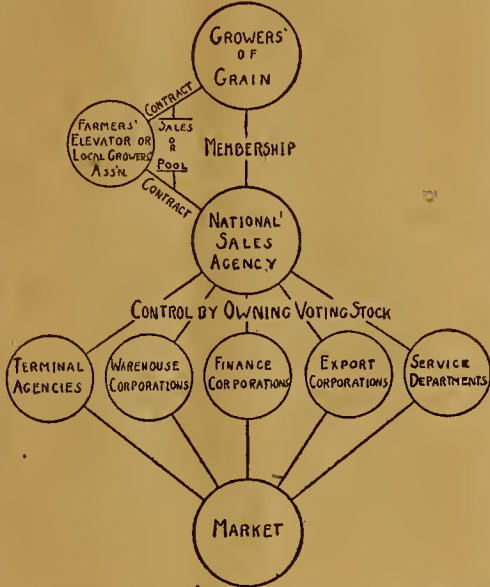
[CONTINUED FROM PAGE 3]

What do I give and what do I receive? This is the way it was explained to me: (See diagram.)

Some day this summer, perhaps when I'm busy keeping the bull tongues from tearing out the young corn roots, I may expect to see a "flivver" come bouncing down the turning row and an organizer hop out. He will explain the plan, and he will probably get my \$10 and my name on the dotted line as a member of the National Selling Association, which will handle our grain at the big markets. If a hundred farmers or so sign up in my community, then we will be ready to decide how we want our grain handled.

We have a kind of cooperative elevator already, started years ago by my granddaddy, who had the farm before me. I'm not so sure that the old man was a true coöperator, though; he had quite a hard row to hoe as a lad, and he got to be too much of an individualist not to insist on voting every share of his capital stock and declaring to himself all the dividend in sight. The Committee of Seventeen says that our local elevator must measure up to the following standards:

1. One man, one vote, no matter how much stock he holds.
2. No stockholder may own more than a certain amount of stock.
3. Dividends on stock must be limited to a reasonable rate.
4. All earnings above cost of operation and surplus funds must be distributed back to the patrons on the basis of business done.
5. No proxy voting.
6. Ownership of common (controlling) stock limited to actual growers of grain.
7. Stock must be available to any grower in the community who wants to buy.



Here is a diagram of the grain-marketing plan outlined by the Committee of Seventeen

to the national convention, where he will vote, according to the members and amount of grain which he represents, in selecting the board of directors to run our national association. Maybe I'll run for delegate.

The National Selling Association is not to be organized to make a profit. It all goes back to us growers, where it belongs. The "National" will control a number of subsidiary corporations, by owning the common (controlling) stock, and perhaps selling the preferred stock (which has no vote) to the public to get money on which to do business.

A terminal agency will own a seat on the Board of Trade, and use it if it wants to, but not for gambling, or "future trading," as they call it.

An export corporation will be organized under the Webb Act, so that all the exportable surplus may be pooled and sold abroad to the best advantage. The Canadian coöperators showed the Committee of Seventeen how they cut down the cost of exporting wheat from a nickel a bushel to less than two cents. If we could do as well, we'd be saving more than \$3,000,000 a year on that item alone. It seems to me that the Finance Corporation is the most necessary adjunct of all. It is not to be a bank to compete with our country banks, but a

finance company to coöperate with them, and help them finance the farmers' business in a business way.

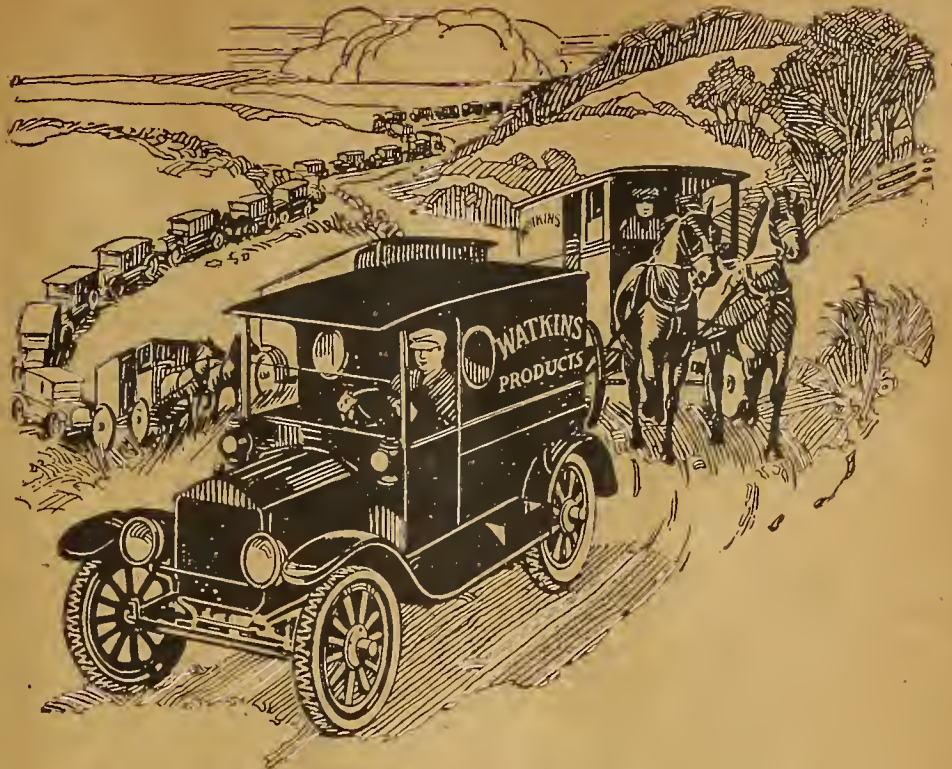
A warehouse corporation will furnish the terminal storage facilities, condition the grain, and all that. It will issue warehouse receipts and deliver them to the Finance Corporation, which in turn will issue debentures against them, underwrite them, and sell them in the money markets of the world. Where is there any better security? In that way we can get our money on our grain and pay the grocery bills, and not have to be forced to sell and pay off our loans at the bank because the speculator wants to borrow that money for margins on which to sell us short.

Then there will be service corporations of various kinds. We'll get our own statistics and information, do our own insurance business and manage our own affairs. We'll see whether a shower in Timbuctoo or a green bug in Texarkana will knock ten cents a bushel off our crop overnight!

MAYBE you remember that last July 1st the Chicago market for corn, December future, was \$1.57 per bushel. The Department of Agriculture estimated at that time that we'd have 2,779,000,000 bushels of corn, so we corn growers could count on a crop return of \$4,363,000,000. But either we worked too hard or God was too good to us, or something. By October 8th, harvest time, we had much more corn than the Government's July estimate—3,216,192,000 bushels, in fact. But something had happened to the price. When we shucked the bigger crop of corn, it was worth, December future, only 84½ cents a bushel, instead of \$1.57—or \$2,718,000,000. In other words, for 437,192,000 more bushels we could count on \$1,645,000,000 less money. Query: Why did we shuck the "down" rows?

I say that we'd all do well to jump in and do our darnedest to put over the plan of the Farmers' Grain-Marketing Committee of Seventeen. We have all to gain, nothing to lose. At least, the farmer will have the satisfaction of owning and controlling the agencies for marketing his own grain, thereby securing a more even, orderly shipment to market in order to meet the law of supply and demand halfway, eliminating the speculators automatically, preventing gluts, and doing away with the violent fluctuations.

So there it is. To make this plan work nationally, to your benefit and mine individually, about all we've got to do is to support our local organization and pay our dues, which we will get back many times over in reduced marketing costs.



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Letters We Get From Farmers

Perhaps the answers might help you, or maybe you have a question of your own to ask

IT IS safe to say that any list of men who have contributed most to the upbuilding of Southern agriculture would include J. F. Duggar, Corresponding Editor of FARM AND FIRESIDE in charge of Crops and Soils South, and on most lists he would stand well toward the top. Born, reared, and educated in Dixie, he has been untiringly working for over thirty years to solve the problems of Southern farming. Since 1896 he has been actively engaged in this work in his native State, Alabama.

John Frederic Duggar was born in Faunsdale, Alabama, August 24, 1868. He graduated from Mississippi Agricultural and Mechanical College in 1887, and received the degree of Master of Science in 1888. He began a useful apprenticeship for his present position by serving as assistant professor of agriculture at Texas A. & M. College. In 1890 he edited the "Southern Livestock Journal." From 1890 to 1892 he was assistant director of the U. S. Experiment Station at Clemson College, South Carolina. His next job was editing the farm-crop bulletins in the U. S. Department of Agriculture, from 1893 to 1895.

Alabama called him, and he went to become, in turn, professor of agriculture, director of experiment station, and director of extension service at Alabama Polytechnic Institute and Alabama Experiment Station. He still occupies the chair of professor, but most of his time is occupied with his duties as experiment station director. Last fall, in company with Mr. Duggar, I had the pleasure of seeing the valuable work being carried on at this station to determine the best crops and farming methods for cotton-belt conditions. I was amazed at the vast number of practical experiments, and strongly recommend that every Southern farmer who possibly can, visit Auburn and see them with his own eyes; or at least write for bulletins which describe the results which have been obtained. It will mean bigger profits from your farm to do so.

Mr. Duggar is more than a scientist. He and his sons own and operate a farm near Montgomery in the Black Belt, where they practice the things worked out by the elder Duggar at Auburn. He knows the South and its problems thoroughly. As a Corresponding Editor of FARM AND FIRESIDE his advice is available to any FARM AND FIRESIDE reader, North or South. You can count on him to give you the best possible answer to any problem that can be dealt with in a letter.

Our Corresponding Editors are always ready to help you with any problem of your farm or home. State problem clearly, enclosing stamped self-addressed envelope, and address Service Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York City.

THE EDITOR.

To Condition a Horse

I am writing in regard to a black mare we have. She is twelve years old, but has run down in flesh and does not seem to pick up. She eats all right, but is thin and weak. I had her teeth filed a year or more ago. We have given her prepared condition powder, but it did not help her very much. This spring we gave her a four-pound mixture of gentian, sulphur, salts, and soda. She is looking some better this spring. What is best to give for worms? What can you do for bots in horses? H. C. B., Ohio.

REPLY BY DR. A. S. ALEXANDER: Clip the mare this spring and, after having the teeth attended to again by a veterinarian, feed whole oats, one-ninth part of wheat bran by weight, and mixed clover and timothy hay. If she does not improve quickly, give her half an ounce of Fowler's solution of arsenic, night and morning, until in good condition; then discontinue the medicine gradually.

Bots rarely, if ever, cause any appreciable disturbance, and are present in the stomach of every horse that was on pasture the previous summer. They may be driven out by carbon bisulphide given in gelatin capsules by a trained veterinarian. A tablespoonful of a mixture of two parts of table salt and one part each of dried sulphate of iron and flowers of sulphur, mixed in the dampened feed night and morning for a week, and then, after stopping the treatment for ten days, for another week, will kill the intestinal worms of a horse. Omit iron for a pregnant mare, and increase the sulphur.

Why Incubator Chicks Die

I am a FARM AND FIRESIDE reader, and have seen quite a few useful helps about chicks, but have never seen why little chicks die in the shell just before hatching. I have an incubator and lose many little chicks while hatching. Most of them die while the egg is cracked or half out of the shell. Those that hatch all right seem to be strong.

Mrs. A. P.,
Minnesota.

REPLY BY V. G. AUBRY: Your experi-

ence that a large part of the loss in incubation comes after the eighteenth day is true of general hatching conditions. The reason is that this is the critical period, and any weaklings or poor condition on the part of the breeding stock or the chick will show itself at this period.

Too high temperatures, although not killing outright at this time, will often affect the hatches. Lack of moisture during incubation will show itself in the result of dead chicks at hatching time, but more often this is caused by weak breeding stock, or breeding stock which is in poor condition at the time the eggs were laid. A great deal of this loss can be prevented by feeding butter-milk or sour milk to the adult stock during the breeding season.

They Ruined His Well

The coal being taken from under our farm, it has taken the well water. I was compelled to build a cistern at one of our barns. The area or surface of roof is 1,800 square feet.

What volume of water will this produce in gallons, allowing the rainfall to average 30 inches per yard?

Dimensions of cistern—12 feet diameter, circumference 37 feet by 10 feet deep to overflow pipe. C. C. R., Pennsylvania.

REPLY BY F. W. IVES: Allowing for light showers, snow blowing from the roof, sudden showers that overflow the gutters, and evaporation, the amount of water you may expect from a 30-inch annual rainfall on a roof of 1,800 square feet will be approximately 3,600 cubic feet. This is the equivalent of 27,000 gallons, or about 375 barrels per year. Your cistern will hold 8,485 cubic feet, or about 275 barrels. The proportion of your cistern to roof area is just about right, assuming that you use water at a constant rate.

Nitrate for Roses

Mrs. L. M. S. of Florida asks if nitrate of soda is good for rose bushes.

REPLY BY F. F. ROCKWELL: Nitrate of soda is excellent for roses, but you should observe two precautions in using it:

First, apply it only in very small quantities, not over a small tablespoonful to a plant, and that scattered well over the surface around the plant.

Second, do not use it late in the season—say after the first of August—because it is desirable to have the wood of the plant ripen up thoroughly before growth stops in the fall. Too much nitrogen late in the season tends to keep the wood growing later than it should.



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How I Remodeled My Old Poultry House

By R. G. Kirby

WHEN I bought my farm in Michigan it contained only one poultry house of the semi-monitor type. It was built of matched lumber on a stone foundation, and had an open front.

We could find no serious fault with the outside of the house. But the interior was not modern. It was not arranged for the satisfactory management of poultry. The roosts were nailed to the walls of the house. This furnished an ideal breeding place for mites, and when the roosts were pried out we found plenty of them. They hung in clusters beneath the roosts. We painted the old roosting poles with kerosene, then added the roosts to the kindling-wood pile, to make destruction doubly sure.

The house contained no dropping boards, which made the condition of the floor bad, and reduced the scratching area. So we built a dropping platform of smooth lumber along the back wall of the house. Roosts were made by planing the upper edges of two-by-three pieces until they were rounded and smooth. These roosts were then nailed in sections of three roosts each, and each section was hinged to the back wall of the house.

A hook placed in the middle of each section permitted the roosts to be raised easily, and hooked to the ceiling when the dropping boards were cleaned. It also made it easier to paint or spray the roosts on the under side, where red mites are most likely to appear.

The nests were boxes tightly nailed to the wall. Now, I have found by experience that nests must be loose, so they can be taken outside the house for emptying, followed by sunning and spraying. Nests that are tightly fastened to the wall form breeding places for mites and lice.

I find also that open nests may lead to the egg-eating habit. In winter the birds may scratch in the litter of the nests after eggs have been laid. Eggs kicked against the side of the nest are apt to be broken and then eaten. Open nests also become unclean from the hens roosting upon them at night, or sitting on the edge during the day. In remodeling my house I built the nests in portable sections. If the top of a section slopes sufficiently, the birds will not roost upon it. If the top does not have enough slope it pays to stretch a strip of

poultry wire above the nests in such a manner that the hens cannot roost there.

Poultry nests must be so built that the eggs will be clean. An egg that is washed loses the film provided by nature to help keep it fresh. Dirty eggs look very bad, and the producer with a select trade cannot include them in filling orders. If the nests are slightly darkened and the nesting litter kept clean, the eggs will be clean with the chalky freshness which customers expect when they pay a premium for fresh eggs.

I find that a small wooden table is useful in a poultry house. It should hold the water pail and a crock or two of sour milk. Then litter cannot be scratched into the water and milk, making them a possible source of disease.

IF THERE is no time to build hoppers, the grit and oyster shells can be placed in earthen crocks on this low platform. I find that hoppers are best, however, as they hold a larger supply and need filling less often. Hoppers for dry mash can easily be made of small packing boxes. Sketch the outline of the proposed hopper on the sides of the box. Then saw out the box to conform with the sketch, and use the material removed to board up the front of the hopper. Make a sort of lip in front so that the hens cannot waste it on the floor.

In remodeling my house I found that the curtains were hinged to the top of the windows so they could be pulled back and hooked to the ceiling. I also found that the hens had been roosting on the curtain frames, making them dirty and infesting them with mites. I took these curtains out and burned them. The new curtains are of the roll type. They are seldom used except during the two or three severe storms that come from the south every winter. Very heavy storms from other direc-

tions do not cause the snow to blow into the house and consequently the curtains do not have to be lowered.

I find that there are many poultry houses which do not give good service because of faulty equipment. The actual needs are so small in that respect that it pays to build the necessary portable equipment. Then reap the steady reward for your work, which is bound to come if you have a laying strain of hens and feed them properly.



Here we have "Dutch" Kappy, Purdue herdsman, feeding orphan lambs on the university farm at West Lafayette, Indiana

I Have Strawberries All Summer

By C. H. Chesley of New Hampshire

I HAVE been raising everbearing strawberries for several years, and think rather highly of them. Our first setting was of the Progressive and Superb varieties. We set the plants as early as the ground could be worked. The land having previously been planted to garden crops, it was well fertilized and in fine condition. Also, it was a deep moist loam of the kind that holds moisture rather well. The patch was slightly sloping, thus assuring drainage.

The hill method was followed in setting and cultivation. The first year, plants were gone over carefully every week, and all blossoms and runners removed. Regular cultivation was followed. This was kept up until the last day of July, when the last blossoms were picked. Berries began to ripen before the end of August, and continued throughout September and the first half of October with considerable abundance. The last berries were gathered the second week in November.

After the ground froze, a mulch of leaves and straw was spread over the patch and the plants came through the winter without loss. Cultivation was started as soon as possible the following spring, and runners removed as fast as they started. No

blossoms were picked, and the result was as fine a crop of berries from the Superb plants as any of the common varieties bear. After bearing the second crop, runners were allowed to grow and set for new plants. These new plants were set the next spring, and the process repeated.

I AM not sure that this procedure could be followed as a commercial proposition, but for the home supply it is the most certain method of having a supply of strawberries all season. Once established, 200 or 300 plants set each year will keep the supply constantly coming. I have tried out a number of varieties, but have discarded all but Superb. Progressive produces more berries, but they are usually smaller than Superb. Then, also, I think Superb is a better spring bearer.

The main thing that makes for success is an abundant supply of moisture. On land of the right texture, frequent cultivation holds the supply. I think the reason many report failures with the everbearers is the lack of moisture. My Superb berries are as large and fully as luscious as the berries usually grown in June. And, my, how good strawberries do taste in October!



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Our Letters to Each Other

Wherein we talk things over—so if you've got anything to say, let's have it

VICE-PRESIDENT A. B. EDWARDS of the Wheatland County Farm Bureau, at Harlowton, Montana, has just written me as follows:

"Have you or have you not? If not, it's your move, and if you want to know what real domestic peace is, for goodness' sake clean that cellar."

"I have installed a water system à la illustration, FARM AND FIRESIDE of recent date, and for three whole days have not once heard 'I wish you would carry some water.'"

"Editor's regard for the truth being well known, could you furnish affidavit from Mrs. Editor regarding cellar?"

Mr. Edwards is not the only one I have heard from. Evidently many other farm husbands read and were spurred to the installation of running water for their wives by my note promising to clean the cellar for my wife if I heard from any readers who put in running water as a result of Mr. Ives' article in the March issue.

I won't attempt to answer separately all the letters I have received, but I want to tell the world that that cellar has been cleaned. I can't produce the affidavit Mr. Edwards demands, but I will show the cellar to anyone that wants to see it.

All I can say is that the husbands who put in running water probably did a much greater service to their wives than I did by cleaning the cellar for mine.

Why Not?

I had a visit with a smart and able farmer from the Middle West the other day. We got to talking about the Farm

Bureau. I asked him what he thought about it. He said he thought the national movement was a stupendous idea. He even questioned whether he and his fellow farmers themselves realize how big and important it is.

"Take, for instance, this grain-marketing plan that has just been adopted," said he. "It is so big, and so important, that it would be fatally dangerous for the Farm Bureau people not to realize that they have got to get the biggest and ablest men in the business world to help them put it across."

"Of course, that means taking a man from what we farmers have learned to consider the enemy's camp—that is, from among the grain-exchange experts. I have in mind men of the type of Julius Barnes."

"Those are the men who have been doing the marketing of American crops, and, regardless of what we think of what they have done they know more about the practical workings of marketing plans than any of us farmers, because that has been their business."

"I feel that it would be almost suicidal for any farmers or group of farmers, or any average business men or group of business men, to attempt to compete with these

trained marketing minds. The cheapest and the best thing we can do is to buy 'the enemy,' and bring him into our own camp and make him work for us under this new grain-marketing plan."

"What other pink thought have you on the Farm Bureau Movement?" I asked.

"Just this," said he. "Have the Farm Bureau select a few leading food products and follow them through from their production on the farm to their purchase at the store by the customer."

"By that I mean, have the Farm Bureau establish as an experiment, or rather as a demonstration, a few Farm Bureau retail stores in five or six places over the country, and just see how the thing would work out."

"There certainly is something wrong when the eggs I sell off my farm bring me fifteen cents a dozen while the man who buys them in the city must pay three times what I get for them, which is forty-five cents."

"There must be something wrong when practically every food product we have sells to the consumer at the corner grocery

for one to four and five hundred per cent more than the farmer gets for it.

"There must be something wrong when apples lie rotting on the ground in the orchards on one side of a State because it doesn't pay the farmer to harvest them, while the consumers on the other side of the State still pay 5 cents each for them."

"Such an experiment as I suggest by the Farm Bureau—and it would be only in the nature of an experimental demonstration, for I do not at all mean that the Farm Bureau should go into the retail grocery business—would certainly illuminate a lot of dark corners and show whether the tremendous marketing spread between the producer and the consumer is justified."

I personally think that, whatever its outcome, that would be a wonderful and enormously valuable piece of advertising for the Farm Bureau movement.

It would serve to put the Farm Bureau definitely in the minds of the city people as an active, aggressive, constructive, and powerful organization working in the interests of all the people.

There is no more important job now confronting the American Farm Bureau Federation than that of selling the big constructive idea of the Farm Bureau movement to the city consumer. He does not yet realize the fact that the Farm Bureau marketing program is building a machine that will fit into the present economic business system of this country, and work with bankers and business men instead of against them.

George Martin



This is Chester Allen and two young Short-horn acquaintances he became very much attached to while on a visit to the farm of James Silverhorn, Rossville, Indiana. Chester's father, J. C. Allen, took the picture

The Pennsylvania Dutchman's Way with His Children

By Henry Irving Dodge

INASMUCH as the Pennsylvania Dutchmen go on being good farmers from generation to generation, it is interesting to know what the attitude of the Dutchman and his wife is toward their children.

During my trip on which I gathered the material for articles about the Dutchman as a farmer, I asked about the children, and I learned that the three big principles on which he builds his success are hammered into his children from the time they are old enough to talk. These are honesty, industry, and thrift. And he gives the youngsters a personal share of some sort in the farm to be honest, industrious, and thrifty about.

I talked with the principal of a village high school, himself a Pennsylvania Dutchman, a man of culture, a keen observer.

"In my school," said he, "are twenty-seven boys and twenty-three girls from the farms. In their studies they rank higher than the pupils from the town. They have great mental energy. They burn the midnight oil. Our first honor pupil this year is a farmer's daughter of seventeen. She comes three and a half miles across country, summer and winter."

"The farm children take kindly to scientific subjects, particularly the sciences that pertain to agriculture. So far as their reading is concerned, it is mostly confined to the 'Christian Herald,' 'Woman's Home Companion,' and the Eleanor Porter kind of books. One of my farm pupils had read all of George Eliot's works before she was seventeen, and another all of Dickens'."

"The tendency of the farm boys is to stay on the farm. Nevertheless, their views are expanding. They are coming into their own. The 'old man' must make it interesting for them if he would keep them. He is realizing this. Consequently, there's a growing disposition to make the boy a partner. One farmer I know has given his four grown-up boys equal interests with himself. Another has given his son the pigs, and so on."

"The girls are coming into their own in an athletic way. They like basketball, for instance. Our school developed a team of six last year, four of whom were brought up on the farm. They won ten games—five at home, five away. This practice has brought the farm girl into social contact with the village girl, and given her social life.

Pennsylvania Dutch make farm life interesting for each other, and for the children. They work hard, but they also get together and have good times. Close and reciprocal are the kindly relations existing between all the people thereof. They co-

A Pennsylvania Dutch log house more than 150 years old built by Jacob Yodder. This two-story-and-garret house has a kitchen and two large rooms on the ground floor and four large rooms on the second floor. The crevices between the logs are filled with broken stone and stucco. The floors, up-stairs and down, are as solid as the day they were put in. The farm has been in the family up to about fifteen years ago



operate. Their faith in one another is unquestioning. The community sentiment has produced a genuine democracy.

This democracy has its humorous side. For instance, the Rev. Edward Leinback is called "Ed" or "Eddie" out there. And I was told of a doctor, a great landlord, who owned many farms and had many tenant farmers.

The doctor was a man of great dignity—always wore a frock coat and a high hat. Yet the veriest kiddie belonging to his tenant farmers used to call this great man "Jim" to his face—not even "Doctor," but "Jim."

And he accepted it as a matter of course.

Even when scattered, members of the Pennsylvania Dutch families keep track of one another. For example, those belonging to the Lutheran Church make it a point of meeting at communion at the old home church twice a year, and there exploiting their success. One who hasn't done well is not held in high esteem, so everyone tries to live up to the family tradition of respectability and thrift.

on such an occasion is *schnitz* and *kneep*, a concoction of pork and dried apples and dumplings swimming in gravy.

The most expensive practice among the Pennsylvania Dutchmen is dying. It costs the family of the deceased a whole lot. The death of a popular man is the occasion for a very large gathering of the clans from all parts. It used to be that when a good man died, friends and acquaintances drove in or came on horseback to pay their respects, to swap news and gossip, and some to make a trade, perhaps.

It is always incumbent on the family of the deceased, due to an ancient custom, to provide refreshments for the funeral guests—something of a burden even under the most favorable circumstances. To illustrate: On one occasion six hundred persons attended a popular farmer's funeral, and a thousand pies were baked. Of course, the neighbors came in to help prepare the repast, just as they would come in to help at a quilting bee, a husking, or a barn raising—an old custom whose revival would keep your children home. If the farmhouse is small and lacks accommodation, the funeral guests are sent to the nearest tavern for dinner—an expensive business costing perhaps \$150 or \$200.

RIGHT here a word about pies: Pie is at all times and on all occasions first aid to the Pennsylvania Dutch housewife. It is what beans are to the Bostonian, it is what corn pone and sorghum are to certain parts of the South. Customarily, the farmer's wife bakes sixty pies a week—all kinds of pies. There's the tomato pie, the green grape pie—made out of grapes so young that the pits are tender—the ripe grape pie, the sweet potato pie, the peach pie, the shoofly pie, which looks like a pie but isn't a pie, only a cake shut up between the lids of a pie.

But the great pie of all—the protagonist pie—is the raisin pie, otherwise known as the "funeral pie." The reason for this is that the Pennsylvania Dutchman doesn't confine his dying exclusively to summer, when all other pie ingredients are on tap.

New England has usurped the honor of being the pie country. It's only a piker compared with Pennsylvania Dutchland. One never sits down to a meal in this beautiful country without being confronted by a row of these smiling, moon-faced, infinitely inviting dishes.

Take notice, epicures! A favorite dish