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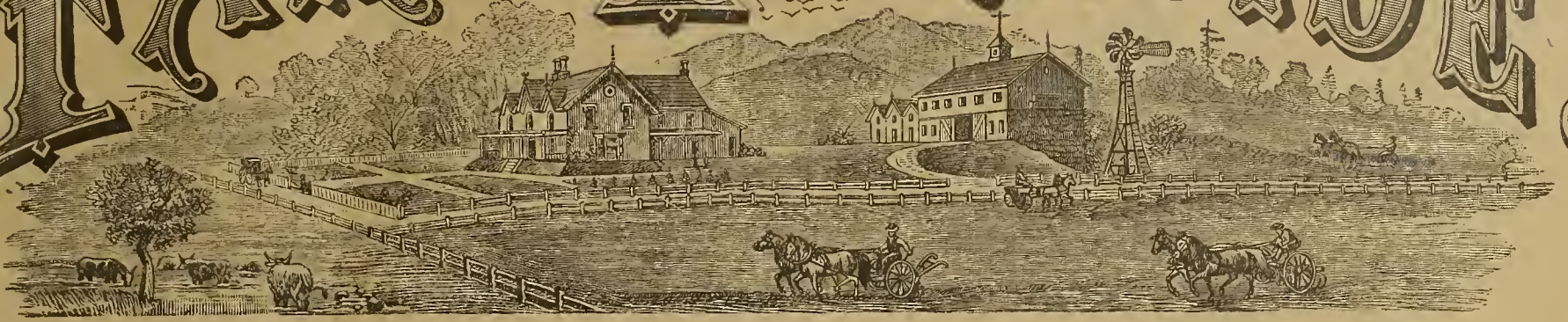


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FARM FIRE SIDE



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THE SUGAR-BUSH

BY EDGAR W. CURTIS

THOUGH the labor is hard there is probably no part of the whole year's work on the farm so much enjoyed by the family as a whole as the period of maple-sugar making, which is principally in the month of March. Though tons of this are made, for the most part in New York and Vermont, there are probably many people living on farms throughout the United States who have no more clear idea of how maple-sugar is made than they have of the production of electricity.

Every one who has used his eyes knows that nearly all the birds in the New England, Middle and Western states migrate twice a year. In the fall when the cold weather is near Nature tells them to go south; in the spring when the weather begins to get warmer they come north again. The sap, or juice, of the tree acts in much the same way. In the fall the greater part of the sap goes from the trunk and branches into the roots, where, buried deep in the ground, it will not be chilled; in the spring, beginning in the latter part of February or first of March, according as the season is forward or backward, the sap begins to ascend the body of the tree, the greater part in the outer layers of the tree. The sugar-maple is so called on account of the sugar contained in the sap. The person with no experience can hardly tell the difference between it and water, as it is clear and sparkling and has but a faint taste of sugar; there is just about enough sugar to make it a little sickish. Securing this sap as it ascends and boiling it down constitutes the work of maple-sugar making. No part of farm-work has undergone greater improvement during the past twenty-five years than has the method of getting the sap from the tree and converting it into the finished product.

The first thing is to get the sap. In the early days, before the bit and brace, an oblique notch was cut into the tree near the ground, and from this wound the sap would of course flow. Then under the lower corner of this wound a curved hole wide from one side of the tree to the other, but narrow up and down, was made with a "gouge," and into this was driven a short wooden spout of the same shape, which caught the sap as it dropped from the cut, and thus carried it to short wooden troughs made by digging out basswood blocks. After the bit and brace came into use a hole was bored into the tree, and a round spout made from a piece of sumac from which the pith had been burned out was driven into the hole to convey the sap to the trough. But at best the trough was a clumsy affair. Often it was next to impossible to set it so it would hold sap, because of the unevenness of the ground

and the irregularity of the roots at the foot of the tree. Again the tree must be tapped near the ground or the sap would blow away before it reached the trough. The tree died on both sides of the cut, so that it was soon surrounded by a dead exterior, and it was difficult to find a fresh place.

Next the wooden bucket came into use. This was a decided improvement for those who could afford it. By driving a nail into the tree under the spout the bucket could be hung anywhere on the tree, so the tree could be tapped anywhere as high as a man could reach to bore a hole. In after years these nails left in the tree and grown over made trouble with the saws when the tree was cut up, but the first consideration was to get the sugar, and farmers did not then worry about what might happen to some saw in the future.

The sap was carried to the boiling-place by ox team or by hand with the neck-yoke, a wooden contrivance hollowed out so as to fit the shoulders, with a notch cut out for one's neck. Hooks were tied to each end so that two pails could be carried and most of the weight borne by the shoulders. The boiling-place was the place where the sap was boiled. Two poles, each with a crotch at the top, were set in the ground, and a third was laid in these crotches and large kettles suspended from the pole by means of iron log-chains. Two large logs were rolled up, one on each side of the kettles, much as the back-log was used in the fireplace, and finer wood was put in between the kettles and logs. Most people in those days had no covering or shanty of any kind. Not one

man in a hundred thought of having seasoned wood, but it was cut green as it was used. Naturally, with the fires built around the kettle, ashes, cinders and dirt would fall into it. When the fire burned well the sap would boil furiously, but was kept from going over the sides of the kettle by a piece of fat pork suspended from the pole above so that it hung in the center of the kettle a

no incentive to keep out the dirt and cinders, for black sugar was just as sweet, and sugar lighter than chocolate was looked upon as having been adulterated.

The next improvement was the large pan placed upon an arch made of stone or brick. About the same time tin buckets came into use. A little later the metallic spout was invented. This is now of such shape that it fills but a small portion of the hole bored in the tree, but is held so firmly that the bucket is supported by it. It allows sap to flow from the outer layers of the tree where there is the greatest amount of sap and that which makes the whitest sugar. From two holes bored side by side in the same tree with the same sized bit the sap will run twice as fast from the metallic spout as from the old wooden one. One illustration shows the three principal stages of the development in the method of getting sap from the tree.

A few sugar-makers have their plant so arranged that the sap, or syrup, does not touch wood after the sap leaves the tree. At the present time color is an important factor in the value of maple-sugar, and as wood tends to color it, wooden utensils of all kinds have been discarded as far as possible. The maple-sugar now made is of a light-straw



THE BOILING-PLACE

few inches from the top. The fat boiling in the sap would prevent it from boiling over. When the fire cooled off a little the sap would go down, but some of it would stick to the sides of the kettle, burn black, and when the sap boiled up again, was washed off and mixed with the contents of the kettle. As a result the syrup was the color of tar

and about as thick. In most cases this was taken to the house, boiled on the stove until the right consistency was reached, then taken off, allowed to cool a little, slightly stirred, and poured into basins. When cooled it came out of the basins in hard cakes, the finished product. It was at the house when the syrup was "sugared off" that the warm-sugar eating was enjoyed and is yet. To have the full equipment there must be a large pan of snow for those who like wax; for when the sugar is hard enough it will form a wax when poured on snow.

In the days of boiling in kettles color was the least thing aimed after in making maple-sugar, which was a dull black when finished. Sweetness was the main consideration, and there was [CONCLUDED ON PAGE 7 OF THIS ISSUE]



THREE METHODS OF COLLECTING SAP

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THE Chicago trust conference brought together many men of many minds. Passing by a number of speakers, each of whom proposed as a panacea for trust evils his own particular hobby—free trade, free silver, single tax, government ownership, socialism or anarchy—and by those whose apparent sole endeavor was to make political capital out of the occasion, we come to a class of delegates who discussed the trust question on its merits. Even these presented widely divergent views, ranging from mere assertion or denunciation to sober argument. The following extracts from some of the addresses to the conference show the various opinions on the subject.

"Accepting in good faith that amendment which the heroic legends of the South resisted unto death on a thousand battlefields," said Dudley G. Wooten, of Texas, "we believe that neither slavery nor involuntary servitude, except as punishment for crime, shall exist within the United States or any place subject to their jurisdiction. And we confidently assert that the commercial and industrial bondage being rapidly imposed upon the toil and talents of 70,000,000 American people by the syndicated wealth of a few great corporate monopolies is more dire and dangerous than the slavery which bowed the heads and burdened the backs of 4,000,000 Southern black men."

"We have lived to see a large part of the world's work done under corporate form," said Prof. John Graham Brooks. "At the close of this century the instinct toward still vaster and more compact organization is everywhere asserting itself, and again men are frightened. Are there signs that the monster is dangerous to the commonwealth? It would be very simple-minded to answer by an unqualified yes or no. We do not say a corporation is good or bad until we know what the corporation is or does. If the business is properly safeguarded the corporation renders a social service as essential as the college, the library or the church.

"I assume that no answer is possible to my subject, 'Are the new combinations dangerous?' unless that measure of control is secured which is represented by complete publicity, the removal of tariff privileges and the ending of special railway favors. If the trust movement spreads, as now seems likely, by far the larger part will go to the wall from sheer speculative bravado. The people meanwhile will be rapidly educated, and, above all, the banks will be swift to learn the lesson and refuse to underwrite if the venture is too impudent in its risks. Only those trusts will survive that are prudently organized and deal with a product which lends itself to the conditions imposed by the new combination."

Said Master Aaron Jones, of the National Grange:

"It occurs to me that the first step to be taken in remedial legislation is to pass a well-considered anti-trust law by the Congress of the United States defining the powers and limiting the privileges of these corporations. And supplement this law by enactments of the several state legislatures to apply to such phases of the matter as could not be reached by the United States law. It would seem that these laws should provide for government and state inspection of their business, of their books, agreements, receipts and expenditures. This inspection should be rigid and full, and the rights of the public protected. If the corporations are conducting legitimate business no injury will be done them by inspection. They are using the powers granted to them by the state to crush out other enterprises or for illegitimate political purposes. These practices are most reprehensible, and should be punished by such penalties as will effectually stop them."

Governor Pingree, of Michigan, said:

"The strength of our republic has always been in what is called our middle class. This is made up of manufacturers, jobbers, middlemen, retail and wholesale merchants, commercial travelers and business men generally. It would be little short of calamity to encourage any industrial development that would affect unfavorably this important class of our citizens. Close to them as a strong element of our people are the skilled mechanics and artisans. They are the sinew and strength of the nation.

"While the business of the country has been conducted by persons and firms, the skilled employee has held close and sympathetic relations with his employer. He has been something more than a mere machine. He has felt the stimulus and ambition which go with equality of opportunity. These have contributed to make him a good citizen. Take away that stimulus and ambition and we lower the standard of our citizenship. Without good citizenship our national life is in danger.

"It seems to me, therefore, that the vital consideration connected with this problem of the 'trust' is its effect upon our middle class—the independent individual business man and the skilled artisan and mechanic. How does the 'trust' affect them? It is admitted by the apologist for the 'trust' that it makes it impossible for the individual or firm to do business on a small scale. It tends to concentrate the ownership and management of all lines of business activity into the hands of a very few. No one denies this. This being so, it follows that the independent individual business man must enter the employment of the 'trust.' The 'trust' is, therefore, the forerunner, or rather the creator of industrial slavery. The master is the 'trust' manager or director. It is his duty to serve the soulless and nameless being called the stockholder. To the latter the dividend is more important than the happiness or prosperity of any one. The slave is the former merchant and business man and the artisan and mechanic who once cherished the hope that they might some time reach the happy position of independent ownership of a business.

"I favor complete and prompt annihilation of the trusts—with due regard for property rights, of course."

Ex-Governor Foster, of Ohio, said:

"It strikes me that if the Texas people had sufficient enterprise to establish industries to consume their cotton, wool and other raw material their manhood would not deteriorate, their opposition to trusts would be less vehement, and they would have more money.

"Denounce trusts as we may, they have come to stay. Why? Because the gigantic business operations of the present and future cannot be carried on without them. Through the trust the enormous waste that is entailed upon business operations by competition is saved. The product and the service performed is cheapened. Labor will have the better opportunity to enhance wages and shorten the hours of toil, as is so signally illustrated in the railroad service of the country.

"When the trusts shall have been properly safeguarded by law their securities will furnish a means of safe investment at a somewhat higher rate of interest than will be paid by government, state or municipal bonds, thus affording an opportunity for investment by people of moderate means.

"A bureau of government or a board similar to the Interstate Commerce Commission should be established, to whom all trusts shall apply for license after being incorporated, and to whom reports, as required of national banks, should be made. The terms of the license should provide against over-capitalization.

"All profits beyond six per cent should be taxed for the benefit of the government. It seems to me that it is the duty of this conference to request Congress to submit amendments to the Constitution giving it necessary power to control the trusts and tax their power."

"The trust question," said Professor Gunton, of New York, "is only a new phase of the old problem of free industrial enterprise. Every improvement in industry since Hargreave's spinning-jenny has had to fight its way against popular prejudice. The handloom weavers marched through England and broke the new power looms and drove the investors from their homes. To-day, a century later, we are face to face with another movement of the same character, the anti-trust agitation. About the same reasons are given against trusts and large corporations as were given for breaking up the first spinning-frames and power looms. The movement is taking political form, and men of national repute, party leaders, are asking the people to abandon the policy of industrial freedom and arbitrarily suppress large corporations.

"The frequent claim that large corporations destroy the laborer's individuality is wholly fallacious. Compare his condition under the old medieval hand-labor system and to-day. It was only after the wage system came that laborers acquired political freedom and social individuality. Corporations are notoriously unable to control men's votes. Indeed, laborers can be relied on almost uniformly to vote against them. With good wages and reasonable hours the laborer has far more freedom and social opportunity than the small business man, who is under obligations to customers, banks and corporations for patronage, loans and other favors."

THE Yearbook of the Department of Agriculture gives the following statistics of the number and average farm value of cattle, other than milk-cows, on January 1st, each year:

YEAR	Number	Ave. Value
1885.....	29,866,573	\$23.25
1886.....	31,275,242	21.17
1887.....	33,511,750	19.79
1888.....	34,378,363	17.79
1889.....	35,032,417	17.05
1890.....	36,849,024	15.21
1891.....	36,875,648	14.76
1892.....	37,651,239	15.16
1893.....	35,954,196	15.24
1894.....	36,608,168	14.66
1895.....	34,264,216	14.06
1896.....	32,085,409	15.86
1897.....	30,508,408	16.65
1898.....	29,264,197	20.92
1899.....	27,994,225	22.79

A little study of these figures will show that the rise and fall in the average value does not correspond exactly with the decrease and increase in the number of cattle. This is quite notable in comparing the figures for 1895 and 1896 with previous years. Besides supply there is another important factor in making prices, and that is demand. In the years of greatest depression, 1895 and 1896, the lessened demand, in spite of increased population and a large relative decrease in the number of cattle, shows a marked effect in keeping prices down. Now that the country is blessed with general prosperity increased consumption of beef and low number of cattle are working on the same side to advance prices. A glance at the table will show that on January 1, 1899, the number of cattle was lower and the average value higher than for thirteen years

past. These facts are sufficient to explain the advance in beef prices. Whatever sensational newspapers may say about a "beef trust" robbing consumers by advancing prices, farmers will hardly credit it with arbitrarily advancing the price of cattle.

Regarding the development of the dressed-beef business the Cincinnati "Price Current" says: "The profits which have been accumulated by the great slaughtering establishments have been acquired by the economies which they have brought about in the utilization of by-products and their ability to realize a profit in operating on a basis which would prove disastrous to a small butcher at equal prices for the animal and for the product. Instead of being prejudicial to the interests of the producer and consumer the large establishments have, in fact, enabled the producer and the consumer to become beneficiaries of the lessened differences between the cost of the raw material and the food product. These large establishments have come into existence as a necessity of the times, just as the enlarged cars and ships for carrying of freights have come into existence and lowered the cost of transportation, to the discomfiture of the smaller carrier commanding the former limitation of facilities and to the advantage of the producer and consumer in the elimination of an important part of the cost of transfer of produce from the source of surplus supply to the locality where it is required.

"There is keen competition in the meat-producing industry, and the producer of animals has the benefit of various markets and the wants of hundreds of producers all the while. The owner of stock in any region of the country has ready facility for knowledge of prevailing market conditions. The competition of transportation lines makes available different markets to the shipper. Thus the whole business becomes closely adjusted to one of supply and demand, with perhaps less of undue influence from combination of effort among the active operators to secure special advantages over the selling and buying interests than is to be found in any other important line of productive industry."

SECRETARY HAY emphatically disposes of the fiction about a secret alliance between Great Britain and the United States. Regarding such an alliance alleged to exist by demagogues pandering to prejudice he says:

"The people who make this charge know it to be untrue; their making it is an insult to the intelligence of those whose votes they seek by this gross misrepresentation. But as one of their favorite methods of campaign is to invent a fiction too fantastic to contradict, and then to assume it to be true because it has not been contradicted, you may permit me to take one moment to dispose of this ghost story, as it refers to the department with which I am connected.

"There is no alliance with England nor with any other power under heaven, except those known and published to the world, the treaties of ordinary international friendship for purpose of business and commerce.

"No treaty other than these exists; none has been suggested on either side; none is in contemplation.

"It has never entered into the mind of the president nor of any member of the government to forsake, under any inducement, the wise precept and example of the fathers, which forbade entangling alliances with European powers."

"BETTER than all other news," says "Dun's Weekly Review of Trade," "the record of August commerce shows the relation of United States business to that of other countries. Exports were \$20,082,875 larger than ever before in August, and exceeded imports by \$37,929,699, partly because exports of staples were \$9,366,978 larger than last year, but also because exports of other products, mainly manufacturing, were \$10,349,000 larger than last year, and larger than any other month of any year.

"Fears that the great advance in prices might shut off exports of manufactured products have not been unnatural, and it is most gratifying to find that such exports continue and expand. The excess of exports over imports gives fair promise of as large a balance in foreign trade to the benefit of this country during the winter as has ever been seen. That manufactured exports do not fall off, but are larger than ever, is surprising. The volume of business now in progress has never been rivaled."



ABOUT RURAL AFFAIRS

Are Vegetables Wholesome?

I and others have often been preaching about the wholesomeness of a vegetable and fruit diet. I fear that sometimes we have overstated our case, and I will try to set matters right. Often I come across paragraphs in my exchanges which recommend certain vegetables and fruits for the cure or prevention of certain diseases. Onions, for instance, are recommended for nervous disorders; so is celery. For kidney troubles we are told to use grapes, spinach and dandelion; for sleeplessness, onions and lettuce; for torpidity of the liver, tomatoes, lemons and onions; for bowel troubles, blackberries, watermelons, bananas, etc.

No doubt there is a good deal of truth in all this. Vegetables and fruits are Nature's foods, and to the natural man should be good and wholesome, with a tendency to supply his natural wants and ward off disease. But people of the present day are only rarely in their original or ordained condition. We have not lived as Nature intended we should, and consequently our stomachs and livers are not always in the proper order to make the natural use of these natural foods. Many, if not the most of us, have a weakened digestion. Vegetables and fruits to be made proper use of in the human system need a good digestion. In other words, all substances that contain a great deal of vegetable fiber are rather hard to digest. A delicate stomach (and unfortunately most of us have a delicate stomach) is unable to take care of large quantities of such food. The proof of the pudding, of course, is in the eating. We all have our individual peculiarities, too. One stomach digests with ease what another could not. It is each person's business to find out what agrees with him or her, and what does not, and then act accordingly. Whatever your stomach will digest perfectly is good food for you. If you are able to eat your fill of vegetables and fruit without the least trace of uncomfortable consequences, there is no objection to the vegetable diet. For some people onions, eaten either raw or cooked, act as a gentle stimulant to the bowels; their effect is wholesome. On the other hand, other people may have to be careful about eating this vegetable. And so with other vegetables. Our first duty in the selection of foods is to keep our stomachs and bowels in perfect health and vigor. We must avoid eating more of these bulky foods than our stomachs can digest perfectly, or more than have only that amount of vegetable fiber which will pass through the bowels without causing irritation.

Arsenical Poisons

Professor Woodworth, of the California experiment station, has just sent out a circular saying that the station people, after due investigation, have become convinced that at the present time there is scarcely any strictly pure Paris green on the market, either there or in the eastern states, and suggesting that experiment stations and agricultural papers should cease to recommend Paris green as an insecticide the coming season. The station also asks for information upon arsenite of lime and arsenite of lead, especially as to their effectiveness against codling-moth. I have tested various samples of Paris green as sold by our local merchants and by manufacturers of spraying-machines, and never yet found any which would not readily dissolve in strong ammonia, giving that characteristic blue color without sediment. This experience, as well as the fact that applications of Paris green, if strong and thorough enough, have in my practice never yet failed to rid the treated plants of leaf-eating enemies, have shown me that good Paris green can yet be had. The fault I have found with this poison is chiefly the difficulty of its even application in liquid form, it being so coarse and heavy that it quickly sinks to the bottom. This season I have tried the new proprietary insecticide, paragrene, and find that it stays well in suspension in water or Bordeaux mixture, and is sure death to any insect that will eat of it. I have also tried home-made arsenate of lime, and find it good, cheap and effective. Receipts have already been given in these columns. But we would like to hear from others on this subject.

Information on Insects

One of our friends somewhere out West sends me a leaf of a badly affected cucumber-vine, with request to tell him the cause of the trouble and a way of preventing further mischief. Such requests come to me quite frequently, and if the trouble can be diagnosed by me I am more than willing to tell all that I know about it. In the mentioned case, as in many or most others, the leaf arrived so badly dried up that it could hardly be determined whether it had been injured by insects or by disease. If by insects, however, it must have been by one that is new to me. It takes a professional entomologist to recognize and classify new insect foes. I am only acquainted with the older ones among them and their life-history. But fortunately we have competent entomologists at the stations and at the Department in Washington whose services we can enlist without money and without price. We can have the information and their advice for the asking. Now, why not ask? It will be necessary to send to them either an intelligent and full description of the foe or perfect specimens of the insect and the affected leaf or stalk.

A single leaf put into a letter is not sufficient. Pack the leaf or plant, or more of them, in cotton or moss, or have it wrapped in waxed paper and forthwith mail it to your own experiment station, or to the Secretary of Agriculture, Division of Entomology, Washington, D. C., not forgetting to forward your letter of inquiry at the same time. These officers desire to be informed about the work of insects in any portion of the United States, and the only way they can find out all that is going on in the insect world, and about the troubles that soil-tillers have from that source, is by the information furnished them on the part of the farmers themselves.

Capons and Caponizing

Surely the capon industry is growing, and growing at a fast rate. Two or three years ago it almost looked as if the business had already been overdone, and that productions were in advance of the demand. I now find that the demand has also been growing, and even faster than the supply, so that the outlook is brighter than for some time. It will not be many years before capons and capon-making are as common here as they have been in France and other parts of Europe for hundreds of years. Again I will state, however, that the directions which are being sent out by most dealers in or manufacturers of caponizing instruments are not calculated to make the operation very "popular or successfully performed by the new beginner. In the first place, let no one undertake it without good instruments. Many of the tools offered by the trade are rather clumsy. The cannula should be small at the end, so as not to take up too much room and light when working inside the young bird. The best thing in this line is a straight, almost pointed cannula, with very fine, pliable wire, such as beekeepers use for fastening combs into the frames. I have no more use for horsehair (from the tail), although the operation can be successfully performed with it. Even the expert will often find it difficult to remove both testicles from one opening, and the novice is sure to fail if he undertakes it.

My advice is to open the bird on both sides, and to remove only one testicle from each side. If there is any internal bleeding, the best way to get the blood out from among the bowels is to soak it up with little bits of moistened sponge. Small quantities of blood left in will be absorbed and not do any harm whatever. It is not necessary to confine the birds after the operation, nor to feed them with any special food. It may be well to give soft food for awhile, but it is not absolutely necessary. I usually give to the caponized birds their full liberty, and let them get their food with the rest of the fowls. In a general way the caponized birds are easily cared for, can be housed in large flocks and in smaller space than hens, and will get large and fat on any kind of wholesome food. They are peaceable and tractable and a pleasure to have around. My sales last winter were made at twenty cents a pound, dressed in regular capon fashion. It pays.

T. GREINER.

SALIENT FARM NOTES

Advice to Young Men A few days ago a young man, the son of a farmer, called to ask me about attending a certain "business college" the coming winter. He showed me an elaborate and finely printed catalogue, in which were offered extraordinary inducements to young men and women desiring a "thorough training" in business. He called my particular attention to the following:

"Bright young men and women graduates of this college have no difficulty in securing excellent and lucrative positions; in fact, very often we are unable to supply the demand for expert accountants, bookkeepers, stenographers, etc."

Said the honest, enthusiastic young man, "According to this catalogue I ought to be able to get through this college in about six months. I have just about enough money to carry me that long, and then I could get into one of these places, and by sticking close to business hold it down easy enough. Don't you think I'd better try it? Last week I read in 'The Young Man's Leader' that nearly all of the most eminent men in this country began with almost nothing and worked their way up; and it said any young man could do the same thing now. It said there are lots of good places in the cities open to young men who are not afraid to work, and I've been used to that all my life. This catalogue says that there is a great demand for expert bookkeepers, stenographers, type-writers, telegraphers, and so forth; that the country needs them badly at \$50 to \$300 a month, but they are not to be had. Three hundred a month beats working on a farm. Don't you think I'd better try it?"

I asked him how long he would have to attend this college to become such an expert as "the country" demanded. He replied that the catalogue said two or three terms, depending on previous education, and as he had attended district school every winter from the time he was six until he was seventeen he thought he was "pretty well posted in books." He is a good-hearted, honest boy, and I hated to say anything to dampen his ardor, but I casually remarked that just at the present time I rather thought the country stood more in need of expert farmers than expert bookkeepers. Then I gave him my youthful experience in learning telegraphy in a "business college" that guaranteed graduates good positions; how I worked diligently a whole term and was then told I was doing nicely and should by all means continue; how I would have continued if I'd had the "means," or could have borrowed them; how I went "back to the land" to earn some, working on a farm for \$12 a month; how I made the acquaintance of a practical telegrapher at a small railway station, and how he showed me that I had not learned as much about practical telegraphy while at the "college" as he could teach me in six hours; how he told me that he had worked fifteen hours a day seven days of the week for four years; had been promised a better position and higher salary more than a dozen times, but was still at the same old place drawing \$35 a month and paying out an average of \$23 a month for board and incidentals; and how he came within an ace of losing his position by falling asleep one day when he was sick and letting a train pass without reporting it; how a month later he resigned and went back to the farm, and is a farmer to-day, and says he wouldn't take his old position for \$100 a month.

The recital of this tale of woe discouraged my young friend somewhat, and he went away looking rather downcast. But it's dollars to doughnuts that he goes to the "college," spends the \$100 he has saved up, then comes back to the farm and begins again. He is leaving the farm from choice; but there are thousands of young men who are forced off, crowded out of the home nest by younger brothers who are growing up and taking their places, and almost before they fully understand the situation they are told to move out and hoe their own row. What advice can one give them? I well remember a broad-shouldered, tender-hearted young fellow who came to me one chilly, gloomy day in November some years ago. His hands were thrust deep into his pockets, his cap pulled down over his eyes, and he looked like he had lost his last friend.

"Well, Bob, what's the matter?" I asked, cheerily. "Why, I am looking for a job. You see, I came of age yesterday, and this morning father told me I would have to get out and take care of myself. I came over to see if you could tell me where I can get

work." He was trying hard to appear businesslike, but did not succeed very well. To be without a home was a new experience to him. "Well, it seems to me," I remarked, "that your father should have told you this last spring, or waited until next—not ordered you out at the beginning of winter. But we must make the best of it. Mr. P told me a few days ago that he would give a good, careful man \$10 a month and his board to help him with the chores. Go straight over there, and if you get the place be very careful to do everything exactly as he does it. Do your work well and keep things up in good shape, and you will be apt to stay there all next season." He was in time to get the place, and he held it four years, then took an uncle's farm on terms that were almost equal to full ownership.

When I was a young man knocking about the country, working for farmers of high and low degree, I learned that the easiest way to hold a place was to do my work carefully and intelligently, while the quickest way to lose it was to be careless, slovenly and ugly. When I took it into my head to look for easy places and soft snaps I found the place crowded with duds and men who wanted to wear nice clothes and have nice white hands. They were willing to "accept" nice easy places for wages that an honest Chinaman would turn up his nose at. When I turned aside to look for honest hard work—faithful, intelligent service for fair wages—I found abundant room for my elbows. I found there was quite a demand for skilled, tractable, careful farm-hands, and that such commanded the highest wages, even if they were only medium-sized men.

The same conditions exist to-day. There are a hundred people hunting soft snaps to one looking for honest work. Careless, blundering, ignorant, unreliable farm-hands are abundant, but skillful, tractable, honest hands are as scarce almost as hens' teeth. The idea that any soft ninny or common roustabout is good enough for a farm-hand has prevailed so long that most people imagine that the term "farm-hand" represents that class. In this age of machinery farmers want men who are skilled in its use, and, above all, men who are reliable, clean, steady; who know how to do good, thorough work, and will do it, even when left alone a week or two at a time.

I would not advise my young friends who are about to start out for themselves to spend that hard-earned \$50 or \$100 for educational fripperies with the expectation of stepping right out of the institution into a \$75-a-month job. They won't find such jobs awaiting them. The men who have such jobs to spare are not giving them to greenhorns. The desire to begin at the bottom and work up is all right, but when we remember that probably fifteen to twenty years will be consumed in working up to anything worth having, where competition is so sharp as it is in the mercantile world, it gives one a touch of that tired feeling. Keep the money you have, and add to it by taking hold of the first job you can find. It may not be an agreeable one, but it will bring you something to add to your pile. Don't shirk anything. Do whatever you are set to do in the most thorough manner. Be honest in your work, be careful of your tools, and be thoroughly reliable, and in a very short time men who are in need of the best class of workers will find you out and bid for you. Then it won't be long before you can build a home of your own, plant your own vine and fruit-tree, and gather about you all the many little things you so often wished for. That's the way I did, and I wouldn't swap my home for the best clerkship in the United States.

FRED GRUNDY.

2

INCREASING THE MANURE SUPPLY

Never enough manure is made upon the farm to meet all the needs of the soil. Where the farmer lives near a city or town he can often get fresh manure for the hauling or a little more. It is always safe to go on the principle, in getting strange stable manure, that it is full of weed-seeds and to adopt measures to kill them. Compost such manure in flat piles, mixing with it a considerable quantity of unslaked lime. As soon as the pile is made soak it thoroughly and cover it with a blanket of dirt three or four inches thick, slapping it down with a spade. The lime will immediately slake, generating a heat which will kill the seeds, the dirt covering keeping the heat confined.

GUY E. MITCHELL.

OUR FARM

FARM THEORY AND PRACTICE

THOROUGHNESS.—Some subjects are hackneyed, and any discussions of them seem too commonplace to attract the reader. One of these subjects is thoroughness of work and watchfulness of details in farm-work. The reading farmer thinks that enough has been said along this line to fill a library. Despite recognition of all this, I would like to deliver a "preachment" on the subject. Each year my experience leads me to attach increasing importance to it. Inferences from my own experiences and observation of others' convince me that farmers' successes are in very direct ratio to the degree of thoroughness that attends their work.

LET US BE SINCERE.—Nine farmers out of every ten will say that only thorough care of a crop pays, or that thorough work brings the best net profit. Many of them cannot be sincere in such a statement. If a man is farming for a living, and not for his health, he presumably does that which he thinks will pay best. If one dollar added to cost of the seed or to the labor bill will give him a return of two dollars, and if he has confidence beforehand that such will be the result, he will expend that dollar quickly. The fact that very many farmers are unwilling to spend money in order to secure extra good seed or culture of a crop must prove their lack of candor when asserting that it pays to be thorough and to give a field a fair chance to make a good yield reasonably certain. They hold to the theory that thoroughness pays, but in practice evidence their lack of faith in it.

FAITH IN BIG ACREAGE.—Regardless of professed agricultural creeds, a majority of farmers have a sneaking faith in a big acreage rather than in thorough tillage and extra care in selecting seed. There is a pronounced tendency to measure future profit by number of acres planted. The man who is in debt and wants to make an effort to get out, or who wants more income than usual for any special reason, plans to break more ground for planting rather than to give more attention than usual to the normal number of acres. Is this not a correct statement of facts in the case of a majority of us farmers? We trust to favorable weather and ability to get through the work in some shape, planting more acres than usual and figuring upon our average profit from each acre. The professed belief in thoroughness as the true means of increasing the profit from farming is forgotten, and dependence is placed in increased acreage. Farmers should be honest with themselves and revise their creed or change their practice.

TIMELY WORK.—For many years I have been learning more and more thoroughly that timely work is the only kind that pays with any certainty. Whenever acreage is sufficiently large to rush the farmer and cause him to be belated a few days throughout the season yields to the acre suffer. It is the fields that are plowed, planted and cultivated on time that afford the net income to the farmer. He must be in a position to crowd his work, and not let it crowd him. Why will men not believe this? An unusual acreage involves a farmer in loss more often than it increases the farm profits.

DETAILS.—It is the details that count in farming. The fact that a certain acreage has been planted, and that there will probably be some crop on it at time of harvest, be the crop wheat, corn, potatoes or what not, gives no assurance of profit. It is the selection of the seed, the care in making a seed-bed, the manner of planting and the care of the crop that count. The man who has soil in good condition, well drained naturally or artificially, fairly fertile, and planted with seed that he knows will make strong plants, can be reasonably sure of a good yield if all needed culture is timely. The man who depends upon an unusually good season to make amends for neglect in any respect must expect partial failure most years, and very low prices in the years that neglected fields make satisfactory yields. It is generally true that the farmers who have the surest income are those who plow a comparatively small acreage each year, or have a correspondingly large working force. Is this not true of your neighborhood? The

men who refuse to plan for a larger acreage than they can handle easily are the ones who have the surest incomes. They must have time to do the work in the right way and at the right time, and trust to carefulness and thoroughness. I have seen many men increase their plantings to enable them to get out of debt, but I have rarely seen such a course win. Concentration of effort on a small acreage is a surer plan.

NET PROFIT AN ACRE.—We are interested in the net profit. The greater part of the money received for crops represents only capital invested in those crops—it is a case of swapping dollars. The remainder above cost, if there be a remainder, is that for which we are laboring. On land of moderate fertility, with only ordinary culture, that remainder is pitifully small. Too many look at the gross sales and forget, or have no idea, how great a per cent of that money is required to replace the dollars invested during the growth of the crop. Were we to consider only net profit, and realized that it is represented oftentimes by a very few bushels to the acre of the product, we could appreciate more keenly what a slight increase of yield an acre might mean to us—the doubling or trebling of our net rental or profit. That increase might come from the choice of the best variety of wheat or potatoes, or the seed of any kind of crop that has the most vitality. It might come simply from timely work instead of belated work. It might come from extra labor that would not cost half the value of the increase. The successful farmer to-day crops no more land than he can give thorough care in every respect. The dollar expended in extra care often brings three dollars' increase of crop. It is time to cease considering only the extent of acreage or the gross sales. Net income an acre is the vital consideration, and it increases as thoroughness increases up to a point not yet reached by a majority of farmers.

DAVID.

THE HESSIAN FLY

Of the injurious insects peculiar to the wheat-plant the Hessian fly is undoubtedly the most widely distributed and most destructive. Very often it is responsible for the loss of from one fourth to one half of the crop; and one tenth of the whole yield, or 40,000,000 bushels, is estimated to represent the amount lost by its annual ravages.

Having been first noticed as injurious on Long Island, in 1779, near where the Hessian troops had landed three years before, it seems altogether probable that it was brought to this country by them, and it has, therefore,



HESSIAN FLY

been so named. Rapidly spreading over all the wheat-land in the East, it appeared in California in 1884, was reported as injurious in England in 1886, and in 1888 was found to be destructive in New Zealand.

The adult flies are little, dark-colored gnats about one eighth of an inch long, but these are less often seen than the immature stages. Each of the females lays from one hundred to one hundred and fifty minute reddish eggs, placing them in irregular rows of from three to five, generally upon the upper surface of the leaf, but often beneath the sheath of the leaf by the spring brood. In a few days these hatch into small reddish maggots, which soon turn white, are cylindrical, about twice as long as broad, and, like all maggots, have no true head or legs. The fall brood of maggots burrow beneath the sheath of the leaf and its base, which is still below the ground, causing a slight enlargement at the point of attack; but in the spring they usually stop at one of the lower joints above the surface, in both instances becoming fixed in the plant and weakening it by absorbing its sap and tissues.

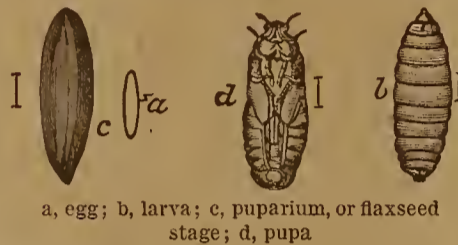
This difference in method of attack results in a corresponding effect on the plant. The first indication of the work of the maggots in the fall is the tendency of the plants to stool out, the dark color of the leaves, which are somewhat broader, the absence of the central stems, and later many of the plants turn yellow and die. The spring maggots attack the laterals, or tillers, which have

escaped the previous brood, so weakening them that the stems break and fall before ripening, and cannot be readily harvested.

In about four weeks the maggots become full-grown, and are then light greenish-white and about three sixteenths of an inch long. Their skin now turns brown, shrivels slightly, and inside of it is formed the new stage, called pupa. This outside case, composed of the cast larval skin, is known as the puparium, and this stage is generally spoken of as the "flaxseed stage," from the close resemblance to that seed. In this stage the fall brood passes the winter, the flies emerging in April or May, while the spring brood so remains during midsummer, and emerges during September. Besides the above, there are often two supplemental broods, one following the spring brood, and the other preceding that of the fall.

Several parasites are of great value in holding the numbers of the fly in check, but as yet no method is known whereby they may be artificially encouraged.

Owing to the wide distribution of this pest, and the corresponding variation of latitude and altitude, it is evident that the time of its appearance will vary considerably, and any preventive measures must be based upon



a, egg; b, larva; c, puparium, or flaxseed stage; d, pupa

a previous determination of the time of appearance of the broods in any given locality.

Unfortunately there is no remedy for the fly when the crop is once attacked.

Of the various farm methods of control the most important is the late planting of winter wheat through the central states. In a latitude and altitude of northern Ohio if this be done after September 12th the flies will all have laid their eggs before the plants sprout. The time of planting should be later the further south, but no arbitrary times can be stated, as those must often be largely determined by altitude and local conditions. Thus in extreme southern Ohio October 10th is stated to be a safe time, while in central Maryland, in the same latitude, wheat may be sown between September 25th and October 5th.

Inasmuch as most of the spring brood remain in the stubble in the "flaxseed stage" after harvest, if the fields be then burned over large numbers will be destroyed. By planting a few strips of wheat much earlier than usual in the fall, and then turning these under as soon as thoroughly infested, the greater part of the fall brood may be prevented from attacking the regular sowing.

By the destruction of all volunteer wheat the two supplemental broods may be reduced, and in the North, where this is the principal means of carrying the insect over winter, and spring wheat is largely grown, this will be found to be of considerable importance.

Though none are exempt from attack, those varieties of wheat which have a stout, flinty stalk often suffer much less than others.

A rotation of the crop to some distant field is commendable for this as well as many other insects, and where it has been judiciously practised individual farms have often remained free from serious attack when the surrounding area was badly infested.

E. DWIGHT SANDERSON.

MORE CONCERNING WHEAT CULTURE

In farming for profit an increased yield on each acre cultivated is an important consideration. The much too low average yield of the wheat crop should incite in every wheat-grower a determined effort to effect the much-needed reform in respect to it. With the improved instruments now in use reform in this particular is clearly within the power of every progressive farmer. The disk-plow and the press-drill are both important improvements. The disk-harrow is especially valuable where summer fallowing or early plowing and surface cultivation during July and August is not practised with the view of retaining enough moisture in the soil to promote the speedy germination of the grain after it is sown. Where this has been neglected a weighted disk-harrow or disk-plow enables the farmer to properly fit the land for the reception of seed, when without it and a drought is at hand it would be an impossibility with any other implement. Land that often becomes too dry to be plowed when the time for seeding approaches can be admirably fitted

for the wheat-plant by gradually deepening the surface soil by repeated cross-harrowing with the disk. It is well known that the thorough pulverization of the surface soil is one of the essential requisites in profitable wheat culture.

The farmer who does not plow for wheat until seeding-time arrives ordinarily runs a great risk of not having enough moisture in the soil to cause the soil to germinate quickly. The best plan is to plow the wheat-land as soon after harvest as possible, or even earlier, and then by repeated harrowing at short intervals, and especially after a rain has occurred, to so fine and pulverize the surface as to form a mulch, to prevent the evaporation of moisture as much as possible. This is a much better plan than trusting to luck for seasonable showers, which may not come, and the planting be so delayed that the wheat-plants will be weakly and unfitted to withstand severe winter weather.

Another important requisite in the successful culture of wheat is good seed, such as is now known as pedigree seed, which has been produced by selection and judicious crossing so as to embody the most desirable characteristics, such as hardness, productiveness, early ripening, etc. Large, plump grains should be selected, for the larger the grain the greater is the supply of plant-food. This is desirable because the wants of the young wheat-plant are met after the germinating process begins and until the roots and leaves are sufficiently developed to obtain such nourishment as can be derived from the atmosphere. Another advantage in seeding with large, plump grain is that it can be drilled in deeper, and thus kept moist, thereby promoting speedy germination, which, in case very dry weather prevails, is of the greatest importance. Success in this case would follow, whereas if small seed was placed near the surface partial failure in getting a good stand would be sure to result.

A hopeful indication of the times is that the demand for pure seed is increasing much more rapidly than the ability to supply it. Irresponsible traveling agents have been taking advantage of this fact and are selling many of the old threshing-machine-mixed seeds under new and taking names. When it is considered that pure, vigorous seed will surely give an increased yield of five to ten bushels more to the acre, is it not clear that it will pay to get good seed, since the actual cost of cultivation is the same in both cases? Half the increase named would pay the interest on many times the cost of improved seed, which should be renewed at least every other year. Hungariau wheat has a world-wide reputation for excellence, which is maintained by yearly sending to the best wheat-growing districts of Russia for seed. This would not be done unless it paid. We would do well in America to follow their example.

Another matter of great importance, and too much neglected, is the treatment of seed that is liable to be affected with smut. It should be remembered that a badly smutted wheat crop involves a serious loss, as the cost of cultivation remains the same however much the crop may be damaged. A smutted wheat-plant takes up just as much room as a healthy one, and smutted wheat is nearly worthless for flour and worse than useless for seed. The best-known and simplest form of treatment is that which is commonly known as the bluestone or copper-sulphate method. It consists in immersing the seed-wheat ten to twelve hours in a solution made by dissolving one pound of commercial copper sulphate in twenty-four gallons of water, and then draining off the liquid and immersing the seed again in a solution made by putting one pound of unslaked lime in ten gallons of water. The seed must then be drained and spread on a clean floor to dry, and should be shoveled over at least three times daily until it is dry. It is to be hoped that seedsmen will soon begin to follow the system of treating the seeds of wheat, oats and other cereals so as to destroy smuts before sending them out. The system now practised in the Department of Agriculture under the direction of the secretary for not only destroying smuts and other fungous growths, but eliminating foul weed-seeds also, could be advantageously and profitably adopted by the leading seedsmen of America. W. M. K.

AMERICAN CATTLE ABROAD

The best American cattle have the top of the market in England. They are considered better than those imported from Canada or from Argentina. A great deal of American beef, too, is sold and eaten as British beef. GUY E. MITCHELL.



NOTES FROM GARDEN AND FIELD

VEGETABLES IN THE MARKET.—The trick that for some years has brought success to the market-gardener was to know how to sell the goods much more than to produce them. All over the land we heard the cry, "Overproduction!" Yet it always appeared to me that there was an under-consumption (through lack of proper distribution) rather than a real over-production, and that if there was anything that could be called overproduction it was that of trashy stuff only, not of really good vegetables and fruits. A strictly first-class article has almost always sold readily and at remunerative prices. This is again my experience this year. I can say, however, that I notice a great improvement in the tone of our markets this year. Either the products of the gardens all over happen to be better than usual this year, or the producers have learned to keep their poor stuff at home and put only the better portion on the market. In short, the average of the vegetables in our near markets seems to be a little better than usual. The consequence is that prices are much better, too. I only hope that producers will continue to leave the culls of any kind of produce at home. It will pay them well in the increased returns for the better grades. It also makes things look much easier for the seller. My wagon is known by some of the buyers of vegetables to bring good goods only. For this reason buyers hunt me up, and I am not obliged to solicit trade; it comes of itself. Just at present I cannot get the stuff to market fast enough. Most of my stuff on the wagon is already spoken for beforehand. This is a pleasant and satisfactory way of marketing. But, as I said, the secret of selling is the superior quality of the goods.

SELLING APPLES.—Just now I am sending twenty-ounce apples to the Buffalo market. The distance is about twenty miles, and yet the apples are carted by wagon. Usually the load consists of fourteen barrels. On another wagon and with a heavier team I also send a load of eighteen barrels to-night. Thus each wagon saves me not only \$3.50 and \$4.50 respectively on each trip, but also several dollars which the commission dealer would charge for cartage if the barrels were sent by freight. The apples, furthermore, arrive in Buffalo in better shape if carefully hauled on a spring-wagon than if subjected to the rough handling by railroad employees. The chief advantage, however, I have in managing the matter in this way is that my man helps unload the barrels at the commission-store and will stay long enough to watch developments. Thus I often know by the time that the wagon is ready to start on the return trip how every barrel of the load has sold, and besides who the buyer is. And thus I also get the returns from one day to another. This is a satisfactory way of dealing with the commission-house, but unfortunately the great majority of the shippers live too far from the city to make this plan possible or practicable for them. It merely shows one of the advantages for the fruit-grower of a location which is within reach of a large market.

HONEST PACKING.—The regular buyer in the Buffalo markets has found out by experience that he must be prepared to find a poorer grade of goods in the center or bottom of a barrel of apples or pears or of a basket of peaches than is indicated by the sample on top, and he fixes the price accordingly. In other words, he will not pay the full price for fruit of the quality shown in the top of the barrel. The buyer's suspicion imposes a tax of twenty-five or fifty cents for each barrel on the producer. Disarm his suspicion and the producer will be able to collect the extra twenty-five or fifty cents a barrel. That is just what I am trying to do. My instructions to the sorters and packers are to take the sorted apples as they come, and to put only one grade from top to bottom of the barrel. I do face with selected fruit, but that is all. Otherwise I make sure (or try to) that the apples in the bottom and in the middle are just as good as those on top under the facing. Now, in order to get proper credit for this, and to establish a trade-mark, as I might say, I print on the head of each barrel the following legend: "20 oz. XX. From T. Greiner, La Salle, N. Y." Or if inferior quality I put "seconds" in place of the XX. Suppose one of the Buffalo grocers comes along and buys five barrels, paying \$2 a barrel in the

expectation of finding trash in the center and bottom of the barrel. When he gets his fruit home and emptied out for sale in small lots he is agreeably surprised to find first-class fruit all through the barrel. So the next morning he goes back to the same commission-house and asks, "Have you got any more of those 20 oz. from that man in La Salle?" "Yes, sir," says the dealer, "but choice fruit is a little higher this morning. I will sell you these apples at \$2.50." The grocer may try to make the commission man come down to the old figure, or at least to \$2.25, but finally he pays the \$2.50. This has actually happened. The commission merchant knows his customers, and he knows, too, what effect the find of better fruit than expected down inside the barrel had on the grocer. The latter's suspicion is gone and he is willing to pay full price for the fruit, according to the quality shown on top. I hope that a reputation for honest packing thus established will help also to secure for me the same easy sales and advanced prices for my winter fruit.

THE PICKLING-ONIONS.—In some years recently I have done quite well with Barletta pickling-onions. This year in growing them I worked for nothing and boarded myself. Last year I sowed ten pounds of seed and raised a pretty good crop. But I found it so much bother to get them ready for market, and then to sell them promptly at remunerative prices (and all this while I had so many other irons in the fire), that I made up my mind to contract rather than expand in this particular direction, so I only sowed two pounds of seed. This was fortunate, for only a small portion of the seed germinated, and the whole crop, if sold at highest retail rates—namely, ten cents a quart—would bring less than the \$4 paid for the seed. I believe the seed was poor, but why did I not test it in spring before sowing instead of relying on its freshness? I will have to plant some Barlettas next year in order to have my home supply and some for retail customers; but I do not feel justified at present prices to raise Barlettas for the grocers or to ship to the city market when I can make more money from the same piece of ground and with far less work and fussing by growing Gibraltar onions weighing a half pound apiece on an average. It was really a sight to see these large bulbs lying on the ground when freshly pulled. My crop of them is now nearly disposed of, and none of them were sold for less than seventy-five cents a bushel. The Gibraltar onion yields with me nearly double what the Prizetaker does, but it should be sold early, as it is not a good keeper. But what a delicious thing it is to have on the table, for instance, sliced up to be eaten with a little vinegar and other seasoning, with bread and butter or with potatoes. Friends, if you have never tried this onion, don't fail to do so next year. It can be grown, and will reach quite a good size, in the old way. If you want these mammoth bulbs, however, as I grew them, you should start the plants from seed sown in February, or even earlier, in the house or greenhouse. I now raise Prizetaker only for a late fall and early winter onion.

T. GREINER.

INQUIRIES ANSWERED

Earliest Blackberry—Horse-bean.—W. S., California, writes: "I am living near the coast, and wish to plant the best and earliest blackberry. Which kind would you advise me to plant? I have the Lawton, but it is late and does not do well.—Did you succeed with the horse-beans I sent you some years ago?"

REPLY:—Try the Early King.—I have tried half a dozen varieties of horse-bean, and succeeded in growing them all right. They are interesting, but I doubt whether they are of much practical use for this climate. They are quite hardy, too. I believe we have at the East better material in the soy-bean and the Southern cow-pea.

Tree or Winter Onion.—J. R. P., Pontiac, Ill., writes: "Kindly inform an old subscriber how, where and what to get in order to get an onion that stays in the ground all winter and then comes up early to be used as green onions. I understand there is such an onion that once started in a bed renews itself each year afterward. Also please give direction for planting and after-cultivation."

REPLY:—You have been rightly informed. Get top sets of the Egyptian, tree or winter onion, and plant at once in rows one foot apart and six inches apart in the rows. Keep free from weeds. This onion is hardy as an oak, and will spread from year to year. Have the ground rich and plant the sets three or four inches deep. It is a good thing and in ready demand in spring.

Extra Large Squashes.—E. F. S., Methuen, Mass., writes: "Do you know of any way of feeding squashes to make them grow large? I have heard of several ways. One is to cut off the leaf nearest the squash and fill the hollow stem

with milk. Another is to pull up the top root which is near the squash, and set it in a shallow dish of milk."

REPLY:—No; milk is no food for pumpkins or squashes. The idea to feed the vine in this manner is simply absurd and not worth paying attention to. The food must come from soil through roots, and from atmosphere through leaves. The "Rural New-Yorker," in answer to a similar inquiry, says: "To grow a prize pumpkin make a wide hill, six to twelve feet across, and spade in deeply a large quantity of well-rotted manure over the whole surface, besides dusting liberally with a good commercial fertilizer. After a thorough raking plant fifteen to twenty seeds of the desired variety. When up guard carefully from all destructive insects; thin out as growth advances until only one plant, the strongest, of course, is left. Cultivate carefully and train this plant in a circular manner about the hill, covering it with soil at the leaf-joints, two or three feet apart, thus causing it to emit roots at these joints, which will greatly assist its growth. Water frequently with weak liquid manure if the weather is at all dry, and nip off all but a single promising pumpkin as fast as they set. This is about all one can do to produce a monster fruit." The way the big squash at the World's Fair (three hundred and sixty-five pounds) was grown resembled this, only that the soil of that large and wide hill was all thrown out to the depth of eighteen inches, I believe, and then mixed with hen manure and other compost, and then thrown in again. I will say, however, that sometimes such mammoth fruits are grown in good soil without extra preparation. Of course, you will have to plant seed of one of the mammoth varieties.

T. GREINER.

SHALL WE SET YOUNG TREES OR OLD ONES?

The injury and destruction to nursery trees caused by the severity of last winter has made it necessary to sell younger trees for a year or two to come than are usually sold. Many who wish to plant orchards are doubtful of the wisdom of planting apple and pear trees less than two years old. While there may be some objections to planting one-year-old trees there are several points in their favor. In digging them very few roots are cut, compared with older trees. The labor of setting is less than with larger ones. There being no side branches, the head can be formed at any desired height and of any style. There is less danger of getting San Jose scale or any other like pest on small and young trees than on large and old ones. The original cost of one-year-olds is less than of older ones. They are small and light, and therefore cheaply transported. The objections are greater liability of injury from careless persons in working about them than if they were larger, and later coming into bearing. There may be others, but these are the two that are commonly raised. The latter one is disputed by some orchardists, they claiming that the younger trees having more roots in proportion to their tops than large ones grow better, and within a few years are fully as large and bear as soon as the older ones. This has come true in some cases in my own experience, and I have sold many thousands of one-year-old apple-trees to my Kansas neighbors and others, many of which I have had opportunity to observe until after bearing age. They were very satisfactory wherever well cared for.

H. E. VAN DEMAN.



ORCHARD AND SMALL FRUITS

CONDUCTED BY SAMUEL B. GREEN

INQUIRIES ANSWERED

Rust on Strawberry-plants.—J. B., Matlese, Mo. Rust on strawberries may be prevented by sprinkling the foliage of the newly set plantation with Bordeaux mixture at intervals of about two weeks during the growing season, especially when the weather is moist. Also spray at least once as soon as growth shows in the spring, and again two weeks later. Even a very little spraying is very helpful in preventing this rust. Better spray once this autumn.

Pruning Grape-vines.—D. N. Z., Higgins, Texas, writes: "Is it best to trim grape-vines back to one stock (those set out last spring), and when is the best time to prune them?"

REPLY:—It will depend on the system of pruning you have decided on. If you have no plan, I think you had better study "Grape-Training," by L. H. Bailey. For sale by Rural Publishing Co., New York. In your section vines may be pruned in autumn at any time when free from frost, and from then on until the sap starts in the spring; but I prefer early spring pruning, as at that time the injury done by the winter may be plainly seen.

Neglected Vineyard.—W. H., St. Jacob, Ill., writes: "I have just got possession of a vineyard that has been neglected. The weeds are higher than the vines. Would stable manure be good for the vines?"

REPLY:—If the weeds grow very big in the vineyard it is very certain that the soil is rich

enough without manuring and only needs good cultivation to produce sufficient growth. As a rule but little manure is needed for grape-vines; and although vineyards on inferior soils can often be improved by manuring, yet it is quite likely on good soil to produce too vigorous a growth of wood, which is not followed by a corresponding increase in fruit.

Roots Injured in Winter.—T. S., College Springs, Iowa, writes: "The leaves on some of my fruit-trees turn yellow and fall off, and have been doing so for the past two months from crab and cherry trees which have had proper care. I notice that the leaves on some limbs of apple-trees are turning from green to yellow."

REPLY:—I think the reason why some of your fruit-trees are looking badly is that they were root-injured last winter, but not sufficiently so to kill them at once. The injury shows in the weakened vitality and in the tendency to early maturity of wood, fruit and foliage. It is possible that the trees may recover from this injury. Throughout central Iowa, Illinois and Indiana there was a great deal of root-killing of trees last winter, and in many cases vineyards were entirely killed out. The winter injury was much more severe through that section than it was in northern Iowa and in Minnesota.

Cranberry Culture.—J. W. D., Irish Ripple, Pa. The land for cranberries should be quite moist, but they often grow in very wet, or even on upland. For best results the water supply should be easily controlled, so that there is no danger of flood or drought. But there are some profitable hogs that cannot be flooded. Peat or muck soil is generally preferred, but is not absolutely necessary for success. If you think your land adapted to cranberries, select a small favorable piece and remove the sod and roots and cover with three inches of sand, and plant cranberries, putting three or four cuttings together eighteen inches apart each way. The cuttings should be at least seven inches long and extend into the black dirt at least three inches. Cuttings may be obtained from cranberry-growers and nurserymen. They will probably cost about one dollar a thousand. If you wish to take up the matter thoroughly you had better get "Cranberry Cuttings," by White, published by Orange Judd Co. at \$1.25.

Borers.—J. W. T., Ticonderoga, N. Y., writes: "I enclose you will find a specimen of an insect that is making sad havoc with one of my crab-apple trees. I had previously noticed chips at the roots like what borers make; have examined them closely, but could find nothing but black ants. Having some soap-suds, I took it to the tree and poured a quantity on the earth close to the tree; had poured it on this insect before I saw it. One half of it was in the hole he had made. Please give me the name of the insect; also if there is a remedy."

REPLY:—The small caterpillar which you sent is not the insect that is injuring your crab-apple trees. The insect that is doing the injury is undoubtedly the "flat-headed apple-borer," which is very common. He pushes out the chips as he works inside the tree. The remedy is to dig them out with a sharp knife or kill them by injecting bisulphid of carbon into the holes with an oil-can, and then stopping the holes with putty. The common way is to dig them out, going over the trees in the spring and again in August or September. Wherever there are borings there you will find borers. If the holes are clean the borers have ceased to work.

Fruit Preservative.—W. H. T., Newton, N. C., writes: "Please send me a receipt for preserving apples, peaches and grapes with sulphurous acid? Can it be used instead of fruit-powders in canning fruit air-tight? Is there any other way of keeping fruit till winter (especially grapes) which is not poisonous?"

REPLY:—Apples, peaches and grapes can be preserved by sulphurous acid, but its action on fruits is that of a bleach, and its effects upon any but yellow fruits is to deprive it almost entirely of its color. Light-colored fruits it preserves very well. It can be used in the place of "fruit-powders," if by that you mean salicylic or boric acid, in the canning of fruit. The fruit-powders which are offered in the market, like sulphurous acid, are antiseptic in their action, and fruit preserved by them is not fit to eat for any one who has weak digestion. If your stomach is overly strong there is no objection perhaps to your using such materials for preserving your fruit. But the practice of preserving food by the use of antiseptics is a bad one. The best way I have found to keep grapes into the winter has been by packing them in sawdust in layers and keeping them in a cool cellar. In Russia they use flaxseed for this purpose. I am inclined to think that this latter or bran would be better than sawdust, for the reason that they are odorless materials, or nearly so, and grapes are apt to take the odor of the sawdust when packed in it. The principal use to which antiseptic should be put in keeping fruit is for the purpose of preserving them for illustration; as, for instance, the exhibition of the fruit at fairs, etc. Sulphurous acid as used for preserving fruit is generally made as follows: Put thirty gallons of water into a forty-gallon barrel. On top of the water float a tin pan into which has been put perhaps two or three pounds of sulphur. Set the sulphur on fire, and cover the barrel tightly until the fire goes out. Renew the sulphur until perhaps seven pounds have been burned, opening the barrel for renewal between doses. The water in the barrel takes up the sulphurous-acid gas given off by the sulphur, and in this way is rendered a preservative of fruit. Another way, which is much simpler where the chemical can be easily obtained, is to use bisulphite of soda at the rate of one half ounce to the gallon of water. The sulphurous acid contained in this salt is thrown off and acts as a preservative of the fruit immersed in it.

THE POULTRY-YARD

Conducted by P.H. JACOBS
HAMMONTON, NEW JERSEY

CONDITIONS AND DISEASE

THE comb of a fowl may be considered its health indicator. The first intimation a close observer of his flock has is the condition of their combs. Comparatively few birds in their wild state die from disease. They have certain ways to keep themselves free from lice; fifty are not crowded in a space where twenty-five should be; Nature's laws are not transgressed, and they thrive in health. With domestic fowls it is different; they are crowded together, become lousy, and get the cholera, roup, canker, etc., none of which they would have if lice were not preying on their bodies, unless it is roup, which is sometimes caused by exposure. To avoid many of these troubles watch your poultry, and when a hen is noticed moping around or refusing to eat, with her feathers ruffled up, or comb looking dark blue at the end, pick her up and look for lice. You will find them. Grease with a few drops of melted lard or linseed-oil under the wings, over the vent and on the heads. Perhaps if you would examine the roosts in the hen-house by taking them up and looking on the under side, wherever the roosts rest on anything, you will be astonished to find numerous little red mites congregated there. These torment the fowls at night, and return to their hiding-places before the fowls leave the roosts. The roosts should be frequently sponged on all sides with kerosene. The advertised lice-killers are also excellent for destroying lice.

THROAT DISEASES

Roup may be known by the foul odor which prevails in the poultry-house, and the discharge from the nostrils. There are several forms of roup, but the most common is that which resembles croup, the hens breathing with difficulty, the throat being covered with a white substance. If not relieved the fowl will soon die from blood-poisoning or suffocation. The symptoms are very similar to diphtheria in children, and each bird must be handled separately. The first thing to do is to take a sewing-machine oil-can and force six or eight drops of camphorate oil down the throat, and two drops in each nostril. Repeat this for three or four mornings. Give one tablespoonful of milk with three grains of bromide of potassium in the milk. If the fowl will eat, give boiled milk and rice with a pinch of quinine in it. Every evening the house should be closed and a mixture of wood-tar, turpentine and sulphur burned therein, until the birds are nearly suffocated, and then open the door and ventilate. Be careful to close all cracks and crevices. Top ventilation is usually the cause of head and throat trouble. Should the head and eyes be swollen bathe with a pint of warm water, in which put fifteen drops of carbolic acid, using a sponge with which to bathe the head.

HOW TO TEST THERMOMETERS

When using an incubator the object should be to secure a correct thermometer, as it is frequently the case that the most costly of them are sometimes out of record, and mislead. A simple way to test it is to raise up the wing of a hen, place the bulb of the thermometer close to her body, and shut the wing down upon it. In two minutes after it should record one hundred and four degrees. Or the bulb may be placed between the thigh and the body or in the mouth. It is not necessary to use a sitting hen, but it is best to test with several hens, as they vary occasionally in the heat of their bodies. Having tested your thermometer you can test other thermometers with it by placing all the thermometers in a wide bowl of warm water, placing them side by side. It does not imply that because a thermometer does not record correctly that you must discard it, for should you place the bulb under the wing of a hen, and it registers only one hundred degrees, you will know that one hundred means the same as one hundred and four, and by allowing four degrees as a difference you can use it as effectively as though it recorded correctly, for the heat will be the same, no matter what the thermometer may record.

INCUBATORS AND PROFIT

Fall and winter may not be the best seasons, so far as care and labor are concerned, but good profits can be made in winter for the reason that poultry and eggs are then usually high, and the labor given is at a time when but little other work can be done. One thing must not be overlooked, however, and that is that hens lay best in summer, when the eggs are low, but if warm quarters are provided in the cold season the eggs received will be a large item. One of the best sources of profit in the winter is from early broilers, which are usually scarce. Incubators are now greatly assisting the poultryman to hatch chicks in large numbers, and the brooders enable him to care for a great many in one building, which lessens the labor. The incubators are now an established mode of hatching, and will do good service the coming winter in the hands of those who are using them.

DRESSING GEESE

To kill geese, have a place where you can hang them with the head down, and then stick a sharp knife through the neck close to the head, and let them bleed. This causes the meat to be very clear and white. After they are through bleeding, roll them up, one at a time, in three or four thicknesses of blanket, and put them into a boiler of hot water, letting them remain there about one minute, afterward lay them where they will drain for about ten minutes more, and then pick them. They will then pick very easily. It is the steam that causes the feathers to loosen. It is an everlasting job to dry-pick geese, and this is a sure process. The entrails should be immediately removed, the head cut off, and the skin drawn neatly over the neck and tied. Afterwards place them where they will keep cool, but not freeze.

EARLY-LAYING STRAINS

The breed that evinces a tendency to early maturity gives its indications both in the male and female. The cockerel will show the red comb and wattles early, and he crows as soon as he can. In selecting young cocks, if we wish to increase the desire for early laying, we have this rule to guide us: Take the pullet that lays first, and the cock that crows the youngest, and watch them. If they both develop early and push forward rapidly they should be retained, provided they are not akin. Endeavor to do the same the succeeding year. After a few seasons the propensity to lay will begin early in all the progeny, and by continued selection the habit will become permanently settled and the breed improved.

DISEASES OF DUCKS

The duck is afflicted with but few diseases, the most prominent being vertigo and convulsions. The first comes from over-feeding, and can only be cured or prevented by keeping them on a grass diet exclusively. Convulsions are caused by dampness, poor food, filthy coops and lice. The best remedy is to clean out the coops, make them dry, and feed on nourishing food. Ducks should always have dry quarters at night. Lice seldom exist on ducks, and when the quarters are very filthy the vermin will sometimes put in an appearance.

DURABLE WHITEWASH

If the whitewash is made with skimmed milk and lime instead of lime and water it will be more durable and will last much longer. For a durable red paint fresh bullock's blood and lime are excellent, and it will turn water. If ordinary whitewash be used, one pound of flour, two pounds of alum and one pound of salt, the two latter dissolved in hot water, the former then added until a thin paste is made, and the whole mixed with five gallons of whitewash, will be very durable.

NOTES FROM CORRESPONDENCE

PREVENTING EGG-EATING.—Confine the egg-eating hen and feed nothing but soft food mixed with vinegar; give plenty of water for her to

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[CONTINUED FROM PAGE 6 OF THIS ISSUE]
 drink. At the end of two days turn her loose. I have tried this remedy many times, and I never had to treat the same hen twice.
 H. M. K.
 Lattas, Ohio.

NOT A SUCCESS.—The selection "My Turkey Incubator" in the FARM AND FIRESIDE of a recent number reminds me of the experience of a friend of mine a few years ago in setting a hen. One spring Mr. P decided to go into the poultry business. He borrowed two sitting hens of a neighbor, bought some eggs, and settled the biddies to business. One he put in a soap-box, with a window-screen over her, and the other was put in a soap-box, another box placed on top, and an oil-stove in the top box. "Now," he remarked to his wife, "you just keep away from those hens and let them alone; I know my business, and a sitting hen never comes off hut once a week." The appointed day he went to the basement and carefully lifted the soap-box and oil-stove. "Why," he exclaimed, "that confounded old hen is dead and my eggs are as cold as stones!" When the screen was taken from the other box the remaining hiddy gave one squawk and took herself to her former home, no amount of crumbs ever tempting her to cross the road after that. My friend next turned his attention to gardening. One evening in July he said to a friend, "Charlie, I wish you would go with me over to my garden and see what ails my beans. I planted two quarts of beans, and there are no pods yet, although the beans came up fine." A party of four proceeded to the garden, and found what looked like small patches of thick grass and clover. The two quarts of beans had been planted in three short rows, and other vegetables the same way. In reply to the laughter of his friends he said that he had only a small garden and wanted to show the other fellows what a lot of stuff he could raise. He does not think farming a success.
 R. E. B.
 Plainfield, Conn.

GAPES.—I have read so much about gapes in chickens that I will give my experience and a preventive. Tie five cents' worth of asafetida in a rag and put this in the drinking-trough. Put a weight on it, and every morning lift it out with a stick, wash out the trough, and put the same asafetida back; fill this again with clear water. This will keep chickens from taking the gapes if you give it to them before they get the disease, but after the gapes get a hold on a chicken I know of nothing that will cure. The cause of gapes is dampness, as I have found out by experience. I have lived in several different localities and states—Ohio, Indiana, Tennessee, Arkansas, Missouri, and now in Illinois. In Ohio and Tennessee the chickens were not bothered with gapes. I will tell bow I first found that dampness was the cause of gapes. I always drive boards in the ground, make a place large enough for one hen and a brood, and then another by the side of that until I had fifteen or twenty coops side by side and on high, dry ground. They would not be bothered with gapes, but on low, flat ground they would nearly all die, with all the doctoring I could do. I tried the asafetida when I first took them off and they would not take the gapes. When I moved to this place I had a smoke-house up off the ground. I had it planked in all around, and I raised nearly all the chickens I had hatched for five years without any gapes among them. One spring I took the old board coops, and I lost nearly all of my chickens before I found the cause. Now I put my chicks in old barrels and old dry-goods boxes and keep them dry, and I am not bothered with gapes any more. All who read this should try one brood on the ground in a tight coop and one in an old barrel side by side, and report the results to the FARM AND FIRESIDE, so that all the readers may be benefited.
 S. J.
 Akin, Ill.

INQUIRIES ANSWERED

Maturity of Leghorns.—J. S., Salem, Ohio, writes: "When should Leghorn pullets begin to lay; that is, at what age?"

REPLY:—They have been known to begin when but four months old, but six months is about the average.

Crossing Turkeys.—M. M., Bridgeton, N. J., writes: "This year I used a Bronze gobbler, but desire a different breed next season. Which would give best results?"

REPLY:—A half wild or quarter wild would probably prove satisfactory.

Peculiar Egg.—F. G., Reed, Ill., writes: "Please explain the following: One of my hens laid a large egg—seven inches in circumference—and inside the egg was a smaller one, perfectly formed."

REPLY:—It is not uncommon, and is caused by the hen being exceedingly fat, the organs of generation being obstructed. It is one of the sure indications of overfeeding.

Hay in Winter.—J. R. G., Brunswick, Ga., writes: "Can any kind of hay be used for fowls in winter, or must only clover be the kind?"

REPLY:—If clover is not available use any kind that is not too coarse and woody. The hay should be cut very fine and then scalded. Corn-blades are also excellent. Finely chopped turnips or carrots may be used as a substitute, but clover should be preferred. It can be purchased at a smaller cost.

Molting.—R. G. E., Cleveland, Tenn., writes: "Is there any way to hasten molting of the fowls?"

REPLY:—They may be benefited by omitting a portion of the grain and feeding more nitrogenous food. The following given once a day, as much as the hens will eat, will give good results: Animal meal, one pound; bran, two pounds; ground oats, one pound; linseed-meal, one half pound; sulphur, one teaspoonful. One meal a day is sufficient.

THE SUGAR-BUSH

[CONTINUED FROM FIRST PAGE]

evaporator; as the scum is constantly skimmed off the dirt or coloring matter is reduced to a minimum.

Many times the whole family goes to the sugar-bush. A lunch, a large sack of popcorn, papers or books, and a small kettle in which to sugar off are taken along, and then there is a day of solid enjoyment. After the sap is gathered, which is usually done in the forenoon, the remainder of the day can be mostly given to enjoyment, as seasoned wood is used and keeping fire does not take much time. The small kettle is suspended like the caldron in the olden days. Some syrup from the evaporator is put into it and a fire of dry twigs and slivers is built around it. When it is boiled down to sugar, although usually liberally filled with cinders, leaves, buds and small pieces of bark, and eaten with a spoon made from a pine board, or with a short piece of a beech bough, the flavor is far superior to anything ever furnished at a sugar social, where silver spoons and china dishes are used. The older members then read or talk while they tend the fire. The children are happy gathering the first flowers of the year—hepatica, trillium, adder-tongues, Jack-in-the-pulpit. The small red pigeonberries are also found by digging among the leaves, and make handsome strings of beads. Squirrels and chipmunks are chased, and perhaps the children are startled by a partridge which they have scared out. People who have spent their whole life on the farm enjoy and appreciate Nature notwithstanding all that has been said to the contrary, and a more ideal and moral-uplifting day for the whole family cannot be found.

THE BOY ON THE FARM

No. 3

The child born deaf is usually dumb, because children learn to talk almost entirely by hearing others. On the same principle, the child which hears only good English at home almost invariably uses the same when it gets older; and conversely, the child which does not hear good English uses poor language. For this reason the majority of boys on the farm use poor language, as that is what is heard in the average home. When our parents and grandparents attended school they devoted but little time to language, so it is but natural that we find the present condition. But now a fair working knowledge of English is the first requisite of any station in life.

It is not practical to speak of many specific cases of bad language, but I may be able to suggest a way which will be generally beneficial. In no case should the words "ain't," "hain't" or "tain't" be used; yet they are the most common mistakes, being words improperly used instead of "am not," "are not," "is not," "has, had or have not." For example, instead of "I ain't going" or "they hain't going," "you ain't the one," or "tain't so," one should say "I am not going," "they are not going," "you are not the one," or "it is not so." Also be careful about "had ought." "He had ought to have his lesson" is incorrect. It should be "he ought to have his lesson."

Be especially careful of the sounds of "ou" and "ow" in such words as "cow" and "house." Because I did not begin until quite old and had no one to correct me. I still have trouble with these sounds, and my difficulty is a common one. Most farm boys say "keow" instead of "cow." If you have never noticed this, listen to the pronunciation of a well-educated person and you will at once see the difference. When you are alone try to pronounce words with these sounds. At first they will sound flat and unnatural. Remember that no matter how difficult this may be, your conversation will attract unpleasant attention until you acquire a comparative correct pronunciation of these sounds.

Boys usually dislike grammar; but don't be discouraged by this. Many people who could pass a good examination in grammar murder the English language, while others with no theoretical knowledge of the subject use good language.

All of you have some acquaintance who has a fairly good knowledge of English. Get him to correct you when you make a mistake, and have it done at the time rather than waiting until you have forgotten about it. The probabilities are that for a long time he will interrupt you about every time you say anything, and it will be unpleasant for you; but it is the best possible way. When you are in school ask your teacher to do this. If he cannot all the time he surely will outside of school hours. In a

short time you will notice, your own mistakes as soon as you have made them. Stop and correct yourself. The person with whom you are talking will doubtless think this foolish, but remember you are doing this for your own good, not for the entertainment of others. You will soon find that you are interested in grammar, for it will give you some good suggestions, and you will begin to understand that grammar has something practical and valuable even for a boy.

Nearly all of us on the farm have only a small number of words which we can use, because we have taken no systematic way of increasing the number. To do this, study the dictionary a few minutes every day. Have it near you when you are reading, and when you come to a word in regard to the meaning or pronunciation of which you are uncertain, look it up. In a small memorandum write all these words, or any word you hear in a lecture or conversation; look up all these words at your first opportunity. Have the book with you in the fields, and use these words in sentences of your own. This is the best possible way to fasten them in your mind. You will find that you forget many of these words and will have to look them up repeatedly, but at the end of the year you will be surprised to find how many new words are yours.
 GENE Z. FIZZLE.

REMOVING HONEY FROM THE HIVE

There are people who even now believe that bees can be handled best when it is cool. I have also heard and known of people trying to manipulate bees in the night; in some such cases the bees were not even their own. It is a mistake to handle bees in the night. It is the very worst time. I would rather wait until all the folks had gone to church and then snatch the honey off from their bees during the midday hours. That is the way we professionals would prefer to do it.

One ought to have a good smoker well fired up before undertaking to remove honey from the hives. If the seeper has an open top, as every good seeper should, uncover it and blow in a few whiffs of smoke. Cover it again with a wet blanket, which should be considerably larger than the top of the hive. Lift up one side of the blanket and blow a good lot of smoke under it, flop it up and down several times, thus driving smoke into every bee-space of the seeper. Repeat this operation several times; it will cause the bees to retreat. Now pry the seeper loose and remove it from the hive; give it several vigorous shakes, thus shaking out most of the remaining bees. The seeper is now pretty well cleared of bees. It is best to stack them up on top of an escape-board six or eight feet high and cover with an escape-board. If left to stand thus for an hour or more every last bee will leave.

One has to work quite fast in order to drive as many bees as possible out of a seeper. In time of a honey dearth bees have a notion of perforating the cappings of the honey one is about to remove, and they can easily damage the best honey very materially, therefore it is imperative to do the work quickly. At other times, when there is still honey being gathered, one may work more leisurely. When bees have to leave their sweet treasures they will always try to carry a full load with them. When they are still storing they are already filled, and besides much unsealed honey is around them; they do not need to uncap in order to get honey. After the season is over the conditions have changed. There is little unsealed honey. The honey-sack of the bees is more nearly empty, and the sealed honey has to be attacked before the bees can get their fill and be ready to move out. To avoid this trouble there seems to be no other practical way but to drive the bees out just as quickly as possible and before they have any time to bite holes through the cappings of our honey.
 F. GREINER.

EXTRACT FROM CORRESPONDENCE

FROM IOWA.—The soil of Clay county is very fertile and generously produces a bounteous crop of all kinds of farm produce. The country is naturally rolling, but will very readily admit of easy cultivation. Our main crops are corn, oats, barley, rye and sorghum. Wheat has been left out, as a general rule, as it does not seem to yield so well as in years gone by. Formerly farmers overtaxed the strength of the soil by raising wheat extensively. Cattle, hogs and sheep are quite extensively raised throughout this part of the state. It will not be far in the future when this section of country will rank high in dairying. Spencer, the county-seat, is a prosperous and thriving little city of three thousand inhabitants. It has one railroad now, with two others under construction, nine churches, two well-attended public schools, and, above all, no saloon.
 E. E. H.
 Spencer, Iowa.

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QUERIES

READ THIS NOTICE

Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Buckwheat Hay.—C. S., Mary's Landing, N. J. Cut while in bloom and before frost and cured like clover buckwheat will make good fodder for sheep and cattle.

Broom-corn Culture.—W. H. C., Salem, Va. If you are growing broom-corn in any quantity for market you need a book on the subject. Send fifty cents to Orange Judd Co., New York, for "Broom-corn and Brooms."

Ginger Beer.—G. W. A., Crescent Mills, Cal. Try the following: Three gallons of water; six ounces of pulverized ginger; four pounds of sugar; four ounces of cream of tartar. Boil, and when cold add two tablespoonfuls of yeast. Allow it to stand over night, then filter and bottle.

Wild Onions.—A. B., Oakville, Ky. Wild onions can be eradicated from your land by alternate cultivation and smothering-crops; that is, by clean, thorough cultivation during the dry season, and heavy seeding of some annual crop like crimson clover, cow-peas, millet, etc., that will make a quick thick growth and choke down all such weeds.

Johnson Grass.—W. S. C., Lemore, Cal., wants to kill Johnson grass.

REPLY:—Johnson grass is a coarse perennial, with large, spreading root-stocks, which can be turned up with a plow only with great difficulty. If frequently mowed close to the ground and no tops allowed to grow the parts in the ground will become exhausted and die.

Sodding a Yard.—H. F., Williamson, Pa., writes: "I have a yard to sod. Will it grow if I do it in the fall?"

REPLY:—Yes. Lay the sod as soon as the fall rains set in and it will get a good start before winter. A good lawn can also be obtained by seeding blue-grass and white clover after making the ground as fine as a garden.

Leather Cement.—W. C. G., Freeman, Mo. Blakelee's Cyclopaedia says one of the best cements for leather is made by mixing ten parts of sulphid of carbon with one of oil of turpentine, and then adding enough gutta-percha to make a tough, thickly flowing liquid. It is necessary to free the parts to be joined from grease. This may be done by laying a cloth on them and applying a hot iron for a time. The cement is then applied to both pieces, the surfaces brought together, and pressure applied until the joint is dry.

Keeping Dried Apples.—J. N. J., Walshville, Ill., writes: "How can sun-dried apples be kept free from worms?"

REPLY:—Put the dried apples in a tight box or barrel. Pour one or two ounces of bisulphid of carbon in a saucer placed on top of the dried fruit; cover closely, and let remain twenty-four hours. Then put the dried fruit in good paper flour-sacks and store in a dry room. The vapor from the bisulphid of carbon will kill all larvae or eggs that have been deposited on the fruit without injuring it. As this vapor is highly inflammable keep flame away from it.

Osage-orange Fence.—A. R., Haledon, N. J., wants an Osage-orange hedge, and wants to know how to grow it.

REPLY:—It is better to set out the plants. You can buy the plants from nurserymen cheaper than you can raise them from the seed, as it is somewhat difficult; besides, you gain a year's time in making the hedge. Plow the ground in the autumn, leaving the open furrow on the fence line. In the spring plow it twice again, gathering and leave a ridge on the fence line. This will give a deep, mellow plant-bed, and you will be surprised at the growth of the young plants. Thorough preparation and good cultivation on soil adapted to the Osage orange will give you a good fence in three years. Cut the young seedlings to six inches in length, and trim off the hoisted roots. They can be set with a trowel, or a light furrow plow, the plants laid along one side and a furrow turned upon the roots. Firm the earth around the plants with the feet. Set out the plants in the spring. Cultivate thoroughly each year for three years until the first of July. Stop then to allow the wood to ripen. One year after planting cut off the hedge close to the ground with a scythe or mowing-machine. In midsummer, and again in September, cut back to five or six inches in height. The third year repeat the pruning with a hedge-trimmer or corn-knife, but leave the hedge twelve or fifteen inches high, leaving it in the shape of an inverted V, broad at the base and sloping regularly to the top. Following this method of pruning will force a thick growth close to the ground, and is better and cheaper in the end than any method of slashing ever invented. We have tried to answer your query by giving concise directions for growing a good hedge, but unless you want it for ornament or some special purpose a neat, woven-wire fence is preferable and more economical.

VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Veterinary queries should be sent directly to Dr. H. J. DETMERS, 1315 Neil Avenue, Columbus, Ohio.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

Possibly Anthrax.—T. R. K., Yemassee, S. C. Your very incomplete description as far as it goes suggests anthrax, one of the most deadly diseases known. Inform your state authorities.

Pink-eye.—J. D. L., Wichita, Kas. Pink-eye is a term applied by farmers to various diseases; consequently, as you give no description whatever, I have no means of knowing what you desire to know.

"Hollow or Wolf Tail."—L. D., Luray, Mo. Hollow horn, hollow tail and wolf tail are terms indiscriminately applied by quacks to all such (usually chronic) diseases of cattle for which they cannot find any other convenient or plausible name.

Sick Cats.—L. E. H., Ada, Ohio. May be that such a book as you desire has been published, but not knowing it I cannot recommend it. The best way to learn what ails your cats would be to have the sickest one killed and then examined by a veterinarian. I suspect tuberculosis.

Garget.—S. W. B., Kings Corner, Wis. The prevention of garget, or, as you call it, caked-bag, consists in thorough and sufficiently frequent milking, and the remedy in thorough and very frequent milking, to be kept up until the last particle of a clot has been removed. For further information consult almost any recent number of this paper.

Several Questions.—J. R. G., Brownsville, Tenn. Some of your questions, crowded together on one postal, are out of my line; the others I will briefly answer. Sulphur is insoluble and indigestible, and there is no reason, nor even an excuse, for feeding it to pigs. Your dog probably has worms, maybe tapeworms, the larvae, or cyst-worms, of which occur in rabbits.

Three Dry Teats.—R. E. B., Beaver Pond, Va. Your cow very likely produced a sufficient quantity of milk from one quarter to satisfy the wants of the calf, so that the latter never sucked any of the other three teats and allowed them to dry up. If such is the case, and if there are no morbid changes, induration, for instance, in these quarters, the prospect that the same will again produce milk when the cow has another calf is a good one, but it will never do to leave the milking of a good cow to a new-born calf. A fresh-milking cow if a good milker should be milked at least four times a day. This, of course, does not apply to cattle leading a wild or semi-wild life on a cattle-ranch, for these are seldom producing any more milk than the calf can get away with.

Actinomyces.—M. S., Mt. Kisco, N. Y. What you describe appears to be a case of actinomyces in the hone, a disease which must be considered as incurable, at any rate if the morbid process has made considerable progress, as seems to be the case in your cow. The disease, however, is not contagious, or, in other words, not directly communicated from one animal to another; it also, being of a local character, does not affect the milk, but it is infectious in so far as the micro-organisms, the actinomyces, which constitute the cause, and are supposed to be existing on certain food-plants, may be introduced through small sores or lesions in the mouth, in the tongue and on the surface of the body, and thus produce the disease. It therefore often happens that several cases are occurring in the same herd of cattle or on the same farm.

Sore Feet.—R. F., Alexandria, S. D. What you describe appears to be so-called foot-rot, or malignant foot disease of cattle. In order to effect a cure first thoroughly clean the sores, cut away with a sharp hoof-knife every particle of loose horn, then dress the sores between the hoofs twice a day very liberally with a mixture composed of liquid subacetate of lead, one part, and olive oil, three parts. A good way to apply this is to take a small bunch of absorbent cotton, saturate it with the mixture, and press it between the hoofs in such a way that it comes and remains in contact with every part of the sore. During the treatment the cattle must be kept on a dry and hard floor, and meanwhile the places—stable and yard—that have been occupied by the affected cows must be thoroughly cleaned. If the treatment is properly applied a healing will be effected within a week.

Swelled Leg.—C. S., Marietta, Ohio. You say that the swelling of your horse's leg goes down when the horse is working, but returns over night. Since such is the case the prospect to reduce the swelling permanently just as much as it decreases when the animal is working is a good one, and the means to be applied are simple. Exercise or work the horse during the day, but not to such an extent as to make the same very tired. Immediately after the exercise give the swelled leg a good rubbing with the hand, and then bandage the same with a good bandage of woolen flannel of not less than five yards in length from the hoof upward to the hock. Remove the bandage in the morning when the horse is to be exercised or put to work again, but as soon as the bandage has been re-

moved give the swelled part of the leg a good rubbing down with the hand before the exercise begins. Continue this treatment until no more reduction can be effected.

Apoplexy—Opaque Cornea.—W. J. M., Langley, B. C., Canada. Your older horse, according to your description, had a so-called stroke of apoplexy, caused by the rupture of a blood-vessel and subsequent hemorrhage in the right half of the brain. Any treatment very likely would have been in vain. Applications of cold (crushed ice) on top of the head might have been tried. Concerning the younger horse, the opacity, according to your description, is probably on the surface of the cornea and not in the interior of the eye. You can easily decide this yourself if you back the horse into a dark or darkened stable with the head toward the open door, and then look from the side through the eye. If the opacity is light blue and not perfectly opaque it will gradually disappear, but if it is perfectly opaque (not in the least transparent) and of a white-gray, milk-white or cream color it will be permanent. An eye-water composed of a solution of nitrate of silver in distilled water (1 to 240), to be applied once or twice a day by means of a so-called dropper, may do some good if the opacity is sky-blue and yet somewhat transparent.

A Saliva Fistula.—M. B., Meridian, N. Y. What you describe is a saliva fistula, caused by carelessly cutting or opening the stenoian duct (the saliva duct of the parotid gland), and unless a delicate operation, performed by an expert surgeon (to describe the same will not be necessary), should be successful, which, for various reasons, is but seldom the case unless the fistula is of recent origin, the only remedy consists in causing the whole parotid gland to become obsolete. This can be done in various ways. An effective and one of the best because the least dangerous methods is to take one and one fourth ounces of tincture of iodine, fifteen grains of iodide of potassium and two ounces of distilled water, and to inject the mixture with a good syringe through the fistulous opening into the parotid gland. If this is done the gland very soon will considerably swell, but the production of saliva will cease and the swelling will gradually subside, no more discharge will take place and the fistulous opening will close. There can be no question that such a saliva fistula will not only be a nuisance, but also somewhat damage the animal by the constant loss of saliva; still there is no danger that it will get worse or that it will incapacitate the horse for work and thus make the same worthless.

A Peculiar Ailment.—W. S., Indiana. If it were not for your statement saying that you found small worms about one fourth of an inch in length inside or beneath the tumor sore I would have no hesitation whatever to say that your description applies to a case of botriomyces, and if the "worms" you mention were simply maggots there can be no doubt that it is botriomyces you have to deal with, and not an unnamed disease, for that is probably what your veterinarian means when he calls it "morbinominata" and parades his had Latin in preference to using plain English. Botriomyces is a disease which recently has been of quite frequent occurrence in horses. It is closely related to actinomyces, at least in so far as the micro-organisms producing it, the botriomyces, are closely related to the actinomyces. The disease is not at all new, but, as just said, it has become much more frequent during the last few years. Its true cause, however, was discovered and made known only a few years ago by the now deceased Dr. Christian Rabe, professor in the Royal Veterinary High School of Hanover. Unless the destruction of tissue is already too great and beyond repair a destruction of the botriomyces and preventing a reinfection will be all that is necessary to effect a recovery. But as a rule my treatment will be in vain unless the patient is effectively prevented from continually irritating the sores by biting and rubbing the same, because any irritation causes a further spreading of the botriomyces into the adjoining tissues and thus a reinfection. Furthermore, as it must be supposed that the micro-organisms are contained in and introduced with the hedding, or possibly the hay, and may find an entrance through any small sore or abrasion, it is advisable to use nothing but sawdust or shavings for bedding after the stall has first been thoroughly cleaned and disinfected. If all this is and will be complied with, the following compound applied, as much of it as is necessary, to the sore or ulcerating surface of each tumor by means of a wooden spatulum, thick enough to form a uniform coat, will kill the botriomyces:

Re. acid. arsenicos. drachm. ij.
Potass. canstic. drachm. j.
Pulv. Gi. acaciae. drachm. ij.
Aq. destill. drachm. vj.

It should be labeled "poison." In order to prevent the running of the poisonous mixture, and the coming in contact of the same with healthy tissues, it is advisable, especially if the mixture should be a trifle too thin, to cover the sore after the mixture has been applied with a tuff of absorbent cotton, and then, for the purpose of further protection, to cover the thus dressed tumor with a suitable bandage wherever the same is applicable. If the arsenious acid is well applied and protected, one application, as a rule, is sufficient. If not, soon at some place some luxuriant granulation will make its appearance, and then another application will be necessary. After the botriomyces have been destroyed and the sores show indications of healing, but are too large to heal in a few days, it is advisable to protect them against a reinfection by some aseptic or mild antiseptic dressing—for instance, equal parts of iodoform and tannic acid, absorbent cotton and bandages. Such a dressing should be renewed twice a day.

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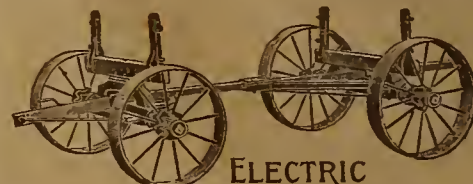
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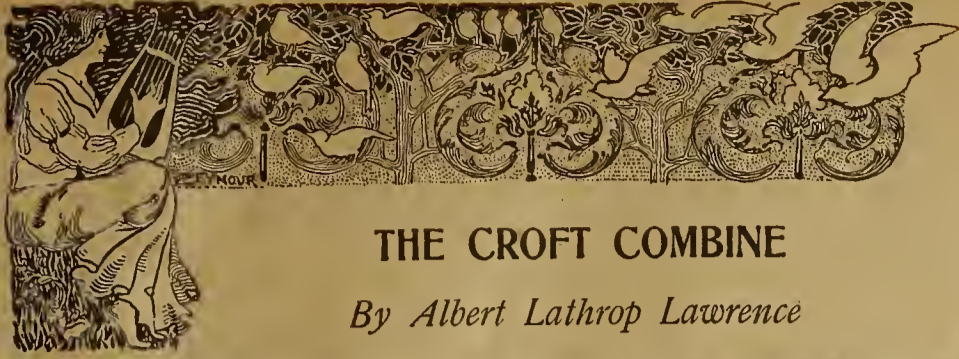
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THE CROFT COMBINE

By Albert Lathrop Lawrence

"Why, I tell you, Fay," Enos Croft said to his cousin, "they're all combined against us farmers. There are trusts an' monopolies an' combines—an' no end of 'em! The world is all against us just because we don't pull together. Now, what the farmer wants is to combine, too. Why, what would the world do if we was to withhold our stuff? Why, it would starve, or pay our price, instead of havin' them fellers over in London fixin' it for us, an' way down to the lowest notch, too."

"That's right, Enos; that's right," said Fayette Brader.

"An' now what we've got to do is for us farmers to form a combine," continued Croft. "You and I have done it more'n once, an' it's be'n good for us. An' what's good on a small scale is better on a big one, just as there's less rind on a large pumpkin than there is on a small one when you take into consideration the insides."

"You're right, Enos; you're right," said Fayette Brader.

"You see, we've done so well with them potatoes that I just say let's throw the two farms into one an' go the whole thing together. We can put that Hill twenty of your'n into corn; the frost won't be so apt to touch it there on high ground. An' my level piece we'll put all to wheat this fall. Wheat will bring a good price next year."

"I was thinkin' of raisin' more garden-truck next year," interjected Fayette. "Ye see, I believe Factoryville is goin' to be a good market for vegetables an' the like."

"That's it! That's my idee! Why, the nearer you can bring your produce to the consumer the better. Ye ain't coinin' the sweat of your brow into profits for a lot of middlemen then. You can put it all down in your own pocket, where it rightly belongs. An' a diversity of crops, so's't you'll be sure to strike the market right some're; that's my idee. Now, that low spot between us is just the place for garden-truck."

"You see, that's just what I thought," agreed Fayette; "an' we'll be gettin' back something for all the drainin' we've done there."

"Why, sure! An' that ten that you've worked so much—why, we'll sow clover on that—eh? Clover always brings a good price, an' it'll do the land good, besides."

"You're right, Enos; you're right there," said Fayette.

"Why, it's sure! We'll strike the market some're. We'll have our livin', your family an' mine—just as we've had it all along. But there'll be accounts to keep an' a profit to divide hetwixt us at the end of the year; sure thing."

Croft had a ready tongue, and a certain phrase often in his mouth was taken up by the people and bestowed upon the partnership, and it became known far and near as "The Croft Combine."

Everything worked well until the time came to market their wheat. The crop abroad had been short; suddenly the price took a bound, and a dollar a bushel was freely quoted. Brader was in favor of selling their wheat at once.

"Wait a bit; wait a bit," Croft said, in a knowing way. "There's big war talk in Europe, an' in six weeks wheat'll be bringin' a dollar an' a half. Then's the time to sell."

"War talk! When ain't there be'n war talk? That's all 'tis—talk. You see it's sent wheat up now, but it'll have a tumble in ten days. I'm in favor of sellin' now while it's up."

"Well, I ain't," declared Croft. "I ain't in favor of givin' them middlemen fifty cents on a bushel of my wheat when I can just as well have it myself."

"Tain't givin' it to 'em," persisted Brader. "It's gettin' it out of 'em. We'll sell our wheat for a dollar a bushel, an' if they holds it in ten days they can't get more'n eighty cents for't. An' I'm in favor of sellin' now."

Brader spoke doggedly.

"Well, I ain't," returned Croft, firmly. Why, we'd be fools—when we can just as well have more for it."

"But I tell you it's bound to come down."

"An' I tell ye 'tain't!"

"I tell you 'tis, an' I'm goin' to sell," declared Brader, excitedly.

"Well, ye ain't," said Croft, angrily. "The wheat's as much mine as 'tis yours—more, for it was raised on my land an' is in my barn now. So what ye goin' to do about it?"

"That's a lie!" cried Brader. "It isn't more yours if it was raised on your land an' is in your barn. Didn't we agree to share it equal? What do you mean? You've got me to sell off the corn that was raised on my land an' you've got half the money. Do you mean to cheat me out of my wheat now? Say?"

"Now, see here, Fay; we ain't goin' to quarrel about the business," said Croft, in a tone which mollified the other. "Of course the wheat is half your'n. I didn't mean to say that it wa'n't. An' I suppose you've got as much to say about when

it'll be sold as I have. Just the same I'm not in favor of sellin' now. If you're fool enough to want to sell, I suppose you can. I suppose we can just as well divide the wheat now as to divide the money by and hy."

So Fayette Brader carried his share of the wheat to market and received a considerable sum for it. Their practice had been to deposit the cash proceeds jointly in their names in the bank in town, and Brader made no exception with this last transaction.

Enos Croft waited several months for the price he had predicted. But wheat, after maintaining itself for a time about the dollar-mark, slowly declined. At last, fearing it would go still lower, Enos sold his share for eighty cents a bushel, and, following the example of Brader, deposited the money in the bank.

One day in the following spring the two men sat in Croft's best room looking over their accounts. Croft had his little red bank-hook open before him, and was reviewing with evident satisfaction the three or four pages of figures. Presently he paused and pointed his stubby, toil-hardened finger at two of the largest items, before each of which were check-marks in pencil.

"I wonder what that means," he said, in a puzzled voice.

"Them marks?" said Brader, looking over his shoulder. "I made them. That's what we got for our wheat. You see, that's all mine." Brader indicated the larger sum. "An' that's all your'n;" the smaller sum. "You see, them two accounts ain't to be divided when we settle up, 'cause we agreed to divide the wheat, you remember."

"Huh?" said Croft, slowly. "Well, I guess not. What's in this book is to be divided equally; that was in the agreement, an' there ain't he'n no other."

"What's that? 'Tain't so!" declared Fayette Brader, the red blood coming into his face. "You see—"

"Yes, I see! But hold on a minute; I remember about the wheat. It was like this: You was for sellin' then, an' I was for holdin' for a higher price. An' we couldn't agree, so we settled it by sellin' half then—"

"Yes; that was my half."

"Hold on a minute! We sold half then, an' kept the other half for a raise. I was wrong, as it proved—that is, the raise didn't come. My judgment was at fault, an' you saved me in part. The next time I may save you. Why, that's what we went into the partnership for! Two heads is better'n one. Of course, it would 'ave be'n better if I'd 'a' given in to you; but I didn't know that. As long as we continue this way we've got to split the differ'nce as we did then. When we won't either one give in to the other we've got to split the differ'nce. You sold half and put the money to our account; and afterwards I sold half an' put the money to our account. Why, if we're goin' to divide up on the spot ever' little while we might just as well go it alone."

"I don't know anything about that," said Fayette Brader, doggedly. "I only know that this three hundred and twenty dollars is all mine, an' that two hundred and fifty-six is all your'n, an' that it ain't to be divided. That's what I know!"

"Why, Fay, you're 'way off," said Croft, with the air of one determined not to quarrel. "What did you put it in the bank for if it wa'n't to be divided?"

"I put it in there for safe-keeping—that's all."

"And in my name—" Croft pointed to his name, which preceded his cousin's on the cover of the book; "that is as much mine as yours. You know very well you can't draw any money out without my name being signed to it. Now, give in, Fay, an' own up that you're wrong."

"Tain't wrong! That three hundred and twenty is all mine, an' I'm goin' to have it," declared Brader.

"Who's runnin' this business, you or me?" demanded Croft.

"You ain't," said Brader.

"No; nor you ain't. But we're runnin' it together. I can't, and you can't, either one of us always have our own way. We've got to give up to each other—hain't we? Well, in that wheat business I give up to you, an' let you sell half of the wheat; an' you give up to me an' let me keep half. It was agreed in the beginnin' that we was to settle things that way, an' that the profits was to be divided equally."

"But this one was differ'nt from the others."

"No, it wasn't a bit differ'nt!"

"I tell you it was!"

"Well, I tell you it wa'n't!"

"Maybe you think I lie about it?"

"Yes, you do if you say this was differ'nt—you lie!"

The color left Brader's face and he clinched his hands. The impulse to strike nearly mastered him. An oath was on his lips where it had trembled more than once during that controversy, but he suppressed it as before.

"The mouey is mine just the same, and I'm goin' to have it," he said, firmly.

Croft's laugh had a taunt in it.

"I'd like to see you get it! Not a penny will

they let you have at the bank without my name to the paper. Perhaps you will forge that!"

"Be careful what you say, Enos Croft! It will be a sorry day for you if you push me too far. There is a law in this land that will give me what is mine."

"So it will—and that's just half. You've nothing to prove differ'nt."

Indeed, there were no papers, save the accounts, which were all in Croft's favor. Then suddenly Brader saw his vantage. The money in the bank would certainly have to be divided according to their original intention. But he still had in his possession the clover-seed, and his cousin's share of that would just make up the sum which Brader claimed was due him over Croft.

"There's more than one way to get my rights," said Brader, with a gleam of triumph. "I've got the clover-seed, and I'll keep it—every last bushel."

"The clover-seed!" Croft jerked out. Then he felt that he was heated, and his anger increased; but with a showing he continued, "It's half mine, an' I'll get it, too!"

"If you touch a grain of it I'll arrest you for stealing," cried Brader.

"By thunder, you sha'n't have it!" stormed Croft. "I'll burn your old barn down first. By thunder, I will! Get out of here! You're a thief an' a liar! Get out of here!"

Brader went without another word. At the door he stumpled against their pastor, the Reverend Zehedee Ashley. Brader knew the preacher had overheard those last words and therefore had no desire to meet him.

Fayette Brader was not a quarrelsome man. He much preferred to live at peace with the world, and on second thought was always willing to sacrifice a bit to gain this end. His cousin was not a man after his own heart, for he felt him to be grasping. Still he had for him a sincere friendship.

The sun had been unusually hot for that season of the year. After supper Brader sat upon his steps without coat or vest. The night was more like July than May. In the east hung masses of clouds, among which the lightning played, but withheld its surly tones.

Brader sighed as he crawled up-stairs to bed. The more he thought of it the heavier lay the quarrel upon his mind. In his room he stood before the open window and looked over his farm and across the space to the Croft home, where a lamp burned dimly. He was determined on the morrow to make another effort at reconciliation. Sleep quickly followed this determination.

When Brader awoke it was with a start. There had been a great noise—or had he dreamed it? Was it a fancy of his that the house still trembled? He shook his wife and asked if she had heard anything.

It was raining—he heard it now. Then there was a flash of lightning. Ah! it had been thunder that had disturbed his sleep.

He was glad of the rain, and glad they had got their corn all planted. This would send it out of the ground. They—that brought remembrance of the quarrel, and he was troubled with perplexing thoughts. He wondered what time it was. He hoped it was nearly morning. It must be, for it was getting lighter. Strange, too; for it was still raining hard. What a queer red light it was! How oddly it flickered!

Brader rose on his elbow.

"Good heavens! It's a fire! Saray! There's a fire! Our barn, Saray! Our barn's afire!"

He and his wife were at the window now. Brader was trying to look into the yard and at the same time draw on his trousers. Mrs. Brader's teeth were chattering with fright.

"Why, Fay, how could it ketch? Hurry and get out the horses. The cows you left out, didn't you? Shall I call the boys? They can help some if they be small. Oh, dear! I hope Enos will see it and come an' help. Mamie can ring the bell—"

"Enos?" Brader suddenly remembered something. "The scoundrel! He did it—that's how it ketched. Enos did it—the scoundrel! He said he would."

Then the excited farmer flew down the stairs and out of the house. It took him but a moment to turn the horses loose into the yard, then pull out the farm-wagon and carriage. By this time his wife had joined him and assisted him in removing the harnesses and robes. That was all they could save.

The rain had ceased now. The dull red flames made lurid the black clouds that hung above, and lit up the landscape, standing out specter-like against the white-painted farm-houses about. Mamie, with tearful face, was jangling the farm-hell. Three or four ghostly faces came out of the darkness as some neighbors hurried panting into the yard. The first words of each attributed the fire to the lightning.

"Lightning—no! Enos Croft did it—the scoundrel!" cried Brader, in excited voice. "Where's he now? Why don't he come and help? No—he did it—the fire-bug! He said he would, an' he did. But I'll fix him for this."

"Hush, Fay!" pleaded his wife. "You're excited now. You don't know what you're sayin'." "Good land, Fay, you might all burn up an' your nearest neighbor wouldn't know it if I didn't stop and wake him up!"

It was Townley who had just come upon the scene, and with him was Croft.

"Yes, sir!" said Croft, excitedly. "I never knew a thing of it! I didn't know it was rainin'—never heard the thunder or anything. I wouldn't believe it could strike so close an' I not hear it!"

The men about had followed Croft and stood looking at him strangely. All felt that something was to happen, and the burning building lost its interest in the one which centered in the cousins.

"You lie! You wa'n't asleep!" exclaimed Fayette Brader, shaking his fist in his cousin's face.

"You know you wa'n't. You said you would set it afire. An', you scoundrel, you did; an' these men all know you did."

In the excitement Croft had forgotten the quarrel that was between them. His words of the day before came to him now, and his face went white.

"Hush, Fay! Don't talk so," entreated his wife.

"I'm sure there's some mistake."

Croft's wife had followed him.

"Enos was asleep, Fayette Brader!" she declared, indignantly. "An' I should think you'd be ashamed of yourself to use such language, an' accuse your own cousin of settin' fire to your barn. It's a wonder the Lord don't send another stroke out of heaven on you! It's a clear judgment against you because of your quarrelsome ways!"

"Good heavens, Fay!" cried Croft, finding voice at last. "I didn't do it! I know I said I would, but I didn't! Why, you could send me to prison for it, Fay! I didn't do it. Don't think it, Fay. I didn't! I was mad when I said it; but I didn't mean it!"

Croft's manner carried conviction even to Brader's mind. But Brader's disposition at the moment was such that he refused to entertain his cousin's protestations.

In the morning the insurance agent called.

"I see no reason why you shouldn't have your insurance money, Mr. Brader," the agent said. "But the company will demand an investigation into the origin of the fire, and we shall expect you to make a sworn statement. There are ugly stories afloat about your cousin."

"The stories ain't true, Mr. Holmes," said Brader, awkwardly. "You see, I started them myself when I was mad. Enos and I had a quarrel—"

"A quarrel—that looks bad," interrupted Mr. Holmes.

"But he didn't do it. It was struck by—"

"There have been a good many mysterious fires about here recently," interposed the agent, "and the company thinks it is time some one was punished for them."

"But you wouldn't punish an innocent man?"

"No—oh, no! That will be for the courts to determine," replied the insurance man, as if it was all a small matter.

Brader passed several days very ill at ease. He dramatized a dozen different reconciliations in his own mind. Now he talked himself into a mellow mood, now into a state of mind as unrelenting as the bitter cold of January; but the mellow mood ever gave him the most satisfaction.

On the Saturday following the fire Brader worked in his wood-lot, cutting timber for his new barn. At four o'clock he shouldered his ax and started for the house, intending after an early supper to go to town. As he climbed the rail fence into the road a furious clatter of hoofs reached his ears above the noise of the wind. A moment later he recognized the two frantic horses as they dashed by him, loose from the wagon, with harness broken and trailing.

"I vum! If Enos hain't had a runaway!" exclaimed the astonished man; and he started off at once in the direction whence the horses had come.

A quarter of a mile east of the Brader farm the road had been cut out a dozen feet, where it passed over the brow of a hill. On the bank thus formed to the south an old elm had long stood leaning threateningly over the passageway. It was Croft's misfortune to be driving over this hill at the moment when the wind gathered strength to topple this old-time giant of the forest into the gully beneath. The trunk barely missed his body, falling between him and his horses, smashing his wagon and freeing the frightened animals. A mass of branches fell upon the surprised man, and though he was not seriously injured, he was most effectually pinioned in the wreckage beneath.

Brader saw what had happened as soon as he came within sight of the hill. He firmly believed Croft was killed, and his imaginative mind already pictured his cousin's home the scene of a funeral. Thus was to end the trouble which had occupied his thoughts so exclusively the past week. With ashen face he pushed aside the branches as he made his way into the heart of the wreck.

"Help! Is some one there?" cried Croft, in muffled tones.

"Enos! My goodness! are you alive? Are you hurt much? I vum! I thought you was surely killed!" declared Brader, in a relieved voice. "Just wait till I get my ax to work on these here limbs, and I'll have you out of there."

Chips began to fly at a great rate.

"There; how's that? It's this limb that's holdin' ye down, is it? Let me get at it once. My goodness, I'm glad ye ain't hurt none! It seems like a miracle that ye ain't; I vum, it does!"

Enos crawled out and tried his arms and legs.

"It blowed down?" said Brader, making conversation.

"Blowed down—why, I should say it did, just as I got here! Did ye ever see such a wind?"

Croft's voice trembled. Perhaps he realized afresh the narrowness of his escape. He looked at his cousin furtively.

"It blowed like this that summer I was in Kansas ever' time after they'd a cyclone some're." Brader glanced into Croft's face and then at the place where the tree had stood. "The old thing's be'n threatenin' to come down this long time. Funny that it should just as you got along here!"

"Lord! I don't see why I wa'n't killed." The frightened expression in Croft's face renewed itself. "To come so close an' not be! Why was it?"

Croft sat on the prostrate tree. His legs trembled so he could not stand.

"I don't know," said Brader, in tones of awe. "Why was my barn struck by lightning, an' burned down, an' not my house?"

The eyes of the two men met for a moment. Brader covered his embarrassment by an awkward movement of the ax.

"D'ye believe me now, Fay?" cried Enos, with a sudden light in his face. "Don't ye think I set it?"

"Of course I believe ye. I believed ye that night, but I was too mad theu to say so." Brader began chopping at the tree. "We've got to get your wagon out o' here. Those hind wheels hain't hurt none."

"I got to thinkin' about it that day," said Croft, throwing aside the severed limbs, "an' I want to come over an' tell ye that you was right about the money. The preacher's comin' an' one thing an' another come up an' I didn't get 'round to do it."

"I didn't seem to see it then," said Brader. "But afterward, somehow—why, ye see, if we're pardners—why, of course the money ought to be divided."

Croft said nothing for a moment. The situation was all a great surprise to him.

"Why, ye see—the preacher heard us that day," Croft began. "He wanted to patch it right up there. He thought it would be a good idee to split the differ'nce an' put the money into the new church."

"It would be a good idee!" declared Brader, delighted. "I'm willin'."

"So'm I," said Croft.

And so it was agreed.

"You'll get your insurance money," Croft said, half interrogatively.

"Yes," Brader's face wore a troubled expression. He remembered the investigation the agent had promised.

Croft's countenance was also very sober. "Them words I said that day is all over town. Some says I'll be sent to prison for settin' fire to it."

"Well, I know you didn't," declared Brader. "They've got to depend on my testimony; and I'll swear it's all right."

As they talked and worked the roll of carriage-wheels reached them, and looking up the cousins discovered the Rev. Ashley approaching. It was impossible for any one to pass till the great tree had been cleared away. Ashley listened in amazement to the story the two men told. The evidence of good-fellowship between the cousins was plainly visible, yet the preacher wished to be assured in words.

"How is it about the quarrel?" he asked, getting Brader to one side.

"Oh, that's all right. We've made all up, hain't we, Enos?" said Brader above the wind.

"You bet we have!" responded Enos.

"Good!" cried the preacher.

"An' the money is goin' to the church," added Croft.

"Good! Praise the Lord!" Ashley threw his hat into the air and cared not that it became the sport of the wind. "The Croft Combine still lives and is a good thing," said the preacher, rejoicing.

And to this the cousins replied, "Right you are, parson."

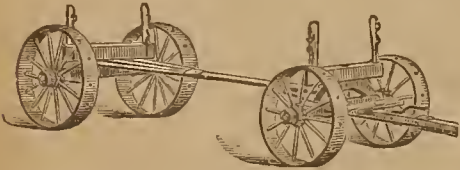
TAR AND OAKUM IN SURGERY

The story of the comment of Cuvier, the celebrated French naturalist, on the definition of the word "crab" adopted by the French Academy employed in the preparation of the academy dictionary, is well known, but is always fresh and amusing. The definition was: "Crab, a small red fish which walks backward." "Your definition would be perfect, gentlemen," said Cuvier, "only for three exceptions. The crab is not a fish, it is not red, and it does not walk backward." The Royal Society is the English analogue of the French Academy. Many years ago a sailor who had broken his leg was advised to send to the Royal Society an account of the remarkable manner in which he had healed the fracture. He did so. His story was that, having fractured the limb by falling from the top of a mast, he had dressed it with nothing but tar and oakum, which had proved so wonderfully efficacious that in three days he was able to walk just as well as before the accident. This remarkable story naturally caused some excitement among the members of the society. No one had previously suspected tar and oakum as possessing such miraculous healing powers. Several letters accordingly passed between the Royal Society and the humble sailor, who continued to assert most solemnly that his broken leg had been treated with tar and oakum, and with these two applications only. The society might have remained puzzled for an indefinite period had not the man remarked in a postscript to his last letter, "I forgot to inform your honors, by the way, that the leg was a wooden one."—St. Louis Globe-Democrat.

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In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Co., Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, that is only 25 inches high, fitted with 24 and 30 inch wheels with 4-inch tire.



This wagon is made of best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

GOLDENROD

BY ADELBERT CLARE

In the balmy woodland closes,
Where the shadows softly danced
To the music of the breezes
While the sun, a golden lance,
Touched the ferns and little fairbells
Flashing diamonds as they wud,
And rested on the slender stalks
Of the blooming goldenrod.

And 'twas thus they softly whispered
Of the secret that they hold,
How the flow'r that we cherish
Found its wealth of yellow gold.
It was in the month of August,
Many, many years ago,
That a maiden in the woodland
Sought the laurel's blooms of snow.

But alas! they all were shattered
By the wind and pouring rain—
Yet on and on she waded,
And she ue'er came back again.
She was lost—and thus she perished
And decayed upon the sod,
And the golden of her tresses
Is the slender goldenrod.

THE SEVEN-O'CLOCK TRAIN

BY CAROLINE BENEDICT BURRELL



THE house faced the barn. Whether you looked from the front door or from the parlor window you could not escape the sight of the nuonth structure, roughly put together, unpainted and dilapidated. At one side of its yawning door was a heap of moldering straw; at the other an unwashed huggy. Behind the huggy was a rusty plow and a box-sleigh. Hannah never sat in the parlor, and as the front door stuck on the threshold it was seldom used. Nevertheless she resented the fact that the barn was there in full sight.

Behind the house was the vegetable-garden, and beyond that the family graveyard. Hannah often stood on the door-step and wished the dead and gone Barneys had used the cemetery in the village. She preferred not to consider her latter end so constantly. At the right of the house stood a field of tall corn which shut off any chance of a view. To the left was a meadow, and at its foot ran the railroad. The side door of the kitchen opened this way, and formed Hannah's single outlook. The passing of the trains gave her her chief interest in life. The noon train had drawing-room cars and a dining-car as well. She caught glimpses of plush coverings and languid ladies in the one and gleams of silver and china in the other as the train rushed by.

Where were all the people going day after day? What delicious things were being eaten in that mysterious dining-car! Hannah sighed as she took up the dinner of corned beef or hoiled pork.

Hannah had aspirations beyond the narrow limits of this farm life. She had been in Tiffin, at the seminary for a year, boarding with her mother's widowed sister. She was to have gone back for two years more, but her mother had died and she had had to stay at home and keep the house.

Her father had aspirations, too. He, like his daughter, wanted to see the world. He had a calendar with the geysers of Yellowstone Park gaily adorning it. It hung in the kitchen over the wood-box, and every winter evening the farmer sat under it and smoked while Hannah wiped the supper dishes.

"That Old Faithful, now ain't he a corker?" he would say, admiringly. "Every hour or so he spouts; yes, sir, every hour or so. I ain't never seen him, but a man told me. Just spouts 's high as that tree. How'd you s'pose he does it so reglar? That's what I can't figger out. But some day we'll go an' see, hey, Hannah?"

"Oh, yes, father," Hannah would say, eagerly; "and the mountains, too, and the sea, and London and Paris, and Switzerland and New York and everything. Oh, do you suppose we'll ever go, father?"

"Some day; some day, child," her father would answer. "There's Niag'ry, too; I'd give a dollar to see them falls. Sound just like thunder, an' look like the wall of a house; that's what they say. Yes, some day we'll find a gold-mine, Hannah, an' then you an' me'll go an' see the sights."

Hannah would sigh as she wrung out the dish-cloth.

In summer the farmer smoked on the back door-step. As the seven-o'clock train came by Hannah used to watch it over her father's shoulder. One night he chuckled to himself as the engine disappeared.

"Say, Hannah, did you ever see an engineer watch the scenery like that fellow does? He looks over here every time he comes by. Wonder if it's me he's lookin' at?"

Hannah blushed. "His name's Dorley," she said, falteringly. "Aunt Melissa knows him. He lives in Tiffin. She saw him when she was here, and she told me."

"Well, Hannah, you've got a beau, sure," chuckled her father again. "I've been watchin' him, an' he never goes by without lookin' over. I kind o' thought 'twas me he was lookin' at, but I guess it's you." But Hannah had disappeared.

One day at dinner-time the farmer came in greatly excited.

"Jones has struck ile," he shouted, as Hannah appeared in the doorway. "Yes, sir, ile—right on his oat-field! He jist bored an' it spouted up. An' he's sent for machinery an' harrels, an' I tell you he'll be a rich man in a week. 'F I knew where to dig you bet I'd dig now. Ile's a better crop than potatoes, sure."

It was the beginning of the mighty excitement which shook northern Ohio to its antipodes. In a few months skeleton frameworks tapered skyward from every meadow. Narrow black pipes ran from corner to corner of the fields, and the air was filled with the nauseating smell of candle-oil. Chud, chud, went the pumps, and out flowed the black, slimy stream from the reservoirs of the earth.

Farmer Barney was wild with suspense. His loud, rasping voice was heard from dawn till dark directing the men who were boring in his fields, in his meadow-land, even in his dooryard. Why was it, when the oil flowed so freely for every one else, his land was barren? Not a drop exuded from the heart which was drawn up; no tiniest bubbling stream rewarded his search. At night he would sink exhausted on the door-step. "To-morrow, to-morrow we'll strike it sure, Hannah," he would say; but his hands trembled and his eyes looked strange and fierce as the days went by.

"Oh, father, don't worry so!" Hannah said one night as she watched him. "What if we don't strike it? We can get on without it."

Her father turned fiercely.

"You hesh!" he exclaimed, his voice rising with passion. "I'll strike ile or I'll know the reason why, I tell you. Jones struck it to-day, an' Kennedy an' Wilder yesterday, an' why can't I I'd like to know? I tell you I've got to strike it." And he rose and paced restlessly up and down.

The seven-o'clock train whistled. Hannah stood on the door-step. The engineer leaned from his cab. The farmer was looking off toward his neighbor's tall framework in the distance. The engineer waved his hand to Hannah. She turned and fled palpitating into the house.

As the excitement in the vicinity deepened the farmer's agony of mind increased. His crops were destroyed by the tramp of many feet; his meadows were dug up ruthlessly. If riches did not reward his search, poverty, such as he had never known, must soon be his portion.

He grew gaunt, silent, withered. He picked nervously at his clothing; he ate little and slept less. Hannah was almost worn out by her anxiety for him. Her hope of finding the treasure had vanished. Every evening at sunset she stole to the kitchen door and watched for the seven-o'clock train. The engineer now waved his arm holdly. Hannah did not respond, but that friendly gesture comforted her. Her father never turned his eyes away from the skeleton structures silhouetting themselves against the evening sky.

One day the farmer did not come in to dinner. Hannah waited for an hour; then, catching up her sunbommel, she started across the meadow. Suddenly in the distance she saw him running, gesticulating, shouting strangely to her. She stood breathless. As he neared her he stumpled and fell to the ground, but arose and blindly staggered on. She ran to meet him, and he dropped at her feet.

"We've struck it, Hannah; we've struck it!" he cried, and fainted.

When he roused he was in the house and on the bed. As his mind waked more fully his excitement grew.

"We've struck it rich, I tell you," he said over and over. "Yes, rich! We'll see the world yet, Hannah, you an' me. Yes, we'll see Old Faithful, an' Niag'ry an' Paris an' New York an' all them places. You get your trunk packed, girl; we'll see the world yet."

The noisome black stream ran freely; the harrels sent from Tiffin were filled and sent off, and piles of others took their places. Only one well was found, only one pyramid rose in the air, but the flow of oil was strong and the farmer's hopes were high.

"Did you ever hear of an ile king? Well, I'll be one yet, Hannah. Them poor, miserable little wells the neighbors have got—why, they'll run dry in no time; but mine, mine's a regular geyser—Old Faithful!"

He slapped his knee and laughed a huge laugh. "Old Faithful! Why didn't I think of that name for it before? Yes, I'll be an ile king sure." Hannah's heart swelled joyfully.

"Can I go to Tiffin and get Aunt Melissa to help me buy some clothes, father?" she asked, timidly.

"Sure, girl," he laughed, loudly. "Just you wait a hit till the money begins to come in. You'll have silks an' satins an' sealskins an' all the duds you want. An' then we'll travel, you an' me, honey."

"I'll have an alligator hag," she mused, as she wiped the dishes. "And an umbrella with a silver top, and a jacket with a silk lining." Not in vain had she watched the windows of the drawing-room car.

"And, father, you must have some new cloths and an overcoat, and one of those square yellow satchels, you know."

"Want to make a dude out of your old father," chuckled the farmer, glancing adoringly at Hannah.

She looked very pretty in the sunset light. Her slender figure moved lightly about the dusky kitchen. Her hair hung about her forehead in little rings. Her eyes were large with joyful excitement.

When the seven-o'clock train appeared she did not glance out of the doorway. She had not done so since they had struck oil. The engineer looked steadily from his cab, but he no longer waved his arm.

"Say, Hannah, what's come to the engineer?" inquired the farmer, slyly. "Hain't so friendly as he used to be, eh?"

Hannah blushed and tossed her head slightly. "I guess we can do without him, father."

"Wall, we'll make out to try," responded her father. "You an' me's goin' to ride in the parlor-car when we go travelin', an' I guess an ile king's darter kin look higher'n engineer."

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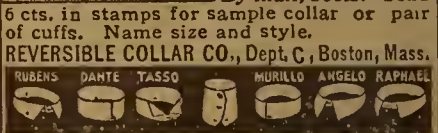
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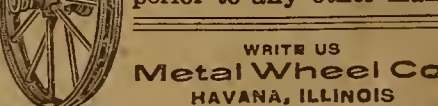
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Hannah did not reply for a moment. "About when do you think we can start, father?" she asked, thoughtfully.

"Wall, in 'bout three months, I calculate. I'll git young Saunders to be sort o' foreman for me while I'm gone; he's honest as the day. I feel sort o' hurried to git off. Seems to me I don't feel just right o' late. Got a sort o' pain in my side. I guess I need a change. We'll git off 'bout fall, I reckon, Hannah."

July went by swiftly. One night the farmer pushed back his plate at supper.

"Don't you like the pie, father?" asked Hannah, surprised at his unwonted failure of appetite.

"Smith's well's stopped," he answered, laconically. Smith was their nearest neighbor.

There was silence for a moment.

"An' Clark's stopped last week," he continued.

"But shucks, them never was but little mean wells, anyhow! Our Old Faithful ain't goin' back on us that way."

He smoked in silence that evening. After the dishes were done Hannah sat beside him on the steps. The frogs croaked in the meadow. A thin silvery mist hung over the bare fields. The tall, skeleton frameworks loomed hideously in the dusk.

The next day the black stream flowed more slowly. The farmer hovered over it as a mother hovers over her sick child.

"Dinner's ready, father," Hannah said in his ear at noontime. He had not seemed to hear her call from the doorway.

"You go into the house," he said, sternly. "I don't want any dinner."

Hannah retreated timidly. Her father had never spoken so harshly to her before.

All that afternoon he stood about his oil-well. By evening the flow seemed a little stronger. The chud, chud of the pump sounded a little louder and more cheerful. The farmer ate his supper hungrily but in silence. Hannah felt frightened and lonely.

As the seven-o'clock train whistled she peeped through the kitchen window at the engineer. How sober he looked! He had such a kind face. Suppose the well stopped flowing, would he be sorry for her? Would he wave his arm again if she went to the door? She sobbed a little as she straightened the chairs in the kitchen. Some calamity seemed darkening about her.

It was only a day or two before the well stopped flowing. The farmer was almost frantic. He shouted at his men to keep the pump going, and for two days hung over the oozy earth as if he would draw the stream up with his hands. His face grew gray and haggard. But the well had given out.

He dropped on the door-step one evening and sunk his head in his hands.

"You an' me won't do no traveling, Hannah," he said, brookely. "I guess we'll never see the geyzers, nor nothin'."

"Never mind, father," said Hannah, tremulously, patting his gray head. "Perhaps we will somehow yet."

But the old man's spirit was spent. The next morning he was too feeble to raise his head from his pillow, and in a week's time another mound was added to those already in the little graveyard in the field.

"I was thinkin', Hannah," said her Aunt Melissa the evening of the funeral, as they sat alone in the kitchen after their early supper, "that you ought to have some black-bordered handkerchiefs. That black merino dress will do for best, and your caliker dresses don't count anyhow just here in the house, but black-bordered handkerchiefs are what everybody's usin' in Tiffin, an' I feel as if you ought to have some. Your pa would have wished it, I'm sure."

"Oh, don't, Aunt Melissa!" said Hannah, beginning to cry softly.

"Yes," continued her aunt, firmly, "I knew my brother-in-law well. I know he would have wished it. Now he's gone I must do my duty by you. I've some good black muslin in my trunk I brought on purpose, an' I'm a-goin' to put some strips of it on the edge of your handkerchiefs. It'll do perfectly well, an' it'll give 'em a style. You're a good-lookin' girl, Hannah, an' I want to do what's right by you."

Hannah sobbed quietly.

"Now, those gravestones," Mrs. Porter went on; "they don't suit me at all. No inscriptions, no dates, nor nothin' on 'em! I felt downright ashamed to-day to have the neighbors see 'em. I tell you what I'll do, Hannah."

She sat up straighter. She was short and very stout, and it required an effort to raise her from her low rocker.

"I'll tell you what I did to John's, an' it looks just lovely."

Hannah gazed sadly out toward the little graveyard. She had forgotten that Aunt Melissa was like this.

"I got some black oil-paint, the kind that comes in little tin tubes, you know, an' a small brush, an' I just lettered some poetry an' the dates an' all on the stone. You can't think how nice it looks, an' you can see it ever so far off. I thought of some lines to-day while they was fillin' in the grave that would do for Maria."

Hannah shuddered. She remembered Aunt Melissa's poetry. Must those two sacred stones be desecrated?

Her aunt smoothed her apron and rocked herself gently as she repeated:

she continued, complacently, pressing down her sleek hair over her ears. "I thought of this:

"Disappointed thou wast
Ere thou turnedst to dust,
But above thou dost shine
In a bright light divine.

"You see, that is a reference to the oil-well stoppin', but it's so delicate that only his friends will know just what it means. Oh, Hannah, what I would give if I'd only had an education! I-souewhere feel as if I was a sort o' natural genius, only I can't express myself as I could if I had been educated."

Hannah made no reply. The seven-o'clock train was just coming in sight. She trembled a little, and the color rose in her pale cheeks, but she sat still on the door-step.

The engineer leaned out of his cab. Hannah looked steadily at him. He hesitated a moment, then he waved his arm slowly, deprecatingly. Hannah's hand responded in a timid wave. The whistle sounded a sudden joyful blast and the train disappeared in the wood beyond.

"Why, that's young Dorley!" exclaimed Aunt Melissa, admiringly. "Did you see him wave to me, Hannah? So polite of him! He's a fine fellow. He'll be a conductor some day. He's bought a house in Tiffin lately an' he's furnishing it on the instalment plan. He's got a lovely red plush parlor suit, and art squares in most all the rooms. Perhaps when we sell the farm and you come to live with me you'll get acquainted with him."

She smiled knowingly to herself and subsided into a romantic dream.

The next day Aunt Melissa sewed the black borders on Hannah's handkerchiefs and put a narrow black cord on the edge of her sunbonnet.

"It's only respectful," she said when Hannah timidly objected. "I don't insist on crape; crape's goin' out. But some black you must have. I'm goin' to put a black band on the sleeve of your light coat. I hear that's the very latest thing!"

Hannah looked resentfully at her aunt, but made no reply. The wish for stylish things was overlaid in her girlish heart by her great sorrow.

When the seven-o'clock train came in sight that evening Hannah was near the fence not far from the track. There was a late rose-bush there, and she was gathering the flowers to take to the little graveyard.

The engineer was leaning far out of his cab. In his hand was a bit of white paper. He held it up for Hannah to see, and then he tossed it lightly over the fence. He smiled as he did so. What a kind, tender smile he had! Hannah's heart throbbled as she moved forward to pick up the bit of paper. It read:

DEAR MISS BARNEY:—I guess you know who I am. Your aunt, Mrs. Porter, does, anyway. I used to see you when you was to school in Tiffin, and I've never forgot you. I heard about the oil-well, and when I thought you was going to be rich I just said I would never tell you how I felt. But now the well's stopped, your pa's dead, and you're all alone. I wish you'd marry me. I've got a nice house in Tiffin, and I think you'd like to live there. This farm's lonely for you, an' I'm lonely, too. And I could get you free rides on the railroads and we could go to Columbus and Cleveland and all around sometimes. I like to travel, and I guess you would, too. If you think you could marry me just wave your handkerchief tomorrow night, and then I'll come up and see you Sunday. I expect you'll feel bad without your pa. I'd try and make it up to you.

From your affectionate
JOHN DORLEY.

Hannah sat down beside the rose-bush and read it all over and over. When she went indoors her cheeks were very pink and her eyes were wet.

"You certainly do look feverish, child," said Aunt Melissa, nervously. "You go right to bed this minute."

The next night Hannah stood on the threshold as the seven-o'clock train came in sight. Her black-bordered handkerchief fluttered shyly as the engineer leaned out of his cab. His arm waved frantically around his head in response. His whistle sounded loud and shrill as the train entered the woods.

"I'm glad Aunt Melissa just sewed borders on my handkerchiefs," thought Hannah as it disappeared. "I know father would be glad to have me rip these off if I should want them all white before long."

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The Roentgen ray is being employed quite extensively by scientific experimentalists in curing various diseases by destroying the bacteria upon which they feed. Some remarkable cures have already been announced, although many failures have also been recorded. It will be remembered that a man became suddenly bald on a portion of his head about two years ago, owing to exposure to the X-rays. Dr. Schiff, of the Imperial University of Vienna, seeing the account, experimented with a little girl whose back was covered with a thick growth of hair. After two or three weeks the hair fell out, only to reappear again; but successive exposures to the rays effected a complete cure, so that the vitality of the roots of the hair was destroyed. Dr. Schiff claims to have entirely cured lupus cases by the X-rays. Lupus is a disease that attacks the face in the form of ulcers. It is believed that its bacteria are the same as those that cause consumption. Experiments with bacteria culture plates show that the X-rays destroy nearly every form of disease germ, even the bacteria of typhus fever, Asiatic cholera and cancer. Consumption in some cases has yielded to this treatment, although the results have not been satisfactory. Unquestionably these eminent scientific men have a sound scientific basis to work upon, and the prospects of applying the mysterious X-rays to so practical a purpose as this seem very reassuring.—Normal Instructor.

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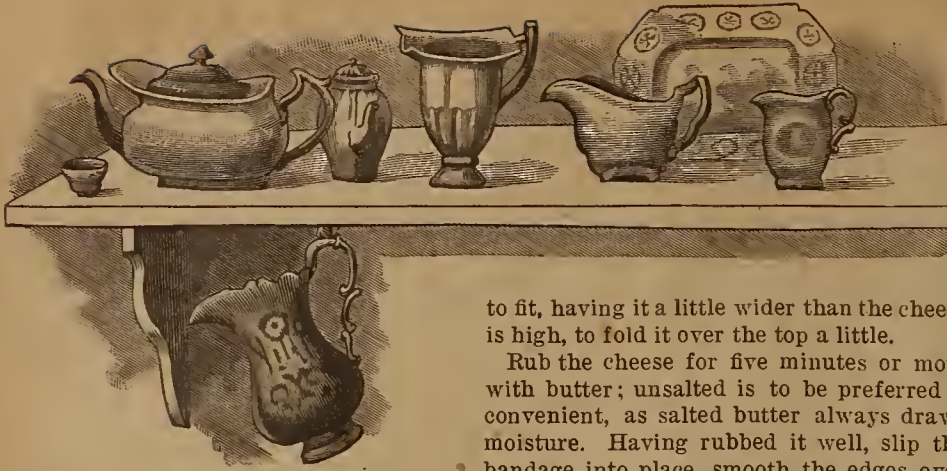
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THE 'SCONSET CHINA-CLOSET

ON THE island of Nantucket, in the quaint fishing village of 'Sconset, may be found a cottage decorated with old whaling-harpoons, a rusted pilot's wheel, the figurehead of a lady lifting her hands as in supplication over the waves, together with other relics of shipwreck and seafaring life, while a whale's jaw-bone, about twelve feet long, yawns invitingly on the door-step.

In this cottage, called the china-closet, is gathered a rare collection of old china. A thousand pieces of this old crockery, some fifty, some two hundred years old, line the walls and hang from roof-boards, rafters, sides and shelves, while odd cups, plates, pitchers, of every size and color—pink, blue, green and luster—are found in Lambeth, Staffordshire, Lowestoft, Wedgwood, Minton, Rose, Stoke-upon-Trent, and enough other wares to drive any lover of china to distraction.

It is the age and association which gives each piece its value, and the delicate flowered Sevres vases, perfectly preserved, are passed by for thick-lipped pottery cracked and mended, quaint little creamers on legs, or old-time plates in deep indigo-blue which have histories of their own.

Some of these old dishes are decorated with historical scenes, many of them taken from American history. A very familiar one pictured on a brown bowl and pitcher is that of Benjamin Franklin flying his kite; and this recalls the story that Benjamin Franklin's mother was a Nantucket woman and had fully intended that her son should be born on this island, but Benjamin himself was otherwise disposed on this subject, and chose Boston as his birthplace.

Some of the bluest and most diverting old plates are those setting forth the story of "Dr. Syntax in Search of the Picturesque," while a pitcher of peculiar interest is that of Queen Caroline, designed by English people to show their love and loyalty to her while her husband, King George, was seeking a divorce.

Brought from the ends of the earth, the inheritance of wealth, poverty, chance or fortune, what stories are not locked in these mute pieces of earthenware. Some are gruesome enough, as of the lonesome little sugar-bowl without any cover, which pictures a company dining in a luxurious ship's cabin; this waif was washed ashore from a wreck. Another sad story goes with a large pitcher decorated with a ship in full sail, which brings to mind its owner, Captain Inet, who lost his life in his last encounter with a whale. The great gilded platter speaks of feasting at banquets in solemn state, while the little Wesley tea-cup suggests that quiet heart-to-heart talk between two friends which is good for the soul. In the bottom of a bread-and-milk porridger is found this intrepid verse, which tells its own story:

"When riding o'er the mountain wave,
The hardy sailor ever brave,
He laughs at danger, smiles at fate,
And risks his life to save his mate."

In blue Delft and pink Wedgwood, green Ridgeway and purple luster, what romances, pictured story-books and pages of history are not written in this deliciously quaint old china-closet of 'Sconset.

FRANCES BENNETT CALLAWAY.

CARING FOR HOME-MADE CHEESE

When cheese has been taken from the press it may or may not be bandaged, according to one's inclination. It is well enough to bandage it for a few days, until a crust forms, so that it will not spread. Take cheese-cloth (the thinner the better), measure around the cheese, and make a bandage just

to fit, having it a little wider than the cheese is high, to fold it over the top a little.

Rub the cheese for five minutes or more with butter; unsalted is to be preferred if convenient, as salted butter always draws moisture. Having rubbed it well, slip the bandage into place, smooth the edges over the top of the cheese; and if you want to cover it all over cut circular pieces of cloth of the right size and press them over both sides of the cheese. Now that it is neatly covered all over, wrap in cheese-cloth, place it upon a clean board, and set it where it will have some warmth and plenty of air, as both these are necessary. All the further attention it will need will be to turn it over daily and rub it each time. In about six weeks it will be well ripened, and if made well it will be a rich, creamy and delicious article of diet.

But here comes the trouble. This one complains that her cheese drips whey for some days after it is taken from the press, and she thinks it has been well pressed, too. This might be true. The cheese might be perfectly made in almost every step and yet drip whey. This might be caused by too little rennet being used; some may be a trifle careless about the weight of milk, and think that a tablet will thicken a hundred and ten pounds of milk just as well as one hundred; but it is not a safe way to make cheese. If too little rennet is used the curd will be soft and slippery, but if just right it will be somewhat granular and yet cling together with some tenacity. When the curd is ready for the salt it should squeak distinctly when rubbed lightly between the fingers. I know of no way to certainly remedy the mistake of using too little rennet, but sometimes, if the curd is too soft, heating the whey to one hundred degrees instead of ninety will have an effect to harden it somewhat. I should not depend upon this, but if I had made the mistake and my curd were soft, I should try this remedy. It would harden the curd so the whey would run out, and so lessen the chances of the cheese spoiling from too much moisture.

The next reason why cheese may drip whey might be too light a pressure or too short a time of pressing. Twenty-four hours is none too long to leave it in the press, and the cheese should be turned once in that time. I know of no other reasons why cheese should leak whey after pressing except the two given above. It might be that having the milk too cool when the rennet is added would have the same effect; I think it would. It is always best to be exact, and never guess at the temperature of milk or whey in cheese-making.

If cheese inclines to mold remove the bandages after the rind has formed, and rub religiously every day. When cheese is first made I think it is a good plan, if possible, to have it near at hand for a few days—maybe three or four—and turn it often, as the cheese-cloth wrapped about it will become slightly damp. Turn whenever this occurs, and this will facilitate the curing of the cheese, for the sooner the rind is formed the better, and that must be formed by a partial drying.

Some are troubled with cheese-mites. I know of no way to keep them out except by keeping the cheese from the cheese-fly, which is a small, slender fly, and not the ordinary house-fly. If the cheese is well rubbed with butter, if the pores are all filled, if there are no cracks in the rind, and if the cheese is lightly but effectually wrapped in cheese-cloth, there is no reason why the cheese-fly should find its way to the cheese. It is the habit of the fly to lay its eggs in some broken place in the cheese, and then the damage is done very quietly; the whole cheese may become infested with mites without any apparent outward sign save just that little break or crack in the cheese. There is no more need of having cheese-mites than there is of having other pests that we can be rid of by a little care. Cheese is very easy and simple to take care of. The chief trouble is that folks do not attend to the daily turning and other simple little details, and so the cheese molds or cracks, and trouble ensues.

If insects are very troublesome—and they are more so in some places than in others—then the cheese could not be harmed by being rubbed with powdered borax. As this

will preserve meat against flies, I see no reason why it should not have the same effect upon cheese. After cheese is cut it should be wrapped in a cloth wet in vinegar and kept in a box. The vinegar will prevent mold and the close quarters will keep it moist. Cheese will not ripen well in cool weather. August is the best month for home cheese making and ripening.

ROSE SEELYE-MILLER.

THE BEST WHITEWASH MADE

Slake half a bushel of quicklime with boiling water, keeping it covered during the process. Strain it and add a peck of salt dissolved in warm water, three pounds of rice which has been previously boiled to a thin paste, half a pound of powdered Spanish whiting, and one pound of clean glue dissolved in warm water. After mixing all these ingredients let stand for several days. If this wash be kept in a kettle and heated very hot before being put on it will be found to have the brilliancy of paint; and if tinted with some of the paint-powders it can scarcely be told from paint, and is almost as durable.

It is wonderful what a little paint or white-wash adds to the looks of a place—yea, and healthfulness, too—and it is indeed too bad to neglect using them where needed.

ELLA B. S.

TO REDUCE THE FLESH

A systematic course of dieting is not a pleasant subject to the generality of people, for in altogether too many instances the appetite rules the individual, and not the individual the appetite. But less pleasant is the necessity of bearing a superabundance of fat, which hundreds are doing with an every-day heart protest. A good form is the envy of every woman who does not possess it, and the woman who has grown fleshy to the point of obesity cannot possess herself of a good form until in some manner she shall have succeeded in ridding herself of the many pounds of avoirdupois for which she has no earthly use.

Large men are universally admired, and unless large to overfatness are rather envied by men of undne smallness in stature. But the large woman is never the envy of her more slender and shapely sisters, and to herself she is a constant disappointment. She wishes with all her heart to dispose of her superfluous flesh, but she doesn't know how, and "wiseacres" have declared the dangers of reducing except through a system of dieting alone. But with a great many over-fleshy women careful dieting and even the hardest of labor avail nothing except to break her down physically; she simply grows fat and more miserable.

Physicians of up-to-date understanding no longer scout the idea of a reduction of superfluous flesh except through a strict dietary regime. All admit that the diet must play a part in the treatment. But the sole success of the undertaking does not, cannot depend upon this one point of "what you eat and how much you eat."

A starvation diet will reduce in time, to be sure, but the health is injured, for the body has been illy nourished. A sufficient quantity of food is a necessity. We may be guarded as to both quantity and kind, and must be if health is to be maintained and the desired end sought. But obesity has come to be recognized as a disease, and a disease that is attended with many dangers of various natures and character. Nervous disorders are sure to follow the taking on of flesh, and heart failure is a frequent complaint. Death often results, though the obese will many times recover an attack of heart trouble, only to be stricken in time with paralysis or apoplexy.

After an attack of paralysis a reduction of flesh takes place rapidly enough, and in many instances such sufferers have been known to live for many years, dragging out a simple existence. For this and for many other reasons it is not at all strange that one who has become burdened with superfluous flesh will seek a deliverance through safe and harmless means.

Without a doubt there are many harmful and quite unsafe so-called remedies for obesity that are advertised, sold and resorted to by women (and men, also) who are over-fat, uncomfortable, unsightly, and unhappy over their physical condition. Many of those remedies fail in the desired and advertised "sure effect." Money is thus worse than uselessly spent, and the purchaser of nostrums grows discouraged over the situation, for a sure though a slow yearly accumulation of additional pounds stares the already overburdened in the face, which even the most rigid diet will not keep down.

An inherent predisposition to put on flesh "runs in the family" to a very great extent. Another of the inherent tendencies, though augmented by habit or indulgence, is that of overeating and the eating of foods of a fattening nature. "We live to eat" has been very aptly written and quoted, whereas we should in reality eat only to live. But human nature is weak, and the human appetite for "good things to eat" is all too common and very generously admitted.

Of remedies that are effective in obesity reduction there are at least a few, and as safe and harmful as effective. But even here care must be taken regarding diet. Fattening foods must be self-denied until surplus flesh has disappeared and until the system has settled down to the new order of things. Favorite foods and sweets may then be reasonably indulged in, and with proper care and attention to a few simple rules of right living no fears of a return to former proportions and conditions need trouble one's mind.

Many determine to reduce the superfluous flesh by a systematic course of dieting without the aid of scientific medical treatment and advice. The undertaking is a doubtful one to say the very least of it. As said before, a majority of people who are predisposed to put on excessive flesh will grow fleshy even under the strain of hard work and slim diet. I have known such people well. There is indisputably a cause for this effect, just as there is a cause for every effect known, and the cause is beyond your comprehension and mine. So are the causes of various other conditions of human health. We do not undertake to understand them. We turn for help to some one who has made a study of diseases for a long term of years, and who through study and experience has perfected himself in a special line or lines, and can bring the skill of knowledge to bear upon the case.

We are learning—all of us, I hope—to practise self-denial to an extent in the manner of our "living," and to diet gracefully, or in other words, without great complaint and in a kindly spirit. The general health demands it of all. Nature's laws transgressed will bring in their train results of an ill-timed, disastrous kind, and the transgressor must meet the debt that Nature presents, with interest, and many times with interest many times compounded. But the starvation manner of diet is not to be condemned, nor is the result of such dieting at all lasting, even if the weight has been reduced thereby.

The diet cure without other treatment is more often than otherwise a failure; and one who suffers physically and mentally because overfleshy and ill-appearing turns with thanksgiving after all to a source of positive relief. Where the treatment is one of destruction of the elements of digestion danger lurks. But where, by treatment, digestion is aided and superfluous flesh reduced the system becomes a blessing to mankind in general, but to womankind in particular.

A woman who is five feet tall (for it is of women that I am thinking of most in this connection) should weigh but one hundred and twenty pounds to be well proportioned, to be sufficiently fleshy for all practical purposes, and to look well and feel well. Six feet is almost the limit of human height, and one who "measures six feet in his stocking feet" should weigh one hundred and eighty pounds. What, then, of individuals without number who between the heights of five feet six inches and six feet weigh two hundred pounds and on up to enormous weights? People weighing from two hundred to two hundred and twenty-five pounds are not at all uncommon. But one never met a woman who weighed so much that she was not found a decidedly unhappy woman, and uncomfortable in consequence. A large woman feels herself the observed of all observers, and she is sensitive to a degree. One feels sympathetically for another, and each wishes hourly for a release, and inwardly sighs. "Oh that this too, too solid flesh would melt!"

But a word of warning. If medical treatment be resorted to, know that a specialist stands back of the remedy, just as one would be sure that a surgeon was a specialist in his especial line before submitting to treatment. When ill we call for the services of a skilled physician, and not some one of whom we know nothing. The world knows and recognizes the skilled physician in obesity, as in other dangerous and uncomfortable ills. Nor need one fear to place themselves in the hands of one so skilled and studied and successful more than do we fear to call the home physician when fever rages beyond our own control, and danger lurks about us.

ELLA HOUGHTON.

THE TABLE SET FOR TWO

The sunshine falls on the window-sill,
And the day looks in at the open door;
The kettle sings, and the dear old wife
Goes back and forth o'er the kitchen floor
With plate and platter and fork and spoon,
As every day she is wont to do,
And she lays them with a quiet grace
On the homely table set for two.

Oh, the bread is like the sea's white spray,
And the cloth is clean as mountain snow;
From the pantry shelf to the kitchen stove
The dear old wife on her errand goes.
The morning-glories over the porch
All in a riotous tangle run,
The cat lies curled asleep on a chair,
The old dog blinks at the noonday sun.

But the dear old wife is sad to-day,
And the morning hours have seemed so long,
For her thoughts are of the long ago,
When the old house rang with mirth and song;
When the red-cheeked boys and merry girls
Came trooping in through the open door;
Some wander now 'neath an alien sky,
And some will come back no more—no more.

There are plenty of chairs against the wall,
And the wide old rooms are strangely still;
The day is sad, though the sunshine falls
Like the sifted gold on the window-sill;
And the dear old wife in her quiet way
Does the homely tasks she is wont to do;
But the tears fall fast as she sadly thinks
Of the lonesome table set for two.

—Good Housekeeping.

THE KITCHEN

EVERY home should contain a cheery, home-like living-room, a cozy dining-room and a comfortable kitchen, besides the sleeping-rooms. A parlor is by no means an essential, and if economy must be practised, let it not be at the expense of the kitchen. The woman who prepares the meals for a family must spend a good many hours in the kitchen, and it is her right that the room be as pleasant and comfortable as possible.

When we see so many desolate, inconvenient kitchens we can hardly wonder that housekeepers sometimes become discouraged and their work grows irksome, that the girls of the family have a distaste for cooking, or that girls who must earn their own living will seek work in almost any other place sooner than in a kitchen.

The kitchen ought to be large enough to admit of the necessary work to be carried on there comfortably; it ought to be well lighted and yet shaded in summer from the burning rays of the sun, and if it can open on a broad veranda, so much the better, for much of the kitchen work can be done there in summer. The kitchen floor should be oiled or painted, or if it is old cover it with a good quality of oil-cloth. One or two thick rugs should be made of several thicknesses of carpet, or two of carpet with a piece of an old comfort between. These will make ironing or any work where one must stand much easier, and in winter keep the feet warmer.

Steps, often needless steps, are what tire housekeepers and wear them out when they ought to be in their prime. It really seems as if some houses were built with the idea of making as many steps as possible instead of saving them. The pantry should open into both kitchen and dining-room, and every kitchen should have at least one cupboard with a good many shelves and drawers, both big and little. Here should be space for all cooking-utensils and for salt, pepper, spices, sugar, molasses and vinegar. How many steps such an arrangement would save a housekeeper in one day, to say nothing of the number saved in a month or year.

If it is not possible to have a separate room for a laundry, then have stationary tubs in the kitchen. If these tubs are made with a hinged cover which will hook up against the wall when they are in use they will make a good ironing-table when the cover is down. Comparatively few country houses have water piped through them, but nearly all might have a pump in the kitchen, then a few feet of rubber hose would enable one to fill the reservoir on the range or the tubs on washing-day without any lifting or carrying water.

Folding tables with one side hinged to the wall, and which may be let down against the wall when not in use, are convenient in a small kitchen. A high chair to use when doing many kinds of work at a table will save many a backache and rest tired feet. The legs may be taken out of an ordinary chair and longer ones substituted, or a child's table-chair with the arms sawed off answers a good purpose. A comfortable chair and a foot-stool will give a chance to rest when something is being cooked which needs frequent attention. There are many other simple contrivances which help to make a kitchen convenient and comfortable, and

time and ingenuity spent in devising things of this kind are well spent. Anything which makes the work in the kitchen easier and pleasanter will add to the comfort of the whole household.

MAIDA McL.

DOILY WITH CROCHET BORDER

ABBREVIATIONS—Ch, chain; st, stitch; tr, treble; s c, single crochet; p, picot.

This border may be wrought with fine linen thread or spool-cotton. The doily is seven inches square. The center requires a piece of linen three and three eighths inches square—three inches after it is hemmed. Ch 8 st to form a ring.

First row—Ch 6, then work 11 tr separated by ch 2 into the ring; ch 2, join the 4 st of ch 6.

Second row—4 s c in each of the 12 spaces.

Third row—1 s c in every st.

Fourth row—Ch 2, tr in next st; ch 7, * put thread over hook twice; miss 1 st, hook in next st, pull thread through 2 st on hook, then throw thread over hook once, hook in next st, work off all st by twos, ch 5; repeat from * 14 times; ch 5, join to second st of ch 7.

Fifth row—4 s c, ch 4 (for picot); 4 s c under ch 5; repeat around. Join the 12 rosettes by 2 p at the sides, leaving 6 p free at the outer and inner sides of 8 rosettes; the corner ones have 2 p on the inner and 10 p on the outer sides unjoined.

To make outer edge of border, fasten thread to a p, ch 8, tr in next p; * ch 6, tr in following p; repeat around; except when working the 2 tr between the rosettes ch 6 must be omitted.

First row—4 s c, 1 p, 3 s c, 1 p, 4 s c under ch 6; repeat around inner edge. Tie thread to second p of a side rosette, * ch 5, slip st in next p; repeat from * twice; ch 5, 1 extra long tr (throw thread 3 times over hook) in

next p; 1 extra long tr in following p of next rosette; ch 5 and slip st in p, as before. At each corner make a group of 4 extra long tr.

Second row—Tr in st, ch 1, miss 1 st, tr in next; repeat around, except when you come to the first ch 5, in a corner; work 1 tr in second st, omit ch 1, work next tr in fourth st of next ch 5; ch 1, miss 1 st, tr in next st over p; continue with the small spaces until you come to the next corner. Sew the finished border to the linen center, and hem the linen. Lay the doily face down on a soft pad, and press under a damp cloth.

For a very pretty tidy join as many of these rosettes to one another by two picots as will be required; fill the open spaces with half-rosettes. While working the last row of these (which is the second row of single crochet) join them at every sixth stitch to the eight picots of the large rosettes.

Mrs. J. R. MACKINTOSH.

ONE OR TWO HOUSEHOLD HINTS

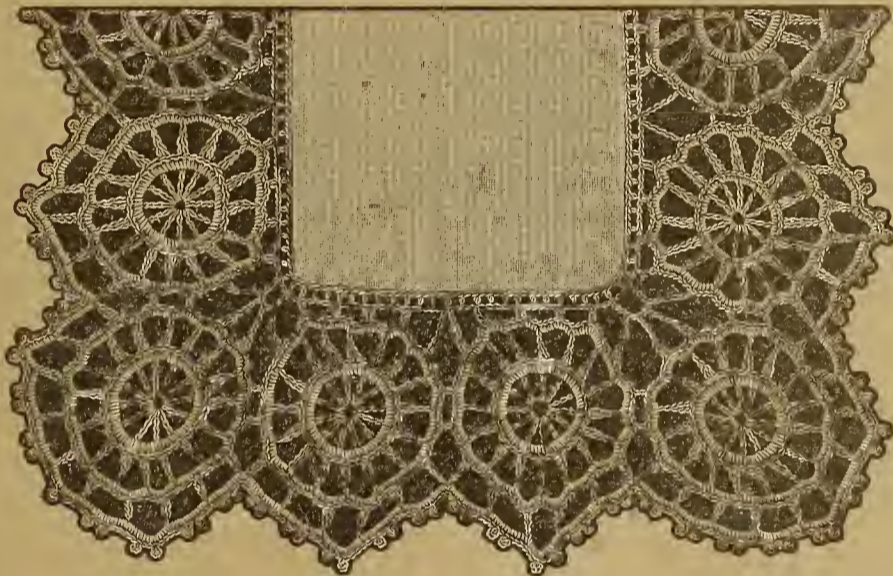
During the fruit season the table-linen is apt to suffer, but the exercise of a little care while the damage is still fresh will usually remove all stains. Berry-stains can be removed by placing the stained spot over a bowl and pouring boiling water through it. If the spot is set more heroic means must be used, and this requires the hand of the mistress. Oxalic acid is a valuable adjunct in safe hands, but it must be used quickly and the place well rinsed in several cold baths. Three ounces of crystals to a pint of water makes it strong enough, and can be easily kept on hand. Wet the stain with this and hold it over steam or in the sun. As soon as the spot goes rinse carefully in cold water several times. This solution will remove rust from linen and clothes equally well, and if brass has become discolored and stained it will clean it beautifully. It also removes rust from steel.

Javelle's water is also good for many purposes. It may be made at home or bought at the drug-store. To make it, take two pounds of washing-soda, and boil it for ten minutes in two quarts of water. Add half a pound of chlorid of lime when you take it from the fire. Keep it well corked. Besides being valuable in removing stains, this has another use with which few people are familiar. It is a perfect bleach. If any of your shirt-waists or summer clothes are faded, or have become streaked or stained beyond redemption, a bath of Javelle's water will give you a new outfit of pure white, a particular fad of this season. It bleaches a beautiful white, too, and I have seen a much-faded brown corduroy golf-skirt come out snowy white under its ministrations. A pint of Javelle to a pailful of water is about right. Souse the garment up and down. If the color does not bleach immediately, let it soak for awhile, taking great care to wash out with cold water all the Javelle. Never let a garment stay over night in it, for you want to watch it, so as to remove the minute the color is gone. To set color in cotton goods two good receipts are as follows: Two tablespoonfuls of turpentine to two quarts of water. Let the garment soak all night, then wash the following morning. If more convenient, dissolve a piece of alum as big as a marble in cold water, and use this water in which to wash out your shirt-waist or dress.

N. M.

OCTOBER SWEETS AND PICKLES

PRESERVED QUINCE CHIPS.—This is a new and delicious sweet. Pare, quarter and core ripe quinces, and drop into cold water. Simmer the parings and cores in clear water until soft enough to strain through a strong jelly-bag, squeezing hard at the last to obtain the gelatinous substance from the cores.



Drain the fruit, weigh, slice crosswise one fourth of an inch thick, and boil slowly in the strained liquid until nearly tender, then skim out and spread on plates. Allow one pound of sugar and the juice of two lemons for every pound of fruit; sprinkle the sugar and the lemon-juice over the fruit, and stand in a cool place over night. Next morning put the fruit and syrup into the kettle with the liquid in which it was cooked, bring quickly to a boil, and then cook slowly until the chips are clear and tender, skimming off every bit of scum that rises. Be careful not to break the chips in stirring, put into bowls or tumblers, boil the syrup fifteen minutes longer, pour into a heated pitcher, and strain through cheese-cloth drawn over the spout onto the fruit. Seal the same as jelly.

DELICIOUS SPICED PEARS.—Neatly pare and cut the blossom-end from medium-sized pears, leaving the stems intact. Weigh, and for every nine pounds allow one quart of vinegar, five pounds of sugar, one fourth of a cupful each of broken stick cinnamon and whole cloves and one salt-spoonful of cayenne. Stand the fruit in a deep earthen bowl or stone jar, cover to two thirds its depth with hot water, and bake (covered) in a quick oven until it can be pierced with a fork. Tie the spices in three pieces of muslin, put these and the vinegar and sugar in a preserving-kettle and heat very slowly. When the pears are tender bring the prepared vinegar to a boil; cook only a few pears at a time, until well seasoned and tender, then put them into glass jars, and when all are done pour the vinegar over them, and seal.

PICKLED PEACHES.—October Heaths are by far the best for pickling, and the fruit has a more delicate flavor if neither cloves nor allspice are used. Select large, ripe but perfectly firm fruit, pare and weigh. For every five pounds of fruit allow one quart of vinegar, four pounds of sugar, two tablespoonfuls of ground cinnamon, and one each

of mace and ginger. Mix the spices, tie in four pieces of muslin, and very slowly bring the vinegar, sugar and spices to a boil. Put in the fruit, and as soon as it boils skim it into a stone jar and place the spice-bags evenly among it; pour the hot vinegar over, cover, and let stand over night. Next morning and for two consecutive mornings after drain the liquor, slowly bring to a boil, and pour over the fruit. Keep in a cool, dry place.

PICKLED GRAPES.—Grapes that are colored, but not ripe, are the best for pickling. If the clusters are large, divide them into medium, even-sized bunches, pick off all imperfect ones, and cover with cold salt-water for half an hour to drive out any insects. Rinse thoroughly in clear water and drain over night. To three pints of vinegar add three pounds of sugar, two tablespoonfuls of broken cinnamon, one each of sliced ginger-root and mace and a dozen peppercorns, and let stand over night. Next morning pack the fruit in a stone jar, slowly bring the prepared vinegar to a boil, and strain it over the fruit. Cover the spices with fresh vinegar, and stand in a warm place. At the expiration of a week drain off the vinegar, add the spices, bring slowly to a boil, continue boiling ten minutes, strain it over the grapes, invert a plate on top, and next day tie a cloth over the jar and set in a cool, dry closet.

ELIZABETH MORETON.

CHILDREN'S EYES

"Are we all becoming blind?" says an observant inquirer who lives in the city. "I see such numbers of children wearing glasses that I am sure eyes are becoming useless or lost."

The frequent sight of children wearing glasses is not one to mourn over in itself, because the particular child you have last seen may be having his ultimate eyesight saved by the opportune use of glasses, which the advanced oculists of the period find a great help in developing strong sight in cases where, either through inheritance or evil surroundings, there would be great danger of a total loss of vision without them. Nevertheless, as prevention is now the watchword, great attention is being paid to the causes that are steadily producing among our students more and more of myopes as we go upward in the grades among our schools. All countries where there are "systems of education" share in the evil, and many of them are searching for causes and seeking out remedies.

An Italian physician, in a late official report, states the case so clearly that I quote: "There is no doubt that in this case hereditary influence is always to be met with; but if it constituted a predisposition, it is equally true that the development is due principally to the insufficient or irregular light during school hours."

When the light thrown upon the object is insufficient the eye is naturally brought nearer to it, and seeks to adjust itself; but it has been shown that this effort to accommodate the vision to the object produces an elongation of the anteroposterior axis of the eye. If this effort is continued, the strain upon an organ that is in a state of development, in which the tissues are easily modified, it will be readily understood that the elongation of the axis may become permanent, and that the condition which was at first a hypermetropia (far-sighted) may become a myopia. It is evident that if this condition is continued the myopia increases and finally becomes permanent.

The great cause of this trouble in children at school is insufficient light and badly managed light.

One point in the value of light is overlooked; namely, its influence on the entire body. Travelers in the Arctic regions tell us of the apathy and sluggishness, ending in serious nervous diseases, caused by the continued absence of light in the long dark Polar winter, and we instinctively revolt at the idea of a child shut into a dark place; yet this is what may be found in the thousands of American school-houses to-day. A child with all his tissues in a formative state, and brought into a "below-par" condition by lack of light, is an easy prey to many diseases, but, above all, to this special onset of near-sightedness. In the rural regions there is no excuse for not having light school-rooms, but in the cities where ground-space is so costly we naturally find many more myopes in proportion to the number of scholars, and the Italian professor puts location of the school as most prolific of injury to the eyes, and next is the long course of study, that makes the frequency of myopia in direct proportion to the age of the scholars. Of course, the bearing of ill-lighted offices on the eyes of clerks is plain.

Mrs. H. M. PLUNKETT.

BANANAS AS WE USED THEM IN INDIA

MANY persons imagine that if they could only pluck and eat the banana directly from the tree its flavor would be much improved.

No more wholesome and nutritious fruit can be found than this plantain, and I do not know what the natives of India would do without it.

When ripe a banana consists of seventy-four per cent of water, twenty per cent of sugar, and six per cent of gluten and other flesh-producing food.

DRIED BANANA SANDWICHES.—Pour boiling water over, drain thoroughly, then chop very fine. Spread between buttered slices of bread.

BAKED BANANAS.—Peel the bananas carefully so as not to bruise them, and place in an earthen pudding-dish. Sprinkle sugar dredged with flour over them, and bake in a moderate oven for half an hour.

BANANA SPONGE-CAKE PUDDING.—One cupful of sugar, two eggs, one cupful of flour, one teaspoonful of baking-powder, one third of a cupful of boiling water added last.

FRIED BANANAS.—They were sometimes fried in batter, sometimes rolled in flour, corn-meal or a native preparation called "dalya."

Ice was dear, yet once a week we indulged in our ice-cream, often flavored with bananas, or our banana frappe.

BANANA FRAPPE.—Peel and mash fine a dozen small bananas; mix with two teacupfuls of sugar and one of water; flavor with orange and lemon juice.

ELLA BARTLETT SIMMONS.

HOW TO CAN HENS

Prepare several fowls at one time, and boil in a large kettle or boiler until perfectly tender. Then remove all the bones, and pack the chicken in a glass jar, filling any little empty spaces with the liquor in which the hens have been boiled.

One busy housekeeper who has a large family to provide for tells me she uses chicken canned in this way for chicken pie, salad, croquettes and minced chicken.

F. B. C.

THE LEGEND OF THE PANSY

A pretty fable about the pansy is current among French and German children, says the "Housekeeper." The flower has five petals and five sepals. In most pansies, especially of the earlier and less highly developed varieties, two of the petals are plain in color and three are gay.

The fable is that the pansy represents a family, consisting of husband, wife and four daughters, two of the latter being stepchildren of the wife. The plain petals are the stepchildren, with only one chair. The two small gay petals are the daughters, with a chair each; and the large gay petal is the wife, with two chairs.

CREEPING-APRONS

Of very great help to mothers with little children has been the creeping-apron, and I call particular attention to it, not because it is something strictly new, but because it is not as yet generally used.

It is simple of construction, and the pattern can be procured from any of the pattern stores; at any rate, one could buy a single apron and cut out the pattern.

Where there is plenty of "help" of course there is no real necessity for keeping the dainty white underwear covered up, but when there is only one pair of hands to attend to all the duties of a growing family these little aprons, covering up and keeping clean all the little underclothes, and yet not hindering the child from creeping and playing very comfortably, are, to use the words of the various advertisements, "a boon to tired mothers."

Nearly all the inexpensive materials—gingham, calico, percale, duck, etc.—may be used for these aprons. Seersucker in neutral tints is very serviceable and requires only a little pressing out and no ironing.

EMMA LOUISE HAUCK ROWE.

A BEAUTIFUL STUFFED COMPOTE

Choose large, fine pippins of equal size; pare and core them, leaving the apples entire; cook them about three parts done in syrup, drain, and bake them a few minutes in a quick oven. When they are done and still hot fill the interior with peach marmalade, then roll each apple in jelly produced by boiling down the syrup in which the apples were boiled.

SYRUP FOR COMPOTE.—Put one pound of sugar with one pint of water in a vessel; add a small piece of cinnamon, set it on a slow fire, skim off the foam, boil for ten minutes, and it is ready for use.

MRS. J. R. MACKINTOSH.

GREEN-CRANBERRY JELLY

It is not commonly known that a delectable jelly can be made out of green cranberries when properly prepared. Take green cranberries or those just turning pink, wash, scald and throw off the water, which takes away the bitter taste.

BERTHA RAINS.

AN EXPERIENCE

One came and told me suddenly, "Your friend is dead! Last year she went;" But many years my friend had spent in life's wide wastes, apart from me.

And lately I had felt her near, And walked as if by soft winds fanned, Had felt the touching of her hand, Had known she held me close and dear.

And swift I learned that being dead Meant rather being free to live, And free to seek me, free to give, And so my heart was comforted.

—Harper's Magazine.

THE YOUTH'S COMPANION

The Fireside Friend in Half a Million Homes.

Special Subscription Offer for 1900.

Those who subscribe at once will receive the nine November and December issues of the Companion FREE, and then all the issues for the 52 weeks of the new year, until January 1, 1901.

Cut out and send this slip with \$1.75, the price of your subscription to 1901.

Send us your address on a Postal and we will mail you our Illustrated Announcement Number, containing a full prospectus of the Contributors and Contributions engaged for the new volume.

THE YOUTH'S COMPANION, Boston, Mass.

CATALOGUE FREE America's best guide to economical, fashionable cloak, fur and suit buying. A postal will bring it. Five color pages.



No. 398 E

Ladies' black cloth jacket, made from fine quality wool kersey, lined throughout with silk-finished serge; has coat back and is cut in the very latest style; a perfect-fitting garment, usually sold at \$7.50, our special price \$5.00

MANDEL BROTHERS.

119 E to 127 State St., Chicago, Ill.

THE name Mandel is a guarantee of dependability and service-giving worth—a pledge of expert workmanship and perfect-fitting attributes, as well as a certificate of faultless style.

Our new fall catalogue, with five handsome colored fashion plates, shows 100 of the latest Paris styles in coats and tailor-made suits. Some as low as \$5 and \$10—actually less than ordinary wholesale prices.

WRITE TO-DAY

A DINNER SET FREE For selling 30 boxes of our Salvona Soap and Perfumes, giving each purchaser a box of Soap or perfume absolutely free—a Granite Pressing Kettle, Glassware, Lamps, Toilet Articles, etc.

New Red Cross Currant Plants for sale At \$12.50 per 500. For early planting. Order now. Romal New Yorker says: "Red Cross is the best of all old or new currants for midseason."

SOLID GOLD RINGS FREE! Send full name and address and we furnish you 12 fast setting Scarf Pins, Heavy Gold Plate, different styles, set with Precious Gems. Experts can't tell them from the genuine.

LADY AGENTS

Desiring a permanently profitable business connection should write immediately for our latest offer. We furnish new material FREE, as needed, and to special ability we accord special rates.

SOME BARGAINS Cheapest place on earth to buy goods. Knee pants 14c; men's jeans pants 49c; flannel overalls 15c; smoking tobacco per package 8c; boys' suits 89c; 10 heavy envelopes 1c; 10-quart tin pail 8c; pins per paper 1c; cardinals per box 3c; men's \$2.50 congress shoes 98c; men's solid working shoes 69c; women's \$1.75 button shoes 79c; linen thread 2c; a good dipper 2c; gold plate ring 1c. Send for price-list.

CANCER CURED WITH SOOTHING, BALMY OILS. Cancer, Tumor, Catarrh, Piles, Fistula, Ulcer and all Skin and Womb Diseases. Write for Illustrated Book. Sent free. Address DR. BYE, Kansas City, Mo.

PATENTS FRANKLIN H. BOUGH, Washington, D. C. No attorney's fee until patent is obtained. Write for Inventor's Guide. PATENT secured or money all returned. Exam. Free. COLLAMER & CO., 1040 F. St., Wash., D. C.

Notice to Club-raisers

Valuable premiums are given FREE for clubs of subscribers to the FARM and FIRESIDE. Instructions "How to Get Up Clubs" will be sent free upon request.

Address Farm and Fireside, Springfield, Ohio.

LEARN TELEGRAPHY

Young men and women wanted for good positions. Address FISK TELEGRAPH SCHOOL, Lebanon, Pa.

LADY OR MAN wanted to travel and appoint agents. \$60 per month salary and all expenses. ZIEGLER CO., 221 Locust Street, Phila.

OPIUM and Liquor Habit cured in 10 to 20 days. No pay till cured. Write DR. J. L. STEPIENS CO., Dept. A3, Lebanon, Ohio.

HENS TEETH (ROCKY HILL) One Ton, \$7.00 GRIT 100 lb., .50 Rocky Hill Grit Co., Milford, Mass.

MENTION THIS PAPER WHEN ANSWERING ADVERTISEMENTS.



CONSCIENCE AND FUTURE JUDGMENT

I sat alone with my conscience
In a place where time had ceased,
And we talked of my former living
In the land where the years increased.

without telling a lie, according to this philosopher, in your compliments at the end of a letter, or when a servant denies that his master is at home, knowing that he is, or when an advocate asserts his belief in the justice of his client's cause.

The regrettable tendency is fostered by certain popular writers who ought to know better. Ian Maclaren throws a halo of glory around one of his characters who is constantly covering the track of his charity with ingenious falsehoods.

"WHITE LIES"

SOCIETY would be much improved by the infusion of Christian sincerity into speech. A shallow and superficial code of politeness has made fashionable a condition of affairs which is antagonistic to straightforward truth-speaking.

A deaf and dumb boy was once asked, What is truth? He replied by thrusting his finger forward in a straight line. He was then asked, What is falsehood? His answer was to describe a zigzag course in the air.

DIVIDED ENERGY

Many young men, and some older ones, too, make the great mistake of dividing their energies. They are strong, enthusiastic, and desire to "rise." In their zeal to accomplish much as soon as possible they have two or more kinds of work on hand at the same time—preach and go to school, teach school and preach, preach and farm, farm, and dabble in politics to secure office, etc.

Paul had the correct idea. He said, "This one thing I do." No man can make a brilliant success of two or more callings. The man who succeeds, be he preacher, lawyer, teacher, merchant, farmer, doctor, carpenter or common toiler, is the man who gives his undivided energies to the one work in hand.

The man who is abundantly able to make a success of one calling or trade becomes "too thin" when spread over two or more all at the same time to do any of them well. Could we get the ear of our young ministers we would whisper, "If your purpose is to stick to church work, then do not divide your efforts. While you are in the active ministry give that all your time, thought and energy. When, at the call of the church, you take up some other line of work, then give that your concentrated attention."

Men who are half preacher and half something else are sure failures in the ministry. Many a man of good natural ability has turned out a flat failure by having "too many irons in the fire."—The Religious Telescope.

THE GOAL OF AN EDUCATION

A student asked the president of Oberlin college if he could not take a shorter course than that prescribed by the institution.

"Oh, yes," was the reply, "but that depends upon what you want to make of yourself. When God wants to make an oak he takes one hundred years, but when he wants to make a squash he takes six months."—New York Tribune.

THE WATCH QUESTION
Is an important one. Time's measurements must be accurate, or they are valueless.
Ruby Jeweled Elgin Watches
are the highest type of time recorders. Over eight millions have been produced in the past third of a century since "Elgin" began to be.

FREE COMBINATION OFFER
NO MONEY WANTED
From your own pocket. Ladies, Boys and Girls, send us your full address plainly written, and we will mail you without delay, 25 Pads of our Sweet, Fragrant and Exquisite Perfume to sell among your friends at 10 cts. each.

9 CORDS IN 10 HOURS
RUNS EASY. No Backache. Weighs only 41 lbs. Easily Carried.
SAWS DOWN TREES.
BY ONE MAN, with the FOLDING SAWING MACHINE. It saws down trees. Folds like a pocket knife. Saws any kind of timber on any kind of ground.

17 JEWELLED
adjusted, pat. regulator, stem wind and set NATIONAL SPECIAL
Ladies' or Gent's size. WARRANTED 20 YRS. Genuine American movement in 14k. Gold plate hunting case, elegantly engraved. Fit for a king. No better watch made. Must be seen to be appreciated.

IT IS A FACT
that the best results in feeding stock of any kind are attained with ground feed. To grind feed most successfully requires
SCIENTIFIC Grinding Mills
They have largest possible capacity with minimum power. Crush and grind CORN, WHEAT, COB AND ALL, and all small grains singly or mixed.

CRUSH AND GRIND
corn and cob and all kinds of grain, single or mixed, on the Quaker City GRINDING MILL.
Makes perfect feed or family meal Has ball bearings—less friction and minimum power.

Pat'd QUAKER Folding Vapor Bath Cabinet
325,000 SOLD. Every home should have one for bathing purposes. It opens the millions of pores, drives out the poisons which cause disease. Makes you clean, vigorous and healthy. Prevents disease. Provides Turkish, hot-air and medicated baths at home, 3c. each. Beautifies complexion. Recommended by best physicians.

ELECTRIC FEED MILL
We have put out this mill to meet the demand of the present of the famous Electric Goods for a good mill at a fair price. It is a direct grinder and absorbs or wastes no power in useless and expensive gears. Cuts, crushes and grinds ear corn, and all small grains single or mixed. Adjustable grinds coarse or fine. Prices low. Circulars and prices free. ELECTRIC WHEEL CO., Quincy, Ill.

5000 BICYCLES
Overstock. Must be closed out Standard '99 Models guaranteed, \$10 to \$25. '98 and '97 models \$8 to \$15. Shop worn and second hand wheels, good machines, \$8 to \$10. Great Factory Clearing Sale. We ship anywhere, to any one on approval and trial without a cent in advance. EARN ABLY by helping us advertise our superb wheels. Easy work and sure reward on our new plan. We will give one Rider Agent in each town FREE USE of Sample Wheel to introduce them. Write at Once for Our Special Offer. E. F. MEAD CYCLE CO., CHICAGO, ILL.

GEM FULL CIRCLE Baler
Warranted the lightest, strongest, cheapest & fastest Full Circle Baler in the market. Made of wrought steel. Can be operated with one or two horses. Will bale 10 to 15 tons of hay a day. Write for description and prices. GEORGE ERTEL CO., QUINCY, ILL.

VICTORY FEED MILL
Grinds corn and cob and all kinds of small grain. Made in four sizes for 2, 4, 8 and 10 horse power. Send for catalogue and prices. THOS. ROBERTS, Box 91, Springfield, Ohio.

THE HOOSIER BOY FENCE MACHINE
Makes this fence. No matter how close or wide the wires. Makes a mesh of any size you want. Puts cross wires on old fences—barb or smooth wire. It's FAST, DURABLE AND ECONOMICAL. We sell direct to the farmer. It's the way to BEAT THE TRUST. We want agents. Write for terms. HOOSIER BOY FENCE CO., Box 28, Irvington, Ind.

ORCHARD PROFIT
depends upon working all the fruit into a salable product. Cherries for instance, if good, clear and pure it sells readily at a profit. The best is produced by a HYDRAULIC OILER PRESS. Made in varying sizes; hand and power. Get our free catalogue before you buy. HYDRAULIC PRESS MFG. CO., 6 Main St. Mt. Gilead, Ohio.

YOU CAN'T SHOOT RABBITS
In a field surrounded by our Rabbit Fence. They don't get in. Send for Catalogue. PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

WILEY'S LAMBS-WOOL SOLES
Wiley's Alaska Sock 25 cents; the only anti-septic sock made; for Rubber Boots, Hospitals and House Wear. Take no substitute. (Box F.) W.H. Wiley & Son, Hartford, Ct.

EXQUISITE RINGS FREE
We will give a beautiful Solid Gold finished ring, warranted, to any person who will sell 10 of our beautiful enameled Stick-pins at 10c. each. Send name and address and we will mail pins post-paid. You sell them and remit \$1 and we will mail the ring. CLARK & CO., 100 Vinton St., Providence, R. I.

SAVE 1/2 Your FUEL
now wasted up chimney BY USING THE ROCHESTER RADIATOR. COST \$2.00 AND UP. Money refunded if not satisfactory. Write for booklet on economy in heating homes. ROCHESTER RADIATOR CO., 3 Furnace Street, Rochester, N. Y.

\$3 a Day Sure
furnish the work and teach you free; you work in the locality where you live. Send us your address and we will explain the business fully; remember we guarantee a clear profit of \$3 for every day's work; absolutely sure. Write at once. ROYAL MANUFACTURING CO., Dept. 64, DETROIT, MICH.

\$7.50 BUYS A PERFECTION Family Knitter
Knits everything. Hosiery, mittens and all fancy stitches from homespun or factory yarns. Send for free catalogue and samples of work describing hosiery and underwear knitters. Address, Perfection Knitting Machine Co., Clearfield, Pa.

TYPEWRITER HEADQUARTERS
102 Fulton St., New York, sell all makes under half price. Don't buy before writing them for unprejudiced advice and prices. Exchanges. Immense stock for selection. Shipped for trial. Guaranteed first-class. Dealers supplied. 32-page illustrated catalogue free.

LADIES I Make Big Wages —AT HOME—
and will gladly tell you all about my work. It's very pleasant and will easily pay \$18 weekly. This is no deception. I want no money and will gladly send full particulars to all sending 2c. stamp. MRS. A. H. WIGGINS, Box 20 Boston Harbor, Mich.

LADIES TO DO PLAIN SEWING
at home, \$1.50 per day, four months' work guaranteed. Send stamped addressed envelope for full particulars. R. W. HUTTON & CO., Dept. 3, Philadelphia, Pa.

\$40 TO \$100 A MONTH for man to manage an office at home, appoint and superintend agents. Chance for advancement. Permanent position. Write now. K. & K. MANUFACTURING CO., 56 N. 6TH STREET, PHILADELPHIA, PA.
WHAT QUESTIONS DO YOU WANT answered? Editors are too busy to write personal letters; their space too valuable to answer in print. Send to us. It's our business. 25c. pays for one. \$1.00 for five. F. F., QUESTION BUREAU, Ipswich, Massachusetts.



EXPANSION

Met a feller t'other mornin'—
Most amusin' sort of cuss;
Had a cur'us style about him—
Cert'nly couldn't well be wuss.

Seen a feller down on Broadway,
With a shockin' head of hair,
An' a lot o' tropic garments,
An' a most outlandish air.

Met a feller here on Olive,
With a somber-e-ro on;
Had a lot of shaggy whiskers,
Nearly all his clothes wuz gone.

Seen a feller at the Southern
With a heavy iron box;
Overcoat was lined with hearskin;
Wore a dozen pair of sox.

Seen a saddle-colored heathen,
Wearin' ear-rings in his nose;
Linen cuff 'round his ankles,
Most indecent lack of clothes.

'Hully Gee,' says I, 'I never heard o'
These here cannihals before.
Air these heathens yere all voters?
Will we stan' fur enny more?

—Nashville American.

HIS NATIVE FRENCH

WHEN Prince Napoleon put into the port
of Cork, so runs the story, the city
was presided over by a chief magis-
trate who was especially proud
of his knowledge of French. Indeed, it
was said that this respectable mayor had a way
of oppressing his less highly cultured fellow-
townsmen by an anxiety to parade his mastery of
the French of Paris. The mayor suggested that
a public reception should be given to Prince
Napoleon, in order to testify the sympathy which
true Irishmen ought to have with the people of
France and the house of Bonaparte. The pro-
posal was eagerly adopted, and the mayor, as
was to be expected, undertook to deliver the ad-
dress. The ceremony was duly arranged, and
Prince Napoleon appeared at the right time.
Then his worship, the mayor, stepped forward
and delivered a long and eloquent address, spoken
without the help of any manuscript, in what the
by-standers assumed to be the native tongue of
the illustrious visitor. Prince Napoleon listened
with what Hans Breitman calls "a beautiful,
solemn smile" on his face, and when the address
was over he delivered his reply in the most cor-
rect and fluent English. In his opening sentences
he thanked the meeting for the generous recep-
tion given to him, and the mayor of Cork for the
speech to which he had just listened. He felt
sure, he said, that that speech expressed the
most kindly and generous sentiments of welcome;
but he added his deep regret that, as he never
had had any opportunity of studying the noble
Irish language, he was not able to follow the
words of the worthy chief magistrate.—Justin
McCarthy's Reminiscences.

MAKING A BLUFF

"What do you want?" sharply asked the lady
of the house as a stranger walked around to the
back door of the house.
"Nothing at all, ma'am," suavely replied the
stranger, bowing. "I was just making a bluff. I
was put off a street-car, and the conductor stood
on the platform grinning at me, so I just walked
into the nearest yard to make him think I had
reached my destination."—Indianapolis Journal.

ANSWERED

Sunday-school teacher—"You have all heard of
Admiral Sampson. Now let us talk of the
biblical hero of the same name. With what did
he slay the Philistines? Tommy, do you know?"
Tommy—"M-m-m Er-er-m."
Teacher (pointing to his own jaw)—"What's
this?"
Tommy (suddenly brightening)—"Oh, yes! jaw-
bone of an ass."—Catholic Standard and Times.

HIS CHOICE

Mr. Isaacs—"Mein sohn, vich would you radder
haf, if some von offered to gif it to you, a seat in
der United States Senate or a seat in the Stocks
Exchange?"
Isaacs, junior—"Vhy, a seat in der Senate, fad-
der; it gosts more."—Puck.

HOW TO DO IT



1.—I'll show you how to shut off that water
without getting wet.



2.—Just hoist my umbrella, walk up, turn the
wrench, and the thing is done.



3.—!!!



4.—!!!—Boston Herald.

WELTMERISM ASTOUNDS THE WORLD!

"Write Me as One Who Loves His
Fellow-Man," Says This
Great Healer

"HE CURES AS NEVER MAN CURED"

Weltmerism—that method of Magnetic Healing
originated by Prof. S. A. Weltmer—has now become a
household word on
two continents. It
has been conceded
by scientists and
physicians that no
method ever known
to man has had such
phenomenal success
in the curing of dis-
ease. It is indeed re-
markable when one
considers that in the
short space of two
years this great sci-
entific discovery has
been the means of
dispelling disease of
all kinds from more
than 100,000 human
beings, without the
aid of either medi-
cine or the surgeon's
knife. Not long
since in an interview
with a prominent
newspaper man this
eminent scientist of
Nevada, Mo., after
being told that pos-
sibility would place his name at fame's highest point,
said: "My only desire is to be known as one who
loves his fellow-man;" and his entire life's work, from
the day that he entered the pulpit to preach the Gos-
pel to his present eminence in scientific circles, proves
that he is humanity's greatest lover. Not being satis-
fied in perfecting a method which would destroy dis-
ease in all those who would come to him and bring
millions in his coffers were he mercenary. He cast
off all mercenary thoughts, and by years of deep
study he finally perfected what is known as the
Absent Treatment, through which he cures patients
at a distance just as permanently and promptly as
he does those who come to him. In this way his ideal
has been realized, for he can now reach all classes.
Through the courtesy of Prof. Kelly, the co-laborer of
Prof. Weltmer, and head of the American School
of Magnetic Healing, we are able to publish a few of
the many thousand testimonials in his possession.

PROF. WELTMER

Hon. Press Irons, Mayor of Nevada, was afflicted
with kidney and bladder troubles for ten years and
could find no relief in the usual remedies. In one
week he was completely restored by Prof. Weltmer.
Mrs. Jennie L. Lynch, Lakeview, Mo., was for two
years afflicted with ulceration of the womb, heart and
stomach troubles and general debility; was reduced
to a mere skeleton. Cured by the Weltmer Absent
Treatment. In less than 30 days gained 15 pounds.
Mrs. Lavis Dudley, Barry, Ill., suffered for thirty
years with neuralgia and stomach troubles. Nothing

but morphine would relieve her. Permanently cured
in a few weeks by the Absent Method of Treatment.
Mr. John S. Small, Colfax, Ill., was deaf in his left
ear for seven years; could not hear a watch tick when
placed against his ear. Was permanently cured in
three days by Prof. Weltmer.
Any one writing to Prof. S. A. Weltmer, Nevada,
Mo., will receive a 40-page illustrated magazine and a
list of testimonials from men and women who owe
their health and happiness to Weltmerism; also much
information on this science of healing.

TEACHES HIS METHOD TO OTHERS

The American School of Magnetic Healing is organ-
ized under the laws of the State of Missouri. Prof.
Weltmer is the presi-
dent of this institu-
tion and Prof. J. H.
Kelly the secretary
and treasurer. It is
impossible for Prof.
Weltmer to attend to
the enormous dem-
ands made upon
him to cure. He,
therefore, wishes
others to take up
his profession, so
that he may call
upon them to assist
him in his noble
work. With this in
view the American
School of Magnetic
Healing was found-
ed. The method
perfected and in use
by this school is so
complete in its de-
tails that the stu-
dents become as
efficient as Prof.
Weltmer himself, in
this great art to cure, in ten days. This noble profes-
sion is taught either by mail or personal instructions.
Any one who desires can learn it, and any one who
learns can practice it. This has been abundantly
proven by the great number who have been instructed
and who are in the active practice of healing by this
method. This is beyond doubt the best paying profes-
sion of the age, as students who have learned this
method through the American School of Magnetic
Healing are earning from \$10 to \$50 per day.



PROF. KELLY, Sec'y and Treas.

The following letter is one of the many in the
possession of the American School of Magnetic
Healing:
Prof. J. H. Kelly, Sec'y, Nevada, Mo.:
DEAR SIR:—Your mail course in Magnetic Healing
was received some months ago. After reading same,
I caught your idea and at once proceeded to put it
into practice, and found I could accomplish all and
even more than I anticipated. I have never failed to
get immediate results in all cases treated, and I have
made a number of cures in cases that have been given
up by the best of our physicians as incurable. I ex-
pect to devote my entire time to this work, but should
I never use it outside of myself or family, would con-
sider it the best investment I ever made.
J. T. IGLEHART, Meridian, Miss.
By addressing Prof. J. H. Kelly, Sec'y, Nevada, Mo.,
you will receive full instructions free of charge.

Advertisement for a fountain pen and filler. Includes a 'CHINESE PUZZLE' illustration of a man washing his face, and a large illustration of a fountain pen. Text: 'We Ask Not One Cent of your Money. This Picture Puzzle represents a Celestial engaged at washing. About him are pictured the faces of three customers. Find these faces, mark each, and return to us. To each patron who can interpret this puzzle, we will give a full-size FOUNTAIN PEN AND FILLER.' Also includes a list of prizes like 'Solid Gold Shell Ring' and 'Simulated Diamond, Ruby and Sapphire Stick-Pin'.

Advertisement for sheet music. Text: '\$4.00 WORTH OF SHEET MUSIC FOR 25c. That is, Any 10 Pieces of the Sheet Music Listed Below Will Be Sent to Any Address Upon Receipt of 25 Cents in Silver or Stamps. THIS MUSIC SELLS IN MUSIC-STORES FOR 30 TO 50 CENTS FOR EACH PIECE.' Includes a list of music titles for piano/organ and voice/piano/organ, such as 'American Liberty March', 'Annie's Love', 'The Swan', etc.

HEALTH FOR TEN CENTS!

FOR THE FAMILY.

"I take pleasure in praising your valuable remedy CASCARETS. I and my whole family received relief from the first small box we tried. I certainly recommend CASCARETS for the cures they make and trust they will find a place in every home. Yours for success." PETER WEBB, Jr., Palm Grove Ave., McKeesport, Pa.

FOR CHILDREN.

"I shall never be without CASCARETS. My children are always delighted when I give them a portion of a tablet, and cry for more. They are the most pleasant medicine I have ever tried. They have found a permanent place in my home." MRS. JOHN FLAGEL, Box 680, Michigan City, Ind.

FOR PILES.

"I suffered the tortures of the damned with protruding piles brought on by constipation with which I was afflicted for twenty years. I ran across your CASCARETS in the town of Newell, Ia., and never found anything to equal them. Today I am entirely free from piles and feel like a new man." C. H. KEITZ, 1411 Jones St., Sioux City, Ia.

FOR HEADACHE.

"Both my wife and myself have been using CASCARETS and they are the best medicine we have ever had in the house. Last week my wife was frantic with headache for two days; she tried some of your CASCARETS and they relieved the pain in her head almost immediately. We both recommend Cascarets." CHAS. STEDEFORD, Pittsburgh Safe & Deposit Co., Pittsburgh, Pa.

FOR BAD BREATH.

"I have been using CASCARETS and as a mild and effective laxative they are simply wonderful. My daughter and I were bothered with sick stomach and our breath was very bad. After taking a few doses of Cascarets we have improved wonderfully. They are a great help in the family." WILHELMINA NAGEL, 1137 Rittenhouse St., Cincinnati, Ohio.

FOR PIMPLES.

"My wife had pimples on her face, but she has been taking CASCARETS and they have all disappeared. I have been troubled with constipation for some time, but after taking the first Cascaret I have had no trouble with this ailment. We cannot speak too highly of Cascarets." FRED WARTMAN, 5708 Germantown Ave., Philadelphia, Pa.



Over 3,000,000 Boxes of Cascarets Sold Last Year!

Unerring is the judgment of the people, and the people like Cascarets. The sale this year will be 5,000,000 boxes. Nothing succeeds like success and Cascarets are successful, because, First, They are so good that they outsell all other laxatives. Their tremendous sale proves their merit, and their merit explains their tremendous sale; Second, Cascarets are the pioneer people's price preparation—ten cents a box, and more health in a ten cent box of Cascarets than any 25c bottle of pills in the world. Third, Cascarets bring results—healthy, natural action of liver and bowels—never fail. The manufacturers guarantee a cure or refund purchase money. Fourth, Cascarets are successful because they deserve it. If your druggist don't sell Cascarets, he's behind the age. In that case order direct from us by mail post free. Address STERLING REMEDY COMPANY, Chicago or New York.

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"I have gone 14 days at a time without movement of the bowels. Chronic constipation for seven years placed me in this terrible condition; I did everything I heard of but never found any relief until I began using CASCARETS. I now have from one to three passages a day, and if I was rich I would give \$100.00 for each movement; it is such a relief." AYLMER L. HUNT, 1689 Russell St., Detroit, Mich.

FOR BILIOUSNESS.

"I have used your valuable CASCARETS and find them perfect. Couldn't do without them. I have used them for some time for indigestion and biliousness and am now completely cured. Recommend them, to every one. Once tried, you will never be without them in the family." EDW. A. MARX, Albany, N. Y.

FOR WORMS.

"A tape worm eighteen feet long at least came on the scene after my taking two CASCARETS. This I am sure has caused my health for the past three years. I am still taking Cascarets, the only cathartic worthy of noticeably sensible people." GEO. W. BOWLES, Baird, Miss.

FOR DYSPEPSIA.

"For six years I was a victim of dyspepsia in its worst form. I could eat nothing but milk toast, and at times my stomach would not retain and digest even that. Last March I began taking CASCARETS and since then I have steadily improved, until I am as well as ever was in my life." DAVID H. MURPHY, Newark, O.

FOR LAZY LIVER.

"I have been troubled a great deal with a torpid liver, which produces constipation. I found CASCARETS to be all you could wish for, and secured such relief the first trial that I purchased another supply and was completely cured. I shall only be too glad to recommend Cascarets whenever the opportunity is presented." J. A. SMITH, 2920 Susquehanna Ave., Philadelphia, Pa.

FOR BAD BLOOD.

"CASCARETS do all claimed for them and are a truly wonderful medicine. I have often wished for a medicine pleasant to take, and at last have found it in CASCARETS. Since taking them my blood has been purified and my complexion has improved wonderfully, and I feel much better in every way." MRS. SALLIE E. SELLARS, Luttrell, Tenn.

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with the OTIS BALL BEARING NO. 2 MILL. Grinds ear corn and all other grain, fine or coarse. Grinds faster than any other 2-horse mill made because burrs are 25 in. in diameter, of improved shape to draw the grain down into them. Pulls easier as it runs on a series of 1 in. ball bearings. This is the largest 2-horse mill made, but our prices are low because we have no agents. Price, sweep mills, \$14.50 and up. We sell it with a binding guarantee to grind twice as much as most others, and more than any other 2-horse mill made of any size burrs or any construction. TRY IT. If it don't do as we say return it. 500 bu. a day with No. 3 Otis, 4-horse mill, grinds fine or coarse; holds 4 bu.; Wt. 1,230 lbs. This mill is a giant in size and capacity. Guaranteed to grind more than any other sweep mill made. For large feeders this is the mill to buy. Sweep Geared Mill of new pattern, rapid grinder. 7 styles sweep mill. FREE CATALOGUE. send for it at once, it will save you money. We sell direct to you at wholesale price. We have no agents

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with the WOLVERINE Cutter and Shredder. Knives and cutting bar set of oil tempered tool steel. Cutting bar has 4 cutting edges, when one edge dulls simply turn it over and get a new sharp edge; that makes the life of this machine 4 times greater than the old style. Shredder head made of saw steel. Interchangeable with knife head. Safety fly wheel. Stop feed lever. Adjustable knife and shredder head. Swivel Carrier any length. SNAPPINGS MADE IN 13 sizes. Largest cuts a ton in 5 min. SNAPPING ROLLS to snap off the ears, are furnished on three sizes of shredders without cost. RUNS EASIER, cuts faster, lasts longer than any other machine made. They cost more to build yet our prices are lower as we have no agents. TRY THEM—if not as we say, return them at our expense. POWERS 1-h Tread, with governor, \$58. 2-h \$77. 2-h Sweep, \$22.90; 4-h \$30.90; 6-h \$32.85


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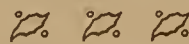
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SELECTIONS

THE LARGEST SCALES

THE government has just installed at the navy-yard at Washington the largest pair of scales in the country. This wonderful machine can outweigh the largest railroad scales by fifty tons, and when we remember that it must be so accurate that it must not vary to the weight of a pound, while railway scales are considered good if they approach the actual within twenty-five or fifty pounds, we realize the wonderful improvement that has been attained. The new scales are located on a track leading from the great gun-shops. At first they do not appear to differ from the ordinary scales, but closer investigation shows that they are forty-eight feet long and twelve feet wide, and that they rest upon a cement base built upon long piles. Much of the fine sensitive balancing apparatus was manufactured for special use, and the completed structure is regarded as a model of modern ingenuity. They will respond to a brick placed upon them as readily as a thirteen-inch gun. The capacity of the new scales is one hundred and fifty tons, or double that of the old ones which have just been discarded. A thirteen-inch gun weighs about fifty-five tons, and thus we see that the new scales can weigh two of these monsters reclining on a forty-eight-foot car-truck and not tax its capacity. All of the new guns manufactured for the navy will be weighed upon them.—Normal Instructor.

AMATEUR PAPERING

Many persons, especially those living in the country, are deterred from having much-needed papering done in the spring, not so much on account of the cost of paper as the trouble and expense of having it put on. With a little experience and a few helpful suggestions almost any one can paper. Before beginning provide yourself with a pair of long shears, a yard-stick, a brush to apply the paste (a whitewash-brush will answer), and some soft, clean cloths.

To make the paste, sift the flour, add one ounce each of alum and borax to every pound of flour, mix it smoothly with cold water, and pour over it gently but quickly boiling water, stirring meantime constantly. When it swells and turns yellow it is done, but must not be used until cool. It should be quite thin. If the wall has already been papered the old paper should be removed. Cut all the full breadths that will be required for the room, matching and numbering each, and saving remnants for door and window spaces. Fit the widths together at the top, and gently press first the edge, then the entire space.

In selecting paper avoid very large, decided patterns and gaudy colors, and choose that which will harmonize with the furnishings of the room. Delicate grays, pinks and neutral tints are best. Care should also be taken to see that paper that harmonizes is put on the walls of adjoining rooms, especially those that can be thrown into one by opening wide or folding doors.

A BONFIRE IN THE WATER

Where ice-fields can be burned fuel is hardly to be called expensive.

A writer in the "Scientific American" calls attention to the fact that on the ice-covered surface of a Kansas lake it is possible to have bonfires by simply breaking through the ice and applying a match to the surface of the water. The flames will shoot up as high as a man's head, and will burn brightly for a minute or two, making the lake look as if the ice were on fire.

For several winters it has been possible to have such bonfires on Doniphan lake, Kansas, and on one of its tributary streams. The fuel of these fires is natural gas. It bubbles up through the water the year round, but it is during very cold nights that it is temporarily stored under the ice in large bubbles, or pockets, sometimes ten or twenty square yards in extent.

When these pockets are punctured with a chisel and a lighted match is applied the experimenter is rewarded by a roaring flame, before which he may warm his numbed fingers. He who would try the experiment, however, must be careful to stand between the wind and the jet of gas as he lights it, or he will have his clothing singed before he can get out of the way.

There are places where the gas supply is so abundant as to prevent the ice from forming except on the very coldest nights. When

such places are frozen over they remain covered only a few days, for the gas, coming from a considerable depth in the earth, is so warm that it soon melts a passage through the ice and escapes. Last winter ice fifteen inches thick formed on the lake, and yet some of the areas of gas supply were not frozen over.

Near the spot where one of the creeks enters the lake the water is shallow, and the bottom may easily be seen. Here the gas has formed regular channels through the mud, and out of these large bubbles of gas are discharged every few seconds. Doniphan lake is located about four miles north of Atchison, Kansas.

GENERAL WASHINGTON'S COURTESY

Martha Littlefield Phillips gives "Recollections of Washington and His Friends." The author is a granddaughter of the youngest daughter of General Nathaniel Greene, and she tells the following story in the words of her grandmother concerning a visit of the latter to Washington at Philadelphia: "One incident which occurred during that visit was so comical in itself, and so characteristic of Washington, that I recall it for your entertainment. Early in a bright December morning a droll-looking old countryman called to see the president. In the midst of their interview breakfast was announced, and the president invited the visitor, as was his hospitable wont on such occasions, to a seat beside him at the table. The visitor drank his coffee from the saucer, but lest any grief should come to the snowy damask, he laboriously scraped the bottom of his cup on the saucer's edge before setting it down on the table-cloth. He did it with such audible vigor that it attracted my attention, and that of several young people present, always on the alert for occasions of laughter. We were so indiscreet as to allow our amusement to become obvious. General Washington took in the situation and immediately adopted his visitor's method of drinking his coffee, making the scrape even more pronounced than the one he reproduced. Our disposition to laugh was quenched at once."—Century Magazine.

FOUR COURTSHIP SUNDAYS

The four Sundays of November are observed as fete-days in Holland. They are known by the curious names, Review, Decision, Purchase and Possession, and all refer to matrimonial affairs, November in Holland being the month par excellence devoted to courtship and marriage, probably because the agricultural occupations of the year are over, and possibly because the lords of creation, from quite remote antiquity, have recognized the pleasantness of having wives to cook and cater for them during the long winter.

On Review Sunday everybody goes to church, and after services there is a church parade in every village, when the youths and maidens gaze upon each other, but forbear to speak.

On Decision Sunday each bachelor who is seeking a wife approaches the maiden of his choice with a ceremonious bow, and from her manner of responding judges whether his advances are acceptable. Purchase Sunday the consent of parents is sought if the suit has prospered during the week. Not till Possession Sunday, however, do the twains appear before the world as actual or prospective brides and grooms.

A TREACHEROUS WORD

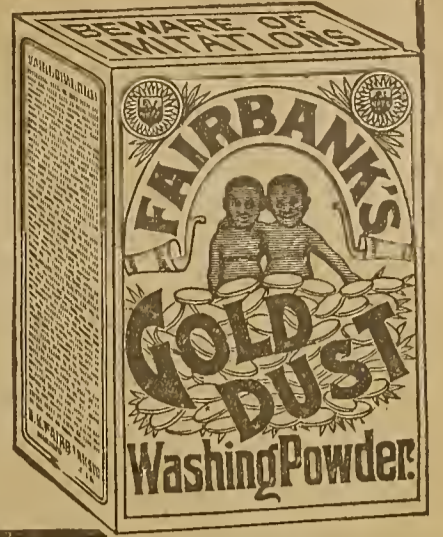
Whenever discussion ranges as to whether "got" or "gotten" is the better word, a college professor, quoted by the Buffalo "Commercial," always says that he prefers to use "gotten"—except in telegraph messages. We do not share his preference, but that fact does not spoil his story.

It appears that during the grand-opera season the professor, being detained some miles from home, telegraphed his wife, "I have gotten tickets for the opera to-night; meet me there." The telegraph operator, unfortunately, was not an accomplished grammarian. "I have got ten tickets" was his rendering of the message.

Of course, Mrs. Professor was delighted with such an opportunity to entertain her friends, and hastened to make up a party of eight persons besides herself, whose greetings to the professor were perhaps more cordial than his feelings until the situation was explained. But the professor admits that he was rightly punished. Had he neglected to be pedantic, and said, simply, "I have tickets," the misunderstanding could never have occurred.

In Washing Paint

don't scrub it and wear off the surface. Use Gold Dust Washing Powder according to directions printed on every package and you will be pleased with the results and surprised at the saving in labor.



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Description Each medallion is fitted in a gold-lacquered frame, with beautiful beaded edges, convex surface and polished front, giving the effect of painting on glass. The medallions are not made of glass, however, but of a substance equally transparent, which will not break, thus happily combining *beauty* and *durability*. They will not fade, even under the direct rays of the sun, and an abundance of light simply enhances their beauty. They eclipse everything in modern art and are the

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This cut represents exact size of the round medallion.



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Vol. XXIII. No. 2

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BY H. A. CRAFTS

ALTHOUGH Colorado was once supposed to be an irreclaimable desert, she has to-day more than two million acres of land under cultivation

—a condition brought about solely by the use of irrigation. Various attempts have been made at dry-farming, but all have thus far been unsuccessful. While the natural fall of moisture might once in awhile make a crop of moderate fullness, in a long run irrigation is indispensable to profitable farming. Under the operation of the artificial application of water to the lands Colorado agriculture has assumed a position of primary importance in her line of industries. Her system of irrigating-ditches and storage reservoirs is one of the most extensive in the country. The biennial report of the state engineer for the years of 1895-96 showed that there were two hundred and ninety-one storage reservoirs in the state, having a combined storage capacity of more than forty-five billion cubic feet of water. The same report showed that there were eight thousand one hundred and seventy-eight miles of irrigating-ditches in the state, having a carrying capacity of 13,934.43 cubic feet of water each second of time. In the eastern part of the state nearly every foot of water that can be depended upon for irrigation has been appropriated. Taken at the flood, perhaps, there are not ditches enough to handle all of the water; but flood-tide is of comparatively brief duration, and would be sufficient to give the crops but a single watering even provided there was time to cover all the ground. In the first place the ditches are not of sufficient capacity to handle all of the water at such times, and even if they were it would hardly be possible to utilize it in the time allowed.

The problem of holding water in reserve for use when most needed is taking the precedence of that of appropriation. In other words, the construction of storage reservoirs is more active than the construction of ditches, and irrigators are finding that much better use can be made of water held in reserve and under absolute control than when taken haphazard from the tide of a swollen stream. The water can be drawn off just at times when the crops most need it, in any quantity to suit the purposes of the farmer, and applied to the land leisurely and with care.

The preconceived idea of a storage reservoir was that it must be situated in the mountains, but this idea was soon found to be erroneous. Mountain reservoir sites were found to be scarce, the cost of construction and maintenance excessive, and the storage of large bodies on or near the head of a natural stream a danger and a menace to the country below. An instance of this was seen only a few years ago, when a dam at Chamber's lake, on the head of the Cache la Poudre river, broke loose during a mountain flood, and a vast body of water poured down the canon, doing great damage. There are occasional mountain reservoirs, but the great majority of storage reservoirs in Colorado are now situated upon the plains, and are formed by natural basins supplied with dikes and dams, inlets and outlets. Wherever it is practicable they are constructed at an elevation that will permit of their being drained upon the land that is desired to be irrigated, but in some cases they are situated at a lower level, and the

water stored in them is utilized only by a system of exchanges—a system involving not a little ingenuity and careful manipulation.

In northern Colorado, where are situated some of the largest systems of ditches and storage reservoirs, may be seen instances of both methods. The reservoirs of the North

system, in eastern Colorado at least, depends for its expansion, as the present capacity of the ditches takes all of the natural flow of the streams during the irrigation season. Whereas by the employment of storage reservoirs all surplus water coming to hand during the spring and summer floods, and

selected a series of natural depressions from four to eight miles from the foothills, and from two to five miles north of the river, which could be filled from the main ditch. From the ditch to the upper reservoir a supply lateral was constructed, and from that one a series of connecting links were constructed, so that when filled the reservoirs simply formed a chain of lakes. The combined area of the lakes is about nine hundred acres, and the combined storage capacity five hundred and twenty-seven million cubic feet of water. The reservoirs are designated as Numbers One, Two, Three, Four, Five and Lindenmeir's lake. Curtis lake, which is located two miles nearer the foothills, and has a storage capacity of thirty-three million cubic feet of water, is also utilized for storage purposes by the company.

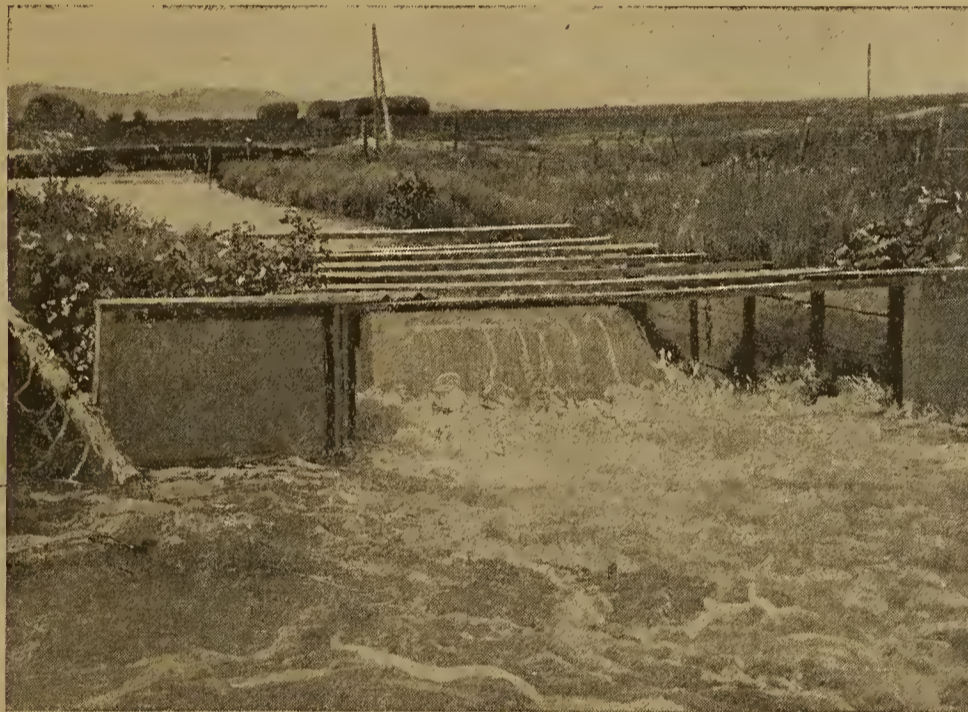
The great bulk of the lands occupied by these reservoirs were secured from the government, while that owned by individuals was purchased outright. The soil is largely of clay underlain by a stratum of shale, which acts as a preventive of seepage. Some of the reservoirs were diked, while the majority, being natural basins and located upon a descending grade, were tapped by means of cuts or tunnels. Number one, or Rocky Ridge lake, the largest of all, having a capacity of two hundred million cubic feet of water, was diked for a distance of five hundred feet at its lower end, but its outlet was secured by tunneling a ridge forming one of its banks some thirty feet below the crest. By this means, combined with the diking, a head of thirty-two feet is obtained.

The outlet is in the shape of a stone tube laid in cement. It is one hundred and seventy-nine feet in length. The stone masonry composing the tube is one foot in thickness, is sheathed with concrete, and is supplied with a small seepage-drain at the upper right-hand corner. The interior size of the tube is two feet by three feet for the length of the outlet proper, and three feet by four feet for the intake. The flow of the water outward is regulated by a single wooden gate situated in a well-hole thirty-two feet in depth, the gate being worked by a screw.

This outlet tunnel extends directly beneath the main irrigating-ditch, and empties into reservoir Number Two. Numbers Two and Three at high water are virtually one lake, being separated at low water by a single narrow strip of land. At present they are operated by temporary gates. In time both lakes will be diked and supplied with stone-tubing outlets. The intakes will be of stone and cement walls covered with large flagging.

The distance between Number Four and Number Five, or Long Pond, is two miles, and the two reservoirs are connected by a lateral. In capacity Long Pond is next to Number One, it being one hundred and seventy-five million cubic feet. It has a head of thirty feet. The outlet is similar in construction to that of Number One, being laid in a cut, however, instead of through a tunnel. The cut is thirty-five feet deep and one hundred and eighty feet long. The outlet has a double tube and gates situated side by side, in order that the outflow of water may be better regulated. Long Pond outlets into Lindenmeir's lake, and from the latter extends the main outlet of the entire reservoir system to the river, a distance of some two

[CONCLUDED ON PAGE 7 OF THIS ISSUE]



LAKE TERRY DISCHARGE-WAY EMPTYING INTO LARIMER AND WELD DITCH

Poudre canal, which have a combined capacity of six hundred million cubic feet of water, are all situated at an elevation that will permit of their drainage directly upon the lands to be irrigated, while the water from all of the plains reservoirs from the Larimer-county ditch, which have nearly an

equal capacity, is discharged into ditches owned by other corporations, or into the river itself, the ditch company receiving its equivalent amount of water from the river at its main head-gate. The reason for this arrangement is that the reservoir sites are not favorably situated with reference to the lands requiring irrigation. And it is upon this system of storage that the irrigation

hills in northern Colorado, and extends through eastern Larimer county into Weld county. It is seventy-one miles in length, twenty feet wide on the bottom, thirty feet at the top, and has a carrying capacity of five hundred and fifty cubic feet of water a second, and when run to its fullest capacity will water thirty-two thousand acres.

In locating its reservoir sites the company



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AT PARIS the Anglo-Venezuelan boundary arbitration commission recently rendered a unanimous decision defining the frontier-line between Venezuela and British Guiana, and settling an international dispute of more than a half-century's standing. The latter country was first settled by the Dutch in 1596; was acquired by the British in 1803; and was formally ceded to them by the treaty of 1814. In 1841-44, for the British government, Robert H. Schomburgk, surveyed the boundary between British Guiana and Venezuela and Brazil—the famous line named for him. Venezuela protested this boundary. After a long period of diplomacy under the administrations of Granville and Gladstone the matter was brought to an issue by the proposition of Rosebery that the Orinoco be opened to British vessels. Venezuela again protested, and finally, in 1887, broke off diplomatic relations with Great Britain. Ten years later the dispute was submitted to arbitration, through the friendly intervention of the United States.

For a quarter of a century Venezuela strove for arbitration, and Great Britain continuously refused except upon the renunciation in her favor of a large part of Venezuela's claims. The United States interposed its good offices, as the controversy involved its own honor and interests, and emphatically reaffirmed the Monroe doctrine. In 1895 Lord Salisbury flatly refused the request of the United States government to have the whole matter submitted to arbitration, and practically denied the application of the Monroe doctrine. In a special message to Congress in December, 1895, President Cleveland reviewed the situation and recommended a high commission who should make the necessary investigation, determine the true divisional line, and report upon the matter with the least possible delay. The message received unanimous approval. The Venezuelan commission soon commenced its work. Before it was completed, however, Great Britain agreed to arbitration, and the whole matter was referred to the Paris commission which recently completed its labors.

A RECENT publication of the United States Treasury Department on commercial Africa gives the following information about the mining interests of South Africa:

"Much of the recent rapid development of Africa, especially in the southern part where the greatest rapidity of development has occurred, is due to the discovery and development of extremely valuable mineral deposits. The most valuable of these are gold and diamonds, though incidentally it may be mentioned that the iron, coal and other mineral deposits of South and Southeast Africa give promise of great value when wealth-seeking man has time to turn his attention from the gold-mines to those which promise less rapid but perhaps equally certain profits.

"That the gold and diamond mines of South Africa have been, and still are, wonderfully profitable, however, is beyond question. The Kimberley diamond-mines, which are located in British territory, just outside the boundaries of the Orange Free State and about six hundred miles from Cape-town, now supply ninety-eight per cent of the diamonds of commerce, although their existence was unknown prior to 1867, and the mines have thus been in operation about thirty years only. It is estimated that \$350,000,000 worth of rough diamonds, worth double that sum after cutting, have been produced from the Kimberley mines since their opening in 1868-9, and this enormous production would have been greatly increased but for the fact that the owners of the various mines in this vicinity formed an agreement by which the annual output was so limited as to meet, but not materially exceed, the annual consumption of the world's diamond markets. So plentiful is the supply, and so comparatively inexpensive the work of production, that diamond-digging in other parts of the world has almost ceased since the South African mines entered the field.

"Equally wonderful and equally promising are the great 'Witwatersrand' gold-fields of South Africa, located in the South African republic, better known as the 'Johannesburg' mines. The Dutch word 'Witwatersrand' means literally 'White Water Range,' and the strip of territory, a few hundred miles long and a few miles in width, to which it is applied was but a few years ago considered a nearly worthless ridge, useful only for the pasturage of cattle and sheep, and for even this comparatively valueless. In 1883, however, gold was discovered, and in 1884 the value of the gold production was about \$50,000. It increased with startling rapidity, the production of 1888 being about \$5,000,000; that of 1890, \$10,000,000; 1892, over \$20,000,000; 1895, over \$40,000,000, and in 1897 and 1898 about \$50,000,000 in each year. This wonderful development has attracted great attention to South Africa, and drawn thither thousands of people in the hope of realizing quick fortunes. Development, however, showed that the mines could only be successfully worked by the use of costly machinery, and while they have been extremely productive where machinery has been used, they were not of such character as to make hand or placer mining profitable, as was the case in California. The gold production in the 'Rand' since 1884 has been over \$300,000,000, and careful surveys of the field by the use of drills and other processes of experts show beyond question that the 'in sight' probably amounts to \$3,500,000,000, while the large number of mines which have been located in adjacent territory, particularly in parts of Rhodesia, give promise of additional supplies, so that it seems probable that South Africa will for many years continue to be, as it now is, the largest gold-producing section of the world. Recent discoveries lead to the belief that these wonderfully rich mines are the long-lost 'gold of Ophir,' from which Solomon obtained his supplies, making a navy of ships in Ezion-Geber, which is opposite Eloth, on the shore of the Red sea in the land of Edom; and Hiram sent in the navy his servants, shipmen that had knowledge of the sea, with the servants of Solomon; and they came to Ophir and fetched from thence gold and brought it to King Solomon."

COMMENTING on the military aspects of the situation in South Africa the New York "Sun" says:

"Thus far the more prudent and statesmanlike among the Boer leaders have declared in favor of allowing the British to assume the aggressive, but once it is seen

that hostilities are inevitable stern military necessity would call for the seizure of those strategic points, even though lying in British territory, that are essential to the defense of the Transvaal. This applies more especially to the well-known positions of Laing's Nek and Majuba Hill, and the positions on the Delagoa Bay railway inside Portuguese territory, which it is said the British are about to occupy.

"It has been urged that were the Boers to strike the first blow they would, by destroying the last chance of peace, forfeit the sympathy of those who are now their friends. It is said also that the more superstitious among them are in favor of allowing the British to fire the first shot; but as any moral advantage accruing from that line of conduct would be nothing in the balance against the profit to be derived from being the first in possession of the gateway from Natal into the Transvaal, they may be expected to prefer making the first move in that direction in any event, unless forestalled by the British. At least they should do so if they are not ignorant of the tactical maxim that a vigorous offense is the best defense.

"When the fighting begins, if begin it does, the fine points and complicated questions that led to war will be lost sight of for a time at least. If the British win, as there seems little reason to doubt they will, by superiority of resources, those who have steadily supported the policy and methods of the colonial office will hold that the end has justified the means. More than one English newspaper has recently declared that the South African question at bottom was the route to India, and that to retain the control of that no sacrifice could be too great. From that point of view the general policy of the British government in South Africa is at least explicable.

"On the other hand, defeat means for the Boers complete loss of independence and long years of political subjection under military rule, and they know it; but their backs are to the wall, and they mean to fight, hoping if not trusting that, as in 1854 and after 1881, foreign complications may compel England to leave them once more to themselves.

"As to the duration of the conflict, a Cape-town letter estimates that Pretoria will be in the hands of the British inside of three months from the beginning, though the Boers may have the advantage at the start. The capture of Mafeking on their western frontier, which is believed to be quite feasible, would probably lead to a rising of the Matabels and other natives in Rhodesia; but the lateness of the rains and the expected arrival of considerable supplies of rifles and ammunition will, it is hoped by the South African British, delay any movement before the arrival of the troops from India and those lately sent from England.

"The impression at Capetown appeared to be that the main advance into the Transvaal would, notwithstanding present appearances to the contrary, be made through the Orange Free State, and by the route taken by Dr. Jameson's raiding-party. When the number of men required to garrison Harmsmith and one or two other points in the Free State and Pretoria and Johannesburg are deducted, it is not thought that the force with which the Boers of the Free State and the Transvaal will have to oppose the British will amount to more than 30,000 men all told, superior to the British as rifle-shots, but inferior in artillery and in other respects."

IN THE presentation of the sword of honor to Admiral Dewey Secretary Long said:

"The victory at Manila gave you rank with the most noted naval heroes of all time. Nor was your merit most in the brilliant victory which you achieved in a battle fought with the utmost gallantry and skill, waged without an error and crowned with overwhelming success. It was still more in the nerve with which you sailed from Hong-Kong to Manila harbor; in the spirit of your conception of attack; in your high commanding confidence as a leader who had weighed every risk and prepared for every emergency, and who also had that unflinching determination to win, and that utter freedom from the thought or possibility of swerving from his purpose, which are the very assurances of victory.

"No captain ever faced a more crucial test

than when, on that morning, bearing the fate and honor of your country in your hand, thousands of miles from home, with every foreign port in the world shut to you; nothing between you and annihilation but the thin sheathing of your ships, your cannon and your devoted officers and men, you moved upon the enemy's batteries on shore and on sea with unflinching faith and nerve, and before the sun was half way up in the heavens had silenced the guns of the foe, sunk the hostile fleet, demonstrated the supremacy of the American sea-power and transferred to the United States an empire of the islands of the sea.

"The luster of the American navy was gloriously bright before, and you have added to it a new luster. Its constellations of stars was glorious before, and you have added to it another star of the first magnitude. And yet many of your grateful countrymen feel that in the time to come it may be your still greater honor that you struck the first blow under the providence of God in the enfranchisement of those beautiful islands, which make that great empire of the sea, relieving them of the bondage and oppression of centuries and in putting them on their way under the protecting shield of your country's guidance, to take their place in the civilization, the arts, the industries, the liberties and all the good things of the world, so that generations hence your name shall be to them a household word, enshrined in their history and in their hearts. Clouds and darkness may linger about them now, but the shining outcome is as sure as the rising of the sun. Whatever the passing tribulation and difficulties of the present moment, they will in due time soon and surely give way to the dawn of a glorious new day—a day not of mere selfish imperial dominion of one people over another, but of the imperial, moral and physical growth and expansion of all the peoples, whatever their race or language or color, who have come under the shelter of the broad shield of the United States of America.

"By authorizing the presentation of this sword to you as the mark of its approval, your country has recognized, therefore, not only the great rich fruits which even before returning from your victory you have poured into her lap, but also her own responsibility to discharge the great trust which is thus put upon her, and fulfill the destiny of her own growth and the empire that is now her charge.

"It is my good fortune, under the terms of the enactment of Congress, to have the honor of presenting to you this beautiful sword. If during the many coming years, which I trust will be yours, of useful service to your country it shall remain sheathed in peace, as God grant it may, that fate will perhaps be due more than anything else to the thoroughness with which you have already done its work. . . . Now, following the authorization of Congress, I present this sword of honor which I hold in my hand—rather let it go through the hand of one who in his youth also periled his life and fought for his country in battle, and who to-day is Commander-in-chief of all our armies and navies, the President of the United States."

"Admiral Dewey," then said President McKinley, "from your entrance in the harbor of New York with your gallant crew and valiant ship the demonstrations which everywhere have greeted you reveal the public esteem of your heroic action, and the fullness of love in which you are held by your country. The voice of the nation is lifted in praise and gratitude for the distinguished and memorable services you have rendered the country, and all the people give you affectionate welcome home, in which I join with all my heart.

"Your victory exalted American valor and extended American authority. There was no flaw in your victory; there will be no faltering in maintaining it.

"It gives me extreme pleasure and great honor in behalf of all the people to hand you this sword, the gift of the nation, voted by the Congress of the United States."

And the great hero replied, "I thank you, Mr. President, for the great honor conferred upon me. I thank Congress for what it has done. I thank the Secretary of the Navy for his gracious words. I thank my countrymen for this beautiful gift, which shall be an heirloom in my family forever, as evidence that republics are not ungrateful."



Frost Notes The Department of Agriculture has just issued Farmers' Bulletin No. 104, entitled "Notes on Frost." A copy of it came to my table just at the beginning of the cold week of September 8th to 15th, and while we were trembling with fear of a killing frost at this early season, I scanned the pages of this bulletin with more than usual interest. As was to be expected, I found in it some new suggestions about saving our tender and not fully matured crops. I do not care so much about the discussions on the point "when to expect frost," for the daily weather reports give us some pretty correct predictions in regard to this, and I usually learn in the afternoon whether to expect a frost that night or not. The only thing that we have seldom yet been told with any degree of certainty is whether the expected frost will be just a little touch of white on low spots or whether the thermometer will drop a degree or two further down and the frost will kill our tender garden stuff down to the ground. The two frosts we had before the middle of September, this year, were fortunately very light on my grounds, and did almost no damage whatever. Had I known this beforehand I would have rested easier for two nights.

* * *

The bulletin suggests several styles of protection against late spring or early fall frosts; namely, (1) by preventing a rapid radiation of heat from the earth; or (2) by charging the air with moisture; or (3) by warming the air; or (4) by creating artificial drafts whereby the air is mixed and the cold air is not allowed to settle to the surface of the earth; or (5) by actually covering the plants with a roof. Among the devices for preventing rapid radiation of heat the bulletin mentions glass screens, cloth screens, lath screens, covering with straw or other loose substances, and making smudge-fires. Most of these preventive measures, however, are practicable only on limited areas, and on account of the cost of materials (for screens, straw, marsh-hay, etc.) only for particularly valuable or close-planted crops. Smudge-fires are not always of much use, as killing frosts occur mostly on clear, still nights, when the smoke or smudge rises right into the air in a perpendicular column and refuses to spread and settle as a cloud over the area to be protected. At least this has been my experience. The bulletin, however, recommends the use of damp materials rather than tar, crude petroleum and other dry materials for smudge-fires, for the reason that in addition to creating a dense smoke they add to the atmosphere a certain amount of evaporated water, which also helps to retard the radiation of heat. Says the bulletin: "When any considerable amount of water is thus converted into vapor, and is distributed in the air which covers the area to be protected, a portion of it is likely to be condensed by the surrounding cooler air and to appear in the form of a mist, which acts as an agent to prevent the escape of heat from the earth; and the act of condensation sets free in the air some of the heat that has been expended in the process of evaporating the water contained in the smudge-fire materials. Thus the process is well ordered throughout." All this sounds plausible and logical, but it is not always quite so easy and certain in practice. One great drawback, too, is that we seldom know to a certainty when the smudge-fire will be absolutely necessary. We may go to all the trouble of securing and placing the materials and setting the fires going, when the frost finally turns out too light to injure the tenderest plant, so that all our pains were taken for nothing. Then, again, we may go to bed without the least thought of the coming frost, and every tender thing will be badly damaged or killed in the morning. Yet, after all, these smudge-fires seem to be the most feasible of all devices for use on even a moderate scale and area.

* * *

Smudge-fire Materials I have always held straw or sawdust mixed with a little tar and well moistened to be about as good materials for making a smudge-fire as any other. The bulletin enumerates the following materials and ways of using them for a lasting smudge; namely, "DAMP STRAW AND STABLE MANURE.—Have the fuel in small piles distributed throughout the orchard in advance;

the more numerous the piles the better. With the same amount of fuel the best protection is obtained from small and frequent fires, since with small fires the upward draft is reduced to a minimum, and the more frequent the fires the more uniform will be the distribution of heat. **SACKS OF MANURE.**—A decidedly preferable method is to pack damp stable manure in common grain or burlap sacks, by which it can be conveniently handled. They should be distributed through the orchards in rows of about one hundred feet apart and about fifty feet between sacks in each row. When it is found necessary to protect a small amount of coal-oil is poured upon each sack and ignited. It is usually unnecessary to fire more than every second or fourth sack, the remainder being left for later occasions. These sacks will burn with a smoldering fire for several hours. The amount of heat which is set free by burning one sack of manure weighing about fifty pounds and condensing the water vapor near the earth would be sufficient to raise the temperature twenty degrees in a space seventy-five feet square and twenty-five feet deep. If one fourth of this amount remained within this region needing protection, which seems to be a reasonable estimate [I have my doubts—T. Gr.], ample protection would be obtained for almost any ordinary conditions. Bales of wet straw are recommended as a substitute for the sacks of manure, and where tried have given fair results. One-hundred-pound bales were cut in four pieces, a tie-wire being left about each piece. If properly dampened the straw will burn with but little care, causing a small smoldering fire. **PRUNINGS.**—The prunings of trees which are usually removed shortly before the period when frosts are likely to do their greatest injury are excellent smudge material, and should always be preserved for this use. They should be piled in open spaces throughout the orchard or vineyard, and burned at times when protection may be needed. The best results will be obtained from as small fires as will result in burning the prunings."

* * *

I might name one more material for making serviceable smudges which is not mentioned in the bulletin; namely, old stumps. Where these happen to be in close proximity or even scattered through a piece of ground on which a crop is to be protected during a frosty night we might do worse than set these stumps afire, even if we should have to use saltpeter or crude petroleum or tar to get and keep them going. Of course, the bulletin mentions and describes the various devices and contrivances for moving smudge-fires back and forth in vineyards and orchards. These may come very handy, especially to commercial grape-growers.

* * *

Filling the Air With Moisture There are cases occasionally which present excellent opportunities for filling the air with moisture. Frequently considerable quantities of steam are allowed to go to waste from the exhaust-pipe of the factory, or steam is readily available. The bulletin speaks of the "evaporation of water in large quantities, either by means of evaporating-pans or by the use of boilers with connecting pipes, whereby steam can be generated, carried and thrown into the air in different parts of a field or orchard." I believe this is a very interesting field for experiment, but the idea will not likely be carried into our general garden and orchard practices. Under ordinary circumstances we will have to rely more on the spraying and sprinkling of plants in times of threatened frost, or before sunrise on frosty mornings.

* * *

Reports Wanted In the markets of my immediate vicinity I have noted a decided improvement in the fruit and vegetable business. This may have been due, in a measure, to a somewhat lighter supply. The long dry spell has cut our garden crops short considerably, and fruits have not been as abundant with us as usual. Whatever good stuff was ordered was snatched up quickly, and even inferior grades of fruit and vegetables found ready takers. Another reason for the improvement undoubtedly is a revival in general business, in the higher prices of manufactured articles, in conse-

quence of which many of the heretofore more or less idle laborers have found employment. The question with me now is how things are in other places far and near, and also in how far the improvement of prices and demand extends over other lines of country produce. Will my kind readers please let me hear from them on these points?

T. GREINER.

2

SALIENT FARM NOTES

Cow-peas My cow-peas were sown broadcast the sixth of June on land that had been twice plowed to destroy all weeds. Between the time of sowing and harvesting we had but two light showers and the soil dried out to a depth of two feet. They were mowed September 7th, when the thermometer indicated ninety-nine degrees in the shade from 10 A. M. to 4 P. M. In two days they were cured, and were put in the barn. The yield was close to three tons an acre. Horses and cattle are fond of them either green or as hay, and the poultry swallowed every pea that was shattered out. The variety is the Black, and they were cut when the lower pods were ripe.

* * *

A neighbor planted the same variety in rows two feet apart with a corn-drill, and after they were well up he harrowed them once. Between sowing and harvesting two heavy showers fell on his farm, thoroughly soaking the ground, and his crop was much heavier than mine. I am well satisfied that if one good soaking rain had fallen on my crop the yield would have been heavier. A small patch of millet sown a week later than the cow-peas made a growth of four to five inches and then headed out. Turnips failed entirely. Pastures dried up, and corn was ready for cutting the middle of August. So it will be seen that conditions were very unfavorable for growth, yet the cow-peas made nearly three tons of good feed to the acre.

* * *

From what I can see about this locality I have concluded that cow-peas will make a better growth and yield a heavier crop when drilled in rows eighteen inches to two feet apart than when sown broadcast and harrowed in. On most soils a weeder should be the implement to cultivate them with. I made one mistake with mine. The land was not made sufficiently smooth. It was harrowed three times, yet there were many clods about the size of a coconut, and as not enough rain fell to melt these down they were in the way of the mower and played havoc with the edges of the sickle. I should have run a heavy plank drag over the land and crushed them. The land should be made as smooth and level as possible and left so, then the cutter-bar of the mower can be turned down and the vines clipped off close to the ground.

* * *

Exchange Experiences A few days ago I was talking to a farmer whom I had met on the road, when a neighbor of his passed us with a load of coal. "That's B— coal he's buying," said the farmer, with a grin. "It isn't half so good as O— coal; doesn't burn so well nor give out so much heat, yet it is sold at the same price. I have given both kinds a thorough trial, and know just how they are." "Does he know that?" I asked. "Guess not. He has always used B— coal, and of course doesn't know anything about O— coal." "Why don't you tell him?" "Oh, let him find out for himself, like I did! I'm not going to run about the neighborhood to tell people what I've learned at my own expense. I generally have to pay for what I learn, and I let others do the same!"

* * *

An old acquaintance of mine was assessed \$200 for a public ditch that was run through his farm, and he became so angry about it that he determined to sell out and leave the neighborhood. Instead of making his intention known he got on the train, went to a man whom he knew was wealthy, and offered him the farm for \$40 an acre. The man closed the bargain at once. Nearly a dozen men in his own neighborhood would have given him \$50 an acre for it if they had known he wanted to sell it. Another farmer I am acquainted with has a fine orchard of about sixty trees, nearly all winter apples. A cider-maker living in town called one day and offered him thirty cents a bushel for the apples if he would board free the men he would send out to gather and barrel them. The trade was made, and the farmer went to town a couple of days later, and to his astonishment and chagrin learned that two

of his nearest neighbors had sold their apples on the trees for fifty-five cents a bushel, and were to be paid for boarding the pickers and barrelers. And their apples were the same varieties as his, and no better in any respect.

* * *

I could fill two or three columns with such incidents that have come to my knowledge. I will give one more. Some years ago a "creamery shark" came to this town, and by pulling the proper wires and "feeling the push" soon had a creamery boom started. The farmers one after another fell into his clutches and subscribed for \$100 to \$300 worth of "stock," which, according to the shark, was certain to pay immense dividends in a short time. I saw several farmers, and warned them against him. Some took my advice, and others didn't. One young man who was just starting for himself, and was very anxious to get ahead, I feared they would catch if they saw him before I did. Hurriedly hitching my horse to the buggy I started out to go and warn him, and just reached the road as he came along, returning from town. Had the man—the shark—met him? He had. What was the result? One hundred dollars invested in "stock." I advised him to hustle back and withdraw. He tried it, but they had him fast and kept him. He had to pay one hundred good, hard-earned dollars for his "stock," and two years later he traded it at a store for ten dollars' worth of goods. The loss of that \$100 at that time was a great hardship, and it cut deep. He is now thoroughly boom-proof.

* * *

All these things plainly—I might say painfully—show the lack of unity, fellowship, association among farmers. They do not seem to consider their interests identical. They are not united, nor do they care to unite upon any common ground, nor upon any course of action. In many sections each farmer seems to consider every other farmer an antagonist to be guarded against—an enemy whose downfall he would be pleased to see brought about. In a few localities the opposite sentiment prevails, and every farmer seems willing and glad to impart the knowledge he has gained on the farm or in trade to his neighbor. But this is when they meet together and discuss, not quarrel over, all matters in which they are vitally interested. When they do this no such incidents as I have described happen, no such bad bargains are made, no boom sharks "touch" them for hundreds of their hard-earned dollars. Where they associate together sufficiently to become united they have good roads, good school-houses, good homes and surroundings, and are very prosperous and contented. In such localities they learn that great success on the part of one never injures another in the least. If one succeeds in growing one hundred bushels of corn to the acre it does not cut the price to the bushel in the market one cent.

* * *

Now that the evenings are long farmers in every locality should get together and exchange experiences and views. Very often they can save each other many dollars by so doing. I have known a man to buy an implement, and on trying it find it worthless, or next thing to it; and the following year his neighbor bought one of the same kind, only to throw it aside soon after. If the first could have stated his experience with it at a meeting of his neighbors the second would have kept his money. If a certain kind of coal or other article that almost every family in the neighborhood uses is better than another that fact may be learned at these meetings. If one desires to butcher a beef, but can use only one quarter of it, he can easily dispose of the other three quarters at one of these meetings. The principal benefits to be derived from these neighborly gatherings lies in the social exchange of actual experiences, wants, etc. Very often a person can give more information that is of practical value to his neighbors in twenty words than an essayist or "orator of the evening" can in a thousand or more. If these meetings are made valuable and informing they will not be discontinued soon. If they are merely ornamental—to give Miss Smith an opportunity to surprise the neighborhood with an operatic song, or young sophomore Jones to cleave the air with one of his college orations, or old Mr. Robinson to give an hour's talk on nothing in particular—they will soon perish. When a man who has passed the flush of youth attends a meeting of any sort, and finds that he has learned something of real value to him, he will be on hand at the next. To be sure, a little ornament is an attraction, but usefulness is the eard that draws and holds.

FRED GRUNDY.

OUR FARM

FARM THEORY AND PRACTICE

EXPERIMENTS ON THE FARM.—Every farmer should conduct some experiments on the farm. He needs to know the best varieties of grain and vegetables for his soil and market, and he needs to know whether fertilizers, barnyard or commercial, pay him all the profit that they should. Many farmers believe that they do experiment in a reasonably careful way, when the facts are that the results of their so-called experiments are entirely valueless on account of the conditions under which they were conducted. Each year I am more and more impressed by the need of the greatest accuracy and evenness of conditions in experiments that are conducted for sake of comparison of varieties, of fertilizers and of methods of culture. Many a farmer uses one brand of fertilizer one year and another brand another year, or uses one brand in one field and another brand in another, and then judges of effectiveness by the size of the crop, when soil and weather conditions and many other factors in the problem he would solve are very variable, making the results that are obtained misleading as a guide for the future. Why in the world should a farmer not get down to business and make tests that teach something, and get results that he has reason to regard as accurate within safe limits? We want to know what varieties of plants are best, and what kind of fertilizer pays the best, and what kind of culture gives the best returns. Our income depends upon such knowledge, but the haphazard trials that we dignify by the name of experiments, but that do not compare two things under exactly similar conditions, do not settle definitely any questions for us.

FERTILIZER EXPERIMENTS.—Take commercial fertilizers, for example. We often hear the remark by some farmer, "Well, I used twenty-five-dollar goods on my wheat one year and my crop was no better than the year I used fifteen-dollar goods." What does such a statement prove? When no one knows what elements of plant-food were contained in either fertilizer, and does not know the difference in the condition of the soil and the weather the two years covered by this alleged "experiment," of what value is the trial made? When we use a commercial fertilizer we assume that our soil needs a greater supply than it now contains of one element, or two or three, of plant-food. All others we believe are present in the soil. How may we learn what elements may be added with profit unless we know what we are applying? The common-sense way of learning what kind of fertilizer will give us the biggest net profit is to put the question to the soil in an intelligent way. Select a field, or a portion of a field, that is fairly even in productive power. On one acre use a high-grade acidulated rock, because most soils that need any fertilizer require phosphoric acid. That may be all that is needed. Test the matter by adding some nitrogen to the rock for the second acre. Possibly some potash is badly needed. Test the matter by adding some potash in form of muriate to the acidulated rock on another acre. Make two or three such tests each year. Keep account of cost, and watch growth of crop closely. If the crop is grain, and it is actually impracticable to harvest separately, you will lose some of the value of the test, but the close watching and examination throughout the season, and especially a careful comparison of the heads and grain, will help to a right conclusion about the needs of that soil. Such tests would be worth millions of dollars to the farmers of this country. The stations cannot test our fields for us.

VARIETY TESTS.—The variations in productiveness of varieties are wonderful. Every one appreciates this fact to a limited extent, but comparatively few seem to carry the fact before them that the varieties of wheat or potatoes or other crop that they are raising this year is probably giving a smaller yield than the best one for their soil would give if only they had it. Take the tests at our experiment stations, where scores of varieties are compared on soil of even fertility to determine productiveness. Just the difference between the yield of a few of the best varieties and the average yield of all would be a nice profit in farming. There is just one way to learn whether a variety is adapted to your soil and farming, and that is by test. Our stations

determine that a big lot of varieties are not worthy of trial, and these we ignore. But of the best we must choose one or two that are supposed to be adapted to such soil and climate as we may have, and these must be put alongside of our old variety if we would know whether there is a better one than we now have. Very often would we find that some new kind of wheat or potato would yield us a better crop, and the difference should be going to swell the amount of net income we are getting, or should be getting, from our land. And very often that income needs swelling. I am not advocating the trial of all novelties. Far from it. Let the stations sift out the best all-round varieties—the ones that do generally well in good and bad years. Then try one or two of these each season. Place it by the side of the main crop in the field, and show no special favor. Test fairly.

FOR SPICE AND PROFIT.—These experiments, these tests, give zest to farm life. Hold the standard varieties of the farm accountable for the biggest possible income. Take nothing for granted. Put some variety highly recommended by your state experiment station by their side, and make them prove their worth year by year. Such tests in potatoes alone have been worth much money to me—not in sales of potatoes for planting, but in finding more prolific varieties for our various soils. In methods of culture the same holds true. There is the most productive variety, the most profitable fertilizer, the best method of handling a certain soil of the farm—the best in average years—and who can afford knowingly to put up with the second rate or third rate, and to rest satisfied with a second-rate or third-rate income from such a farm as he may own? The farmer should be a born experimenter, and should never be fully satisfied with his results.

DAVID.

A PRACTICAL PRUNING-KNIFE

Any one having tried to cut out the old wood of raspberries and blackberries without a proper tool knows that the job is anything but a pleasant one. Various-shaped knives are in use.

I have seen more hook-shaped and V-shaped knives than any other kind. But such knives cut hard. The force necessary to cut an old woody cane is sometimes quite enough to pull up a whole raspberry-plant.

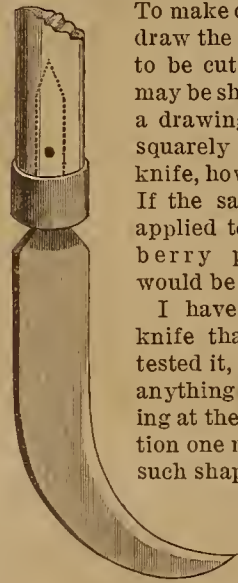
To make cutting easy one should draw the knife across the object to be cut. A slice of beefsteak may be shaved off much easier by a drawing cut than by pressure squarely against it with the knife, however sharp it may be. If the same principle could be applied to the old wood of our berry plantations something would be gained.

I have lately come across a knife that works well. I have tested it, and find it superior to anything else I have seen. Looking at the accompanying illustration one might suppose a knife of such shape would slip off instead of cutting. But that is not so. In testing it one will be surprised how nicely it will do the cutting. It will slip just enough to give the drawing motion, and thus it will sever the hard cane from the stub with the least outlay of strength.

The illustration represents the shape of the knife exactly as it should be. A good blacksmith should be able to make one out of a worn-out flat file. It should be inserted in an old hoe-handle, or something of that order, and be keyed on as shown. A leather loop may be nailed to the wooden handle about half way up to prevent the hand from slipping on the handle, but this is not essential.

Gathering up the old wood and the trimmings is another unpleasant feature of berry culture. Here, also, the right tool will facilitate the work. The best thing I know of is a rake made out of a worn-out wheel-rake, such as encumber many a farm. An enterprising farmer's boy of mechanical turn will be able to construct one without much trouble. It should be made narrow enough to work easily between the rows, and the two straight handles should be bolted on and left sticking out behind to guide and lift the tool by. A ten-acre field may be gone over with such a rake in one day, leaving all the brush at the ends of the rows. It is pretty hard work to run the tool.

F. GREINER.



DAIRY-FARM LEAKS

A serious leak on the dairy-farm is unprofitable rations; that is, unbalanced rations. The cow must be fed a ration that contains sufficient protein to furnish the casein solid in the milk, else she will shrink her flow. This solid of the milk cannot be obtained from starch and sugar, the chief elements in carbonaceous foods. It must come almost wholly from nitrogenous foods. As the average farmer is either careless or ignorant of this fact he suffers a loss that is very great. This loss, as a rule, is in winter, when milk brings its highest price. The cows are then eating dry foods and what little grain the farmer thinks he can afford to give them; and he usually apportions that part of the ration in proportion to the price that he is to receive for the milk products.

What is the quality of this grain ration, and what are they getting in the line of forage? In nearly every stable on the average farm one will see timothy or mixed hay, corn-stalks either cut or whole, some of the straws, and it may be corn ensilage. These are all starchy foods, and contain but little protein. Timothy hay has a ratio of 1 to 14. There is but 2.2 pounds of digestible protein in one hundred pounds of it, while there are 21.3 pounds of digestible carbohydrates and 0.6 pounds digestible fat. Corn-stalks contain in one hundred pounds 2.3 pounds of digestible protein, 31.6 pounds of digestible carbohydrates, and 0.8 pounds of digestible fat, while the straws are as fully out of balance.

When it comes to the grain ration the farmer is usually wedded to corn-meal, with some ground oats. Sometimes he adds some wheat-bran or wheat-middlings, provided the cost is not too high. He grinds oats, and mixes them half and half with the corn-meal, when by selling them at the usual market price and investing the money in wheat-bran or gluten he can get better foods at a less price. But he does not add enough oats, bran or gluten, as the case may be, to the starchy forage foods and the corn-meal. The result is a shrinkage of the milk flow, and the early "drying off" of the cows late in the fall or in early winter, just at the time he should be working to keep up the milk flow.

Have the cows come fresh in milk in November and December, and then "push them for all they are worth" by feeding liberally of good milk-producing foods, keeping them warm and comfortable and giving them good care.

Sometimes we find a farmer who has built a silo and filled it with good ensilage, but we find him feeding too much of it, with perhaps a ration of corn-meal in which has been mixed some ground oats or a little bran. To this is added at noon either timothy hay, straw or corn-stalks, and as the silage contains little feeding value besides starch and sugar it is seen he has managed to keep his ration just as wide as before he fed silage.

At a farmers' institute in one of the New York southern counties a farmer asked about buckwheat ground and fed with corn-meal to his cows. He said he had a big crop of it, but could get but two cents a pound for the flour. He had been told that buckwheat was an excellent grain to feed for milk production, so he was having his ground and was feeding it. But what was his surprise when told by one of the institute force that he was wasting one half of the value of the crop. The total feeding value of a ton of buckwheat is only about twelve dollars, while a ton of the middlings is worth sixteen dollars. In a ton of buckwheat there will be about nine hundred pounds of flour. This at two cents a pound would be worth eighteen dollars, and he would have six dollars' worth of middlings besides to feed, making a total value of twenty-four dollars instead of twelve dollars, which he would get if he fed the entire product. He had never investigated the feeding problem, and probably would have kept right along losing fifty per cent of the total value of his crop had he not attended the institute.

Another farmer said, "If timothy hay and corn silage are both alike—that is, are starch and sugar foods—why not feed timothy instead of ensilage, and thus save the cost of the silo and that of the ensilage as well?" To which Mr. Gould replied, "The average yield of an acre of timothy hay is about one ton. In that ton there is about seven hundred and twenty pounds of digestible starch and sugar. In an acre of good corn silage made of corn that will husk out eighty-five baskets of ears to the acre if all the crop be cut when the ears are at the glazing period, and is put into a good silo, there will be returned at least five thousand pounds of

starch and sugar, or nearly seven times as much as from the acre of timothy, and once we have the silo the labor cost of the crop is but little more than that of hay. I can harvest an acre of ensilage and put it into the silo for three dollars and seventy-five cents, while the cost of cutting and securing an acre of hay is three dollars. It costs me twelve dollars to secure in the silo an acre of ensilage, which as I raise it will yield five thousand five hundred pounds of starch. So for an additional outlay for labor of eight dollars I get seven times as much starch and sugar as I would from an acre of mixed hay. Another point; there will be two hundred pounds of protein in my acre of silage as against but seventy pounds in your acre of hay. I have raised fifteen crops of corn in succession on the same piece of land, and the last one was the best of all. So you see I have no use for timothy hay on my farm, first because I can make starch and sugar for one dollar a ton in ensilage, while the cost in hay is seven dollars. Besides that, the timothy is a robber of the soil, while the corn is not, at least in any such proportion."

C. W. JENNINGS.

FALL PLOWING AGAINST INSECTS

In his fight against various insect pests the value of good deep plowing late in the fall is always worthy the serious consideration of the practical farmer. It is one of the best methods of destroying several of our most wide-spread and destructive insects. It does not affect all alike, however. Some insects will be destroyed in this manner by having the cells in which they have gone to pass the winter broken up, and being thrown up to the surface they will be killed by the weather before they again provide themselves with winter quarters. Among these are those which hibernate over winter as larvae, and those which pass it in the pupal or chrysalid stage. Among the former may be mentioned the cutworms and the corn-stalk or sugar-cane borer larva. Of those passing the winter as pupae the wireworms are good examples. They go into the pupal stage in the fall, and this method of breaking up the pupal cells is practically the only way of combatting them, and none too good at that. The squash-vine borer also passes through the winter as a pupa, and may be largely destroyed by breaking up the cells.

But whereas some insects are destroyed by exposing them on the surface, others may be literally buried alive, and thus killed. One of the best instances of the value of fall plowing in this way is in the destruction of grasshoppers' eggs. If they be turned under to the depth of five or six inches after they are laid in the fall, the young hatching from them in the spring will be utterly unable to regain the surface, and are thus smothered to death. Other insects which pass the winter in the pupal stage, but whose pupae are incased in a tough cell not easily broken open, may also be killed by being turned under in this manner. In fact, even adult insects may be so handled. After the plants are all thrown out of the ground in November the adults of the Mexican cotton-boll weevil can be readily caught in this way and plowed under so deeply that they will never regain the surface. Young grasshoppers are also destroyed in a similar manner just after they have emerged from the egg in the spring.

It is a homely, common-sense method, but with a correct understanding of their life-histories may be used to good advantage against many of our most common and injurious insects.

E. DWIGHT SANDERSON.

NEAT'S-FOOT OIL

Among the parts of a beef that are frequently allowed to waste when killing is done upon the farm are the hoofs. With little trouble a useful and rather costly lubricant known as neat's-foot oil may be made as follows: Wash the feet clean, and boil them in pure, soft water. After several hours of moderate boiling let the pot stand so that the mixture may settle, after which pour off or dip out the oil and fat into other boiling water, and allow it to cool slowly, without motion. The fat may then be separated from the oil and used for soap or other purpose. The oil is a good lubricant for machinery, since it will not thicken or gum. It is also excellent for softening leather. About a pint may be made from the hoofs of one animal, and even this small amount is worth taking the trouble for. By saving the feet until a good number have been collected the trouble may be reduced, since it is as easy to prepare a gallon as it is to make a pint of it.

M. G. KAINS.

NOTES FROM GARDEN AND FIELD

REMOVING FOLIAGE.—Here and there in this vicinity, as elsewhere, we find an occasional patch of western dent corn with its immense stalks often fifteen feet high, and the big ears set so high up on the plant that a small man can hardly reach them. Many people make it a practice to cut the top of the stalks off just above the ear or ears. The corn is rather late maturing, and it is thought that the removal of the tops will throw the food all into the ears and make them ripen up better or more quickly. This is a matter about which I have as yet my doubts. I seldom care to mutilate the foliage of any plant. The leaves have about the same functions to perform in the plant that the stomach does in the animal. They are the digestive apparatus. Strip off the leaves of a tree or vine and the fruit on that tree or vine will remain in the same stage of development that it was at the time the leaves were taken off. I do not even favor or practise trimming the foliage of the most luxuriant tomato-vines. It takes foliage to make fruit, and a good deal of it to make fruit of the highest quality. Tomatoes without foliage may give apparently ripe fruit—that is, the green tomatoes will after awhile turn to the color of ripeness—but the specimens remain as small as they were, and the high quality of normally and naturally ripened fruit will be lacking. Green grapes on a leafless vine will not advance one step toward ripening. You may leave them hanging on the vine a month or two, and they will still be green. It takes foliage to ripen grapes, and a good deal of it to develop high quality in the fruit. An immature ear of corn torn off the stalk if hung up may dry and become fit for seed. Possibly a portion of the elaborated sap that was in the cob may have been used for the further growth of the grain. But that is all. On the other hand, if the ear is left on the stalk, and the latter is cut near the ground before the ear is fully matured, if only near the point of glazing, the elaborated sap contained in the stalk and leaf will, to a large extent, go into the ear for the further development of the grain. It seems to me that the only object in cutting off the top above the ear can be to help the ear along on the way of drying off, but at the expense of the available sap in the top that might otherwise be used for improving the grain. In short, I believe that little can be gained, and there may be some loss by the practice mentioned.

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ENDIVE AND LETTUCES.—I wonder how many readers of FARM AND FIRESIDE have endive growing in their home gardens. Not many, I should say. The plant is only now and then met with in farmers' gardens, yet it makes a very acceptable fall salad. It is easily grown, about as easily as any other garden crop. I sow the seed in drills, rather thinly, in a well-prepared seed-bed, say along in June, in order to have the crop come on in the fall when lettuce is noted mostly for its absence or scarcity. Of course, seed may be sown almost any time from early spring until August, but I believe that good lettuce is so much preferable that one does not care much for endive when the other can be had. That is my case, anyway. Endive is not overfastidious as to soil and manure. Any spot in the garden will do for it. Thin the plants early, to stand about one foot or nearly that much apart, and when the plants are about full-grown tie up the tips of the larger leaves around and over the heart in order to blanch it. It may be done with a piece of strung, or, as I do it, simply with a halm or two of June or other weed grass. I have some fine plants, and well-blanching ones, too, in my garden, but unfortunately I do not use them very freely, because I happen to have fine lettuce at this time, and I would rather have that on my table. This is the first season, I believe, that I had lettuce about every day right along. Late in May, when my first-planted lettuce (in open ground) was nearly ready for use, I sowed a row of Maule's Philadelphia Prize Butter lettuce. This came on nicely, and gave me solid heads of largest size (regular cabbage-heads) during the greater part of the hot weather. It was very tardy in going to seed, and I sold many dollars' worth of fine plants, some of them nearly as large as a peck measure, all along during the latter part of summer. In July I sowed the last lot in summer. Some of the seed germinated only after the long drought was broken by a few good showers,

and this patch has given me lots of fine heads for a month or more, with plenty yet to gather. I also have now a full supply of young plants of Rawson's Hothouse lettuce. Seed was sown in open ground early in August. The plants are standing very thinly in the row, and will soon be taken up and transplanted to the greenhouse for the first forced crop to be ready about Thanksgiving-time. The variety mentioned is a good and reliable one for that purpose.

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PROMPTNESS IN MARKETING.—Every gardener knows that the first potatoes, tomatoes, egg-plants, cabbages, cauliflowers, the first peas, radishes, lettuce, etc., brought to market always secure the big prices, and all try their best to have these things as early as possible. But few people seem to be aware of the fact that the same is also true of some of the later fruits and vegetables. For instance, we find that Clapp's Favorite and Bartlett pears picked a little before their regular season and thrown on the market usually bring far better prices than the same fruit a couple of weeks later. I have sometimes done very well by picking and marketing Duchess (Oldenberg), also Twenty Ounce apples, long before they were ripe, or even full-grown. The first lot of quinces brought into the Buffalo market this year, about the middle of September, sold for \$3.40 a barrel. A week or two later you could not have squeezed more than \$2 out of the most anxious buyer for the same kind of fruit. And so it was with Hubbard squashes. The first marketed sold well at high prices. Then when this vegetable began to come in more freely the price went down to ordinary figures. The producer who has the chance should not neglect to keep close watch of the market. Often he will find a great difference in his receipts just owing to a few days' difference in marketing a crop. There may be a possibility of a rise as well as a drop in the market for certain products. But we do not worry if we sell at a good price one day and see the stuff advance in price temporarily a few days later. My plan is to sell any produce I may have ready to go on the market just as soon as an acceptable price can be secured. In the ordinary run of things I find that I am the gainer. And if I ship anything to be sold on commission, I always instruct the dealer to sell for the best price obtainable, when there is good demand, rather than hold for a rise, even if that seems likely to come.

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HUBBARD SQUASHES.—The Hubbard winter squash is almost always a profitable crop. Sometimes it is very profitable; at other times only moderately so. The crop in my sweet-corn field of one and one fourth acres turns out quite well. There are plenty of vines and plenty of squashes, all grown without much extra labor. I planted the seed in hills in every fourth row, making the hills in the row about ten to twelve feet apart, after the corn was planted and some of it up. The little time it took for this job was about all the extra labor required to grow the crop, as no further attention was given to it beside what the corn received. I have already marketed several wagon-loads in Buffalo and Niagara Falls, mostly at fifty cents, and a few at forty cents a bushel. Many of the squashes were large, so that it took only about half a dozen squashes to fill a bushel basket. I am sure the price received represents good pay for a product so easily grown. There is also good demand in our cities for pie-pumpkins, and farmers and gardeners who live in the vicinity of such markets can turn many an honest penny in growing and marketing that crop either in a patch by itself or in their corn-fields.

T. GREINER.

INQUIRIES ANSWERED

Making a Garden-spot.—K. I. R. writes: "I have a garden fifty by one hundred feet of stiff red clay. This is the first year it has been cultivated for five or six years. About the middle of April I had it plowed in the usual way, applied four bushels of lime and a small lot of well-rotted manure, spading the ground and working lime and manure well into the ground. Cabbage, tomatoes, sweet corn and cucumbers produced well, but peas and lettuce were a failure. Potatoes grew a good top, but did not produce. Please give me treatment to get this ground into better shape for a good garden."

REPLY BY T. GREINER:—It may take several years of application of barn-yard manure or other ingredients, or of growing clover and plowing it under, etc., to make a first-class garden-spot of your stiff red clay. Do not weary of applying stable manures—the more the better. Possibly ashes or potash in some form may show good results.

AMERICAN POMOLOGICAL SOCIETY SELECTED FROM THE CONVENTION

The twenty-sixth biennial convention of the American Pomological Society was held at Philadelphia September 7th and 8th. There were about one hundred and thirty delegates present, representing twenty-two states. After an invocation by Rev. H. C. McCook, of Philadelphia, Robert Craig, Vice-President of the Pennsylvania Horticultural Society, delivered the address of welcome. Mr. P. J. Berckmans in his response referred to previous meetings in Philadelphia, especially that of 1860, to the Philadelphia members which he had known, and which he now missed from their places, and to the good work which Philadelphia had done in horticulture in the past. The president in his address said the future outlook for the society was now better than for several years. The best results will be secured if the society works in accord with the state experiment stations. The work of fruit-breeding should be carried on as systematically as stock-breeding, and the subject of pollenization should be given more attention. Fruits from their own botanical districts are more apt to succeed than those brought from other localities. Buyers should wait for the experiment stations, and those who can afford it to test new varieties of fruits before planting them for commercial purposes. Our best work should be directed to promoting the production of good fruits for the many. We wish to place them within the reach of all who are willing to work and earn them. We wish to educate the tastes of the people, so the best varieties of fruits will be demanded.

Thomas Meehan, Germantown, Pa., next delivered an address on "Philadelphia's Contribution to the History of American Pomology." He spoke of the large consumption of fruit in America among all classes. The European farmers who grow fine fruits do not eat them. They must sell them to pay rent and taxes, and buy bread. Speaking of the history of grape culture in America, he said some of the first vineyards were planted on the ground where Philadelphia now stands. They found the foreign grapes would not grow well here, and they tried the native grapes, and made wine from them. This led to the efforts to improve the native grapes. First came the grape called Alexandria, and next the Bland grape. These failed, and were followed by the grape called Susquehanna. This was not desirable, and was followed by the Catawba, which was a great success for a time. Efforts toward improvement were being constantly made, which resulted in the great standard grape of the present time, the Concord. He also spoke of the great improvement which had been made in pears and other fruits.

J. H. Hale, South Glastonbury, Conn., next spoke on the subject of "Culture." He said he believed in culture, whether it be of men and women or fine fruits. The growth of culture among the people always makes a demand for more and finer fruit. It is among intelligent people we find the largest market for fine fruits. In the culture of the soil the most of the work should be done before planting the crop. First is drainage, then plowing, then subsoiling and harrowing. Do not plant a crop until you have given the soil the best culture possible. Very frequent stirring of the soil on different parts of my farm has made a difference of three dollars a bushel in the price of peaches. Plums were equally profitable when constantly cultivated. I would cultivate an orchard through the growing season of the fruit, then would sow seed for a cover-crop, to cover the soil in the winter and plow it under in the spring.

Professor F. A. Waugh, University of Vermont, Burlington, Vermont, spoke on "Nomenclature and Systematic Pomology." He said that a confusion of names when buying fruit-trees often resulted in great financial loss. Botanists can better study plants if they are classified and named. So in pomology fruit-growers must have the fruits named. The names must be governed by rules. There are two rules that should always be followed in plant nomenclature. The first name published must always be continued. Again, the name should not contain over two words, and generally it is better to have only one word. After further discussion of the subject it was referred to a committee of three appointed by the chair.

Professor J. C. Whitten, University of Missouri, Columbia, Missouri, followed with a paper on "Relation of Color to the Growth of Flower-buds of the Peach." He said that experiments have shown that a dark-colored foliage has a greater power to absorb heat than a light-colored foliage. These facts have been made use of in economic practice

in fruit culture. It has been found that whitewashing the buds would to some extent retard blossoming. Experiments in the greenhouse showed thirty days' difference in the time of blossoming between the buds that were whitewashed and those not whitewashed. When whitewashing buds in the spring in the open field there was less difference between those whitewashed and those not whitewashed. If light-colored buds are covered with a purple or light covering they will absorb more heat and blossom sooner. Dark-colored buds are more apt to endure the cold and winter better. One may combine spraying with the Bordeaux mixture and spraying to whiten the buds to prevent early blooming.

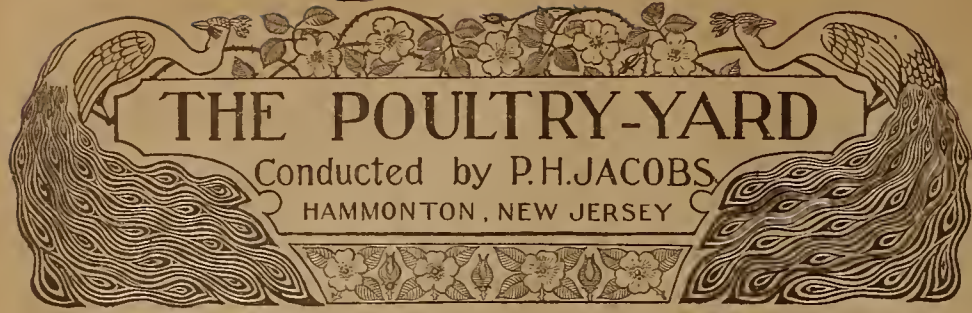
Professor G. Harold Hall, Delaware Agricultural College, gave an address on the "Importance of the Plant Individual in Horticultural Operations." He told how plants of the same varieties often differ. Some plants when given the same culture are productive, and others bear lightly. I have observed this difference between fruit-trees of the same varieties. One instance which I noted was three Winesap apple-trees in the same orchard. These showed a difference of from thirty to sixty per cent in the yield of apples. This seems to show that there are strong inherent qualities in fruit-trees. I think these strains of light and heavy bearing are generally found in orchards. Are the qualities hereditary, and can they be transmitted through the buds if we take scions from the most productive trees? Can we establish pedigree in fruit-trees, and obtain the results of a selection that extends through several generations? From experiments made along this line we think the individuality of fruit-trees can be to a large extent transmitted and preserved. We advise all fruit-growers to propagate fruit from the most productive trees.

Professor W. M. Munson, University of Maine, read a paper on the "Blueberry; Its Past, Present and Future." He said the value of the blueberry in the country the past year was about \$100,000. Waste land can be utilized for growing blueberries. To propagate them the land should be burned over and the seeds scattered over it. Blueberries are much appreciated by many people of this country, and large quantities could be marketed.

C. B. Bracket, Pomologist of the United States Department of Agriculture, next talked about "American Horticulture in Paris in 1900." He spoke of the desirability of the American people making a good exhibit at the Paris exposition. Such an exhibition will show foreign people the quality of American fruit, and will help to open the markets to us. Arrangements should be made with the transportation companies for providing cold storage for the fruit when in transit. There should be a considerable surplus, so the exhibit can be kept in good condition all the time.

Mr. J. W. Kerr, Denton, Md., read a paper on "Evils in the Prevailing Methods of Marketing." Mr. Kerr thought that some of the present evils could be avoided if producers sold in car-lots at home. Mr. J. H. Hale said buyers would not pay as good prices when buying in this way. You cannot pack fancy fruits for a special market when selling to one dealer in car-lots. This plan may do for the Western growers who produce large quantities. Those who grow fruit in smaller quantities must patronize the commission dealers. I know that many commission dealers are hard-working honest men, and they will do as well as they can with the produce if the quality is all right. When you have found a good man, send him good goods, and stay with him. If your goods are handled for several years by the same man they will get a reputation, and it is the reputation your goods have which will make sales for you. Mr. R. H. Kellogg spoke of the reputation which the peaches grown by Mr. Roland Morrill, of Michigan, have acquired. He said that one commission merchant had always handled his peaches, and buyers always asked for Mr. Morrill's peaches and would take no others. This shows what can be done if goods of the highest quality are sold at the same place for several years.

Professor John Craig, Iowa Agricultural College, in his talk on "The Results of the Freeze of 1898-9 in Iowa," said each variety has its thermal death-point. We found the trees are most liable to be killed when they are in a hard unworked clay soil. When growing in a well-cultivated light soil the trees were less injured. We also found the trees in much better condition where the roots were mulched, and we recommend mulching as a preventive against injury to the trees by freezing in winter. W. J.



CLOVER HAY A VALUABLE FOOD

WHEN clover hay is cut fine it is sometimes cheaper and better than grain. Wheat at one dollar a bushel is more expensive than clover, with less beneficial results, using pound for pound. It is estimated by good judges who have tested clover feed that one ounce a day is sufficient for one fowl, or about six pounds a day to a flock of one hundred fowls. It has no equal, considering all the effects produced by its continued use, and assists in imparting a healthy, vigorous constitution, which is essential to egg production; besides, clover has been found to contain twenty-eight times as much lime as wheat or corn to serve in the formation of shells of eggs. Being bulky it is easily digested, assisting also the digestion of grain. A light use of grain should be continued, with clover, as it contains some necessary elements that clover does not, thereby not only producing a well-filled egg-basket, but eggs of fertility that will produce stout, vigorous, well-formed chicks. Clover-tea, to dampen or scald the chicks' feed, is a preventive and cure for leg-weakness, and is an excellent tonic as a drink. The value of any food material is not so much its cost, but its power to bring about certain results; not the quantity taken into the system, but the amount digested and assimilated, is the criterion. To prepare clover, scald it in a tub at night, and cover the mess. In the morning mix well with as many pounds of any kind of ground grain. When habituated to it fowls will eat clover alone, either scalded or dry.

VICES OF POULTRY

Fowls should be given no opportunity to learn vices. They should be housed and shut up every night, and not allowed to roost on sheds, fences or trees; even a neglect to shut the door on them for one night will cause the timid ones to seek a higher roost the next night, and which can only be found out of doors, the experience leading to laying out of doors—a great nuisance—and to constant loss from night enemies. At sunrise every morning scatter a full feed for them. Let this always be done on the same spot of ground. Keep in a convenient place a vessel of clean, fresh water, if there is no running stream. At certain and regular times in the day you will find the whole flock at the feeding-place. Throw no scraps of food around the dwelling, or you will teach them to become a house nuisance. Burn all the egg-shells, or you will teach hens to eat eggs in the nest. If you coop your chicks take the hen and brood to the hen-house as soon as the coop is dispensed with; otherwise, when winter sets in, you will have to spend every night for a week before the chicks will learn to roost. Protect the sitting hens by a light board or lattice cover to the nest, so that they may not be annoyed by other hens wishing to lay with them. Any bad habit, or any vice which does not suit your surroundings, may be entirely broken up and changed by reasonably preventive measures and with but little difficulty.

CHOLERA IN THE FLOCK

During or previous to an attack of cholera the fowl has a dejected, sleepy and droopy appearance, does not plume itself, is extremely thirsty, has a slow, stalking gait, and seems nervous and restless. It frequently staggers and falls from weakness, the combs and wattles lose their natural color, usually turning pale, and are sometimes very dark. Diarrhea sets in, with a greenish discharge similar to a mixture of sulphur and water, changing to a thin consistency, with froth. The crop fills with mucus and wind. The food is not digested, and prostration is the result. On dissecting the gizzard will be found to be filled with dried-up food and a greenish matter. The liver will be much enlarged and flabby, and so tender that it will easily mash in the hands, split open, as well as appearing congested. The heart is also sometimes enlarged. One of the best remedies is hypsulphite of soda. Give a heaping teaspoonful

in enough water to wash it down as soon as the symptoms appear. It is a cathartic, and its action is brisk. As soon as the fowl becomes very weak after the dose give five drops of a mixture of equal parts of pargoric, tincture of camphor and tincture of gentian. As soon as the bird improves feed on boiled milk thickened with rice or stale bread. Cholera is quick, and either destroys the flock in a few days or recovery occurs. When a disease remains for a week or more it is not cholera.

OVERCROWDING IN WINTER

Every winter finds the poultry-houses overcrowded, and even away into winter is this the case, until the flocks get thinned down by gradually selling them off, or until the bulk of them are hurried away by the annual slaughter just before the holidays. When you commenced in the spring with your few choice pullets and a cock the house was large enough to comfortably contain them; but when the young birds are forced to seek shelter during cold weather, having entirely outgrown their mother's care, the house proves to be far too small, though but few make any extra accommodations for them, as they undoubtedly should do, to secure them comfort and insure their health. If sickness once gets a hold in such an overcrowded house scarcely anything will stay its ravages until there are few, if any, birds left. Even if they do not die under such careless treatment they cannot possibly keep their health, and will become sickly or droopy and lose much of the weight put on them when they were not in such close quarters and forced to breathe the foul atmosphere of the overcrowded house.

WEIGHTS OF BREEDS

The Light Brahma stands at the head of the list as the largest breed. Taking the weight of the cock to indicate the size, the Light Brahma cock should not weigh less than twelve pounds; Dark Brahmas, White, Buff and Partridge Cochins, eleven pounds; Black Cochins, ten and one half pounds; Javas and Langshans, ten pounds; Dorkings and Plymouth Rocks, nine and one half pounds; Wyandottes, eight and one half pounds, and the French breeds from seven and one half to eight and one half pounds. The largest of the games are the Malays, which reach eight pounds, and the smallest of all the breeds is the Game Bantam, which should not exceed twenty-two ounces.

NO MONOPOLY IN POULTRY

The rapid multiplication of poultry being so easy the humblest individual can take advantage of opportunities and avail himself of the privileges which cannot be monopolized. It is the only class of stock that permits science and knowledge to triumph over wealth and possession, for monopoly may seize the best flocks in the world; yet patient industry and careful breeding, even in the hands of the most obscure and humble, will break down the walls and open new avenues. The monopoly that can be exercised in the poultry business is brains, for every man, woman and child has the same privileges and advantages. City people as well as those living in the country can have their poultry.

POULTRY ON FARMS

Farmers have plenty of room and land to spare on which fowls may be kept to advantage. Cheap houses can be built on their premises to shelter one hundred or two hundred birds that will give them fresh eggs in abundance (to use in the household or sell for cash) in the right season. There is very little labor to be performed in the proper care of a flock of nice fowls during the summer season, and a large percentage upon the cost and keeping is the natural and certain return that may be realized to any farmer anywhere, on a small or large scale, where this business is conducted as it should be. There is more money in good poultry-raising (considering its cost) than

can be realized from the larger stock, and yet the latter are fed and housed and bred everywhere to the entire neglect, almost, of poultry. Farmers will do well to look into the merits of poultry. Good fowls of any of the improved breeds may be had at a reasonable price, and farmers who have had the facilities at hand to rear good poultry at a remunerative rate, but who have neglected this well-paying branch of farming, should increase their profits by utilizing their spare land for fowls.

MEAT AND GRAIN

When meat is given it is not necessary to allow much grain. For instance, if meat is fed at noon it will only be necessary to scatter a few handfuls of oats in each pen to keep the inmates at work. When a hen becomes too fat she will lay soft-shelled eggs. Where plenty of meat is to be had as one of the cheapest articles of food a greater quantity of oats may be given. Wheat is the best all-round food, and with the waste of the farm, in conjunction with meat and the hot morning meal, and exercise, will bring an abundance of eggs.

TOULOUSE GEES

The Toulouse variety does not need very much water, except for drinking. They are excellent foragers, and are especially useful to drive on the wheat and oat stubble, as they will pick up grain that would otherwise be wasted, while the geese will do well and the young ones will grow like weeds. Where there is a large number it is necessary to keep them from the fresh pasture in the spring, as they nip the grass closer than any animal and pull up quite a lot by the roots, thus killing it. It has frequently been stated that cattle will not feed on pasturage that has been overrun with geese, but the writer has had geese ten or twelve years and has never seen any bad results from geese running on the same pasture with cattle. On waste land or swampy ground geese can be kept for a mere nothing, and as they bring a good price in the markets during the later months of the year they will pay well for what little trouble they were when young.

Both male and female should be very massive in proportions, with deep, perfectly divided double breast—or more properly speaking, bellies—nearly touching the ground and extending well in front, also back of the legs. In the female this double breast is not so much as in the male. This gives the bird when standing at ease a square appearance. The head and bill are very strong, joining with a curve, which imparts to the head a pleasing and uniform appearance. The throat is, or should be, somewhat developed or "deplapped." The color of the bill and feet is a dark orange; the head, neck, back and thighs are a dark-shaded brown-gray, the outer edge of each feather distinctly and boldly laced with a light, almost white, shade of gray. The breast is of the same color, but descending even lighter between the legs, from which to the tail is pure white. The tail is gray, with broad light gray or white edges. The wing-feathers are a very dark shade of gray.

I have seen in the different poultry journals quite a number of writers state that Toulouse geese are as a rule non-sitters, but wonderfully good layers; but my experience is that the Toulouse geese are extra good layers and also very good sitters after one year old, and make very good mothers, hardly ever losing a young one after hatched. As to their other qualities, the goslings are very strong and grow very fast, and if a good place is handy and there is plenty of grass they do not need any feed whatever, but of course will do better if fed well.—V. E. Josenhaus, in National Stockman and Farmer.

INQUIRIES ANSWERED

Lice on Cage-birds.—E. K., Oakdale, Wash., writes: "What shall I use on cage-birds to destroy lice?"

REPLY:—Dust them well into the feathers with Dalmatian insect-powder.

Brahmas.—E. J., Rockford, Ill., writes: "Is there any difference in the sizes of Dark and Light Brahmas when matured?"

REPLY:—The Light Brahma male should weigh about one pound more than the dark male.

Cockerels.—L. H., Knaustou, Kan., writes: "At what age should cockerels be used for breeding purposes?"

REPLY:—If of the Leghorn, Hamburg, or other small breeds, the age of six months will answer, but cockerels of the large breeds should not be less than ten months old.

Indigestion.—S., West Newton, Mass., writes: "What is the cause of my hens dying? They have full crops, but seem to spin around until they die."

REPLY:—You should have given mode of management. Probably the cause is indigestion, due to overfeeding, close confinement and lack of grit.

Wild Geese.—W. M. M., Blount, Ala., writes: "I have a flock of half-wild geese. Eggs from the half-wild geese will not hatch. A half-wild gander and a tame goose will not give any better results. Is there a remedy?"

REPLY:—Your experience is the same as with many others. It seems that the first cross is a "hybrid," and sterile. The progeny of the Muscovy and common ducks also become sterile.

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WASTE-WATERS TURNED TO USE

[CONTINUED FROM PAGE 1 OF THIS ISSUE]

miles. This outlet has a carrying capacity of one hundred and fifty cubic feet of water each second of time.

The water stored in these reservoirs is taken from the river during the winter months and during the spring floods, when there is a supply of water over and above what can be used upon the irrigated lands. As a usual thing the winter flow is sufficient to fill the reservoirs. As already stated, the water is conveyed from the river to reservoir Number One through the company's main ditch, and from that distributed at will among the other reservoirs. Its discharge during the irrigating season, however, is a more interesting operation. It will be borne in mind that the reservoirs, all being upon a lower level than the main ditch, the water stored in them cannot be discharged into the ditch. Consequently, the water is utilized by means of a system of exchange with ditches lying below the level of the reservoirs and having prior rights to water from the river. Sometimes the exchange is made direct, but usually it is made with the river. The outlet of the reservoir system of the Water Supply and Storage Company crosses by means of a flume the Larimer and Weld ditch, a larger ditch even than the Larimer county, and having an older appropriation. At the point of intersection there is a measuring-weir, and when it is convenient for the Larimer and Weld ditch to take water at that point the reservoir water is exchanged with it, and the Larimer county is allowed to take an equal amount from the river that would otherwise go to the Larimer and Weld. But as a general thing the reservoir discharge is run through to the river, and the exchange is made with the older Greeley ditches, whose head-gates are below the point where the reservoir water is discharged into the river. The exchange is made under the supervision of the water commissioner of the district, who is in constant communication with all the irrigating-ditches during the season by means of an extensive telephone system.

An extensive system of storage reservoirs has also been constructed in connection with the Larimer and Weld ditch. Two large reservoirs, each with a capacity of six hundred million cubic feet of water, are already in operation. Terry lake, the first of these, is situated two miles north of the city of Fort Collins, Colorado. The site of this was originally a dry depression, but as irrigation in the immediate neighborhood increased it began to fill from seepage, but for years it was a very small body of water. One day, however, one of the reservoirs of the Water Supply and Storage Company lying above it burst its dam, and a large volume of water came down and very materially enlarged it. The first to utilize it as a storage reservoir was a company of Weld-county farmers owning lands under Larimer and Weld ditch. They proceeded to incorporate and secure the land covered by Terry lake, with a considerable area adjoining for enlargement purposes. The lower side of the lake was inclosed by a long ridge. This the company proceeded to raise by extensive diking. An outlet was secured by a cut twenty-five feet deep, the inside of the bank around the outlet being strengthened by a heavy, cut-stone retaining-wall, and the interior of the dike was ripped with heavy rubble. In all there is an entire mile of diking from six to ten feet high. The outlet is effected by two thirty-inch parallel tubes built of stone and cement. These tubes are one hundred and twenty-five feet in length. An intake of similar construction one hundred and fifty feet in length extends into the lake. The outlet is only a few rods above the north bank of the main ditch, so that all water taken from the reservoir is discharged directly, and the necessity of exchange is avoided. The company's first source of supply was a small creek known as Dry creek, formed principally from seepage from adjoining lands, which was dammed and the water turned into the lake. This source proved to be inadequate, however, and shares were bought in the Jackson and Little Cache la Poudre ditches—small ditches, but having valuable water rights by reason of their early priority. The water thus secured was conveyed by laterals into Dry creek, and thence into the lake. Thus was secured an adequate supply, and the reservoir has for the past few years been operated to its full capacity.

The second reservoir connected with the Larimer and Weld ditch is the Windsor reservoir, twelve miles east of Fort Collins. It is about equal in size to Terry lake reservoir, and similar in construction.

THE BOY ON THE FARM

No. 4

It is generally thought that a farm-hand receives the lowest wages of all classes of unskilled laborers; but in considering this point one must remember the true standard is the amount saved in a given time, not the gross amount received. The farm-hand usually works for a certain monthly cash price, and also receives board, and in many cases mending and washing. He has steady work the year around; his necessary expenses are light, as he wears cheap clothes, and is not in position to be tempted to spend much money simply for amusement. Not one of these conditions exists with the unskilled laborer in the city. I do not want to be misunderstood in my use of the term "unskilled," for a good farm-hand must be skilled in farm-work, but he belongs to the class called in the commercial world the unskilled. For these reasons, at the end of the year the average farm-hand has saved more money than the city laborer of the same class, though perhaps he has worked nearly twice as many hours.

The boy who does not have work to perform the year around is not often found on the farm; and this is one of the principal things which make him dissatisfied. He thinks he is subjected to an unreasonable hardship, and chafes under the restraint. I don't expect any boy will agree with me in the following sentence, for I would not have done it at his age myself, but he will agree with me in ten or fifteen years. The work which keeps him at home, and which he is compelled to do, is the best thing that could happen to any boy. It gets him accustomed to work and to know that he must work.

Usually the farm boy attends the district school in winter. If he has the right stuff in him he will soon enter the village school, where he finds himself behind those of his age. But school means business to him; he has a foundation to work upon, and while not so quick and sparkling as the village youth, he is the better thinker, and ultimately leads in those classes where hard intellectual work is required.

Even before he enters the village school he can be well informed. First he should read and put into practice the material in some good farm paper. He can get one of these papers for fifty cents a year. Next a dollar should be invested in a good, clean, city weekly newspaper. This is better for him than a daily containing too much stuff simply to fill up. He will get all important matter in the weekly, and get it soon enough, too. Another dollar I would advise him to put in a good monthly magazine. To-day there are several good magazines containing first-class articles on science, history, theology and fiction published at that price. But there are also magazines at this price filled simply with trash, so he must investigate before he subscribes. He can't afford to spend what little time he has on anything poor. Not one farm boy in a thousand has an encyclopedia to use, and in most cases he would not use it to advantage if he had it, for too much matter would be given.

Thus with a small investment he will get reading matter which will furnish him valuable material to think over while at his work. In one respect he is fortunate in the nature of his work, which in most cases is routine, so that he can do it involuntarily, leaving his mind free to act upon something different. And the boy who, as he does his work, is thinking about some article he has read, some question that has come to him, or perhaps trying to explain to himself some political, commercial or scientific problem which has been suggested by his reading, has not neglected his work, is strengthening his mind and laying away material for future use; and what will appeal to every boy—he had made the day seem shorter.

In this way he is giving himself a general training, and when he reaches a suitable age to know what he can make of himself he finds he has a good working foundation for the special training of the life-work chosen. And even while on the farm he can choose his reading and thought along the special line of work, and thus begin his special training. And should he decide to remain on the farm, he has a mind which will make him a better farmer.

Having had more than ten years' intimate association in an educational way with boys born and raised on and off the farm, I say without any hesitation, that so far as mental powers, solid foundation for any business or profession and general character are concerned, I would prefer the chances of the boy who spent the first fifteen years of his life on a farm where he had to work hard, rather than of the boy who has spent the same period of his life in the average city or village home.

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QUERIES

READ THIS NOTICE

Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Drilling Glass.—P. B., Thayer, Kan., wants to know how to put a hole through glass.

REPLY:—The best way is with a diamond drill. It can be done with a hard steel drill with a spear-shaped point. Keep the drill wet with a saturated solution of camphor in spirits of turpentine, and work it as if you were boring through wood.

Wire-fence Tool.—A. S., Richmond, Ind. Get from your hardware dealer the Russell staple-puller and wire-splier. This handy implement, illustrated by the accompanying cut, is a combination of six tools in one, made especially for doing the various things neces-



sary in building, repairing or removing wire-fences—driving staples, pulling staples, cutting wire, splicing wire, tightening wire, etc. As hammer, plier and monkey-wrench this steel tool can be used for many other purposes.

Canada Thistle.—A. S., Cynthia, Ky., writes: "Please describe the Canada thistle."

REPLY:—The accompanying illustration will give you a better idea of the Canada, or Cursed, thistle than a description in words. It is a deep-rooted perennial, propagated both by seeds and rootstocks. The latter spread



CANADA THISTLE

out horizontally several inches below the surface of the ground, and send up numerous branches to the surface, where radical leaves are developed the first year, and the flowering plant the second year. The numerous heads are small—one half to two thirds of an inch in diameter. The flowers are lilac-purple.

VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Veterinary queries should be sent directly to DR. H. J. DETMERS, 1315 Nell Avenue, Columbus, Ohio.

NOTE:—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

Paraplegia.—W. W. M., Spragne, Wash. What you describe is a case of paraplegia, and incurable.

A Female Dog.—E. E., La Plata, Mo. If you do not wish your female dog to have pups, and do not want to be annoyed by dogs, shut her up in the garret while she is in heat, and the dogs will not be apt to come.

Pink-eye in Stock (?).—L. C. F., Featherston, Ind. Instead of describing the disease in regard to which you desire information you simply ask for a remedy for "pink-eye in stock." How shall I know whether you mean a certain disease of horses sometimes called pink-eye by farmers, or an infectious eye disease of cattle by some likewise called pink-eye. Besides this, such pop-

ular names are often applied to entirely different diseases in different regions.

Probably Old Age and Defective Teeth.—W. W. K., Mt. Vernon, Ohio. All that can be learned from your description is that your cow suffers from old age and has defective teeth (molars). It is possible that it is only one or two diseased molars producing the toothache and causing her to drop her partially masticated food. Examine the teeth, and if you find only one or two diseased have them pulled out. It may be that your cow is also otherwise diseased, but your description does not show it.

Some Worm Disease of Sheep.—D. O. C., Queen City, Mo., and G. S. D., Rowlesburg, W. Va. The symptoms you describe are such as occur in the last stage of worm diseases, but it does not proceed from your descriptions whether the sickness of your sheep is caused by intestinal worms or by liver-flukes (Distomum hepaticum, or, possibly, some other Distomum). A post-mortem examination of the first one that dies or of any one too sick to live—and there will be more than enough of them—will at once decide the question.

Probably Severely Bruised.—G. L., Jordan, N. Y. It appears from your description that your horse when over the partition with the hind quarters became severely bruised not only in the flanks, but also in other parts of the body. Not knowing what changes the bruised tissues may have undergone I can only advise you to give the horse strict rest until fully recovered, and to employ a veterinarian if you desire to apply medicines, and not to cause the suffering animal unnecessary pain and irritation by applying sharp and irritating drugs.

Weak in Hind Quarters.—W. H. W., Republic, Kan. You probably never read the answers given in the veterinary columns, because questions like yours about partial paralysis, or weakness in the hind quarters, of pigs have been answered in at least every other number. Change the diet of your pigs, stop feeding sour slop, and feed hone and muscle producing food sufficiently rich in nitrogenous compounds, phosphates and lime salts, for instance, clover, ground oats and bran instead of shorts, provided, of course, your pigs are not otherwise diseased and the weakness is only a symptom of some other infectious disease.

Bloody Milk.—E. L., Independence, W. Va. Bloody milk, as I have repeatedly explained in these columns, may be produced by a variety of causes. In your case the cause, it seems, consists in a chronic congestion of the mammary glands. In the first place your cow was bred altogether too young, and secondly, although you do not say so, I have no doubt that the milk production is inordinately forced by feeding the animal with the most milk-producing food, keeping her in a warm and perhaps damp place, and depriving her of the exercise so much needed by such a young animal. Change all this, keep the cow on a light diet, good hay, for instance, and make her as dry as soon as it will be safe to do so, and you will have a good cow for many years.

Possibly a Case of Hydrocele.—M. C. J., Cooper, Okla. What you describe may be a case of hydrocele (an accumulation of fluid in the scrotum). At any rate the fluctuation in the size of the scrotum points that way. If it is an intestinal hernia, it is true the same symptoms which you describe might to a limited extent also be observed. A careful examination through the rectum will reveal the true condition. Besides this, in hydrocele the enlargement of the scrotum is all at the bottom, while in a case of intestinal hernia the enlargement would be higher up and most of it at the side of the spermatic cord. An intestinal hernia can be removed by a surgical operation, but the latter will necessitate the removal of the testicle.

Chronic Diarrhea—Lice on Calves.—W. R. M., Oxford, N. Y. The chronic diarrhea of your seven-year-old Jersey cow having lasted all summer is most likely the product of the last or so-called cachectic stage of some chronic disease. As the cow is a Jersey, loses flesh and eats well, but does not cough, this disease possibly may be pearly tuberculosis, a disease which has its principal seat on the serous membranes, especially of the abdominal cavity, and does not necessarily affect the lungs. This, however, is only a suspicion, because other morbid processes, although more apt to seriously disturb the appetite, are also able to produce a similar cachectic condition. Let your veterinarian make a careful examination.—Concerning the lousy calves, give them first a good wash with soap and warm water, and then with a four or five per cent solution of creolin in warm water; once cleaned, keep them clean, and feed liberally with good and nutritious food.

Sore Gums and Swollen Legs.—J. H. B., Galva, Okla. It is very well possible that the tough (and probably hard) grass on the range caused the sores in the gums of your calf, and also caused sores on the lower extremities, but particularly between the hoofs, and thus the swelling and the stiffness of the legs. The sores on the feet and between the hoofs may have escaped your

observation, but I have no doubt you will find them if you make a close examination. As you have already changed the diet of the calf the sores in the gums will probably have healed when this reaches you. If they have not, keep the animal on soft food, continue the use of boracic acid, or wash the sores with a solution of alum. As to the feet, dress the sores twice a day with a mixture composed of liquid subacetate of lead, one part, and olive-oil, three parts. Yes, there is a specific disease which presents symptoms similar to those you describe. It is very contagious and known as foot and mouth disease. But this is not what ails your calf, because if it were all your other cattle would likewise have it, and besides this, it would not remain limited to your herd, but spread in every direction.

Coughs and Knuckles Over.—A. B. W., Ionia, Mich. It seems that your mare suffers from a complication of ailments. The statement of yours that she coughs and appears to be lazy or has lost her ambition does not indicate the nature of the disease that causes her to cough, because these symptoms are attendants of nearly every disorder of the respiratory organs, and therefore not characteristic of any. As to the knuckling over (unsteadiness in the pastern-joints), it is usually due to a relaxation of the ligaments of that joint, and most frequently makes its appearance in overworked young or weak horses, particularly if too much weight has been thrown upon the flexor tendons and suspensory ligament by cutting away the quarters and allowing the toe of the hoofs to grow too long. It may also be caused by a general weakness or relaxation, which, possibly, is the cause in your case, because you say your mare has not been shod behind during the last three years, and therefore defective shoeing cannot be accused as a cause. As you value your mare very highly you will probably not mind the expense incurred by having her examined by a competent veterinarian, which to do is the best advice I can give you.

Cow Throws Up Her Food.—F. U., Dickey, Idaho. You say that your cow every three or four days throws up her food, and probably mean that your cow vomits every three or four days. The usual cause of vomiting in cows consists in an overloading of the stomachs, paunch especially, with too much voluminous food, or else in an inflammatory condition of the mucous membrane of that organ, produced by sharp, irritating or poisonous food. In either case the remedy consists in removing the causes and to feed moderate quantities of only such food as is digestible, sufficiently nutritious and neither sharp and irritating nor poisonous. In some comparatively rare cases a periodical throwing up of the food, but not real vomiting, may be produced by the existence of a verticle (pocket) in the esophagus, caused by a rupture of the outer coat of the esophagus, thus enabling the mucous membrane to bulge out and to form a sack or pocket outside of the rent; but in such a case the throwing up of the food is always preceded by considerable difficulty of breathing, which immediately disappears as soon as the sack or verticle has been emptied. If the latter is situated in the neck portion of the esophagus it can be removed by a surgical operation, but if situated in the chest portion the operation is out of the question.

Snotty Sheep.—W. S. W., Russell, Ala. Such a discharge from the nose of sheep may have several causes. So, for instance, it may be produced by an infectious malignant catarrh peculiar to sheep, which usually becomes chronic, and then, as a rule, fatal; further, by the presence of lung-worms (Strongylus filaria and others) and also by the presence of the larvae (so-called grubs) of oestrus ovis in the nasal cavities, frontal sinuses and ethmoid bones. Unless a competent veterinarian, familiar with the diseases of sheep is available, can make a careful examination and thus secure the diagnosis I deem it advisable to make a careful post-mortem examination of the first one that dies or of the sickest one in the flock. If it is found that the first-named disease, which is claimed to be contagious by good authorities, is at the bottom of the trouble, all the sheep yet healthy should at once be separated from the diseased ones; if it is found that lung-worms in the finer ramifications of the bronchial tubes constitute the cause, all low and wet places, and all pools, etc., containing stagnant water should be excluded from the sheep-range; and if it is found that so-called "grubs in the head" are doing the damage, the sheep next summer should not be permitted to graze where the flies (oestrus ovis) are present, or else the tactics of German shepherds may be followed, who put some tar on the borders of the nostrils of the sheep if they find it impossible to avoid such places. As to treatment, a correct diagnosis is not so very material, because in all three diseases mentioned a treatment consisting in good care, giving nutritious food and some tonics, for instance, some sulphate of iron and some bitter roots and herbs in the shape of a lick for the purpose of upholding the resistibility of the animal, can be of any avail only if the disease is not severe, and if the worms or the grubs, as the case may be, are not present in large numbers.

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A RUSTIC NOBLEMAN

By Mattie Dyer Britts

CHAPTER I.

"A FARMER LAD CAME WOOLING ME!"

With happy youth and love content,
So sweet and stately on she went;
Green be the pasture where she treads,
Fair shine the blue that o'er her spreads,
The maiden with the milking-pail.

—Jean Ingelow.



"O, BOSS! Co, boss! Co! Co! Co!"

The pretty call rang through the green depths of the big woods pasture, where the long, fragrant grass waved in the evening breeze and the giant holes of the grand old trees stood like solid columns of bronze in the deep golden light of the sunshine of a beautiful June evening.

One driving up the road would have seen a large, old-fashioned farm-house painted white, with green blinds at the windows, and a big yard in front, through which a brick walk bordered with glowing flowers led down to the gate. Many fine old trees stood about in the rich, short grass, and the wide old porches were overrun with climbing roses, now in their richest bloom and perfume. At the windows hung dainty, white-fringed curtains over green shades, which carried out the harmony of the delightful rural picture as far as the house was concerned.

All around were spacious barns, comfortable sheds, poultry-houses and yards, and a huge vegetable-garden just at the back of the house, while a tall wind-pump calmly overlooked the whole.

So charming an air of homely, substantial comfort was over the entire scene that the passer-by was wont to remark, with a pleased smile, "This man knows how to live," even before his eye had gone onward to the broad acres of waving corn and wheat, the great orchards now one mass of bloom and beauty, or to the plump sheep and cattle lazily hrowsing on the hills and in the smooth pastures.

But while we have described her home we have left the pretty milkmaid standing at the bars, shading her eyes with a dimpled hand—not the whitest or softest in the world, but well-shaped and comely in spite of its daily toil—her cheery call ringing over the blue-grass as she watched the patient herd come slowly down the creek lane until they reached the bars. One after another she let them pass in, then fastened the bars again and sat down to her task.

It was not usual for her to do it alone, but father had not come from town yet, and Aunt Kizzy was busy getting supper, so Milly went from one to the other, deftly bringing the white stream falling with a musical tinkle into the shiny pail, until all four were milked, and she took up the two heavy pails to carry them to the house.

Mildred Dayton would have made a pretty study for an artist as she stood ready to open the gate that June evening. She wore the simplest dress in the world—only a dark blue calico—and a light blue gingham sunbonnet on her head, but the flush of youth and health shone in her bright eyes, her round, rosy cheeks and shapely form, and no one could blame the young farmer who came up the lane from the creek that he stopped and stood watching her with eyes that were almost sad with longing. But when she began to pick up her pails he came forward hastily.

"Here, Milly, let me do that for you. Where is everybody that you are out here all alone?"

"Father's in town, and Aunt Kizzy was late with supper; that's all. I don't mind the milking, Joe. What are you going to do?" For he had taken up the heavy pails of foamy milk and placed them on a wide board shelf or table which was made just beside the gate for that very purpose.

"Let the milk wait a minute, Milly; it won't be hurt. I'll carry it up for you presently. I want to say something first."

"Well, say ahead, Joe. What is it?"

Joe Haywood was a strong contrast to the beautiful girl as he stood looking at her. Not a richer, truer heart beat in a man's bosom on earth than beat under his homespun coat, but not a man in the world had a plainer body in which to carry a heart of gold. Everybody wondered why the prettiest girl in the county should choose the plainest man in it for her beau, and most of them felt sorry for Joe Haywood. Plain hardly tells it all. His face was plain, his clothes were plain, his manners were plain, his speech was plain. If he had been named Plain Joe, and written down that way in the big Bible, nobody would have thought strange of it. Joe's father had been almost as plain and as good in his day, but Farmer John Haywood had long since been gathered to his Father's, and his son lived with his mother on the old home farm. But Joe had made enough money to buy a farm of his own and build a pretty house, now almost finished, on it. People "guessed" (you know they will be interested in each other in a country neighborhood) that when Joe and Milly got married they would live in the new house, for it was well known that the younger daughter, away out in Kansas, was coming in the fall to live on her mother's farm, and of course that meant something.

Those who said so were wiser than Joe thus far. He knew what he hoped and intended, but what Milly would do was beyond any man's power to predict. Something he had heard that very day brought Joe from his own fields to speak to her out there alone in the pasture. He stood silently looking at her until she repeated her question, "What is it?" Then he roused himself.

"Milly, I was in town this morning."

"Yes? Well, anything new up?"

"I heard something that was certainly new to me, Milly."

"Do you want to tell me about it?"

"Yes."

Joe stood silent again, leaning on the old gate and watching her as if he was deeply moved over some subject. Milly waited a moment, then said, impatiently:

"For goodness' sake, boy, why don't you say what you mean to? That is, if you mean to say anything."

"Forgive me, Milly; I know I seem very stupid, but—" Another pause. "Milly, I actually heard that you are going over to Hampton to—be a clerk in a dry-goods store!"

Milly broke into a merry laugh.



"Co, Boss! Co, Boss! Co! Co! Co!"

"Well, is that such an awful thing that you look so glum?"

Joe sighed.

"If it is true, Milly, it is an awful thing to me. But I can't believe it. Tell me, dear, there's nothing in it, is there?"

Milly fidgeted with the gate-latch, and did not reply for a moment. Then, as Joe stood silently, she said:

"I hope there will be considerable in it for me."

"Milly! It is true, then?"

"It is true, Joe."

"Are you really going to leave your free, happy country home, where you do as you please, come and go when you please, and have your own will and way in general, to tie yourself down to a stuffy, musty, dusty store, where—"

Milly looked up with a defiant little laugh and interrupted him:

"No, sir. I am going to take a place in the elegant dry-goods palace of Osborne & Smith, and live like a lady instead of like the milkmaid I am to-day!"

"Milly, what possesses you?"

"Now that's just what Aunt Kizzy says. I will tell you both, and anybody else who cares to know, I am tired—tired, do you hear?—to death of this humdrum country life. I want to see a little of the world, enjoy society and mix with the busy throng a little before—before—"

She stopped suddenly, blushing rosy. Joe came a step nearer, took her arm and gently turned her so that she could look over the hills across the creek, where lay his own thrifty farm.

"Milly, do you see that new house almost ready for the painters to begin work?"

"Of course I do, Joe."

"You know whose it is?"

"Yours, to be sure."

"And yours, too, I hope, Milly. Do you not understand the hope with which I have planned and built that dear little home? Oh, Milly, you do know—you do!"

His face might still be plain, but his tone was eager and excited, and Milly could not help trembling as she answered, softly:

"Yes, I know, Joe."

He caught both her hands in a tight clasp, and went on in firm, deep tones:

"Oh, my little love, my darling, you won't disappoint my hope! You won't ruin all my life and break my heart!"

"I don't want to do that, Joe," she said, softly, as before.

"Then give up this wild plan, my dearest. Oh, listen, Milly, darling! I did not mean to ask you right out to marry me until I could say to you that your new home was all ready for you. I thought I would be so proud and happy when I could do that, Milly. And I thought, too—I hoped that you would say yes."

"Well, I—will, maybe, some day, Joe."

"Some day? Oh, Milly, I feel, I do feel that if you go off there I shall lose you forever! Milly, child, a clerk's life isn't what you fancy it to be. It's a hard, drudging, tiresome life, and you wouldn't stand it one year."

"Perhaps I won't care to stand it longer than that. I don't mean to stay forever if I go."

"Is your father willing, and your Aunt Kizzy?"

"No, I can't say they are."

"Surely you won't go without their consent?"

"Father has consented; it don't make much

"Then there is no use saying any more now, only this—you will give me your promise, darling? You will be mine when you feel that you can give yourself to me?"

"Yes, I will promise that, Joe, and be true to my word. Oh, I wish you were going to Hampton, too."

"My place is here, making a home for you, and for mother until you come to the new one. God bless my little darling!"

He took her once more in his strong embrace and pressed his first kiss on her sweet mouth. Then she spoke softly:

"Joe, Aunt Kizzy will presently be coming to see what has become of me."

"So she will. I'll carry your milk for you, dear little girl."

One more kiss, and he went with her to the clean, sweet milk-house down by the cool spring behind the house, setting the brimming pails on the well-scoured table before he hid her good-night. Aunt Kizzy came hurrying down from the porch to strain the milk.

"Well, why didn't you stay all night?" was her brusque greeting. "Who was that—Joe Haywood?"

"Yes. He came down to see me a minute, and we got to talking and stayed too long."

"I should say so! The cream is all rizz on the milk. Here, let me have them pans. I reckon he didn't talk you out o' your fool notion, did he?"

"No, he didn't, Aunt Kizzy."

"Of course not! You're setter'n an old hen once you get a notion in your head. I never see such a girl. There, now, come in to supper. Your pa's come, and them light biscuits'll all be spilt, waiting so long."

Miss Kizzy bustled out, and Milly followed her, stopping at the pump to wash her hands. She was not troubled by Aunt Kizzy's sharp tones and abrupt manner, for she knew very well that the good woman's heart was better than her tongue, and that she herself was the chief pet and pride of her aunt's heart.

In a moment more she was in the cheerful, lighted kitchen, sitting in her place at the table. Surely never was cream so rich, coffee so clear, butter so golden, rolls so light, ham so sweet and juicy, to say nothing of the ruby strawberries picked by her own hands that afternoon. But Milly could eat little. Her mind was too full of new thoughts of her betrothal, her city plans, her new hopes, to allow of either eating or sleeping.

And so, long after the rest of the little household was locked in quiet slumber, she sat on the floor beside the open window, gazing out into the moonlight flooding hill and stream, listening to the sweet strain of a lonely nightingale in the woodland depths, and dreaming maiden dreams, not all of love, but of the gay scenes in which she meant to have a part ere long.

CHAPTER II.

"A WILFUL MAID HAS HER WAY"

If lasting happiness we prize,
Within our hearts this jewel lies,
And we are fools who roam;
The world has nothing to bestow,
From our own selves our joys must flow,
And that dear place our home.

—Cotton.

"Well, there, I reckon it's all ready to go." Aunt Kizzy raised herself from the trunk she had been packing, and called Milly from a closet where she was putting away certain dresses she did not intend taking to Hampton with her. "You better come here, Milly Ann, and set down on this pesky thing. I can't get it locked no way."

Good as she was, Aunt Kizzy could, upon occasion, be rather provoking, and when she wanted particularly to aggravate her niece she called her "Milly Ann." Mildred Annette was her real name, but nobody ever used her middle one except Aunt Kizzy, and she only now and then. Milly heard her this time, and if it had not been for the importance of the occasion in her own eyes she would have given a spicy reply. But just now Milly was too eager to be off on her journey to allow anything to fret her much; so as soon as she could get out of the closet she went back into her room—the dear old room she was leaving for so long—and said, good-naturedly:

"I can leave some of the things if it is too full, aunty."

"I reckon you'll need 'em all." And Miss Kizzy gave the top of the trunk an extra pull. "Here, just you set down on it, then we'll see what can be done. If we can't do it maybe your father can."

Milly perched herself on the lid, and together they pulled and pushed until the refractory lock came together with a hump which tumbled Milly on the floor and nearly threw Miss Kizzy backward just as she exclaimed, "There; it's done at last!"

"Yes, I rather think it is," said Milly, laughingly picking herself up, not hurt in the least. "Better let father strap it, aunty. We have had about enough of it, haven't we?"

"I reckon so, child. I reckon something else, too; that is, that you'll find out you've got enough o' that old town afore long. If you don't I miss my guess. Look here, Milly Ann, there's one question I'd like to ask you."

"Ask it," said Milly, frowning slightly, but determined not to go away cross.

"Are you going to let some o' them fine popinjays up there turn you against the honest country boy who has followed you ever since you was a mere baby?"

"No, Aunt Kizzy; I don't intend any such thing. But Joe isn't the only man in the world; I'm not tied to him for life—yet."

"No, you ain't. More's the pity, say I. Joe mayn't be so handsome as some you'll see, but 'handsome is as handsome does' my mother used to tell me, and judging by that he's as good-lookin'

difference about Aunt Kizzy. Father says if I am so resolved to try it he will not oppose me, though he had much rather I stayed at home."

Joe held the small hands tighter and pleaded with her again.

"Do stay, Milly! Please give it up and listen to those who love you so dearly. I may not be a handsome fellow—"

Milly suddenly interrupted him:

"But you are good, Joe, and that is better than handsome. You are too good for me."

"No, Milly, not half good enough," he answered, as he drew her close within his arms. "But I love you faithfully, with a love that will never fail you, never disappoint you or seek anything but your best happiness. I have a nice home waiting for you, and my mother loves you as a daughter already. Come to us, Milly, dear, won't you?"

"Some day, Joe; some day."

"And not now, my sweet?"

She shook her head, touched by the disappointment in his voice.

"Dear Joe, I can't."

"Nothing but your own will prevents you, child."

"Oh, I don't know. I tell you I must and will see something of the world before I settle down to a humdrum country life, making butter, raising chickens—bah! it makes me sick to think of it. Joe, if I came to you now feeling as I do I should not be happy or make you happy. Wait. Let me go and do as I wish. I will go, you see; my mind is quite made up."

Joe released her with another sigh.

as any of 'em. He's showed himself able to get a home for you; they can't all say that, I tell you."

"Aunt Kizzy, you don't know a thing about town folks. You ought not to give such strong opinions," said Milly, with some spirit.

"Oh, don't-I?" retorted Miss Kizzy. "Well, just let me tell you, Milly Ann Dayton, that I have not always been in the country, and that when I was young I lived in a bigger city for more'n three years than you've ever seen. And I didn't like it no better'n I like this good old farm, either. I don't doubt you'll see handsomer fellows, as I said, than poor homely Joe; but I can tell you, miss, that it's a good thing for a man sometimes if he is plain. A plain man is like a plain woman—he isn't as apt to do things to bring reproach upon him as them that has more beauty. You just take my advice and look for something deeper than good looks; that's all I've got to say."

"Well, aunt, I thank you for your good advice, and I have not the slightest fear but that I shall be able to take care of myself in all places."

"Yes, that's what the disobedient duck in the story said, but he got gobbled up all the same. Now I'll go down and bury up dinner, so's your pa can take you to town in good time for the train. Land! I wonder if you'll live to come back again."

Miss Kizzy went off with a groan of despair, and Milly, who was brushing out her long, thick hair before the mirror, threw down her brush and gave her small foot an impatient stamp.

"Good gracious! It's enough to make a saint mad. They talk and act as if I was going over the ocean instead of only to a small city not more than fifty miles away. Bah! How silly folks can be when they try!"

And it never once occurred to Milly to wonder if she was at all silly herself, in that she would

Have her way,
Let who will say nay.

Her position in Osborne & Smith's was already engaged, and she was to be there that day to begin her work; or rather she could only get ready to begin it, as the train left Forestville at one o'clock, reaching Hampton a few minutes before three in the afternoon. They were to have an early dinner, in order that Mr. Dayton might drive Milly over to the village in good season, and Miss Kizzy was not so out of patience with her niece but what she exerted herself to have everything nice.

"Now eat plenty of this fried chicken, child," said she. "There's no tellin' when you'll get any good home grub again. They do 'most starve folks in them town boardin'-houses. Have another saucer o' peas? And take a baked apple, with lots o' cream on it. Put more cream in your coffee; you won't get country cream up there—chalk and water, more like. Oh, dear me! To think that folks can't be satisfied in a good home, but must go gallyvanting all over the country. Sakes alive! If you was my girl I'd see."

"I am your girl, dear aunt, for you have been all the mother I can ever remember, and you mustn't scold me, but give me a pleasaunt good-by," answered Milly, keeping back her own tears with difficulty.

Miss Kizzy didn't try, but burst out crying, saying between her sobs:

"Lord forgive me, I won't scold any more, child! Only I just know you won't come back so blooming and bright, and it 'most kills me to let you go."

"There, there, Kizzy, don't upset the child so," said Mr. Dayton, gently; but he arose at once himself and went to the barn to get his team, with his dinner unfinished, and Milly knew that he, too, felt her going deeply.

Joe was at the village station to see her off, and his last words as he put her in the car were:

"You won't forget your plain old Joe, darling?"

"I won't, Joe—never!" And just then Milly almost wished she had not determined to go at all, and realized all she was leaving so needlessly.

Mr. Dayton had wished to go up to Hampton with her, but Milly said no. "If I am going to try the world for myself I may as well begin it by myself, and not depend upon anybody. I don't want an escort."

"I suppose that includes me, too?" said Joe, who was present when she declared herself.

"Yes, sir, that means you, too. You may come to see me when I get settled, but I don't need you now."

When she reached Hampton, a large, thriving town which delighted to call itself a city, she went directly to the store. They had always been accustomed to come over to Hampton for any very particular purchases which could not be made in Forestville, and so she had been there many times before, and had now a slight acquaintance with Mr. Osborne, the junior partner. Mr. Smith was the buyer and outside manager, and Mr. Osborne the inside man.

Mr. Osborne received her very kindly, and calling a pretty, bright-eyed girl from the ribbon department introduced her as Miss Jenny Hartman, saying to her:

"Miss Dayton will assist in your department, Miss Jenny. You can take her there and show her what her work will be."

"Yes, sir; I will, with pleasure," said Jenny, with a smile at Milly, with whom she had fallen in love at first glance. "Come, Miss Dayton."

"You will not be expected to begin work until to-morrow morning," added Mr. Osborne. "You will require a little time to get settled. By the way, have you a boarding-place yet?"

"No, sir, I have not," answered Milly. "I thought I would attend to that the first thing."

"H—m—m. yes," replied Mr. Osborne. "I pay my girls wages sufficient to enable them to live in respectable places, and I can tell you, young lady, that all employers do not. I don't think of any house to which to send you just now. Miss Hartman, you heard with the Misses Crane, I believe?"

"Yes, sir, I do."

"Do you happen to know whether they would have room for Miss Dayton or not?"

"I can't say for certain, Mr. Osborne, but—yes, I believe I can, too. Miss Cassity, the trimmer in Slocum's millinery-house, left this week and no one is in her room yet. I dare say Miss Dayton could have it."

"Very well. Tell Mr. Hornbeck that I excuse you half an hour early this evening, and take Miss Dayton down with you. I'll see you again in the morning."

The last was spoken to Milly, who then followed Jenny Hartman to the ribbon and silk department, and was assigned her post by Mr. Hornbeck, the floor-walker. While they were talking a handsome blond young fellow went by with his arms full of lace curtains, and Milly saw that he gave her a keen glance.

"My, what a good-looking young man!" was her thought. "He must be a clerk in the drapery-room."

But she said nothing; neither did Jenny, who, when she was not busy waiting on customers, explained to Milly what her duties would be and showed her the mystery of cost and price marks with great good-nature.

"I know you'll need showing at first," said Jenny, "for I had an awful time when I came in. Miss Broderick, the other lady at our counter then, was a crabbed old maid, and wouldn't tell a body anything. I had to learn by blunders and experience."

"I dare say I shall make blunders enough," said Milly. "I am very much obliged to you for taking the trouble to teach me."

"Don't mention it. I am sure we shall be the best of friends, and I am glad to help you all I can."

The store closed at six o'clock in summer. At half-past five Mr. Hornbeck told Miss Hartman and Milly they could go.

"We'll go right to the house, and if the Crane ladies can take you we can telephone to the station—No, we can't; you will have to give up your check. I suppose you have one?" said Jenny, as they walked along.

"Yes; I have it here," was Milly's reply.

"Then we will see the sisters first, and I'll go down with you to have your trunk sent up."

"The sisters? There are more than one, then?"

"Yes, two; twin sisters and old maids, but the nicest, dearest old ladies in the world. I tell you, girls who get in with them are lucky, as I happen to know. I was at the awfullest place before I came to their house. Not a decent thing to eat, and the beds—well, good taste won't allow me to say a word more! You'll be well taken care of at Cranes', Miss Dayton, and I'm bound to get you in there."

"I'm sure I hope I can get there," said Milly.

"Well, we shall soon see. We're almost there now."

In three minutes more they were going up the steps of a neat, old-fashioned house painted white, with green blinds, and giving Milly a homesick thought of the old farm-house far away.

Jenny led Milly into the old-fashioned parlor, saying:

"Wait a minute, and I'll find the ladies. They are always together—never do anything apart—so I'll bring them in."

Presently she came back, accompanied by two quite elderly ladies with silver-gray hair, silver-gray dresses exactly alike, and fair, serene faces so exactly alike that one must know them remarkably well to be able to tell which was Miss Molly and which Miss Polly, as Milly soon learned they were named.

"Miss Hartman tells us you wish to secure a room and board with us," said one of them to Milly, in a pleasant tone.

"Yes, ladies, I do very much desire to stay with you while I am in town. I have not brought references, but if you wish any I can easily get them."

"We never require any reference from anybody in Mr. Osborne's employ," was the mild answer. "Of course, to protect our nice girls we have to be a little particular with entire strangers who wish to remain any time. What do you say, Sister Polly?" and she turned to the other old lady.

"Can we take Miss Dayton?"

"I guess we can, if you say so, Molly. There is Miss Cassity's room. It is the only empty one, and a little high up, but if the young lady would like it she can have it at our usual terms."

"And those?" inquired Milly.

"Three fifty a week on that floor, the third one," said Miss Molly. "The rooms on the next floor below are five, and the first floor six a week. Would you like to see the room?"

"Yes, if you please," answered Milly.

"I want you to take it; it's just across the hall from mine," whispered Jenny, as they both followed the two old ladies up the stairway.

On the third floor they paused, and Miss Polly opened the door of a room on the left. Milly looked inside. Oh, how little it was! Not much larger than the little pantry back of the kitchen at home, and the roof sloped down on both sides until she could easily touch it with her hand. But it was daintily neat and clean. There was a blue-and-white matting on the floor, a maple bedstead in one corner, a small maple dresser and wash-stand, two wicker chairs, and a service of common white ware on the stand. But the curtains at the one window were fresh and white, and so was the simple spread and pillows on the bed, and Milly had sense enough to know that she must not expect luxuries at three dollars and fifty cents a week.

"I will take it," she said. "My trunk is at the station, but I will have it sent up right away."

"All right," said Miss Molly, who appeared to be the spokeswoman of the twins. "You will just about have time to see to it before supper."

"I'll go down with her," put in Jenny. "We will be back in good time, Miss Molly."

"Very well. Sister, will you see that fresh water is put in the pitcher, and clean towels brought up?"

"Yes, I'll attend to it," said Miss Polly; and all four went down-stairs together.

In half an hour the two girls had returned from the station and found the trunk already in the tiny chamber.

"Now you are at home," said Jenny, gaily. "To be sure, there isn't room to swing a cat, but Mr. Osborne was right about some girls not having places half as good."

"I don't happen to want to swing a cat," said Milly, laughingly. "But is it not very hot up here in warm weather?"

"Well, it can't be remarkably cool, you know; but being so high up we get all the breeze going, that's one good thing. Oh, by the way, we wait on ourselves up here. You will find water for both drinking and washing at the end of the hall out there. Now let's take off our things, and then I'll show you down to the dining-room to supper."

Jenny tripped into her own room, and Milly was alone in her new home.

[TO BE CONTINUED]

AUTUMN LEAVES

BY ADELBERT CLARK

A thousand tints of green and gold,
Of crimson, pink and red,
And all the color Nature yields
Drifts down from overhead.
The sumac stands a glowing flame
Beside the crystal pool,
And the woodbine trains its scarlet
Upon the waters cool.

The wind sweeps down the sunny lane,
And bears upon its breast
A million tints of gorgeous leaves
Borne by the wind's behest.
And all the world is sweet, I ween,
Where Jack Frost nips the nose,
And turns the leaves of emerald-green
To yellow, brown and rose.

The pale blue daisies by the wood
Are steaming with the dew,
Where once they waved in beauty rare
When summer days were new.
But Nature spreads her robes again,
Her veil the spider weaves,
And all along her winding path
Are scattered autumn leaves.

SMOKING BEFORE TOBACCO

There is some reason to think that people smoked before tobacco was introduced. In several old hooks of housewifery certain herbs named are to be "smoked," which means, perhaps, inhaling, as we should say; but the other signification is by no means impossible. A vast number of clay pipes have been found under conditions which seem to prove that they were deposited long before Raleigh's birth, and a pipe of early date is so utterly unlike the modern form that these could not have been dropped by laborers of the present day. At an antiquarian meeting many years ago an old gentleman told how his grandfather used to give him coppers for wading into the pool dam at Newcastle-under-Lyme to gather "buck-bane," which the veteran smoked to relieve asthma. That reminiscence carries us back a century and a half, and it is probable that "buck-bane" had been used for asthma "time out of mind." If people were already familiar with the practice of smoking herbs we should have an explanation of the astonishing rapidity with which they took to tobacco. It may be noticed that Cartier found the Indians of Hochelaga, on the St. Lawrence, smoking an herb, which we recognize from his description as lobelia, as well as tobacco. His sailors did not care for the latter, but the former met with their approval from the first, for it was "as good as drink" to them. The medicine-men smoked lobelia before prophesying, and under its effect they raved. Has this property of the weed been tested by the savages?—*London Evening Standard.*

TORTOISE-SHELL

What is called tortoise-shell is not the bony covering or shield of the turtle, but only the scales which cover it. These are thirteen in number, eight of them flat and five of them a little curved. A large turtle affords about eight pounds of them, varying from an eighth to a quarter of an inch in thickness. The fishers do not kill the turtles; did they do so they would in a few years exterminate them. When a turtle is caught they fasten him and cover his back with dry leaves or grass, to which they set fire. The heat causes the plates to separate at their joints; a large knife is then carefully inserted horizontally beneath them, and the scales lifted from the back.

HOW TO CUT PAPER

If you wish to cut paper into three or five equal parts, roll the sheet into a scroll until the ends meet twice; then mark the junction-point with finger-nail or pencil, and the sheet will be divided into three parts. If one fifth is desired, roll the paper four times. This is a simple trick, but everybody doesn't know it.—*Michigan Press Association Bulletin.*

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Physical exercise has been so much insisted upon recently in considering the best development of men and women that both theory and practice have been pushed to dangerous extremes.

Our remarks need not be confirmed in their application to those who go into what is called "professional training," but may be taken to heart by all who ride the wheel, play golf, excel in rowing, fencing, boxing, or go enthusiastically into any other sport or pastime involving great physical exertion.

The young woman who has applied her mind intensely to shorthand and type-writing for many consecutive hours is no sooner released from duty than, perhaps, she mounts her bicycle and goes for a long, hard spin, hoping thereby to fortify her body and limbs, strengthening her lungs and heart, and keep her system in robust working order.

The first thing to know on this subject of exercise is that rest must follow work. If you are mentally fatigued you may be sure that you are also physically fatigued; twenty minutes of sleep are worth more to you at such a time than two hours of the bicycle or the gymnasium.

No physiologist doubts that change from one sort of exercise to another, and the alternation of physical and mental occupations can be of the greatest recreative benefit when properly regulated.

SUPERSTITIONS OF NAVAJO INDIANS

The Navajo Indian has just as strong, and from his point of view just as good, reasons for abstaining from the use of fish as the good Jew has for eschewing pork.

THE leg of a perfectly formed man should be as long as the distance from the end of his nose to the tip of his fingers.

siderably taken aback when the Indian replied, "What are you angry about? Ten days ago I sold you the hind quarter of that beast, and you have since told me it was very good eating. What is the matter with the hide?"

Although there are plenty of hear in parts of the reservation, the Navajo will not kill one if he can avoid it, and never for food. No sum of money would tempt him to touch a dead bear, nor, for that matter, a live one.

Another idea no less singular is often encountered in traveling over the reservation. No Navajo will ever make a camp-fire of wood which came from a tree that was struck by lightning, or that might have been. If such a fire is made by an irreverent white man the Indians will retire to a considerable distance, where they cannot feel the heat or smell the smoke, and they will go to sleep in their blankets, fireless and supperless, rather than eat of food prepared on that kind of fire.

VENUS AND ITS MYSTERIES

The most beautiful planet, and the one that comes nearest to the earth, and most resembles the earth in size, is at the same time the most mysterious. Is Venus a living world or a dead one? That is to say, is it in a condition to support inhabitants, and is it probable that such inhabitants are there? Or, on the other hand, is it unsuited for their presence and barren of living forms?

These questions astronomers at present are unable to answer, but their efforts to answer them and the observations that they have made of the mysterious planet possess an almost startling interest.

First let us briefly recall what Venus is. It is a globe like our earth, and of very nearly the same magnitude, having a diameter of about 7,700 miles, while that of the earth is a little more than 7,900 miles. So nearly of the same size are the two planets that if we could view them from an equal distance we should be unable without the aid of instruments to detect any difference between them.

But this planet, so like the earth in many respects, is very different from our globe in its situation. The earth's distance from the sun is 93,000,000 miles; the distance of Venus from the sun is 67,000,000 miles. This difference becomes a matter of great importance when we consider the effect which the sun produces upon the two planets. Heat and light, as everybody knows, vary inversely as the square of the distance.

But, on the other hand, we know that all forms of life depend for their existence upon the radiant energy of the sun. On the earth when we pass from the Arctic regions toward the equator we find the number of living forms and the variety and intensity of the manifestations of life continually increasing, until, in the equatorial zone, earth, sea and air are all crowded with animate and growing things.

THIS WILL INTEREST MANY F. W. Parkhurst, the Boston publisher, says that if any one afflicted with rheumatism in any form, or neuralgia, will send their address to him, at Box 1501, Boston, Mass., he will direct them to a perfect cure.

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LEWIS CARROLL AND HIS CHILD FRIENDS



ONE summer's afternoon a master of mathematics in the Christ Church college, with three little girls, rowing down the river at Oxford, found the sun so burning that they landed in a meadow and took refuge in the only bit of shade to be found, under a new-made hayrick. It was here in the sweet-smelling meadow, with the river glistening before them, that Mr. Dodgson began telling these three little girls—Lorina, Alice and Edith—that world-renowned story, "Alice in Wonderland." Sometimes the story-teller, growing very tired, would stop suddenly, and say, "And that's all until next time."

"Ah, but it is next time," the children would cry, and so after some persuasion the story would start afresh.

There were other summer days when the story went on placidly in the boat until Mr. Dodgson in the midst of some thrilling adventure would pretend, to the dismay of the children, to fall sound asleep. But the story was finished at last, to the delight of all his child friends. It would be impossible to give any account of their number, says his biographer, as he was constantly adding to them during the forty years of his life.

There was that funny little Emsie, who went with him to the aquarium. They had been watching the seals coming up dripping out of the water, when, with a very pitiful look, she turned to Mr. Dodgson and said, "Don't they give them any towels?"

The same Emsie commiserated the bear because he had no tail. It was this gentle pity, as well as the white innocence of their thoughts, which Lewis Carroll loved in children.

He was always looking for chances to befriend them, as when he carried Phoebe away from the theater and brought her down to the sea-shore for a breath of fresh air and a new kind of happiness. She was a sweet, thoughtful child, and they had a little Bible-reading together every day.

"It is very touching," Lewis Carroll writes, "to see the far-away look in her eyes when we talked of God and of heaven—as if her angel, who beholds his face continually, were whispering to her."

The sincerity of a child appealed to the simplicity and genuineness of Lewis Carroll's own nature, and this fable of the frosty air written to his friend Florence shows his dislike to being praised.

The fable is this: "The cold, frosty, bracing air is the treatment one gets from the world generally—such as contempt or blame or neglect: all those are very wholesome. And the hot, dry air that you breathe when you rush to the fire is the praise that one gets from one's young, happy, rosy, I might say florid, friends. And that's very bad for me, and gives pride fever, and conceit cough, and such like diseases. Now I'm sure you don't want me laid up with all these diseases, so please don't praise me any more."

Lewis Carroll's acquaintance with children usually began with some chance meeting at the sea-shore, in a railway carriage, or during a call at a friend's house, and then followed all sorts of kindnesses, letters, presents of books, or invitations to stay with him at Oxford or Eastbourne. In providing treats for these child friends he never considered expense, and in his rooms he kept all manner of things for their amusement—clock-work, bears and frogs, games and puzzles, a large assortment of musical boxes, and one organette which had to be fed with paper tunes. It was said that on one occasion he ordered twelve dozen of these tunes on approval, and then asked one of the other dons who was a judge of music to come in and hear them played over.

The following little story of the "Ugly Duckling" shows with what gentle kindness Lewis Carroll could gladden a child's heart. She was a thin, nervous, ugly child, left almost entirely to the care of her nurse.

"I shall never forget," she writes, "how Mr. Dodgson and I sat once under a dear old tree in the Botanical Gardens, and how he told me for the first time Hans Andersen's story of the 'Ugly Ducklings.' I cannot explain the charm of Mr. Dodgson's way of telling stories; as he spoke the characters

seemed to be real flesh and blood. This particular story made a great impression upon me, and interested me greatly, as I was very sensitive about my ugly little self. I remember he impressed upon me it is better to be good and truthful and try not to think of one's self than to be a pretty, selfish child, spoiled and disagreeable; and after telling me this story he gave me the name of 'Ducky.'

"Now mind, my little Ducky," he used to say, "perhaps some day you will turn out a swan."

"I always attribute my love for animals to Mr. Dodgson; his stories about them, his knowledge of their lives and histories, his enthusiasm about birds and butterflies enlivened many a dull hour.

"Every day my nurse and I used to take a walk in Christ Church meadows, and often we would sit down on the soft grass, with the dear old broad walk quite close. And how delighted we used to be to see the well-known figure in cap and gown coming, so swiftly, with his kind smile ready to welcome the 'Ugly Duckling.' I knew, as he sat down beside me, that a book of fairy-tales was hidden in his pocket, or that he would have some new game or puzzle to show me; and he would gravely accept a tiny daisy bouquet for his coat with as much courtesy as if it had been the finest hot-house boutonniere."

Lewis Carroll kept himself young by loving children, and some of his tenderest and most humorous writing is to be found in his delicious letters to those child friends. It was after reading one of his letters that the poor little sick girl in the hospital said, "I do love him."

FRANCES BENNETT CALLAWAY.

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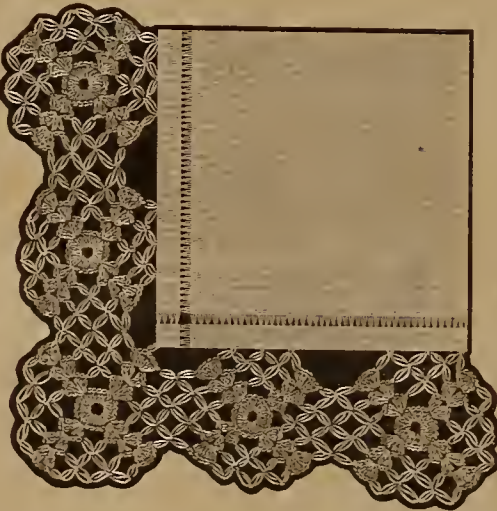
This pretty handkerchief border should be made from No. 140 thread with a very fine needle. The abbreviations are ch, chain; tr, treble, and st, stitch.

First row—Ch 10, join.

Second row—24 tr in loop.

Third row—Ch 3, 2 tr in first st, ch 2, 3 tr in same st; * 2 knot st, skip 5 tr, 3 tr in next st, ch 2, 3 tr in same st; repeat and join.

Fourth row—Slip st to center of loop in shell, ch 3, 2 tr in loop, ch 2, 3 tr in same



loop; * 2 knot st, fasten in top of knot st in third row with slip st, 2 knot st, 3 tr in loop of shell, ch 2, 3 tr in same loop; repeat and join.

Fifth row—Slip st to center of loop in shell, ch 3, 2 tr in loop, ch 2, 3 tr in same loop; * 2 knot st, fasten with slip st in top of knot st in fourth row, 2 knot st, 3 tr in loop of shell, ch 2, 3 tr in same loop of shell; repeat and join.

After the first wheel is made the others are joined on in the last row. Use fine cambric daintily hemstitched for the center.

Mrs. H. L. MILLER.

RHEUMATISM OF THE JOINTS

On the first hint of this disease one should consult a reputable physician, and follow his directions to the letter, for if taken in the very beginning it may often be broken up. When allowed to become firmly established it is another and more difficult matter.

If for any reason one cannot have medical attendance much may be done by a right

way of living. The immediate cause of rheumatism is the presence in the system of some irritating poison, which would be carried off were certain organs of the body in good condition and doing their work properly. These particular organs may not be within our direct control, but we can strengthen them indirectly by bringing to the highest state of efficiency those organs that are under our control, for the body is a co-operative concern, the members of which are so bound together that if we help one we also help the others.

Perhaps the most important of those under our control are certain of the digestive organs. No two people will be suited by precisely the same diet, but it seems to be quite generally agreed among physicians that rheumatic subjects should abstain from coffee, beef, pork, white-flour bread, sugar, or anything containing much sugar, greasy food, and pies, puddings and cakes that are shortened. In a general way, the food selected should be nourishing, easy of digestion, and such as will keep the bowels regular. Each person can best judge of what will suit his case in these respects. Having decided on the diet, the next thing is the thorough mastication of all food eaten; it should be chewed and chewed till it is a homogeneous mass. We are told that even soft food like mush and milk needs to be thoroughly mixed with the saliva.

To the end that the lungs do their work well they should be given room; the clothing should be so loose about the waist that even when a deep breath is taken there will be no compression. Then in the house ample provision should be made for a constant supply of clean, out-of-door air night and day, care being taken that there shall be no direct draft into the occupied room. Everybody knows, though few reflect upon it, that every time a person exhales a breath a certain amount of carbonic-acid gas and decayed animal matter is let loose in the air; at the rate of one half cubic foot of this a minute from each person it is plain that it can take but a short time for the air of an unventilated room, even with but two or three people in it, to become foul. It would seem as if any man or woman with a real regard for cleanliness must shrink unspeakably from taking into the lungs anything so unclean. The cellar of the house should be well ventilated, kept free from decaying vegetable matter, and have a cement bottom for the sake of dryness. The air from a damp cellar cannot well be prevented from rising into the rooms above, and is enough of itself to develop rheumatism in one who is predisposed to the disease. Deep breathing should be practised, that the blood may have the benefit of all the air possible; if there is at first a slight dizziness one should wait till it passes, then try again, for it merely shows that one has formed the habit of shallow breathing.

That the skin may do its work properly it should be kept clean, though the frequency with which the bath should be taken depends so much upon circumstances that no set rule can be laid down. If the joints of the arms and hands are badly affected the exercise involved is too painful to be endured as often as every day. If a daily warm sponge-bath can be taken it should be gone through with quickly, as small a surface of the body as possible being exposed at once. Morning is the best time for bathing, as chilliness is likely to follow a bath taken at night. Any rubbing of the skin is good, except over inflamed or tender joints. As regards winter clothing, each one should be a law to himself, the aim being to wear just enough to keep the body comfortably warm and no more. If one is troubled with the feet being cold felt shoes should be worn; they should be loose, and if one cannot wear woolen stockings it should be remembered in choosing cotton hosiery that any garment loosely woven is warmer than the same weight of goods woven tightly. The hands should not be subjected to extremes of temperature, and work that requires the hands to be put in water or kept wet is especially bad for this disease, being oftentimes the cause of the enlargement of the finger-joints in persons not otherwise rheumatic.

In order to get all the sleep possible the rheumatic person should have a comfortable bed—good springs and a hair-mattress, with a pad made of the best cotton batting and covered with cheese-cloth. This will be soft and yielding and yet afford a level surface on which it will be more easy to turn the body than on a feather-bed. The bed-clothing should be light—new puffs covered with some thin material, or new all-wool blankets—for to turn one's self beneath old, heavy comforters or bed-quilts is torture to a person whose joints are lame and tender, while the weight even when one is lying

still is a burden. By having a little extra thickness across the bed where the feet come, and wearing knee-protectors, one can often get along with a blanket or thin puff less, and reduce the weight by so much. The bed should be warmed so that no chill will be felt on getting into it, and the feet if cold should be warmed through before going to bed.

Exercise should be regularly taken except when it causes acute pain, for exercise is an aid in all the other bodily functions, making one breathe more freely, increasing the action of the skin, promoting digestion, causing the heart to beat more strongly and the blood to circulate more rapidly.

Last, but not least, the rheumatic should cultivate cheerfulness. The Christian Scientists assert that rheumatism may be brought on by worry alone; however this may be, it is undeniable that courage, kindly feeling, a cheery persistence in looking on the bright side, will do wonders in warding off or driving off disease, while the opposite states of mind have a depressing effect on all the vital forces, and lessen the body's power of resistance.

Rheumatism is a disease that can have been brought on only by a long-continued breaking of some law or laws, and a cure or even a partial cure cannot be wrought in a day. One may follow the right way of living for weeks and see no improvement; may even seem to grow worse, but if he persists, never backsliding into the old ways, the improvement must come in time. It may delay for months—for many months—but come it must at last.

ELIZABETH ROBBINS.

THIS AND THAT

Not long ago a friend told me she thought she had made quite a discovery, about which I shall proceed to inform you. She had a fine damask towel which was spread over the top of a dresser. A careless maid spilled a bottle of ink on it. It was taken at once and washed through several waters, but was apparently as bright as ever when dried. When wash-day came it was washed in the usual manner without making any change, until it suddenly dawned on my friend's mind to try coal-oil. A thorough soaking and rubbing with soap removed almost all of the stain, and more added when put to boil finished the job, removing all traces of ink.

It sometimes happens that small holes are burnt in the carpets, which if left alone have a marvelous way of enlarging their borders, to the serious damage of said carpet. As it is very hard to mend them when down on the floor a piece of cloth as near the color of the carpet as can be obtained, hemmed all around, and spread on the wrong side with a paste made of raw flour and water, placed over the hole, and cooked on with a moderately hot iron, will keep the break in the carpet safe until it can be taken up and mended as it should be.

A lady who is famous for the nice celery which can always be found on her table told me the way she takes to produce such a fine article. She merely sets out the plants and tends them as she would anything else, hoeing and keeping weeds away, and as the plants grow ties the stalks together to keep out the dirt. When ready to blanch she puts a barrel in the cellar, and in it places two buckets of wet sand; then she packs the celery as closely as she can in the barrel with the roots in the sand. It is soon ready for use, and all through the winter she has the tenderest and whitest celery imaginable kept in her barrels of sand.

Did any of our readers ever try browning nice popped kernels of corn daintily in butter, and sprinkling lightly with salt, then turning out on a paper to dry? They are very nice, and much liked.

When woolen dresses are very badly creased it is nearly impossible to get them out by pressing without making the goods look shiny, and a better way is to make the dress quite damp, then carefully pin on the line, and the wind blowing through the goods will generally remove every crease.

When men's clothing need cleaning the best way to remove spots is to take soap and water and a common tooth-brush and scour the spots carefully, and when dry the spots will all be gone. For cleaning the collars of coats the brush is unequalled.

When silverware gets tarnished, if it is washed in a pint of very hot water to which has been added one teaspoonful of aqua ammonia, rubbed with a soft brush and dried with a clean linen towel, then rubbed very dry with chamois, it will become again very brilliant, and will not need any polishing with any of the powders usually employed, and will last much longer.

A. M. M.

THE SECOND PLACE

BY SUSAN M. SPALDING.

Unto my loved ones have I given all;
The tireless service of my willing hands,
The strength of swift feet running to their call,
Each pulse of this fond heart whose love commands
The busy brain unto their use; each grace,
Each gift, the flower and fruit of life. To me
They give with gracious hearts, and tenderly,
The second place.

Such joy as my glad service may dispense,
They spend to make some brighter life more blest;
The grief that comes despite my frail defense
They seek to soothe upon a dearer breast.
Love veils his deepest glories from my face;
I dimly dream how fair the light may be
Beyond the shade where I hold, longingly,
The second place.

And yet 'tis sweet to know that though I make
No soul's supremest bliss, no life shall lie
Ruined and desolated for my sake,
Nor any heart be broken when I die.
And sweet it is to see my little space
Grow wider hour by hour; and gratefully
I thank the tender fate that granteth me
The second place.

LITERATURE OF VARIOUS KINDS

A DISCUSSION pro and con anent the pernicious habit of novel-reading has attracted the attention of readers everywhere, presumably, of late as not for a long time before. Household-department writers in all directions have taken up the question, and many have been the queer statements by the prejudiced and apparently uninformed. On the other hand, however, many most excellent thoughts have been brought to light by the better informed and deeper thinking, and I am of the opinion that our better class of novels will remain a conspicuous part of our better class of literature, notwithstanding the evil report of them from many quarters of the globe.

Says one writer upon this subject of novel-reading, "Truth is more strange and even more interesting than fiction. So why not deal with life-histories and the stories known to be true, letting novels severely alone?"

But, bless you! more of our so-called novels are founded upon fact than upon pure imagery, and the every-day characters of every-day life about us are so adroitly interwoven with the telling of the story that the author is often given credit for possessing more of imaginative power than is really true.

If it is real life-history that is wanted, where is there a better place to go for a perfect delineation than to the pages of some of the most quaintly and truthfully told tales that are given by some of the best-known and best-loved authors of to-day? We have been told repeatedly through the press and by some of the most famous of writers that seldom has a novel been written that did not contain more or less of real and well-known happenings that have come under the observation of the writer or been brought to his knowledge through some reliable channel of information. We have been told so often that we cannot doubt it that the foundation facts from real life are the underlying currents for the many "imaginings" (?) of the author in the delineation of his characters.

If the habit of novel-reading is a pernicious one, then has the greater part of the world gone more or less astray—and it is more rather than less. And what is equally true is that there seems no present indication of very wide-spread reformation in this direction. Authors have been favorites for years, remain favorites still, and new ones are springing into places of general recognition every day. In truth, the world is the better and wiser for their having lived and for their living.

Among the multitudinous literature of the day there is the good, the bad and the entirely indifferent. One can and should discriminate, pick and choose for themselves if capable, or have their books chosen for them if they are not. Especially should parents carefully choose the manner of literature that their children shall have access to. Too careful guardianship in this matter cannot be exercised. It may be in books or papers, or both. There is sufficient in the world to choose from, and for prices so low as to come within the means of every one. Never was the very best known to be so uniformly cheap and placed upon the literary market in so good and substantial a form as at present.

The works of standard authors are to be had for pennies and dimes, and newspapers, magazines and periodicals of all kinds, young folks' literature and the thousand and one good things offered to readers are

now offered at so comparatively low a price as to make the offers astonishing ones when thinking of past demands for the same "goods."

And yet in the face of it all thousands of homes are destitute of good reading matter or reading matter of any sort or kind. Worse mistaken economy was never practiced. Better nothing to read than literature of a demoralizing character, to be sure, but there is no manner of excuse for the families of comfortably clothed and fed individuals that they should be found without a generous supply of food for the mind as well as food for the body. Moreover, much of the very best of food for the mind and thought is found within the covers of numberless books that must be classed under the heading of novels.

"Ben-Hur" is a book that comes under this heading, and it is classed and admitted as such, and yet the whole Christian world of "Ben-Hur" readers have gone wild over the book. Founded on the Bible? Admitted, yes; but a story of imagination pure and simple when it comes right down to the story. It is a story that is pure and rich in thought and coloring. It is a story that is elevating and instructive, and a story full of fascination to the reader after one has become accustomed to the changed and unusual style of story-telling that is peculiarly that of Lew Wallace, the author of this book. As one reads he grows indignant and wrathful in parts of the narrative, and then from the depth of one's heart does pity go out to the Ben-Hur that never existed except in the imaginative brain of the author.

This is fiction, and this is novel-reading; but who was ever known to cry out against "Ben-Hur"?

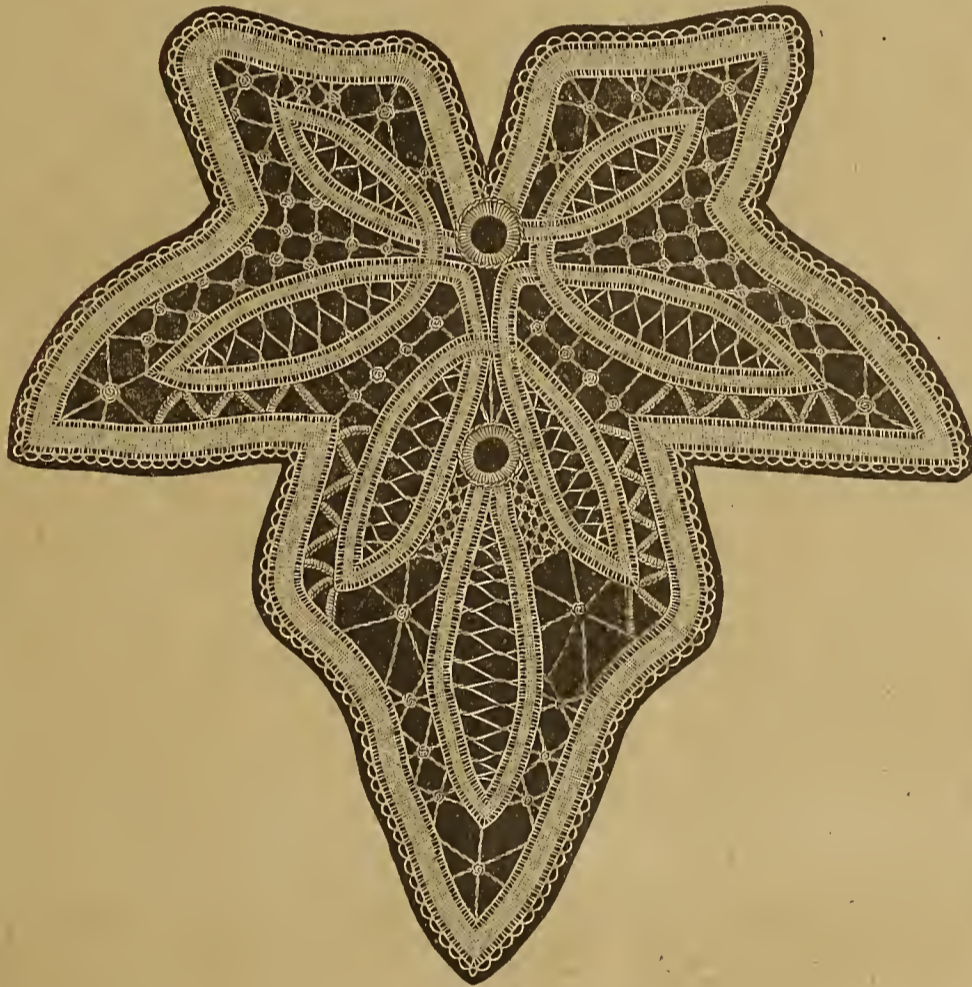
Lew Wallace's pen-picture of the crucifixion. It is one of the clearest, one of the most comprehensive descriptions ever written or read. It is all so perfectly pen-chiseled that the Savior's face is distinctly before the reader as he goes with him, almost against his own will, even though he is reading instead of actually beholding the scene that is to take place. The rabble that follows after stands out in panoramic view and procession, and the very windings of the pathway trod by persecuted and persecutors stands out as plain as day, and one truly shuts his eyes as he attempts to proceed with the reading, as if to shut out the sight of the fearful, cruel thing that takes place when he has reached the spot where the lowly Nazarene is so soon to be heard crying, "Father, forgive them, for they know not what they do!" If ever before the story of crucifixion seemed afar off and mythical, the portrayal of it all by the author of "Ben-Hur" will make a lasting and real impression.

"The Christian," by Hall Caine, is one of the more recent novels of the present age. And "Murvale Eastman" and "A Royal Gentleman," by Tourgee, are other novels of recent years' dates that can bring only good and pure thoughts and ideas of life and duty to their readers. Yet do they come under the heading of novels. Long may such literature reign for the good of all mankind.

ELLA HOUGHTON.

LEAF DOILY IN BATTENBERG

This doily is entirely different from any patterns heretofore given, and is a decided novelty. To form a centerpiece to go with a set of these doilies buttonhole the edge of a six-sided piece of linen, the outer edges



Many an author has written out his very soul's thoughts and aching and longings, his whole inner life and his life's history into one or more of his (or her) novels. What, then, is this but "history" and "things true?" It has been said that every writer of books sooner or later writes a book of "self," and gives it to the world under the guise of fiction. E. P. Roe, one of the favorite authors among favorite authors, wrote such a book among his many. It is, too, one of the sweetest, one of the saddest, and one of the finest things that ever came from his pen and his "den." All who read it declare it so. I well know and have many times talked with an editor and writer who once copied manuscripts for a number of months for E. P. Roe. And it was from this man I learned the fact that in one of his much-quoted and widely read volumes his own deep griefs and sorrows, also much of his after happiness, was given under a disguise so perfect that few ever knew. For he was a reticent man, and his troubles were not known to his friends and acquaintances, and reading this book they would not have dreamed it more than another of the imaginative productions of his talent and his pen.

As regards "Ben-Hur," those who have read, but not understandingly, the many scenes depicted in the Bible should read

measuring the same as the lower edge of the doily. Place this center upon a piece of cambric, and place six of the doilies around it. Where the second points of the leaves fail to meet place a ring or two, and fill in all the spaces between the leaves with any preferred stitches. Two of these doilies placed with the lower edges touching make lovely tidies for the arms of a large upholstered chair. This pattern will also combine nicely with the medallions given some time ago in the formation of centerpieces and tidies.

MRS. H. L. MILLER.

WHEN EGGS ARE HIGH

City people are apt to think there can never be a scarcity of eggs on the farm, but where they are a source of revenue to the housewife she is not going to treat her family to fries and scrambles, nor to pound-cake or angel-food, when the market list quotes them at twenty-five cents a dozen. So she hunts through her cook-book for cakes and pies and puddings that call for a fewer number of the marketable article. The following have proved most satisfactory to us at such times:

A GOOD ALL-ROUND CAKE.—Two cupfuls of sugar stirred to a cream with a generous half cupful of lard and butter mixed; add two eggs slightly beaten, and beat all to-

gether, one and one half cupfuls of milk, four scant cupfuls of sifted flour and three teaspoonfuls of baking-powder. Flavor according to taste. This makes three nice, feathery layers, or can be baked in a sheet, iced, and cut in squares, or baked in muffin-pans. By the addition of currants or seedless raisins to one part it is transformed into ribbon-cake. Where quite a number of persons are to be served, and economy is desirable, it sometimes poses as cottage pudding. In fact, to use it once is to swear by it ever afterward.

DUTCH APPLE PUDDING.—One pint of flour, one and one half teaspoonfuls of baking-powder, one scant half teaspoonful of salt. Rub one tablespoonful of lard into these ingredients, beat one egg light, add to it three fourths of a cupful of milk, and stir into the flour. Spread in well-greased shallow pans. Pare, core and quarter some sour apples, place them on the dough, sprinkle thickly with sugar and grated nutmeg or cinnamon, bake twenty minutes, and serve while warm with sweetened milk.

PINWHEELS.—Mix one pint of unsifted flour, one tablespoonful of sugar, one half teaspoonful of salt and two teaspoonfuls of baking-powder. Rub through a sieve three times, and add a generous tablespoonful of lard and one half tablespoonful of butter. Wet with one scant half pint of milk. Roll out about half an inch thick, spread with soft butter, and sprinkle thickly with sugar and cinnamon; currants may be added if liked. Roll up like a jelly-roll, cut in slices about three fourths of an inch thick, and place in greased pans. They must not touch, and the oven should be hot.

LEMON PUDDING.—This is a new and dainty dessert that has the added recommendation of being attractive to the eye as well as pleasant to the palate. One quart of boiling water, three scant tablespoonfuls of corn-starch, two cupfuls of sugar, juice and grated rind of one and one half lemons. Boil till thick, pour in the dish in which it is to be served. Beat the whites of three eggs with some sugar, put on the top, brown slightly, and when cold serve with a cold boiled custard in which the yolks of the eggs are used. This is sufficient for a serving of eight or ten persons unless somebody should ask for a second helping.

MARY M. WILLARD.

MODERN MAPLE-SYRUP

DEAR EDITOR OF THE FARM AND FIRESIDE:—I am not used to writing for the papers, but I saw an article in this paper last spring concerning maple-sugar. The author of it had evidently had no experience in the making or the using of the article in question. The idea was that to be good and also to be genuine maple-sugar must be dark-colored and "full of little sticks, etc." Now, that is certainly a libel on the article as it is made nowadays and by modern methods, as any Vermont or northern New York sugar-maker could tell you.

As it is made at present, the sap being put in tanks, then run into an evaporator and reduced as quickly as possible to the right consistency for the sugar-pan, or the can if to be sold as syrup, one can see very readily that there should be no "sticks, etc." in it any more than there should be hairs in the butter of a good dairyman. No doubt there may be some such stuff on the market, but you who want the genuine maple-sugar beware of dirty or discolored stuff, for it should be light to the eye and clean to the taste.

It seems as though people could cultivate a taste for almost anything, but when buying an article one should be careful. Makers that have their names on their cans or cakes of sugar would do much better for the public than they are aware of. Years ago, under the old regime of things, maple-sugar was generally dark, owing in a great measure to the length of time in reducing it; but a better era of things has dawned, and well-made maple-sugar is not full of "sticks" nor sticky.

MRS. J. W. LENGFELD.

A SONG

BY OWEN MAUPAY.

The sweet June roses came
In all their flush of beauty,
But life to me was very sad,
And filled so full of duty.

The green, green grass was sprinkled o'er
With rose-leaves, fading, dying,
The lingering perfume only left,
And still my heart was crying.

The June-rose glow has passed and gone,
And now comes o'er the clover
A step that sends my heart athrill;
Yes—'tis my absent lover!

ALL-HALLOWE'EN

ON THIS date the mystery surrounding future events is banished. The secrets are then revealed to mortal eyes. Should any of the omens fail to disclose the desired knowledge, undauntedly make some other test. At the next trial a more genial fairy may guide the hand of fate.

Let the merriment equal the superstition displayed. The oddity of these ancient observances always forms a great attraction. It is imperative that the invitations should be appropriate. Cut them in the form of a witch's cap, and paint black. On the front letter in vivid red: "The Witch's Night, All-hallowe'en, 1899." On the reverse side: "This night the witches walk abroad, willing to reveal the mysteries of the future. A band of their descendants will gather at 320 College Place."

On this festive evening avoid all the usual earthly decorations. Select anything that the most fertile imagination could associate with the witches. Jack-lanterns becoming hideous by a few clever strokes of the knife have great decorative value. A skull and two cross-bones will prove effective and delightfully appalling. The new moon is a welcome sign. Pasteboard horseshoes neatly covered with gilt paper have a gala air. Excellent effects are produced by employing quantities of grape-vines and corn-stalks. Horseshoes, grape-vines and miniature new moons may artistically decorate the young women's gowns.

HALLOWE'EN GAMES.

In solitude eat an apple before a mirror, and see "who will peer over your shoulder."

An old custom is to serve a large dish of apple sauce, accompanied by spoons. This sauce is modified by the addition of an English walnut in which a plain gold ring replaces the nut; also one chestnut, an almond and a single peanut. The guests grouped around the preserve-dish are bidden to eat the sauce until the fortunate ones discover their luck. The almond signifies wealth and all the joys it brings; the finder of the peanut will a bachelor or spinster be; the chestnut prediction is "she will pack her chest" and travel far from home, while the walnut tells its own story, a blissful marriage within a twelvemonth.

Mirrors play an important part in the superstitious rites of Hallowe'en. One of the infallible observances which are always honored at this festival consists in hanging a looking-glass on the cellar wall, and also correctly learning this mystic verse, lest the charm be broken:

"And Nature swears the lovely dears
Her noblest work she classes, O!
Her prentice han' she tried on man,
And then she made the lasses, O!"

Shortly before the hour of midnight the anxious maid removes her shoes and allows her hair to hang down her back, and carrying a lighted candle, deliberately descends the cellar stairs backward, repeating accurately the all-important words. The directions continue: At the foot of the stairs turn around three times, take ten steps forward, raise the candle aloof, look directly into the mirror, and behold the face of your future husband.

Returning up-stairs, choose a long hair from your own locks, set fire to one end with a match; when the hair burns only an inch the marriage will occur during the next year. Beyond the first inch every half inch that burns counts a year.

Another combination of midnight superstition is a mirror and a magic verse: Within a darkened room and before the looking-glass the serious youth must repeat this:

"To see her is to love her,
And love but her forever;
For Nature made her what she is,
And never made another."

Open the outer door, still gazing at the looking-glass, which will show several numbers; these indicate "the position in the alphabet of the letters of his future helpmeet's name."

At an enthusiastic entertainment last year a genuine old gipsy was engaged to play the part of a witch, which she did admirably, wearing a long, flowing mantle and the familiar pointed cap. The guests enter her presence in couples. Each one is then presented with a small boat, his "life bark," in reality half of an English-walnut shell; in this a small wax candle has been fitted, one end trimmed preparatory to burning. Each boat-candle is lighted from the witch's candle. In front of this mistress of the ceremonies on a table is a large tub nearly filled with water—the sea of life. By her magic the witch starts the water in motion. If a boat crosses the water and reaches the farther shore, success, wealth and many

years are assured. If it hesitates to cross the stormy sea a faint heart does its owner possess. An uncompleted voyage predicts failure. When a couple's boats sail together to the opposite side, so will their lives be passed. The owner of the candle burning the longest will have the first wedding.

SUPPER PARTNERS.—Each maiden brings to the festivities a short written description of her "hero," placed in a sealed envelope tied with ribbon of her favorite color. These are collected in the dressing-room. After the games a hollow tree-stump, wherein the witches have deposited their "predictions," is brought in. Each man chooses a color, and the description so distinguished is given to him and read aloud.

Apples, grapes and nuts are considered especially appropriate at an All-hallowe'en feast. Apple jelly with alternate layers of nuts, apple and nut salad, apple pies, dried-apple cake, grape jam, almond-rolls, nut sandwiches, walnut cookies, chestnut cake, pumpkin pie, cheese, cider and nut-caudy form a desirable menu.

The very newest idea is to serve small, heart-shaped cakes with different colored icing. The guests in turn should, blindfolded, choose a cake. The color of the icing—white signifying calmly faithful; red, fervently devoted; yellow, jealous, and green, treacherous—denotes the condition of one's own true love. ADELE K. JOHNSON.

CLOSETS

It has been frequently said that a woman never has closets enough. It is undoubtedly true that many closets are a great convenience, but it is also true that they require constant oversight and care to keep them clean and in order.

The main rooms of the house may need a general cleaning only semi-annually, but closets need the personal inspection of the housekeeper quite often, and especially the kitchen closets and storerooms. If they are not kept scrupulously clean disease germs, insects and vermin will become domiciled there. Kitchen closets should be thoroughly scrubbed at least once a month, both shelves and floor. If there are any signs of ants or roaches, sprinkle the shelves well with powdered borax before putting papers on them. Do not leave stores in paper bags, but have tin boxes or covered pails, or use empty jars or preserve-cans to hold rice, tapioca, macaroni, crackers, etc.

In the cellar it is customary to have a dark room for storing fruit and vegetables, as they keep better in a dark than in a light room. It is an oft-told fact that the germs of diphtheria, scarlet fever, typhoid and kindred diseases may find a breeding-place in the cellar, from which they sally forth to smite the household. It is so easy for a few stray vegetables to lie concealed in some corner until they decay. No fruits or vegetables should be put on the floor, but in barrels or boxes, care being taken that none are dropped. At frequent intervals all should be examined and the good separated from the bad. Decaying fruit or vegetables will soon spoil any other which it touches. The storeroom for fruit and vegetables should be built with a window, so it can be lighted when cleaning, and thoroughly ventilated at times. A tight shutter will make the room dark when desired.

The closets where winter clothing has been stored should be cleaned before putting away summer clothes. If moths have found their way into a closet, it is a good plan to take everything out of the closet, thoroughly brush and air all clothing, dust and wash out the closet, and then put a pan of water on the floor and in it set a dish containing live coals, and sprinkle some sulphur on these; then close the door tightly, and leave it closed for several hours.

No soiled clothing, old shoes, etc., should ever be left in a bedroom closet, or, in fact, in any other. There are so many things that accumulate about a house, get thrown into some closet and lay there for months. Old boots and shoes, worn-out overshoes, old bottles, cast-off things of all kinds should be removed from the house. Any old clothing which would be of value to some one else should find its way to them at once and not lay around to attract moths, and articles which are of no use to any one ought to be buried, burned or otherwise disposed of.

When all the closets in the house are clean make a resolve to look them over often and see that they do not become catch-alls for rubbish, for dust, mold and ill smells, and when you feel as if your many closets were a burden, try to imagine what it would be to live in a house with only one closet, as perhaps your grandmother did. MAIDA McL.

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AFTERWHILES

Where are they—the afterwhiles— Luring us the lengthening miles Of our lives? Where is the dawn With the dew across the lawn Stroked with eager feet the far Way the hills and valleys are? Where the sun that sunites the frown Of the eastward gazer down? Where the rifted wreaths of mist O'er us, tinged with amethyst, Round the mountain's steep defiles? Where are all the afterwhiles?

Afterwhile—and we will go Thither, yon, and to and fro— From the stifling city streets To the country's cool retreats— From the riot to the rest Where the hearts beat the placidest; Afterwhile, and we will fall Under breezy trees and loil In the shade, with thirsty sight Drinking deep the blue delight Of the skies that will beguile Us as children—afterwhile.

Afterwhile—and one intends To be gentler to his friends— To walk with them, in the hush Of still evenings, o'er the plush Of home-leading fields, and stand Long at parting, hand in hand; One, in time, will joy to take New resolves for some one's sake, And wear then the look that lies Clear and pure in other eyes— He will soothe and reconcile His own conscience—afterwhile.

Afterwhile—we have in view A far scene to journey to— Where the old home is, and where The old mother waits us there, Peering, as the time grows late, Down the old path to the gate— How we'll creak the latch that locks In the pinks and hollyhocks; And leap up the path once more Where she waits us at the door! How we'll greet the dear old smile, And the warm tears—afterwhile!

Ah! the endless afterwhiles— Leagues on leagues, and miles on miles, In the distance far withdrawn. Stretching on, and on, and on, Till the fancy is foot-sore And faints in the dust before The last mile-stone's granite face, Hacked with: Here Beginneth Space. O far glimmering worlds and wings, Mystic smiles and beckonings, Lead us through the shadowy aisles Out into the afterwhiles.

—James Whitcomb Riley.

THE SOLE ADVANTAGE OF WEALTH

THE poor and those who move in the common walks of life are wont to believe that the rich have innumerable advantages over them. They imagine that if they were only rich they would have much greater enjoyments, and life to them would not only be worth living, but a supreme delight.

Lord Rosebery, one of England's most wealthy men, seems not to think so. At the opening of the Little College hospital at Epsom, recently established near his country residence by the humble gift of a comparatively poor man, the wealthy lord gave an address, in which he said some things in regard to the advantages of great riches that are well worthy of thoughtful consideration. His words reported are as follows:

"I am often tempted to question what is the real advantage of being 'well off.'

"However wealthy you are, you cannot eat more than one dinner a day. The Roman emperors, indeed, tried to eat two or three, by methods I will not indicate, but their constitutions broke down under the treatment.

"However wealthy you may be, you have but one body to dress or decorate. A man who lives less luxuriously than another is apt to enjoy much more vigorous health; therefore, in most requisites life is not, perhaps, as between rich and poor, so unequal as it seems to be. But in one marked respect there is an inequality—an inequality which we should try to bridge over.

"As I analyze it, the one great advantage of wealth is this: That when those you love are sick or weak or aged you can call to their assistance the best medical advice and you can make a change of climate. For their benefit you can prolong life as compared with the life of the poor, not merely in

length of years, but in the comfort of existence. That I believe to be the sole great advantage the rich have over the poor."

Even the rich may profit by carefully pondering these words. Riches are a blessing provided they have been honestly and honorably acquired and are properly, conscientiously used to glorify God and to bless mankind. Otherwise they are a curse. The case of the rich man and Lazarus is in point right here. As a means for doing good they are to be desired. As affording the ability to gratify passion and appetite, make a vain display and oppress our fellow-men, they curse their possessor, dishonor God and afflict humanity.—The Religious Telescope.

SPLINTERS

So it has been demonstrated in naval warfare that wooden splinters are more to be feared than steel-capped explosive shells or the hail of leaden bullets.

It is true everywhere not only that people die of small, obscure hurts than of violent shocks, but that a man with a splinter hidden in him is a more difficult subject for the surgeon than one whose leg or arm has been shot clean off.

"What makes A act so offish and queer?" No one is able to recall any cause of offense, but he has been sulking lately. Doubtless one of those pesky little splinters of inadvertent speech or thoughtless slight has buried itself in a sensitive place and is festering there, perhaps swarming with poisonous microbes. But it is an exceedingly delicate matter to get at it. An open breach would be easier healed.

We must either eliminate such building material as can be pounded into toothpicks or provide ourselves with effectual armor against the little mischief-makers.

In the case of the war-ships disuse of wood seems to be the remedy, but in society an old defensive device which is as effective against splinters as is nickel alloy against shells offers protection. It has never been patented and is described as follows: "Love suffereth long and is kind; is not easily provoked, thinketh no evil, beareth all things, never faileth."

PAY AS YOU GO

If you wish to lessen the worries of the world and scatter sunshine as you go, don't bother to go a-slumming, or lift the fallen, or trouble to reclaim the erring—simply pay your debts cheerfully and promptly. It lubricates the wheels of trade, breaks up party ice, gives tone to the social system and liberates good-will.

Pay as you go. Especially pay the people who work by the day and toil with their hands. A dollar means much to the man who spades your garden—never humiliate the man by making him ask for his dollar. Give it to him immediately the work is done, and if he did well tell him so. When the woman who crouches over a sewing-machine for you all day long brings the garment home, pay her all you owe and do not add to her troubles by exercising the prerogative of the one who is paying over money to flaunt out either insulting remarks or insulting manners.

The gentleman shows his true nature in his treatment of social inferiors, and of all the damning sins the withholding of money due a working-man is the worst. And the cheerfulness and good-will we give out with our money will in turn be given out by those we pay it to. Pay as you go.—The Philistine.

BUSINESS HINTS

Aim high, and don't forget at what you are aiming.

A hard bargain is ever a bad bargain for the apparent gainer.

Be sure that every one of you has his place and vocation on this earth, and that it rests with himself to find it. Do not believe those who too lightly say, "Nothing succeeds like success." Effort—honest, manful, humble effort—succeeds by its reflected action, especially in youth, better than success, which, indeed, too easily and too early gained not seldom serves, like winning the throw of the dice, to blind and stupefy.—Gladstone.

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cures in 30 days. It acts directly on the Kidneys, and cures by draining out of the Blood the poisonous Uric Acid, Urates, Lithates, etc., which cause the disease. Professor Edward S. Fogg, the Evangelist, testifies in the *Christian Advocate* that the Kava-Kava Shrub cured him in one month of severe Kidney and Bladder disease of many years' standing. Hon. R. C. Wood, of Lowell, Ind., writes that in four weeks he was cured of Rheumatism, Kidney and Bladder disease, after ten years' suffering. His bladder trouble was so great he had to get up five to twelve times during the night. Rev. Thos. M. Owen, of West Pawlet, Vt., and others give similar testimony. Many ladies, including Mrs. Lydia Valentine, East Worcester, N. Y.; Mrs. Maria Wall, Ferry, Mich., also testify to its wonderful curative powers in Kidney and other disorders peculiar to womanhood. That you may judge of the value of this Great Discovery for yourself, we will send you one Large Case by mail Free, only asking that when cured yourself you will recommend it to others. It is a Sure Specific and cannot fail. Address The Church Kidney Cure Company, No. 425 Fourth Avenue, New York City.

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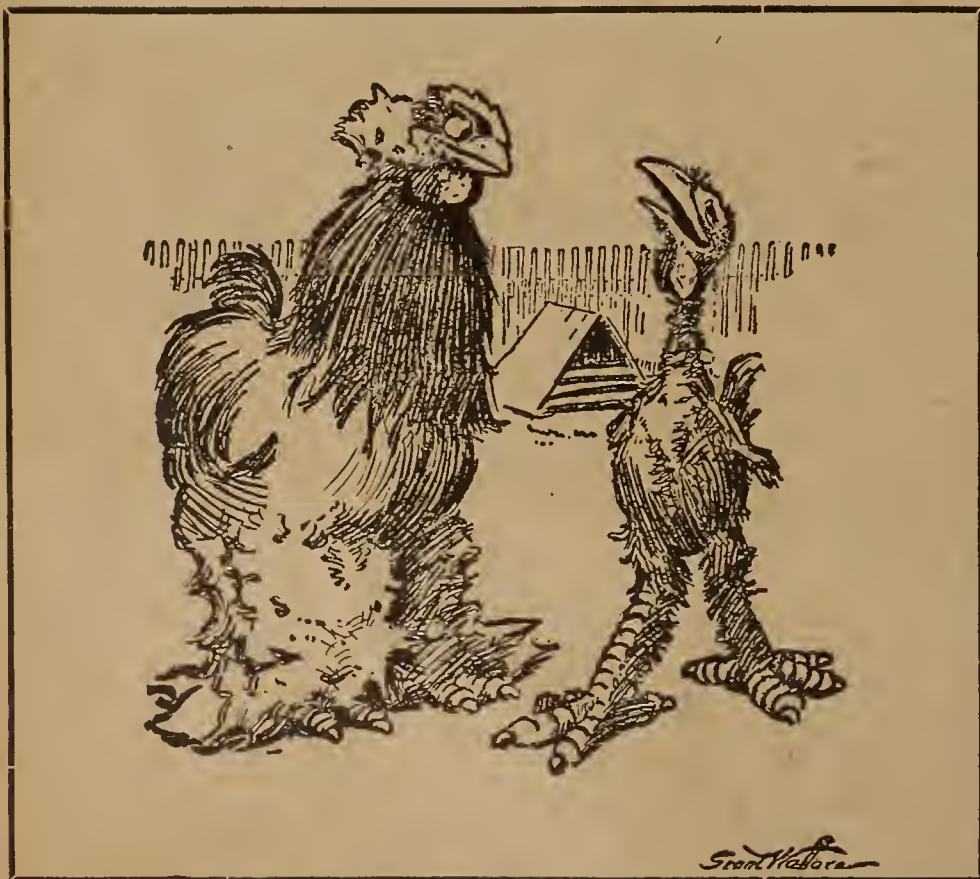
We've struck the age of trusts; in every artery of trade
 We feel the potent influence their growing strength has made.
 There's scarce a thing we eat or drink or wear or utilize
 But has a nineteenth-century trust adjusted to its size.
 We're getting so that trusts may soon monopolize our health;
 When burglar trusts will dictate means and avenues of stealth;
 When trusts may govern bench and bar and forcibly maintain
 The market rates at which we may the fruits of justice gain.
 We've trusts political that govern offices for sale,
 And social trusts that name the price to get within the pale;
 And ere the climax is attained they'll very likely seize
 The right to govern wedding fetes and human obsequies.
 The fashion isn't popular, but since it's come to stay
 We'd like to hint at something worth reviving in our day.
 We mean a trust that brings to rich and poor full recompense—
 A Simon-pure, old-fashioned, earnest trust in Providence.

—Boston Courier.

ONE ON THE MINISTER

A FAMILY residing in Connecticut, being much troubled about good servants, and on a visit to some friends in Tennessee, noticed one of those negro cooks (who are to be found here and there) whose demeanor was as quiet as her work and person were cleanly. They persuaded her to enter their service, and in due time she arrived in Connecticut. On the following Sabbath, armed with her church letter recommending her to the kindly consideration of any sister church with which she might affiliate, she, after much surprise at finding herself the "only darky in sight for miles," to say nothing of an African Methodist Episcopal church, asked for permission to worship with the "white folks" and to put her letter of good standing in with them. She was told to come around on the following evening to the business meeting of the official board.
 Arrived, she was given a seat while her case was discussed, with the result that the whole board, except the pastor, was in favor of receiving her into fellowship, hers being an exceptional case and she so evidently respectable that there was no reason at all for saying otherwise.
 The pastor, however, as president, vetoed it, saying, "No, brethren, I do not believe these people are human or will ever go to heaven. More than that, I should be unwilling to go there myself if they also will be admitted."
 Here the woman interposed, "Well, honey, if you doan't want to go to hebbin wid niggers, and you go to hell, you'll find plenty of niggers dar, too!"—Binghamton Herald.

HUMOR IN THE BARN-YARD



Saucy young Mr. Pippy—"Say, auntie, lend me your bloomers?"

ON THE WRONG SCENT

First little girl (at fashionable summer resort)—
 "I'm awful glad to get 'quainted with you, 'cause you're nice."
 Second little girl—"So'm I with you. That's what we come for. Mama says so herself."
 First little girl—"To get 'quainted?"
 Second little girl—"Yes; with nice people—people in society, you know."
 First little girl—"Why, that's just what mama wants. We're to get 'quainted with people in society."
 Second little girl—"Ain't you in society in the city?"
 First little girl—"No. You are, aren't you?"
 Second little girl—"No; we've been rakin' and serapin' the whole winter to come here and get 'quainted with people in society, you know."
 First little girl—"So've we."
 Second little girl—"Then your folks ain't nobody at home?"
 First little girl—"No."
 Second little girl—"Neither are we."
 First little girl—"Guess there ain't much use in us gettin' 'quainted."
 Second little girl—"Gness not."
 First little girl—"Good-by."
 Second little girl—"Good-by."—The New York Weekly.

DEWEY'S FAMILY

Gen. F. V. Greene tells the following story of Admiral Dewey, which we have not seen in print. When he arrived at Manila with reinforcements he went on board the Olympia to pay his respects to the admiral. After the two men had exchanged compliments Dewey said:
 "Come into my cabin, general; I want to show you my family."
 In one corner of the cabin was a great pile of photographs, dozens upon dozens, and each was the picture of a baby boy. There were fat babies and lean babies, pretty babies and ugly babies, sad babies and smiling babies.
 "What in the world are these?" asked General Greene, somewhat bewildered.
 "Why," said Dewey, "it is just the family of my namesakes. They are Joneses, Smiths, and Jenkinses, but every one is a George Dewey, and their parents want me to know it."—Youth's Companion.

NOT ON THE BILL OF FARE

It was in one of the large down-town restaurants that the short little woman and her tall husband went for dinner.
 "Will you have oysters?" asked he, glancing over the bill of fare.
 "Yes," said the short little woman, as she tried in vain to touch her toes to the floor. "And, John, I want a hassock."
 John nodded, and as he handed his order to the waiter said, "And bring a hassock for the lady."
 "One hassock?" asked the waiter, with what John thought more than ordinary interest.
 The waiter did not go, while his face got red. Then he came around to John's side, and speaking softly said:
 "Say, mister, I haven't been here long, and I'm not onto all these things. Will the lady have the hassock broiled or fried?"

Catching Cold

We don't know of any easier way to catch cold than to be caught out in the rain, do you? Many a person can date his attack of bronchitis or pneumonia from such a time. And it often produces the first congestion that finally terminates in consumption.
 If you have a weak throat or weak lungs, just a sprinkling is often enough to give you a hard cold which hangs on for weeks. It's just the same with children—there's nothing that will bring on an attack of the croup quicker than wet feet.
 Stop this trouble before it goes any further. It's very easy and very simple. Take a hot foot-bath, drink a bowl of hot lemonade, and get thoroughly warmed up. Then take a dose of Ayer's Cherry Pectoral and go to bed. The chances are you will be all right in the morning. Continue the Cherry Pectoral for a few days until all coughing has disappeared.
 Asthma, bronchitis, hoarseness, laryngitis, la grippe, consumption, and all hard coughs and colds begin with a "catching cold." Ayer's Cherry Pectoral cures these sharp colds quickly, and it cures the results of neglected colds, also, only it takes a little more time.

You Can Now Buy Ayer's Cherry Pectoral for 25 Cts.

The 25c. size is just right for an ordinary, everyday cold. For asthma, whooping-cough and such diseases, and for colds that have been hanging on, the 50c. size is better. For consumption and for chronic cases, the \$1.00 size is most economical.

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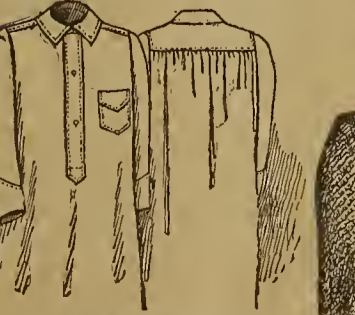
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The Laguna de Bay, one of the "ironclads" which shelled Pasig, Santa Cruz and other towns. Commanded by Grant, of the Utah artillery

SELECTIONS

THE QUEEN'S WEALTH

WE HAVE often heard that the Queen of England is an exceedingly rich woman, but few people are really aware of the enormous wealth she possesses. Its full amount will never be known, for the wills of royal personages are not disclosed. As mere items of her present income, however, may be mentioned the yearly sum of £300,000 which has been allotted to her spouse, Prince Albert, and which has been paid her ever since his death as the widow of that pensioned personage. Her mother, the late Duchess of Kent, left her £8,000 pounds a year. Thus nearly two hundred thousand annual dollars go to swell her private purse, wholly outside of her royal revenues, which nobody mentions in any exact terms, and of whose real amount nobody save reticent officials are perhaps aware. Individuals, it is well known, have on several occasions bequeathed the Queen large fortunes. Her property in jewels alone is something prodigious. Her gold-plate, stored at Windsor Castle and brought to London for use at court festivities at Buckingham Palace, is of vast value. It chiefly consists of dishes, flagons, stands and shields, and has been accumulated through many past generations by the monarchs who preceded her. Other treasures in the way of furniture, apparel, household ornaments, tapestries, rugs, horses, carpets, etc., would reach huge sums if reduced to pounds, shillings and pence. Unless I am greatly in error, all the royal palaces are exempt from taxation, and the State defrays the huge expenses of maintaining each. It is now and then affirmed, and not without truth, that a President of the United States has more power than the Queen of England. But his yearly ten thousand pounds make a piteous showing beside that copious stream of gold which pours continuously into the coffers of Windsor. And when one thinks of the £100,000 per annum given the Prince of Wales, and the smaller yet regal incomes distributed among his brothers and sisters, one realizes the tremendous financial benefits which Royalty obtains in one of the richest nations of the world.—Edgar Fawcett, in Collier's Weekly.

A LEFT-HANDED JOKE

At Scotch weddings some years ago it used to be the custom to batter the hat of the bridegroom as he was leaving the house in which the ceremony took place. On one of those occasions a newly married couple, relatives of the bridegroom, determined to carry out the observance of this custom to the letter. The bridegroom heard them discussing their plans, and dispatched a messenger to the carriage, which stood waiting, with his hat some time previous to his departure. Then, donning the hat of the male relative who had plotted against him, he prepared to go out to the carriage. No sooner had he got to the door than his hat was furiously assaulted and almost destroyed. He walked out of the house amid the laughter of the bystanders, and entered the vehicle. Then, taking the battered hat from his head, he threw it into the hands of its proper owner, exclaiming, "Hey, Mr. Dougall, there's your hat!" and donned his own, amid the cheers of all present. Mr. Dougall was the unhappiest-looking man in Scotland for some time after that.—London Telegraph.

SCOTLAND NEEDS NO TELLING

It is now almost two full centuries since England and Scotland were united, in 1707, under the name of Great Britain. Yet up to the present time the world continues to employ the familiar terms English queen, English army, and so on, with no mention of Scotland. This slight has often been commented upon by Scotchmen, but never perhaps more happily than at Trafalgar. Two Scotchmen, messmates and bosom cronies, from the same little clachan, happened to be stationed near each other when the now celebrated signal was given from the admiral's ship, "England expects every man to do his duty."

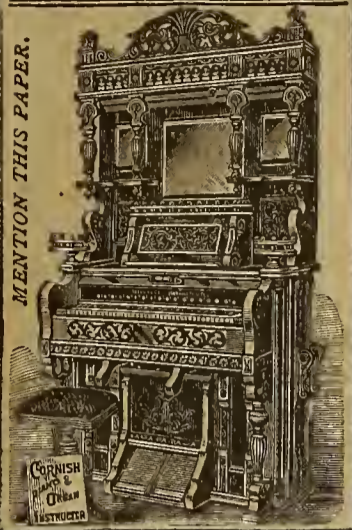
"No' a word o' pur old Scotland on this occasion," dolefully remarked Geordie to Jock.

Jock cocked his eye a moment, and turning to his companion, "Man Geordie," said he, "Scotland kens weel eneuch that nae bairn o' hers needs to be tell't to do his duty—that's just a hint to the Englishers."

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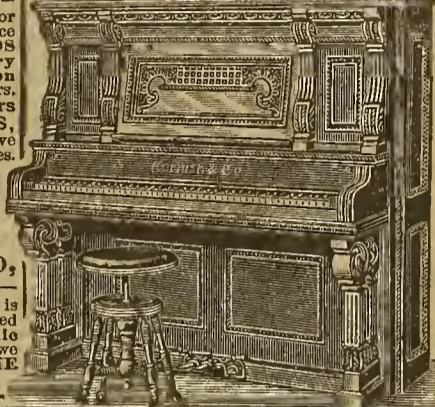
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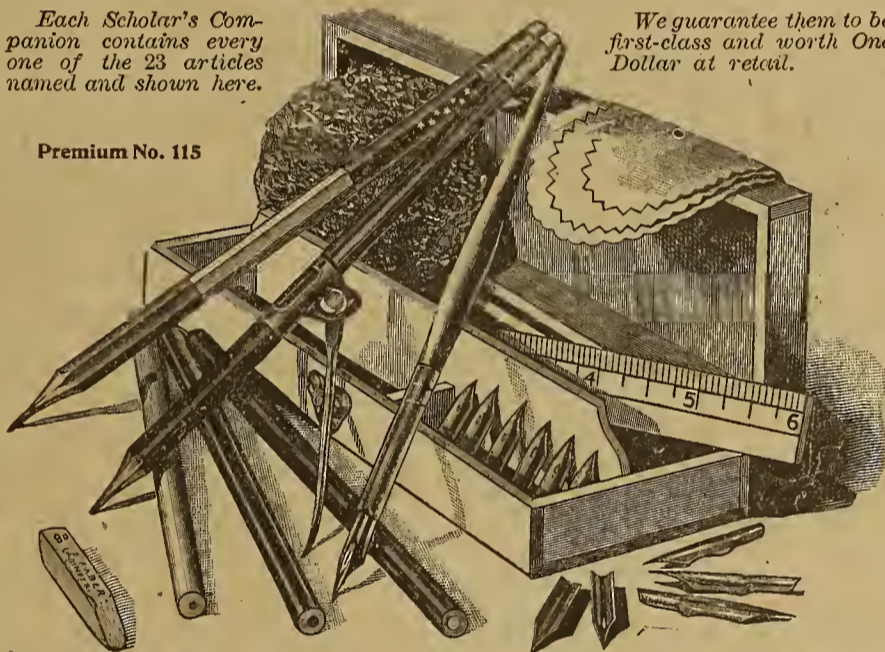
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THE CRAIG COLONY

BY S. L. SHELDON, B.A.

AT SONYEA, Livingston county, New York, in the beautiful Genesee valley, is situated the Craig Colony for epileptics. For a short time this very spot was famous for that society whose belief forbade

improvement. An electric-light plant, a well-equipped hospital, administration buildings and industrial-school buildings have been constructed. Stand-pipes filled from a creek and near-by springs insure a water supply. A sewage system has also been constructed.

hospital. An athletic field is provided for the young men, where base-ball and bicycling are indulged in. A colony band of seventeen pieces has been organized for the musically inclined. A library is provided for the literary, also lectures and entertainments.

tient who is printer for the colony informed me that he has been much improved by the treatment received. He feels that his cure is certain. A patient that has no fit in two years is considered cured and is discharged.

A brick-yard upon the premises furnishes much work for the patients. They have made and carried sufficient brick from kilns to construct the women's new dormitories.



TRADES-SCHOOL



PATIENTS AT WORK IN THE TRADES-SCHOOL



HAYING

them from multiplying. The Shakers owned a tract of nearly two thousand acres, which, at the breaking-up of the society in 1894, was purchased by the state of New York.

Oscar Craig, of Rochester, had long agitated the question of the state providing a suitable institution for epileptics. As the deeds of people live after them, so the name Craig Colony is a fitting honor for its projector.

In 1894 the legislature of New York passed a bill authorizing the purchase of the Shaker

One of the most interesting features of the institution is the farming department, conducted on the colony land and by the patients themselves. Every advantage is offered for this work. Large barns and stables have been built, of the latest and improved construction. The income from the farm last year amounted to \$25,000. It is

A large number of the patients demand constant care and treatment, thus giving employment to boards of executive and administrative officers and their assistants.

Three hundred and sixty-five patients are now treated at this institution. Many appear physically well, but no one can tell at just what moment a fit may come on them.

Numerous applications are constantly received for admission to the institution, and are refused for lack of accommodations; therefore, the board proposes the erection of dormitories, a new hotel, warehouse buildings, storage vaults, new tenement-houses and large addition to the present industrial buildings, electric-light plant and water systems. It asks for an appropriation from the state the amount of \$350,000, of which \$250,000 will be expended for dormitories.



GENERAL VIEW OF THE COLONY



ADMINISTRATION BUILDING

settlement and the establishment of this colony. This property embraces one thousand eight hundred and seventy-two acres, of which six hundred and forty acres are covered by an original forest of hickory, oak and walnut. The remainder consists of improved farming-land well watered by the Kishaqua creek, which passes through it. Upon this estate and built by the Shakers were two groups of buildings situated half a mile apart. In February, 1896, with these buildings the Craig Colony commenced its existence. Since that time the legislature has appropriated \$200,000 for constructing other buildings.

Thirty buildings in all were secured by the Shaker purchase. Now the visitor finds modern dormitories and tenement-houses with every modern

expected that after the colony becomes well established it will be self-supporting.

The Craig Colony patients have their daily employments and recreations, holidays, and worship on Sunday. Each adult is assigned to some industry to which he has been accustomed. Children are sent to school. Those physically unable are provided for in the

The trades-school is provided for young men to learn whatever occupation they desire. There I found ten young men engaged in learning to work with tools. All sorts of useful articles are made here from wood; first the working drawing, next the thing itself is constructed. Mr. A. T. Hatch, of Boston, has charge of this work. A pa-

William F. Spratling, medical superintendent, says: "The colony ideal is not yet established, and it will not be until the premises are occupied by one thousand patients, all properly cared for in homes that admit of classification and all engaged in useful labor designed to lessen the cost of maintenance. It is unjust to the colony system to consider the colony as it now stands a complete model. It represents merely the beginning, with the foundation-stone hardly adjusted upon its bed, and fortunate is the vision that can penetrate the future sufficiently to see the model standing completed, a greater blessing for the thousands of hapless beings destined to seek its protection, and a lasting monument to the able physician who first advocated its construction."



A GROUP OF BUILDINGS OF THE CRAIG COLONY FOR EPILEPTICS

FARM AND FIRESIDE

PUBLISHED BY

THE CROWELL & KIRKPATRICK CO.

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We believe that all the advertisements in this paper are from reliable firms or business men, and do not intentionally or knowingly insert advertisements from any but reliable parties; if subscribers find any of them to be otherwise we should be glad to know it. Always mention this paper when answering advertisements, as advertisers often have different things advertised in several papers.



How radically the people of our country differ on the question of right in the Transvaal war is illustrated in the following extracts from sermons recently preached in Chicago:

Dr. Thomas said: "Righteousness is the essential principle of moral order, judgment is that principle in action. The Greek word for judgment is the same as our English word 'crisis.' The principle of right in action brings crisis in the life of man and nations. The destruction of Jerusalem, the fall of Rome, and the revolutions of the eighteenth centuries were world crises. And just now there is a crisis in the affairs of England and Africa. On the one side is the English greed for gold and domain, on the other it is the old love of the Dutch for liberty. England does not want a republic in Africa. The Boers want independence. They ask less and stand on stronger ground than did our American colonies. We protested against oppression, then fought for freedom. The Boers, always independent, are now fighting to maintain the rights bequeathed them by their fathers.

"What a scene in these closing hours of the nineteenth century. Christians against Christians. Blood mingling with the blood of brother. Might against right. A stronger nation forcing the subjugation, or annihilation, of the weaker, and the world silent. Holland fought, the fathers of liberty, for the world; now her sons are fighting the battles of liberty against the world. What does republican France say? Nothing. What does liberty-loving Germany say? Nothing. What do the children of Lexington and Bunker Hill say?"

Rev. R. A. White said: "England has not a single inch of legal ground to stand on in this. We tax Chinamen without allowing them to become citizens, but no one claims that China has any right to instruct us as to our naturalization laws. Supposing England or Germany should attempt to tell us that five years for making citizens are too many, and that we must reduce them to two. Supposing we should insist that Canada should change its naturalization laws

to suit us. England's position is no more justifiable than these demands would be. That the Transvaal is a weak nation does not change the moral right of the matter."

Bishop Fallows said: "My sympathies go out instinctively toward any people that are oppressed. They do not go out toward the Boers, because they have been the oppressors. No candid reader of the controversy in the case I think can deny it. The British ruled the territory of the Cape from which the Boer exodus took place in 1835. It was not because England oppressed them, but because they wanted to be by themselves as a Dutch community. England recognized their self-government under certain conditions agreed upon by both parties. Under that self-government the so-called republic became bankrupt. This republic, exploited as a pre-eminently Christian government, treated the Kaffirs so barbarously that England was forced in the interest of humanity to intervene. Then the republic for its own welfare agreed to annexation in 1877, with the exception of Paul Kruger and some of his associates. England was then compelled to carry on the war against the Kaffirs and Zulus which the Boers began, but did not continue in the further struggle. While the British were fighting their battles Kruger and his followers rose in revolt, organized another so-called republic, and overpowered the small British force at Majuba Hill in February, 1881.

"Great Britain ceded territory which was independent before the annexation of the new republic, and conquered the native tribes. By the convention of 1881 Kruger promised to give equal privileges to newcomers. Great Britain reserved control of foreign relations with foreign powers, but conferred complete self-government subject to British suzerainty. She also stipulated that all the inhabitants of the Transvaal should be unfettered by special taxation and exempt from any legislation hostile to the spirit of the convention. Kruger broke many of these stipulations. Worst of all, and perhaps the secret of all, is the attempt to inaugurate a race war in South Africa. This is next in wickedness to a religious war. What American citizen, be he Hollander or English, can countenance such a spirit? I deplore deeply the necessity for the war which is on. For years the oppressed Outlander has been pleading for the rights he supposed to have been guaranteed to him. Long and patiently the English government has waited for a change. The issue cannot be doubtful. A free field for the world and fair play must be the ultimate result."

"IN THE industrial field at present the most striking fact," says "Bradstreet's," "is the unparalleled activity of the country's steel and iron producers. The rise in prices for iron and steel in all their forms has been only more remarkable than the development of a demand which has for months past outstripped the capacity of the industries in question. Mills and furnaces are taxed to their utmost, and numerous plants, particularly in the East, which have been closed down during the years of depressed prices and slack demand, have been put in operation once more. At the present range of prices a great many such concerns, which previously could not be operated in competition with the large new plants at the South and West, are doubtless able to yield a good return, thanks to the ability of their owners to make long contracts for their output. Meantime the larger producers are working to their utmost capacity, and it is calculated that if the present scale of production were maintained for the balance of the year the aggregate pig-iron production of the country for 1899 would be little below 13,500,000 tons. It is natural to suppose that the advent of the winter season will in some districts restrict iron production, but no question is entertained as to the fact that the present year will break all records in the industry."

IN A welcoming address to the Minnesota volunteers returned from the Philippines President McKinley said:

"The century now drawing to a close has been the most memorable in the world of progress and history. The march of mankind in moral and intellectual advancement has been onward and upward. The growth of the world's material interests is so vast that the figures would almost seem to be drawn from the realm of imagination rather than from the field of fact. All people have

felt the elevating influences of the century. Humanity and home have been lifted up. Nations have been drawn closely together in feeling and intellect and sentiment. This contact has removed old prejudices and brought about a general understanding which has destroyed enmity and promoted amity. Civilization has achieved great victories, and from the gospel of good-will there are now few dissenters. . . . The century has blessed us as a nation. While it has not given us perfect peace, it has brought us constant and ever-increasing blessings and imposed upon us no humiliation or dishonor. We have had wars with foreign powers and the unhappy one at home, but all terminated in no loss of prestige, of honor or territory, but a gain in all. The increase of our territory has added vastly to our strength and prosperity without changing our republican character. It has given wide scope to democratic principles and enlarged the area for republican institutions. I sometimes think we do not realize what we have and the mighty trust we have committed to our keeping. The study of geography and history has now more than a passing interest to the American people. It is worth recalling that when the Federal Union was formed we held 909,765 square miles of territory, and in less than one hundred years we have grown to 3,845,515 square miles.

"The first acquisition, in 1803, known as the 'Louisiana Purchase,' embraced the 883,072 square miles exclusive of the area west of the Rocky mountains. Its vastness and value will be best understood when I say that it comprises the entire states of Arkansas, Missouri, Iowa, Nebraska, North and South Dakota, and parts of the states of Minnesota, Kansas, Colorado, Montana, Washington, Louisiana, all of the Indian Territory and part of Oklahoma Territory. It would seem almost incredible to the present generation that this rich addition to the Federal domain should have been opposed, and yet it was resisted in every form and by every kind of assault. The ceded territory was characterized as a 'malarial swamp,' its prairies destitute of trees or vegetation. It was commonly charged that we had been cheated by giving fifteen million dollars for a territory so worthless and pestilential that it could never be inhabited or put to use, and it was also gravely asserted that the purchase would lead to complications and war with foreign powers. In the battle in the Senate over the treaty a distinguished senator from Connecticut said: 'The vast and unmanageable extent which the accession of Louisiana will give the United States, the consequent dispersion of our population and the destruction of that balance which is so important to maintain between the Eastern and Western states threatens at no very distant day the subversion of our Union.'

"A distinguished representative from Virginia said he feared the effect of the vast extent of our empire, he feared the effects of the increased value of labor, the decrease in the value of lands and the influence of climate upon our citizens who would emigrate thither. He did fear, though this land was represented as flowing with honey and milk, that the Eden of the new world would prove a cemetery for the bodies of our citizens. Imperialism had its place in the catalogue of disasters which would follow the ratification of the treaty, and it was allowed that this was the first and sure step to the creation of an empire and the subversion of the Constitution. The phrase which is now employed by some critics, so far as I have been able to discover, first appeared here.

"In 1819 we added 69,749 square miles, which now comprises Florida and parts of Alabama, Mississippi and Louisiana. In 1845 we received the cession of Texas. It contained 376,931 square miles, and embraced the state of Texas and parts of Oklahoma, Kansas, Colorado, Wyoming and New Mexico. The next cession was under the treaty of 1848, containing 522,568 square miles, embracing the states of California, Nevada, Utah and parts of Colorado and Wyoming, and of the territories of Arizona and New Mexico.

"In 1853 we acquired by the 'Gadsden Purchase' 45,535 square miles, which embrace parts of Arizona and New Mexico. The next great acquisition was that of Alaska, in 1867, containing 599,446 square miles. This treaty, like that for the 'Louisiana Purchase,' was fiercely resisted.

"In the last year we have added to the

territory of the United States, the Hawaiian islands, one of the gems of the Pacific ocean, containing 6,740 square miles; Porto Rico, containing 4,600 square miles; Guam, containing 50 square miles, and the Philippine archipelago, embracing approximately 143,000 square miles. This late acquisition is about one sixth the size of the original thirteen states. It is larger than the combined area of New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina and the District of Columbia. It exceeds in area all of the New England states. It is almost as large as Washington and Oregon combined and greater than Ohio, Indiana and Illinois united; three times larger than New York, and three and one half times larger than the state of Ohio.

"The treaty of peace with Spain, which gave us the Philippines, Porto Rico and Guam, met with some opposition in the Senate, but was ratified by that body by more than a two-thirds vote, while in the House an appropriation of \$20,000,000 was made with little or no opposition. As in the case of the Louisiana purchase, the opponents of the treaty were in the minority and the star of hope to an oppressed people was not extinguished.

"The future of these new possessions is in the keeping of Congress, and Congress is the servant of the people. That they will be retained under the benign sovereignty of the United States I do not permit myself to doubt. That they will prove a rich and valuable heritage I feel assured. That Congress will provide for them a government which will bring them blessings, which will promote their material interests, as well as advance the people in the path of civilization and intelligence, I confidently believe. They will not be governed as vassals, or serfs, or slaves; they will be given a government of liberty, regulated by law, honestly administered without oppression, taxation without tyranny, justice without bribery, education without distinction of social condition, freedom of religious worship, and protection of life, liberty and the pursuit of happiness."

DISCUSSING the question, "Will we have cheap beef again in the United States?" a contributor to the Cincinnati "Price Current" says:

"The fifteen years previous to 1892 our beef-cattle more than doubled with an average of 14,000,000 cows to breed from and a declining price, with everything unfavorable for an increase in numbers.

"Since 1892 our loss on beef-cattle is 10,000,000, decreasing from 37,000,000 to 27,000,000, yet we had 16,000,000 of cows to breed from, and an increase in price of almost eight dollars a head, and everything favorable for an increase. This has happened under the management of 5,000,000 farmers, while the increase was made with 4,000,000 farmers. Our average annual loss since 1892 is within a fraction of the average gain of twelve years, from 1880 to 1892, being 1,260,000 cattle.

"Thus, if we have exchanged an annual gain for annual loss of 1,260,000, it makes a difference of 2,520,000 in our annual progress on beef-cattle. There seems to be no letting up on the alarming decline, as the last year was as much as the average seven years' loss, being 1,269,972. . . .

"It seems that thirty per cent advance in price has yet had no effect on the decrease. Even if we are able only to arrest the decrease, in 1910 our population would be 90,000,000 and our beef-cattle 27,000,000, we would have only 300 cattle for each 1,000 persons, against 559 in 1892. Should our population be 90,000,000 in 1910, we should have 50,000,000 of beef-cattle to be in proportion to 1892. . . .

"From these statements we conclude that many years will elapse before beef-cattle will be cheaper than now."

COMMENTING on the results of the Chicago trust conference Burke Cochran said:

"I cannot say that I came to Chicago with the hope that this conference would accomplish much. I did hope, however, that we could make some suggestions which might be immediately adopted. We have agreed, I believe, that some statute should be devised to provide for publicity of all corporate acts. We have agreed that a penalty should be enforced against any such form of favor as that enjoyed by a corporation exercising special franchises, and the machinery of publicity will be the means of discovering it. That, according to all of us, would be a distinct advance."



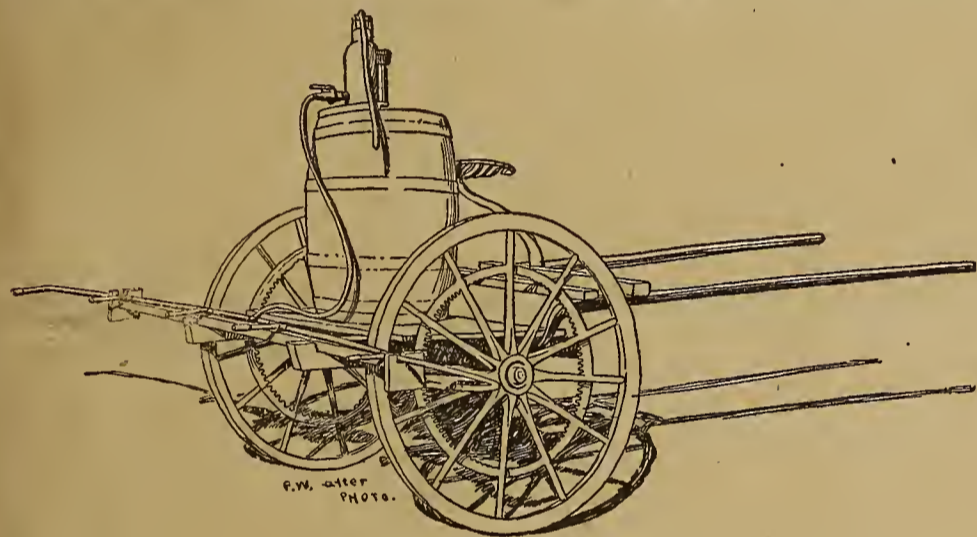
ABOUT RURAL AFFAIRS

Spraying-machines Spraying has become not only the rage, but such an absolute necessity, that a good share of the space of agricultural papers must be used for the description of spraying apparatus, and information about spraying generally. Sometimes we may think that little remains to be said on the subject; but as we are making improvements from year to year, and new discoveries besides, the subject must and will be harped on for some time to come. Only a week or so ago somebody asked the FARM AND FIRESIDE to name the best and cheapest spray-machine for use in a potato-patch of from three to five acres. In my reply to this query I might have called attention to a recent bulletin of the Rhode Island agricultural experiment station, which among other things gives illustration and description of a home-made potato-sprayer used by Mr. I. L. Sherman, of Rhode Island. The cart is arranged from an old tedder, the seat being left on and a floor laid, on which to place the cask and pump. A piece of one-half-inch hose extends from the pump to the rear of the cart, and is attached to a three-eighth-inch brass pipe of sufficient length to reach across the width between two rows and extend half way to the next row on either end. An elbow is screwed on each end. Into this a short nipple is inserted, another elbow screwed on, and sufficient pipe inserted to reach two more rows. Tees are inserted in both middle and end sections at the exact distance apart

used, without using an excessive quantity, and must be so constructed as to be quickly disorged when in use, and easily taken apart for cleaning." * * *

I would lay especial emphasis on the advice never to buy a cheap sprayer. A cheap knapsack, for instance (one costing five dollars or less), cannot be made of copper and brass, and cheaper metals soon corrode, and sprayers made of them will not last. Even the best made and most expensive sprayers are liable to clog or spring leaks or get out of order otherwise. At least I had to take my various machines apart, and clean and fix them ever so often during the season. The first knapsack I bought could not be taken apart because the pump was soldered in solidly, and when the pump gave out it had to go to the junk-shop. The pump on my new Garfield is simply screwed to the copper tank, and can be taken out in a few minutes. * * *

The Nozzles I have used a half dozen or more of different nozzles, each one of which seems to fit a special purpose or special purposes. For heavy and powerful pumps and for use in large orchards I know of nothing equal to the McGowan; for greenhouse use I prefer the Bordeaux, or one constructed on the same principle; but for potatoes I want none but the Vermorel. This is surely unexcelled for close-range work, throwing a fine cone-shaped spray.



SPRAYING-MACHINE

as are the rows; into these tees six-inch pieces of pipe are inserted, and to these are attached Vermorel nozzles. Thus it will cover six rows at a passage, and the nipples and elbows at the ends of the middle section allow the end sections to be turned up to allow of its passage through a narrow place. The machine has given its owner excellent satisfaction. Thus, with the pumps, nozzles, pipes, etc., that are to be bought from some one of the various reliable firms who deal in such goods, and with the exercise of a little ingenuity and judgment, a practical potato-sprayer may easily and cheaply be fitted up at home. * * *

General Advice The bulletin also mentions some of the leading considerations in the construction and operation of spraying apparatus. I wish to indorse every word of the following paragraph: "As spraying at best is hard and somewhat disagreeable work to do it as easily and economically as possible, the best of the apparatus will be found none too good. The greatest care should be taken to obtain apparatus thoroughly adapted to the work, simple and strong in construction, and easy to operate. All working parts of the pump should be of brass, of good quality to insure wear, and should be smoothly fitted. The air-chamber should not be too large, yet of a size to give a steady pressure, and the capacity of the pump should be such as to maintain a proper pressure when using the largest number of nozzles required for any given work. There must also be some adequate arrangement to keep the mixtures used thoroughly agitated. The ease with which the working parts can be gotten at for repairs and the facilities for oiling should be considered. The thoroughness and economy of application depends largely upon the nozzle used, and one should be chosen particularly adapted to the work that is to be done. To be thoroughly effective a nozzle should throw a mist-like spray, thus covering the plants with a thin film of the mixture

But it is also just the nozzle which should be kept scrupulously clean. The Bordeaux mixture with its lime is apt to clog it tight as a wedge if left for any length of time unused and unwashed after its use. Every Vermorel nozzle should be washed out by spraying with clean water, or better with water and vinegar. If clogged, boiling or soaking in vinegar will probably clean it all right; or you may run a very fine pliable wire through from the end where the hose is fastened on, in order to clear out the orifice. * * *

Unfermented Fruit-juices I am very fond of the unfermented juice of the grape, and consider it a decidedly wholesome beverage. There used to be places in New York City and perhaps in other large cities where grape-juice freshly pressed out of the fruit was handed out to thirsty customers at five cents a glass, same as cider, ginger-ale or pop. I have frequently quenched my thirst with it there. But when I had to buy it by the bottle, as put up by certain firms, although as good as when freshly expressed, the price seemed too high for free use by people of ordinary means. And yet the preservation of grape-juice and probably of sweet cider and other fruit-juices seems a very simple matter, at least in theory. We can bottle (or possibly can) such juice after it has been sterilized by heating. Actually boiling would destroy or change its pleasant natural flavor, and we must be very careful not to overheat it. The following is the receipt given in a recent report of the Canada experiment farms. "The natural flavor of grape-juice may be preserved intact by raising the temperature of the juice gradually to one hundred and seventy degrees Fahrenheit, keeping it at this point for ten minutes, and then quickly bottling it, taking care to use absolutely air-tight and thoroughly sterilized vessels. These vessels should be taken from a tank or kettle of boiling water, immediately filled, and corked, or covered with the least possible delay." Easy, isn't it? T. GREINER.

SALIENT FARM NOTES

Preparing for Winter The rapidly shortening days and chilly nights remind us that winter is not far away, and the sooner we make all necessary preparations for it the better. No sensible farmer ever allows winter to catch him without sufficient shelter for every head of stock he has in his possession, and an abundance of feed placed where he can handle it expeditiously in any kind of weather. The short-sighted gentleman will just be out of coal and groceries when the first bitter blast of winter sweeps over the land. He will have no feed to haul in, no troughs arranged for feeding in the yard, no conveniences for watering the stock in a sheltered place; and if the first "spell" should be accompanied by snow the neck-yokes and whiffletrees and a dozen other much-needed articles will be covered and lost. No one can tell just when winter will set in. We may have splendid weather up to Christmas or later, and we may have some of the severest kind this month. Chinks in the stables and sheds should be battened, roofs repaired, feed and water troughs placed where needed and securely fastened, fences repaired, tools and implements of all sorts greased and packed snugly away or hung up, and everything about the place that may be needed when snow is on the ground placed where they can be readily found. * * *

Then there are the boards, rails, posts, etc., scattered about. They should be piled up out of the way. If the stock-well is in an exposed situation, no better use can be found for some of these posts and scraps of boards than in the construction of wind-breaks about it. Scraps that are too small to be of further use should be gathered into a heap for fire-wood or kindling. I have seen two or three wagon-loads of pieces of boards, rails, posts, etc., lying about some farm-yards—enough to keep the stoves supplied a month or more simply going to waste. All this material should be gathered up, cut to stove-lengths and piled where the cook can use it. On many farms a man can profitably be employed two or three days to cut into stove-lengths dead trees and other useless wood, and to gather up and burn the smaller trash. Clear up the premises and get rid of all this trash. * * *

Protecting Apple-trees It is now the time to look after the young apple-trees. When snow falls rabbits will begin to gnaw the bark, and will ruin a whole orchard in a single night. Last fall I wrapped quite a number with newspapers, using one daily to a tree, and tied them on at the top and bottom with wool twine. They passed through the winter all right. I shall do the same thing again this fall. The papers can be bought for one cent a pound if one does not have them, and one can wrap them about the trees and tie them quite rapidly on a calm day. All that is needed to remove them in the spring is a sharp knife. Simply cut the strings, and the papers will come off in a month or so. This job should be attended to at once, because it is a very disagreeable one when the weather becomes cold or snowy. * * *

Manuring the Garden If the garden has not been heavily manured it should be done now. Almost any person takes an interest in a garden when the vegetables grow rapidly, are ready for use early, and are of fine quality. A liberal application of good manure in the fall will make a garden satisfactory, so far as growth of plants is concerned. Don't be afraid of getting on too much. If it is not decayed sufficiently by plowing-time to incorporate well with the soil, harrow it well before plowing. The harrow will draw off all the coarse trash. Don't forget the asparagns and rhubarb. Give them a coat of six or eight inches of the richest manure. It will pay. * * *

Reopening Ditches Just before the winter comes on is a good time to reopen the ditches that have been partly closed or filled up by cultivation. The land may be dry enough now, but we all remember the low places where water stood for a month or so last spring. Now is the time to take a big plow and a strong team and open drains so that there will be no ponds or wet flats next spring. A good plowman with a strong team can do as much ditching—surface-draining—in half a day now as two men could do in two weeks with spades when the ground is water-soaked. I have seen a pond near the middle of a forty-acre field keep ten or twelve acres too wet to plow

until late in June, when a man with a plow could at this time of year have opened a ditch in two hours that would have drained every drop of water out of it as it fell. Keep these hollows in mind, and open them up before the ground freezes. * * *

Managing Ravines On hilly or rolling land there are ravines to be looked after. Sometimes the frost comes out in spring during a heavy rain-storm, and tons of the top soil are washed down into the ravines and swept away. It is bad policy to leave these hillsides unprotected by some green crop, like rye, for they are sure to wash and gully badly in the spring. If one has an unprotected hillside he should plow deep furrows ten feet or so apart along the side of the hill, something like terracing, to check the flow of water down the hill and catch the soil that otherwise would be swept into the ravine. Then the ravine should be choked every fifty feet or so with brush and straw—anything that will stop or check the rush of water and prevent gullying. To be sure, these are only "emergency expedients," to be used in cases where one was for any reason prevented from seeding the hillside and ravine to grass. I have long been of the opinion that farming hillsides is a losing business. All they are fit for is grass or timber. If they are cultivated all the best soil is washed away in three or four years, and besides they are so gullied as to be almost worthless. Kept in grass or planted with useful trees they will retain their fertility indefinitely, and prove to be almost as profitable as any part of the farm. * * *

Managing a Hilly Farm An acquaintance of mine who owns a hilly farm manages it in such a way that he gets about as large an income from it as most men do from level farms of equal size. A small creek runs across the farm, the valley along which it flows being deep and its sides very steep. This valley, including the greater part of the gullies leading into it, is fenced in and used as a pasture for cows and sheep. There is a fine sod over the whole, and he keeps only sufficient stock in the pasture to keep the grass reasonably short. If any spot is grazed too short or the grass is killed out it is heavily manured and seeded with a mixture of red top, blue-grass and white clover. The manure prevents the stock from grazing it too close until a firm sod is established. In the deep gullies, where usually we see only a tangle of brush, crab-apples, wild grape-vines and weeds, he has planted several varieties of native and Japan plums, and Moore's Early, Concord and Niagara grape-vines. He says these deep gullies are fit only for brush and vines, and he sees no reason why they should consist of wild crabs, wild grapes and other trash when good fruit will answer the purpose just as well. Inside the pasture he has planted the lower part of these gullies with ash and catalpa trees, while the sides of the little creek are lined with these and maple trees. In a few years he will have all the fence-posts and fire-wood he needs. The upper level or nearly level land he farms, growing corn chiefly, which is fed to his stock during the winter months. In speaking of his methods and practices he said to me: "I'm a sort of a theoretical fellow and have been laughed at a great deal by some of my neighbors on account of my notions about planting trees, managing the hillsides and gullies on my farm, but I've paid no attention to their fun, though I must confess that I did feel a little silly when I cleared out that gully near the house and planted it to plums, Siberian crabs and grape-vines; also when I planted those trees along either side of the creek. I see now that it was the right thing to do, and I am getting lots of fruit from those gullies, while I am now getting enough posts from my timber plantings to keep my pasture fences up. I may be 'an odd genius,' as some call me, but I am making a good living and something more off this 'ragged eighty,' and I'm not working myself to death, either!" * * *

If any person imagines for a moment that the methods of this "odd genius" are merely "moonshine," all he needs to do is to take a look at the farms up and down the creek. The hillsides on these are seamed with deep gullies and utterly bare of vegetation, while the ravines are wild tangles of worthless briars, vines and weeds. The owners are trying to scratch a living from the upland and wishing somebody would come along and buy them out. They do not seem to care to follow the example of their little neighbor. Why? Because he's merely an "odd genius!" FRED GRUNDY.

OUR FARM

FARM THEORY AND PRACTICE

HANDLING CORN-FODDER.—The criticism is occasionally heard that farm journals advocate methods that are not available for many farmers, demanding machinery and other equipment that many do not own. While the silo is the best means of preserving fodder in a palatable condition, and the shredder puts dry fodder into satisfactory shape for feeding, yet not one third of the fodder or stover of the corn belt that is saved for feeding is ever siloed, shredded or cut. The fodder is fed long, and I agree that much of it could not be shredded or cut with any particular profit on account of the abundance of the supply. But no abundance can excuse the careless methods of handling often seen—methods that lower the quality of the feed and cause the feeder to dread his work.

When corn has been put into the shock the plan always is to use the fodder for feed; otherwise, the corn would have been husked off the stalk without cutting. Being intended for feed, the fodder should be saved from injury with the same care that is given to hay. It does not damage while the grain is curing ready for husking if the shock has been set up right and tied near the top so that it will not twist. As soon as the corn is ready for the crib, and the weather is not too dry, the husking should begin, and the work should be pushed. The fodder should be tied in bundles of convenient size by the huskers. Tarred twine is best for this purpose, but binder-twine is cheaper and serves the purpose where there are few rats or mice. If the fodder is not perfectly cured or dry three shocks should be put into one and let stand for two or three days.

Whenever the fodder is dry enough for the mow or stack it should be hauled and stored away just as any one readily does in the case of hay. It is valuable feed up to this time, and will remain so if properly handled. There is no more reason that the fodder should lie on the ground or be left in a shock without a tie that will hold it safe until all the grain is in the crib than there is reason for leaving a hay crop in the windrow until the last acre has been cut. An acre of good fodder is worth more to the feeder than a ton of good timothy hay, and it is worth saving. The amount of fodder that can be stored in a large bay or mow is surprising if the bundles be laid evenly like wheat bundles. On an average, the fodder from one acre of corn occupies considerably less space than the bundles from two acres of wheat, and this amount of fodder makes sufficient coarse feed for a horse for three or four months. But it must be good fodder—that which has been cared for like any other good feed. It is then nourishing and palatable. That which cannot be placed in mows should be stacked or else so shocked that it will have the least exposure to the weather, but stacking is preferable. If one prefers to shock it, the fodder should be hauled from the field promptly, and five ordinary shocks should be placed in one, putting it close to the barn or feed lot. The shock two feet from the ground should then be drawn tightly together with a rope and ring, and tied with twine or other material. The top should then be drawn in closely and tied. Such a shock will keep fodder fairly well, though it is inferior to a stack. All this work should be done promptly before a storm comes after the husking. Weather-beaten fodder is as poor stuff as weather-beaten hay.

THE FEEDING.—Long fodder can be fed without much inconvenience when one keeps it dry and is fixed for the feeding. The mangers should be of double length for use of two horses, so that the bundle can be easily dropped in. When the fodder is bright and dry, as it will be when cared for aright, the horses will trim the stalks closely, leaving only the heavy portion. There should be a pit or basin next the barn into which the butts are thrown each time before feeding. If some straw is thrown over them occasionally, and the mass is kept level and tramped daily by stock, it will rot sufficiently to be spread on the fields before the next summer. The moisture and tramping do the work. The fertility in it goes back to the soil, and nothing is lost. Some farmers drag wet and damaged fodder into a muddy lot for stock, and then are very sure that it has little feeding value, and they truly get little value from it; but bright fodder tied in bundles can be fed in mangers with as much satisfaction as very much of the hay that is used.

THE ADVANTAGES OF SHREDDING OR CUTTING.—The stalk contains about as much feeding value as the grain that grew upon it. When fodder is fed long a considerable amount of the material goes direct to the manure-basin. Shredding or cutting enables the animal to eat more closely, and the refuse makes good bedding. The long stuff must go into a basin to be rotted. But where the supply of fodder is abundant there is no especial gain from close eating. The bright blades, sheaths and tender portion of the stalks make the best food, and the farmer can feed the long fodder with reasonable economy.

DOING THE BEST WE CAN.—In all this there is no claim that the use of shredders, cutters and silos should not be increased. Probably half the farmers who yet feed the fodder long should adopt one of the improved methods. It is purely a question of economy, much depending upon the acreage of corn grown and the number of horses and cattle that should be kept upon the farm. But while many continue to feed it without cutting, they should not be behind others in securing quality. I agree that fodder is not fit feed for a horse, and that he should have the more costly hay when the fodder has been left in the field during all winter storms. What would the hay in a hay-cock be worth with similar exposure? But bright fodder is better feed for an idle horse, or a horse that gets corn instead of oats, than timothy. For horses at hard work every day through the winter I should feed the fodder only at night, giving hay morning and noon.

The profits in many lines of manufacturing now come wholly from the utilization of what were formerly the wastes of the business. The wastes of the farm are very many, and one of the great ones in the corn belt of the country is in the handling of the stalk that grows the ear of corn.

DAVID.

ALFALFA AND HOGS

The demand for young bacon hogs increases every year, and the farmer who does not make an effort to supply the market loses one of his best sources of income. There is nothing that returns better and quicker revenue than the alfalfa-fed hog. An eight-month-old pig of the Poland-China, Chester White or Berkshire breed usually sells for \$10 to \$20 in the West, where the feed is chiefly alfalfa. As a good herd may be grown upon a small tract at very little expense it seems that the combination of hogs and alfalfa is destined to become the mortgage-lifter of every farming section where this leguminous plant can be produced. If rings are put in their noses the hogs cannot damage the alfalfa, and the plant will grow profusely where pastured by them.

Alfalfa is particularly a semi-arid plant, but it is being grown successfully in almost every state, and its many useful qualities are coming out, as repeated experiments prove. If the seed is sown thickly at the rate of about thirty pounds to the acre the stand will be perfect, and the feed the second year be just suited to hog-raising. Pigs may be weaned at eight weeks and turned into the green alfalfa-field, where they will keep in good order and make a perfect growth with no other care except seeing that they have plenty of clean water. The field can be cheaply fenced by using wire for the top and about one-foot boards for the bottom, setting the posts twelve feet apart. Some hog-raisers in the West use five or six wires above the board, making the fence about twenty-four or thirty inches in height.

The hogs are furnished with shady pens by simply covering some corner with boards, and left to feed as they choose. If the alfalfa gets too rank they are changed to a freshly cut meadow while the old pasture is mown. Dairymen find it pays to feed hogs on the alfalfa-fields with the cows, and to add skim-milk to the ration of the pigs. Where a pond of water can be had the hogs do better, as they swim about and fish the same as ducks. The spring pigs can be kept on the alfalfa until within about three weeks of marketing, when they are put into closer pens and fed grain. Corn is preferable, but many of the western hogs are fattened on wheat or barley, the latter being the best.

Very few farmers kill their hogs, but market them on foot. One man with whom I am well acquainted fattens about fifty every year, kills them and cures the meat at home, by which he gets nearly twenty-five dollars a head.

It does not pay to keep hogs through the winter except for breeding purposes, and the alfalfa-hog raisers have only a few

choice sows to feed all the year round. These will require but little care during the winter months if turned loose to the dry alfalfa-stacks. They eat the dry leaves with as much relish as the other stock, and remain in fine condition. They burrow through the stacks, eating their way, and are beneficial in giving the under layers of hay plenty of air, and thereby drying out all moisture that might otherwise cause the bottom to mold. An alfalfa-fed hog is always healthy, and the meat is relished by the best judges.

To the farmer who has not yet figured out how to make the farm pay I would say try alfalfa and hogs. JOEL SHOMAKER.

TESTING SOILS FOR APPLICATION OF COMMERCIAL FERTILIZERS

For more than twelve years of active service in connection with farmers' institutes the writer endeavored to impress upon the farmers the necessity of a more rational method in the use of commercial fertilizers, in order to avoid the useless expenditure of money for plant-food which their soil did not require. The means for reaching this result were fully explained, but with few exceptions farmers could not be induced to make for themselves the ordinary field experiments, which alone could inform them of the needs of their soil and indicate what fertilizers to buy for their fields.

In 1885 the writer instituted a series of experiments with soil in sewer-pipes, for the purpose of securing a method by which these soil tests could be made for the farmers at the Ohio State University. (See the fourth annual report of the Ohio agricultural experiment station, page 231.)

The sewer-pipes employed were fifteen inches in diameter, and the amount of soil required was about six hundred pounds. Subsequently it was found that by the use of six-inch tiles the amount of soil required could be reduced to seventy-five pounds with equally satisfactory results. The soils were collected in accordance with the following directions:

First, never send a sample of soil from a field which without fertilizers is capable of yielding a full crop. On a soil of this nature commercial fertilizers will not pay.

Second, never send a sample from a field which is not in a good, high state of cultivation; that is, which is not well drained, and where the soil when cultivated is not deep and pulverulent. Commercial fertilizers cannot counteract bad physical conditions of the soil.

Third, never send a sample from a meadow or clover sod, but always from fields that are under cultivation.

Fourth, if a field is in a high state of cultivation, and still fails to produce more than half a crop, there is good reason to believe that the soil is deficient in one or more of the essential ingredients of plant-food. From such a field an average sample of soil should be sent for testing. In order to collect an average sample of the soil proceed as follows:

Begin at one end of the field and cross it back and forth at intervals of eight or ten paces until the other end is reached. While thus crossing dig a square hole with a spade every eight or ten paces down to the subsoil. Cut off a slice about two inches thick from the surface down to the subsoil, and throw it into a wagon-bed. Better still, cut out a core of soil with a post-hole digger at each point. Avoid all local contaminations, as the droppings of cattle, piles of decaying vegetable matter, etc. Remove any trash from the surface by scraping before digging the hole or sinking the post-hole digger; also avoid all low places in the field, especially if they are filled with black soil or leaf-mold. Thoroughly mix the soil thus collected, and send not less than seventy-five pounds for testing. The test is made in the following manner:

Ordinary six-inch tiles are placed in large Wagner pots, which contain enough clean sand to bring the top of the tiles on a level with the top of the pots; the whole is then filled with sand with the exception of the upper seven inches of the tiles. The sand is thoroughly drenched with rain-water or condensed water. The empty portion of the tiles are next filled to within an inch of the top with the thoroughly mixed sample of soil, the fertilizer is added and incorporated with the upper portion of the soil by stirring, moistened if necessary, fifteen seeds of oats, spring barley, spring wheat or other grain are distributed uniformly over the surface and then covered with dry soil to a level with the top of the tiles. The six-inch tiles to the depth of seven inches as described will contain about ten pounds, or five kilograms, of soil.

Five miniature plots are thus prepared for each soil test. If Wagner pots are not available, a box eighteen inches deep and large enough to hold five of the tiles, with an opening in the bottom of the box for drainage, may be employed. The sand surrounding the tiles is kept moist by adding water once a week.

The amount and kind of fertilizer to be added to the five plots for each test are as follows:

PLOT NO. 1—COMPLETE FERTILIZER

Superphosphate.....1.0 gram
Potassium sulphate..... 0.5 gram
Sodium nitrate..... 0.5 gram

PLOT NO. 2—COMPLETE MINERAL FERTILIZER

Superphosphate..... 1.0 gram
Potassium sulphate.....0.5 gram

PLOT NO. 3

Superphosphate..... 1.0 gram
Sodium nitrate.....0.5 gram

PLOT NO. 4

Potassium sulphate.....0.5 gram
Sodium nitrate.....0.5 gram

Plot No. 5, no fertilizers.

As examples of this method of testing soils three experiments recently made will suffice.

The three soils were arranged in a series of five plots, and fertilized as already described. April 29th fifteen oat-seeds were planted in each plot, and plants were up on May 3d. No difference in the growth of the plants could be noticed before May 16th. At this date plots No. 1, 2 and 3 were alike in all cases, and were in advance of plots No. 4 and 5. The plots were trimmed out to ten plants to the plot. On May 18th each plant of plots No. 1, 2 and 3 had one side-shoot, while plots No. 4 and 5 had none. The difference in growth between plots No. 1, 2 and 3 and plots No. 4 and 5 was very marked. On May 22d the plants of plots No. 1, 2 and 3 had two side-shoots and were all practically alike, while plots No. 4 and 5, which again were alike, had no side-shoots, were much smaller and less vigorous. On May 29th the same relation as to growth existed, except that in the soils No. 1 and 2 plot No. 2, which contained no sodium nitrate, showed nitrogen starvation, and remained in this condition to the end of the experiment. Plot No. 2 of soil No. 3 did not reveal nitrogen starvation in the slightest degree, but was equal in every respect to plots No. 1 and 2. The plants of plot No. 4, which contained potassium sulphate and sodium nitrate, were not larger or more vigorous at any time during the experiment than those of plot No. 5, which contained no fertilizer. From this it will be seen that soils No. 1 and 2 were deficient in phosphoric acid and nitrogen, while soil No. 3 was deficient in phosphoric acid only.

The following recommendations were made in accordance with these results:

For soils No. 1 and 2, 300 pounds superphosphate and 100 pounds sodium nitrate to the acre.

For soil No. 3, 300 pounds superphosphate to the acre.

In the place of superphosphate a like amount of fine bone-meal was recommended for fall crops like fall wheat and rye.

In making the tests of soils in this manner it is not necessary to bring the plants to maturity if time will not permit.

Observations made on the growth of the plots during five or six weeks will give sufficient data to interpret the needs of the soil. The tests thus carried out are much less laborious than an analysis of the soil would be, and the chemist, who occupies a position where the demands for soil analyses are frequently made by persons not properly informed in the matter, may often find this method of use in imparting that knowledge to the farmer, which will enable him to apply commercial fertilizers to his soil in a rational manner. H. A. WEBER.

DOES IT PAY TO FERTILIZE GRASS?

As an experiment one half of a grass-field that appeared to be failing was given a spring dressing of nitrate of soda and bone-black, one hundred pounds each, and potash, fifty pounds, to the acre. The other half was not fertilized. At the close of the first season the fertilized plot had produced nearly half a ton to the acre more than the unfertilized plot, and in the second year, without any further attention, it produced nearly as well. The reader, knowing the cost of his fertilizer and the price of hay, can reckon whether this application paid or not. M. G. KAINS.

FARM IMPROVEMENTS are usually good investments, but it is not always wise to make them at the expense of increasing the mortgage. G. E. M.

NOTES FROM GARDEN AND FIELD

CULTIVATED HUCKLEBERRIES.—The more I think of my success with the one huckleberry (or rather blueberry) bush, and the more I hear from others on the subject of cultivating that fruit, the stronger grows my conviction that there is a great field and a great opportunity open before us. One of our friends writes me as follows: "I note what you say about transplanting huckleberries (FARM AND FIRESIDE of September 1st). I went to the woods for mine, took up medium-sized bushes with two or three feet of soil, and planted them in the garden, simply digging a hole to take the solid clump of roots and soil, and tramping solid. The result was fine berries, but the birds so far take the lion's share." I hope that many more of our friends will make trials with huckleberries and blueberries. We should especially be on the lookout for plants with large fruit. There is no reason whatever why we should not after a while grow blueberries in our gardens as large as cherries. I believe the time will soon come when we shall have them quite commonly in cultivation. The high-bush blueberry seems to me particularly promising as a subject for cultivation. Recently I saw a very interesting account of a visit to a little plantation of cultivated blueberries set by Mr. Huntington, of Lynn, Mass., in the back yard of a city lot. The account taken from "American Cultivator" runs thus:

"The high-bush blueberry of our New England pastures can be safely transplanted to garden lots, and will live and thrive upon almost any soil. Under good cultivation the size of the berry and the amount of yield increases over the ordinary crop as it grows wild. Not many bushes or clumps of bushes are necessary to furnish berries enough to supply the needs of a family of usual numbers. These last statements were proven by the fact that some of his older clumps of bushes with a half dozen stems had more of the surface covered with fruit—ripe and green—than with foliage, and that many of the ripe berries were a half inch in diameter, even after this dry season. As such

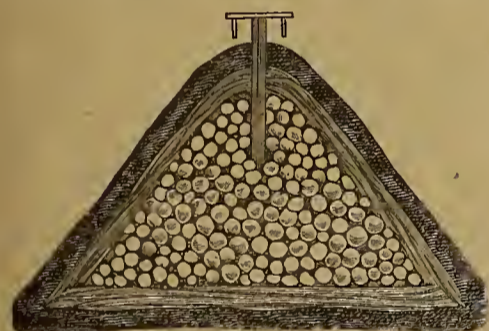


FIG. 1

a bunch of bushes would yield nearly a quart at a single picking, we thought it safe to estimate that it would yield at least twelve quarts in the season. Small bushes obtained by division of roots were quite as prolific in proportion to size, excepting where some were shaded by a thrifty young apple-tree which robbed the soil of moisture and fertility as well as sunlight. Seedlings at three years old come into bearing, but do not always prove superior to the parent plant, at least not at first crop, though they may do better when older.

"While it takes, or has taken in his tests, about three years for the transplanted bushes to get well rooted so as to get a good crop, they bear some the first two years. Once well grown they are a permanent investment which one may leave to his children and grandchildren, as the plants live at least half a century, and perhaps twice that length of time if the older stalks are cut out occasionally and the new ones left to take their places. In this they resemble the currant." I am not going to take much space to figure out the profits to be expected from a patch of cultivated blueberries, because that is all speculation, and therefore unreliable. But we have this incontroverted fact, that there is a good demand even for the ordinary blueberries, and that usually they bring very good prices. Now bring an extra fine lot of such berries as they can be grown under cultivation to your market and you can almost set your own price on them, and get it, too. The chief trouble as yet is to get the plants for setting out a patch and to propagate them fast enough. I would like nothing better than to find some bushes bearing largest-

sized fruit for setting out and propagation. I shall be on the watch for them. I verily believe that the cultivation and improvement of the blueberry will be the next important step in advance in American horticulture, and that the people who first take up this branch and carry it on intelligently will make some money out of it.

WINTERING APPLES, ROOTS, ETC.—I never had better, juicier, tenderer apples to eat in early spring than those taken out of a pit outdoors. For that reason I have always favored the plan of wintering at least a portion of my apples for home use in that way. This method seems to keep all the flavor and all the brittleness in the apple intact, and perhaps is the simplest and safest of all for ordinary uses. The apple is less susceptible to injury from freezing than potatoes. It ranks about with mangels, beets, turnips and similar root-crops in this respect. Every farmer may be supposed to know how to pit potatoes. Apples can be

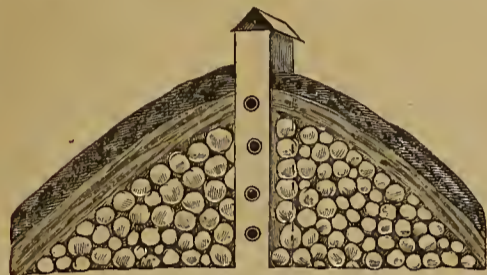


FIG. 2

handled in the same manner, only that a little less covering may be needed. Where the subsoil is porous we may dig a pit a foot or more in depth, otherwise we must select a well-drained spot, and put the apples on top of the ground, resting on a good layer of clean straw. Pile up the apples in a conical heap, as shown in Fig. 1, inserting a wisp of straw into the center of each heap and letting it stick out at the top. This latter is for ventilation. Gases and heat must have a chance to escape. Next put on a generous covering of straw or marsh-hay. If it is a foot or more in thickness it will do no harm. In place of the wisp of straw an upright box, say six inches square and long enough to reach from the ground to a few inches above the top of the heap when done, as shown in Fig. 2, will supply the needed ventilation. The earth covering which comes over the straw all around need not be more than a few inches thick. The pit is thus to be left until freezing weather, when a further covering of straw and earth, or a very heavy covering of coarse manure, is to be placed upon the frozen earth of the first covering. Roots are pitted in the same manner.

I am going to try still another plan this year. The apples are put in barrels in the usual way, and the barrels headed up, although it may not be necessary to press the fruit in as tightly as we do for long-distance shipment. The barrels may be left out in a cool spot as long as there is little danger of severe freezing. After that they are bedded in the ground in a well-drained and protected spot, as shown in Fig. 3, and covered with plenty of straw and a thin layer of earth. I have no doubt that the apples will come out all right in the spring. For my own table use during the fall and early winter I have again wrapped a lot of Gravenstein apples and Anjou pears in



FIG. 3

waxed paper, then in tissue-paper or ordinary newspaper, and packed them in layers in kegs, using light oats as filling between the layers. These kegs are stored in a meal-chest in the granary, where they are safe from rats, mice and thievish bipeds, and reasonably so from freezing. The same plan gave me a good deal of satisfaction last year, and I believe is one of the best that could be practised for the purpose of having a home supply of choice fruit at that particular season. I have hardly seen a rot speck on either apples or pears thus treated.

T. GREINER.

ORCHARD AND SMALL FRUITS

CONDUCTED BY SAMUEL B. GREEN

INQUIRIES ANSWERED

Time to Plant Chestnuts.—J. H. S., Sorgho, Ky. The proper time to plant chestnuts is in the autumn, as soon as they fall from the tree. If it is not convenient to plant them until spring, they should be mixed with sand and buried in the ground for the winter, as it is very difficult to keep them under cover.

Transplanting Fruit-trees and Gooseberry-bushes.—A. N. G., Rathdrum, Iowa. Young fruit-trees which have been growing in the orchard two years can be transplanted without any serious danger of loss. The best time to do it, of course, would be in the spring of the year. Old gooseberry-bushes, if taken up, broken to pieces, and the thrifty portions selected and reset in good new soil, will generally do nearly as well as young bushes. As a rule, however, it is best to buy new plants to set, as they cost so very little.

Propagating the Hawthorn.—G. P. S., Carrel, W. Va. The common hawthorn, wild or cultivated, is quite easily propagated from seed, and may also be grafted on pear seedlings, but so far as I know it will not grow from cuttings under ordinary conditions. I have been successful in growing it as follows: Gather the hips in the autumn, mix them with rotten sod, bury them in the ground and allow them to remain for one year, or until a year from the following spring, when they should be sown in a good seed-bed. They will start very early. They grow very slowly the first year, but after they get a start make a good growth each season.

Leaf-curl.—J. C., Wildwood, Mich. The ordinary leaf-curl of raspberries is quite prevalent in some sections, but in my experience, which has been quite extensive, I have not seen the foliage turn yellow before curling up, as you describe. It would seem to me that this is not the ordinary leaf-curl and that there must be some insects in the ground that are working at the roots; and if there is much of this injury, and the plants are much weakened by it, I do not think it would be of any use to try preventives, but a better way would be to start a new plantation on new land, with new sets. I do not think it would be safe to use sets from a plantation that was diseased, as you describe this to be.

Brown Rot and Mildew.—J. A. R., Bryan, Ohio. Your grape-vines are affected with what is known as "brown rot" when it occurs on the fruit and as "mildew" when it comes on the foliage. The botanical name of this is *Peronospora viticola*. This is a very common disease, and is especially liable to affect the Delaware and Rogers hybrid grapes. The remedy for it is spraying early in the spring as soon as the buds begin to unfold, with Bordeaux mixture, and repeating the same at intervals of about two weeks until the berries are full-grown. In especially moist seasons this disease is most prevalent, and when such weather continues it is best to spray after the fruit is fully grown, using for the purpose carbonate of copper. This treatment is almost universally successful, and is generally practised by large growers of these varieties.

Plant-lice—Apricot Not Fruiting—Best Plums.—T. M. P., Edwardsville, Ill. The specimen of chestnut-leaves seems to have been infested at one time with aphids (plant-lice). I do not think that the injury is due to any trouble at the roots, but that at some time when you were not watching it closely it was so badly infested that the plant, which was probably weak anyway, was seriously injured.—It would be out of the question for me to tell you why your Russian apricot blooms and yet fails to set fruit. However, so far as I have been able to learn, this variety is considered unreliable. It is possible, however, that the planting of plums near it might aid it in this respect.—I would suggest that for the two plum-trees you get Wyant and De Soto. These are native kinds that are reliable in your section, and I think you will find them very satisfactory.

Red Cedar Seedlings.—D. G. T., Judsonia, Ark. I have been very successful in growing red cedar from seed. My method is as follows: I gather the berries soon after frost in the autumn, soak them in potash or soda lye for twenty-four hours, then turn them into a fine sieve and rub with the hand against the sieve until the hulls come off; I then mix with sand and bury outdoors until spring, and then plant in the seed-bed, where they are to remain for two years. Treated in this way they do not come up the first year, and it is my custom to cover the seed-bed the first year with two or three inches of hay to keep down the weeds and to keep off the sun, and the following spring take off the hay early, as the seedlings start very early in the spring. I have a seed-bed now with perhaps five thousand in it, from seeds sown two years ago last spring, and some of these seedlings are nearly two feet high.

Pruning Small Fruits.—H. M., Gunnison, Utah. The best time to prune gooseberry, currant, raspberry and other small fruits is early in the spring before the growth starts. In the case of gooseberries the new growth should be pruned back from one half to one third its growth if large fruit is wanted. It will be found that even our common kinds of gooseberries will increase greatly in size of fruit when properly pruned. The pruning should consist of the removal of the weak shoots, especially such as may be infested

by borers. Liberal pruning of the currant, as in the case of the gooseberry, generally results in increased size of the fruit, but less pruning is needed. In the case of the red raspberry I think but little pruning is needed; but in the case of the blackcap from one half to two thirds of the new canes and their side-shoots should be cut away, otherwise too much fruit will be set and it will be small. Directions such as these, however, will have to be followed with some individual judgment, since there is such a great difference in varieties. Nemaha or Gregg are strong-growing, vigorous kinds, and will carry a larger amount of fruit than the Ohio, which in most sections needs severe pruning in order to get the fruit of any considerable size.

Apple Seedlings—Grafting Cherries and Mulberries.—G. B., Ames, Iowa. It has been shown that it is best to keep apple-seed over winter by mixing with sand and burying it in a box outdoors. In the spring bring it into the house and keep it warm until it shows signs of sprouting; then sow at once in good, rich, mellow soil outdoors. This is the way I prefer to do when handling small quantities. I have also had good success when I have been able to sow it in the autumn on light soil that did not pack, the trouble with much of the soil in this section being that it packs hard during the winter, so that the young seedlings cannot push through in the spring. Wealthy seedlings are considered good stocks to graft on, but I should prefer Duchess stocks, although there is probably very little difference. Last winter there was a great deal of root-killing in some sections of the West, and this has led to a discussion of the methods of preventing it, and it has been suggested—and I think properly so—that we use seedling crabs as stocks, since they are much harder than ordinary seedlings. For this purpose, at the Minnesota and South Dakota stations they are attempting to grow a large number of seedlings from the red and yellow Cherry crabs. These produce a large amount of seed that germinate very readily. The effect of these stocks will probably be to somewhat dwarf the trees, but if it results in giving them harder roots, so that they will withstand dry winters when the ground is bare, it will be a great advantage. It is reported that it is customary in parts of Russia and Siberia to use the crab stocks to avoid root-killing.—The Early Richmond and other similar cherries cannot be grafted on the choke-cherry nor on the common wild black cherry; in fact, it seems to be a pretty general law in regard to cherries that the kinds that have their flowers in racemes will not graft with those that have their flowers in umbels, while the members of each of these sections can generally be successfully grafted together. Thus the Early Richmond cherry can be grafted upon the Wild-hird cherry, which has its fruit in umbels, but not on the wild black or choke-cherry, which have their fruit in racemes. The mulberry cannot be successfully grafted with any other fruit, nor can it be put on any other stock. Stocks may be grown very easily from seed, but it is a fruit that does not come true from seed; consequently, the named varieties are grown either by grafting or from cuttings. It is, however, quite easily grafted.

Plums Not Bearing—Cherry-sprouts—Name of Plant Wanted.—E. G., Milan, Ill., writes: "Why do my plum-trees, although always full of blossoms, bear only a few plums? The trees seem thrifty. They are on a hill, facing the north.—Should the young cherry-trees that come up around the old trees be taken up and replanted? Do they keep the old trees from bearing?—Please tell me the name of the plant of which leaves are sent. It comes up every spring, and has a yellow blossom, and pods with beans in them."

REPLY:—It is very difficult to say why it is that your plum-trees flower and yet do not fruit, for there are many reasons why such might be the case. In the case of our native plums—the Wild Goose, for instance—it frequently happens that they do not fruit owing to lack of pollenization of the blossoms. I know of a case of this sort on the grounds of the Massachusetts agricultural experiment station, where several large Wild Goose plum-trees failed to fruit for more than fifteen years, and finally after other varieties of American plums were set out near them they began to bear well. It may be so in your case. The barrenness, however, sometimes results from weakness in the varieties propagated, as is the case sometimes with the Miner growing in southern Minnesota and northern Iowa. Of course, where trees stand in rather low land they are liable to have their flowers frosted, which may also produce barrenness. There are some varieties of plums and other fruits that seem to be very fickle, and while they may have fruited quite well in the place where they originated, yet when propagated away from that place they frequently fail to prove satisfactory. Horticulturists are each year becoming more impressed with the importance of mixing varieties in orchards in order to produce perfect pollenization of the flowers.—Young cherry-trees that come up around old trees from seed may be taken up and replanted, and if desired may be budded with some named kinds. They do not keep the old trees from bearing except as they may crowd it and produce poor conditions. When cherry-trees are disposed to sprout much it is generally due to the fact that they have many borers in their trunks, and it is Nature's way of overcoming the injury and continuing the life of the tree. If, however, the borers are removed and the sprouts cut away the tree will often take a new lease of life.—The leaves which you sent were badly broken up, but judging from their appearance and what you say of the plant I am inclined to think that they come from *Cassia Marylandica*, a well-known hardy, leguminous plant with yellow flowers.

THE POULTRY-YARD

Conducted by P.H.JACOBS
HAMMONTON, NEW JERSEY

VALUE OF EGGS OF HENS AND DUCKS

REGARDING the relative merits of fowls, an experiment was made in France, about twelve years ago, for the purpose of finding the relative value of hens and ducks as egg-producers. Three of each sort were selected for testing the result by observation as to their relative fertility. Between the first day of January and the end of August the three hens laid 257 eggs and the ducks 402 eggs. Moreover, in the autumn months of the previous year the ducks had laid 215 eggs, while the hens had completely ceased laying. Altogether, therefore, the ducks had produced 617 eggs within the twelve months as against 257 obtained from the hens. The birds of each class selected for the experiment were of the same age, and as far as could be judged of the same relative size and strength.

Of course, a more extended series of trials must be undertaken before any definite opinion can be given on the relative merits of ducks versus hens in the matter of egg-laying. But there are eggs and eggs, and it remains to consider their comparative value as food as produced by hen or duck respectively. This was undertaken by a French chemist, M. Cammail, who gave the result of his analysis of both varieties. A hen's egg weighing 60.4 grams (equal to 14.433 grains avoirdupois) was found to consist of 7.2 grams of shell and membranes, and 52.2 grams, or 88.07 per cent, of contents. One hundred parts of a hen's egg contained 25.01 dry matter, 1.03 ash, and 11.27 fat, while the proportions of the same substances in a duck's egg were 28.32, 1.16 and 15.49 respectively. It follows, therefore, that ducks are not only the more prolific layers, but their eggs are also richer in fat to no inconsiderable extent, which are facts that will not fail to interest the reader.

DESTROYING MINKS

To destroy minks, get wide boards and place them all around the inside of your yard (or on the sides the minks enter), leaning against the fence and about six inches out from the bottom, so as to leave a "run" behind. Place the boards butt to butt, making loose joints, and at intervals of two or three boards make a small hole opening into the yard under the edges above. Directly behind these holes place your trap, using a steel trap and covering it well, as covering a trap carefully is very important. Make a hole just deep enough to leave the trap level with the surface of the ground, then cover the jaws and springs with sawdust or light earth, making everything look natural, and drop carelessly a dead leaf on the "pan" so as to cover it well. Care should be taken not to get lumps of earth under the "pan." See that your chain is fastened firmly or you may lose your trap. Be careful not to make the holes under the boards too large, as some inquisitive bird will get his neck squeezed. The trap can remain set both day and night without danger to the fowls. A mink or weasel will not climb over the boards when they can travel on the ground or under. A plan that can be tried in an open yard is the following:

Around the fowl-house make piles of roots, sticks, rubbish, etc., say three or four, and so arrange them as to leave a small hole in each. Set your trap, well covered, just in the entrance of the holes, and the mink will be caught.

THE DORKING AS A TABLE-FOWL

There are three varieties of Dorkings—the white, colored and silver-gray. For compactness of body they are unexcelled, and crossed on Brahmas and Cochins they make the heaviest and best capons. We do not, as a people, take so kindly to the Dorking as is done in England, owing to the fact that they do not have yellow legs, although they are far superior as a table-fowl to any of the yellow-legged breeds. For family use, where the color of the legs is of no consequence, cross a White Georgian Game cock on a White Dorking hen, and the product will be one of the best table-fowls that can grace a dish, and as the chicks may also inherit the outer characteristics of the sire, they may also have yellow skin and legs.

SWOLLEN EYES AND HEADS

This subject has been given attention before, but I will repeat that it is prevalent during this season. Swollen heads and eyes are due to exposure to drafts of air, usually top ventilation. Wash the heads with a solution made of ten drops of carbolic acid in a gill of water, inject into each nostril two drops of equal parts of camphorated oil and crude petroleum, and give each fowl two grains of bromide of potash in milk or soft food. Repeat daily until the birds recover, but in all cases remove them to a dry, warm place and out of reach of all drafts or currents of air.

LARGE AND SMALL BREEDS TOGETHER

It has often been considered proper to keep large breeds and Bantams in the same yards, but it is not always safe to do so. In the first place Bantams are pugnacious and quarrel with the larger cocks, but it is not at all impossible for the two kinds of fowls to breed together, for while the Bantam cocks may not mate with the larger hens if they have a large number of hens of the Bantam breed, yet cocks of the Dominique, Leghorn or Hamburg breeds can readily cross with Bantam hens.

LINSEED-MEAL

Linseed-meal or oil-cake is excellent for poultry if fed once a week as a change. Very often when the combs of the hens seem pale and they do not lay a few broken bits of oil-cake given at night will redder the combs and start them to laying, but if given regularly it will cause disordered bowels. A tablespoonful of the meal in the soft food for six hens will be sufficient.

INQUIRIES ANSWERED

Lameness.—J. S. E., South Bend, Ind., writes: "I have a flock of Brahmas, and several of them are quite lame. Can you assign a cause?"

REPLY:—Probably the roost is too high and the birds fat and heavy.

Charcoal.—J. B., Canastota, N. Y., writes: "Please suggest a good substitute for charcoal for poultry."

REPLY:—Parched corn is excellent, and will be relished by the fowls. It should be nearly burned.

Salt for Poultry.—R. K. L., Erie, Pa., writes: "I am informed that salt will kill poultry, and I desire to know if it is true."

REPLY:—If salt is used to season the food it will prove beneficial, but if given in excess it is injurious and sometimes fatal.

Plymouth Rocks.—M. S., Lexington, N. C., writes: "I have a flock of Plymouth Rocks, some of the hens having a very small feather or two on the shanks or on the toes. Does it indicate impurity?"

REPLY:—Yes. The Plymouth Rock should be clean of feathers on the shanks or toes, and should they appear it denotes that there is Asiatic blood.

Ailment of Cochins.—Subscriber, New Castle, Cal., writes: "I bought a male Cochin for next year. He is four months old. He cannot walk, and sits on his haunches, but otherwise appears well."

REPLY:—You should have stated mode of management and details. Probably the cause is heavy feeding and rapid growth. He will no doubt recover if kept dry and not fed too heavily. Keep him on straw—no roost.

Feeding Bone.—G. H. C., West Washington, D. C., writes: "How should I feed crushed dry bone to fowls that are confined?—How many points is the number on the comb of a pure-bred Leghorn male?"

REPLY:—Dry bone should be scattered broadcast, if not too fine, two or three times a week; the fowls will eat only as much as they wish. A gill for a dozen birds is sufficient.—The comb of a Leghorn should have five or six points, five preferred.

Feeding.—E. G. P., Lima, Ohio, writes: "I have been feeding corn at night, and wheat in the morning, with cut bone at noon, allowing two quarts of grain at each meal to twenty fowls. Am I feeding too much?"

REPLY:—It depends upon the condition of the fowls. For this season the allowance of grain should be reduced one half. During severely cold weather more grain may be supplied. The food should also be more varied, green food being essential.

One Hen One Day One Mill

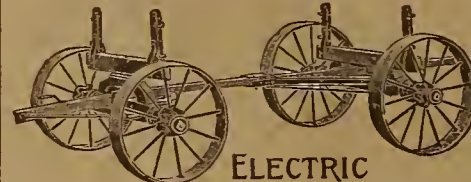
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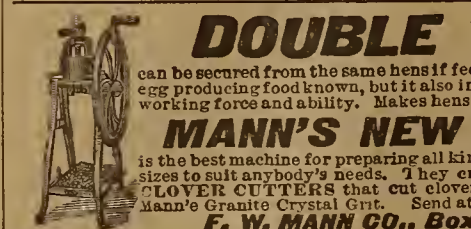


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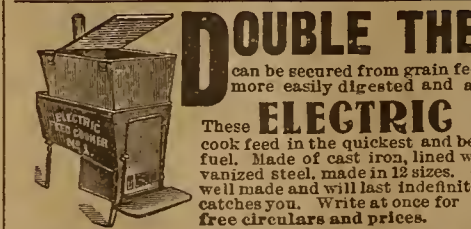


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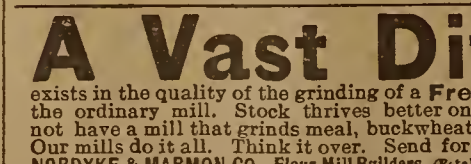


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BEEKEEPING, POULTRY-RAISING, GARDENING AND FRUIT-GROWING

AFTER a series of unprofitable honey seasons the question confronts us who have for years almost wholly depended upon honey crops for our support, What may we best combine with our pursuit to insure a more uniform income? Since the majority of beekeepers live on farms, the nearest thing that presents itself would be farming and gardening, but to engage largely in these would hardly be advisable. However, one may select some specialty, one that would conflict the least with beekeeping; that is, require the least of attention when the bees need the most. I will name those special branches of agriculture which combine very nicely with apiculture. Early in the spring one may grow lettuce and radishes for market, beginning with hotbeds, then cold-frames, finally in the open ground. Cabbage, cauliflower, tomato and celery plants may be grown.

Fruit culture may be engaged in quite largely. I have a partiality toward the strawberry, but this, with the raspberry, requires the most attention when we are busiest among our bees, and so it seems to me that the blackberry of all the berries only comes in for consideration. Fortunately, the blackberry is least grown and there may be found a ready market for it nearly everywhere, even among the farmers.

Apple, peach, pear and plum growing also are all well adapted to combine with honey production. When I first conceived this idea I went to work and devoted some five or six acres to these fruits, in particular the two last named. This was about five years ago, and now my expectations and hopes will soon materialize.

I must not forget to speak also of chestnut-growing. When setting my plum and pear trees I also planted fifty Japan chestnut-trees. They did not all grow, and those that did made but little growth the first three years. Now they are doing a great deal better. I had the pleasure of harvesting nearly one bushel of the nuts last season. And what pleased me most was the fact that they made their own sales without any talking. All I had to do was to show them. They are grand, there is no question. I put them up in small grape-baskets and took them into our little town. I sold out almost in a twinkling. Some of the people who did not get any just begged me to bring them some of those large chestnuts, and would have willingly paid double the price I really did ask, although I had already doubled the price of ordinary chestnuts. The Japan chestnuts are of comparatively late origin, and I believe those who engage in their culture first will make the most money out of them. In starting a chestnut orchard it is not absolutely necessary to buy and plant grafted trees from the nursery. Grafting the native stock may be done successfully. Stray trees along fences may be thus utilized, and suckers growing up around stumps where chestnut-trees have been cut off answer well. The art of grafting the chestnut requires more skill than grafting the apple, and it may be best to employ a professional. I have had only moderate success, and the puzzle to me is why some scions grew and others did not; the fact that some did grow proves that it may be done.

Any one engaging in fruit culture must expect to do a great deal of work. People who think it is only necessary to plant the trees, and then wait in ease for the trees to grow and bear, are dying fast. It requires time, a great deal of time, to plow, to harrow, to cultivate between the trees, to spray, to prune, and to do the many other necessary things. In connection with bees all this work has to be done between times, as one can best get away from the bees. The hours of the early morning and the evening are the hours I generally utilize for this work, and often it seems as though even the long days in July were not quite long enough to do justice to the work.

There is another vocation that fits in nicely with our bee-work—poultry-raising. This, however, requires a great deal of attention, but since the work is spread out over the whole year, a little time each day, it may well be combined with beekeeping. Ducks, it is said, gobble up many bees. I have not had the least trouble that way, but have not kept ducks very long. According to my experience there is no satisfaction in keeping ducks in the same yard with other fowls. They should have their own separate ranch. If they can be marketed at ten or twelve weeks, when they have attained their most profitable size, the profits will be much larger than when kept longer.

If one has a somewhat isolated location

and controls a large farm, turkeys may be grown at a profit; but if foxes are numerous in the vicinity the risk is too great. In close quarters turkey-raising is out of the question, for neighbors object—and that with good reason—to other people's turkeys foraging on their land.

I prefer to grow the large breeds and I caponize all the surplus cockerels. The cost of a full-grown capon is but little more than half of his market value, not counting the time required to feed him. Surplus pullets may often be sold at a good price, particularly if full-blood stock is kept.

F. GREINER.

WHY FARMERS ARE POOR

Every one knows that the farmer works, and works hard. His brow is wet with honest sweat the whole year round, and if farmers were paid in proportion to the amount they sweated they would be our wealthiest citizens. But our wealthy citizens are not our sweaty ones, therefore farmers are not of them. I am not referring to those so-called farmers who farm the farmers, but to the men who work with their own hands, not with the hands of other men. Most working farmers, notwithstanding their hard work, make but a bare living, and the story told of one of them, who, on his death-bed, said he was only taking his nose from the grindstone and putting it to the tombstone, derives its grim humor from its truth.

Why it is that the average farmer must work so long and so hard for such small pay is a question worth thinking about. Moreover, it is one which never loses its interest, is always pressing for answer, yet to the majority of men is never satisfactorily answered. Year after year the farmer toils all his life long and is forced to consider himself fortunate if he makes a living. When he thinks of his grandfather and of his father, and contrasts their conditions with his own, he sees that they also worked hard, but their wages then were only what his are now. They, too, managed to live—nothing more. Yet the farmer of to-day has many advantages which his father and grandfather lacked. He is better educated. He knows more of the science of farming, has greater skill, and, more than this, the wonderful inventions of recent years enable him to produce very much more in the same time with less effort. But in spite of all this, for the farmer of to-day times are always hard and money scarce.

I maintain that this condition is due to our unjust system of taxation, a system which discriminates against the farmer and is now bearing upon him with crushing force, making it impossible for him to get ahead until this weight is removed. How farmers are made to suffer from excessive taxation, how they would be relieved of it by the adoption of the single tax, and how the single tax would benefit every one, is told in a free booklet, the "Single Tax Catechism," published by the Single Tax Society, Philadelphia, Pa.

C. F. SHANDREW.

THE CORK-OAK

It would seem as though the cork-oak industry in the United States might claim the attention of those who favor the producing of necessities at home rather than the sending of money abroad for them. In 1858 cork-oak acorns were produced and distributed by the Department of Agriculture throughout the southern states and California, and from occasional specimens still found scattered through the regions it is evident that the tree will grow and thrive in this country. Owing, however, to lack of early records and the fact that no further introductions have been made, there has been no progress made here toward the establishment of the cork industry. It is estimated that in the neighborhood of 3,500,000 acres are planted to cork-trees in the Mediterranean countries. The importation of corks into the United States during the past decade have run from \$1,000,000 to \$2,000,000 annually, being in the past year \$1,751,625. Cork is now at eleven times the price that was paid for it one hundred years ago, the advance being caused by the increased use of bottles.

GUY E. MITCHELL.

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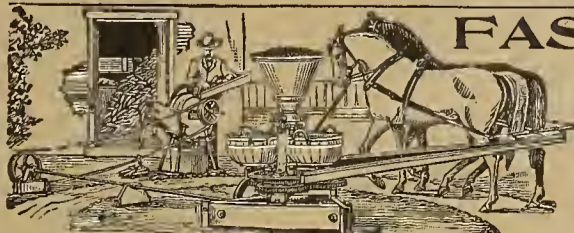
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Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge.

Rich Milk—Cream Rising.—S. C., Wood River, Neh., writes: "Is a cow that gives milk testing four and one half per cent butter fat while running on good pasture profitable?"

REPLY:—Yes, if she gives a good yield of milk. According to the test the milk is very rich.—No. All the cream in milk cannot be separated by the gravity system.

VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

Chronic Lameness.—R. D., Lansing, Mich. If your horse, as you say, has been lame for three years, and the seat of the lameness is in the shoulder-joint, it must be considered as incurable.

A Milk Fistula.—S. C. C., West, Hawley, Mass. What you describe is a milk fistula. Wait until the cow is dry, and then have the opening in the teat refreshed and cauterized with a stick of lunar caustic.

Scours When Driven.—G. McN., La Porte, Texas. If your horse always scours when driven, at once stops when at rest, and if you mistake is made in the diet of the animal, the only advice I can give you is to exempt the horse some length of time, for several months, from any and all kinds of work.

Inflammation of the Brain.—D. W., Cedron, Mo. There can be no doubt that your calves, according to your statement, died of inflammation of the brain.

Probably a Neglected Case of Scalled Scratches.—C. E. E., Pataskala, Ohio. What you call "bad cracks in the fetlock" is probably a case of old and neglected scratches.

Side-bones.—W. H. S., Fitchburg, Mass. So-called side-bones, consisting in an ossification of the lateral cartilages of the hoof, are quite common in aged horses, at least as far as the fore feet are concerned.

A Voracious Pup.—T. A. K., Covington, Ky. Pups, especially of the larger breeds of dogs, as a rule are always very hearty eaters. My advice is to feed your pup nutritious food containing a sufficient quantity of nitrogenous compounds, and do not keep him on potatoes and corn-meal, as is often done, to the detriment of the animal.

A Shrunken Quarter of a Cow's Udder.—J. M. B. R., Jolietville, Ind. If your cow is otherwise perfectly healthy, I do not think that anything can be done to arrest the shrinking process (atrophy) in the mammary gland of one fore quarter of your cow's udder.

Fails to Come in Heat.—D. E. H., Ash-tabula, Ohio. I cannot advise you what to do if your cow, only four years old, fails to come in heat, notwithstanding that she has pastured together with a bull for two summers.

Splint.—W. P., Creighton, Neh. What you describe is a so-called splint extending to the knee-joint, and, therefore, practically equivalent to spavin in the hock-joint, because like the latter it has caused morbid changes in the articular facets, and thus causes lameness.

A Roarer or Grunter.—D. D., Paterson, N. J. It seems that your dog is somewhat similarly affected as a horse called a roarer. The noise made at each breath, or grunting as you call it, appears to be caused either by a cessation of the functions of one of the recurrent nerves, and, in consequence, a one-sided paralysis of the muscles of the larynx governed by this nerve.

Skin Disease in Mane and Tail.—S. L. S., Upper Tract, W. Va. The skin of the lower portion of the crest and of the root of the tail of your horse is evidently diseased. First give these parts a thorough wash with soap and warm water, and then once a day with a four or five per cent solution of creolin in water.

Trouble in Making Water.—L. A. R., East Elkport, Iowa. Since you give no particulars and no description whatever concerning the ailment of your horse, and simply say that by spells he is troubled about making bis water, it is impossible to give you a satisfactory answer.

Not Blood-spavin.—A. H., Central Bridge, N. Y. The term "blood-spavin" is applied to an abnormal enlargement of the large vein passing upward on the median surface of the hind leg, situated where the vein passes the hock-joint on the anterior part of its median surface.

Unthrifty.—P. D., Mammoth Springs, Ark. There are various causes of unthriftiness, or not laying on flesh and fat, in horses as well as in any other animal. I will only enumerate a few of them; for instance, old age, chronic indigestion, too much food, or more food than can be digested, various morbid changes in almost any of the organs of the digestive apparatus, unwholesome and indigestible food, too much hard work, a constantly unclean or diseased skin, intestinal worms, too many larvae of Gastrus equi, pecorum and hemorrhoidalis, chronic lung diseases, etc.

Purslane.—G. C. H., Little Rock, Ark. Purslane (Portulaca) is not poisonous and does not produce any warts. Wild, or fool's, parsley is a poisonous plant, but it is not known that it produces warts.

Wind-galls.—J. B., Formosa, Cal. The lameness of your horse has its seat somewhere else, because such a so-called wind-gall as you describe does not produce it. I advise you to make a close and careful examination of the hock-joint and observe the peculiarities of the lameness, because it is not at all improbable that the lameness is caused by spavin.

Told a Story—A Fistulous (?) Withers.—K. C., Mechanicsburg, Ohio. The man who owned the mare before told you a good story cut out of whole cloth concerning the treatment and its effect.

Heaves.—J. C. D., Stanley, Ky. What you describe is usually called "heaves." Although incurable you can very much ease your horse and effect considerable improvement if you curb his ravenous appetite for bulky food, feed no hay at all unless you can get hold of some good wild hay, substitute some sheaves of oats and other nutritious food that is not bulky and not difficult of digestion.

Wind-galls.—W. S. B., Swan, Ky. A treatment of so-called wind-galls like those you describe, situated in the sheath of the flexor tendons just above the pastern-joint, has very seldom the desired result.

A Lump on the Outside of the Hock-joint.—J. K., Cedar Falls, Iowa. According to your description it looks as if that what you call a lump is a tumor, but as you do not say whether it is hard or soft, fluctuating or solid, it is impossible to decide what kind of a tumor it may be.

Probably a Collar-boil.—S. P. L., Palace, Ky. What you inquire about appears to be a collar-boil, produced by an ill-fitting collar. As to remove it will require some surgical operation, I advise you to let a veterinarian examine the horse and to let him perform the necessary operation if he deems it advisable.

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A RUSTIC NOBLEMAN

By Mattie Dyer Britts

CHAPTER III.

"WHAT A HANDSOME YOUNG MAN!"

Never wedding, ever wooing,
Still a forlorn heart pursuing,
Read you not the wrong you're doing,
In her cheek's pale hue?
All her life with sorrow strewing,
Wed, or cease to woo.

—Campbell.



THE next morning Milly was suddenly awakened by a loud, shrill sound which seemed close to her bedside. She started up in affright, but a moment more told her it was the whistle of a factory near by blowing for six o'clock. Immediately four or five other whistles increased the awful din, and made her put her hands over her ears to shut out the discordant shrieks. She thought of the chorus of birds that always roused her out at the old farm home, and how beautiful the orchard was with its rustling leaves and waving blossoms; how sweet the breath of the clover-fields and meadows, and how pleasant the lowing of the cattle coming up to the bars.

"Somebody else has to play milkmaid now," she said, as she jumped out of bed, threw a soft wrapper around her shoulders, and drew back her curtain to look out. She raised the window; well, the distinct smell of tar which floated into the room was not just precisely the sweet field-breath she was used to, nor the dingy roofs and straggling gutter-pipes given to her view quite so charming as apple-blossoms and red clover!

"But you can't have everything 'all to oneself,' as Aunt Kizzy would say," she told herself, as she stepped back and began to dress. "There are grand things under the dirty roofs, and all those horrid whistles mean business. I'm a business woman myself now, so I'll not get homesick the very first day."

Still she could not help thinking of and longing for the old familiar sights and sounds of morning in the country, and was glad when a tap at her door and Jenny's cheery voice broke in upon her musings.

"May I come in?" asked the gay tones. "I did not know whether you were up or not, but I see you are almost ready for breakfast. How do you like your new quarters?"

"Oh, pretty well," answered Milly. "I rested nicely, I believe. But it does seem funny to be in such a little place; I feel all cooped up. The rooms on the floor below are larger, I suppose?"

"Oh, yes; larger and more expensive," was Jenny's reply. "Five dollars, you know Miss Molly said. The store girls can't afford that, so they always room up here."

"Do they? I suppose I could take one if I chose. If my wages were not sufficient father would pay the rest. But as I have set out to be independent, I will even do as the rest of the working-girls do. If I don't like it I need not stay."

"What!" Jenny was looking earnestly at her as she spoke. "I don't quite understand. You lived in the country, didn't you?"

"Yes; in the dearest old place you ever saw!"

"Folks well off? Beg pardon, I am not quizzing you through mere curiosity—your folks are well off?"

"Yes, fairly so."

"You are not obliged to come up here to work?"

"Oh, no! I came simply of my own free choice."

Jenny got up from the trunk on which she had perched herself, came close to Milly, took her by the two arms, and turned her toward the little window.

"Here, let me get a good look at you, my dear!" she exclaimed. "I want to see the girl who could, would and did leave a clean, sweet, comfortable home among green trees and flowers for this hole of din and dirt, pride and selfishness, shams and sin—"

"Oh, stop, stop!" cried Milly, laughing and freeing herself from Jenny's hold. "You will take all the heart out of me! Besides, it can't be half as bad as all that."

"It is as bad—and worse," insisted Jenny. "I've been here four years, and I ought to know. I tell you, Milly, I came from a country home myself once—not because I wanted to get away, but because my father and mother were dead, and I had to make my own living; and if I could go back and be as true and as innocent as I was then I'd be the happiest girl in all this wide, wicked old world. Oh, you needn't shrink away from me," she added, as Milly made an almost imperceptible movement. "I have not done any-

thing so very bad. But I know the world better, and I don't like it as well, that's all."

"Well, I don't know it yet, and I want to find out for myself," said Milly, laughing.

"All right! You will soon enough. Come, I mustn't preach to you the very first thing; I don't know what made me, only you look so sweet and fresh and—and—"

"Green!" supplied Milly, merrily. "Green, like all the other country things."

"No, not that—though there is a kind of greenness which don't hurt any of us, and I guess you have it as yet. I only hope you may keep it up here. There, I'm beginning to preach again! Come, let's go down to breakfast. We must be at the store by half-past seven. Are you ready?"

"All ready!"

The two went down-stairs arm-in-arm, for already they were fast friends—and it was the beginning of a friendship which lasted all their after lives.

Milly did not find her duties at the store harder than she had anticipated, as far as the goods themselves were concerned. She learned rapidly, and her fresh face and gentle manners soon made her a favorite with the customers, a fact which Mr. Hornbeck and Mr.

"Oh, nothing! Live and learn, Milly, my love! Her set and ours is not quite the same, that's all I could mean, you know."

Milly said no more, but somehow she had a suspicious feeling toward Miss Winnie which she did not like, yet could not altogether overcome. She became acquainted with nearly all the clerks in the store by the end of her second week there. She had often noticed the blond young man who stayed in the drapery department, and saw that he seemed quite friendly with Winnie Lyle and her gay set. He often cast admiring glances at Milly as he passed her counter, and one day Jenny noticed him.

"Milly, Walt Lindell is trying to get up a flirtation with you," said she.

"Is that his name?" replied Milly. "He needn't waste his killing looks then, for I am not a flirty girl. But he certainly is handsome, and seems very popular with the girls."

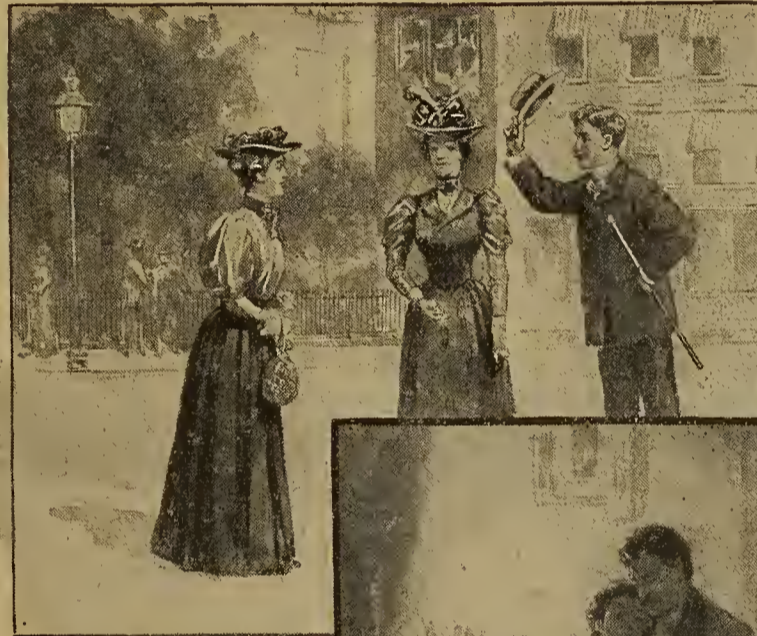
"Oh, yes; he is both, my dear. He's jolly and good-looking, and spends money like water—when he has it, which isn't always. Do you know what they call him here?"

"No, I don't," answered Milly.

"Well, they call him the 'daredevil,' because there is nothing he won't do for a frolic. He gets on a 'spree' every now and then, too."

"I wonder Mr. Osborne keeps him if he knows that."

"They know it, and he has come within bare one of getting his walking-papers several times. They would not keep him, I fancy, if it was not that he is a splendid window-dresser and decorator, and they have to have some one for that line. He could make piles of money if he would stay steady, but he won't. So he don't keep any position very long."



"WAIT A MOMENT. I WANT TO INTRODUCE MR. LINDELL."

Osborne were not slow to notice. She might have gone home on Saturday evenings, for she would not have minded the small expense of the fare for fifty miles, but the trains did not run so as to bring her back until Monday afternoon, and it would not have been wise to miss her work of ten.

"I'll stand it a month or two," she said to herself, "and when I get homesick I'll run out for a Sunday."

She liked most of the girls in the store, especially Jenny Hartman. Another girl from Osborne & Smith's hoarded at the Misses Crane's, and that was Winnie Lyle, who had charge of the glove counter. She was a rather pretty, dashing sort of girl, and dressed more showily than any of the rest. Milly used to wonder where she got so many fine clothes, but supposed she might have money besides her wages, and it was no affair of hers, anyway.

She sometimes called at Milly's room in the evening; but Milly noticed that Winnie was usually out of evenings, and did not come in until quite late.

"I should think Miss Molly and Miss Polly would not just approve of Winnie's late hours," she one day said to Jenny.

Jenny laughed, and answered, "My dear little innocent, Winnie tells the dear old ladies that she is studying of nights in an art school, and cannot get back any earlier."

"Well, isn't she?" asked Milly.

Jenny laughed again.

"Oh, I'm sure I don't know! Better ask her! Only if she invites you to go with her one of these fine nights, don't go, my dear, don't go!"

"I surely will not, for I don't altogether fancy Miss Winnie. But I wish I knew what you meant, Jenny."



"NOTHING SHALL TAKE ME, JOE," SHE WHISPERED

He'll get fired one of these days when he gets a little too wild. That don't make any difference with the girls, though; he gives them a good time, so they don't care. There was a girl here last year who actually broke her heart for him."

"She must have been mighty soft, then," said Milly.

"Oh, I don't know! She was a dear little soul—Mary Gerard was her name. Walt went with her devotedly for awhile, then all at once quit, and did not go with her at all. She really grew sick and pale, just about nothing else, and at last went home and died, purely heart-broken."

"Oh, what a pity! I didn't know any such thing ever happened in these prosy days," said Milly, in tones of sympathy.

"Don't often, I imagine; but that one case certainly did happen."

"Well, I'm sure of one thing—I shall never like Mr. Walter Lindell. I don't even want to get acquainted with him now," said Milly.

At that moment Miss Lyle came up on some errand from her department to theirs, and her queer smiles made Jenny say:

"Milly, I'll bet she heard what you said."

"Don't care if she did—it's the truth," was Milly's reply, and she soon forgot all about the matter.

An evening or two after, as she came out of

the door when the store closed, she met Miss Lyle and Mr. Lindell square in the face.

"Wait a moment, Miss Dayton," called Winnie, "I want to introduce Mr. Lindell. He is dying to get acquainted with you."

Milly did not return the compliment, but she could hardly refuse the introduction on the street, more especially as Jenny had gone on an errand and was not with her that night.

"That's true, what she said, Miss Dayton," began Walter, as he dropped into a walk at Milly's side. "I've been wanting to meet you ever since you came, but you are always gone when we get out, and I haven't had the chance. You are at the Crane house, with Miss Hartman, I believe?"

"Yes," answered Milly.

"Nice girl, Miss Jenny! Like her myself, though I don't fancy she likes yours truly over and above!" and he laughed merrily. "May I have the pleasure of walking up with you?" lifting his hat with a grace which poor Joe could not have imitated to save his life.

Milly thought of the story Jenny had told her, but there was a fascination about handsome, reckless Walter which few girls could resist, and Milly didn't, after all. In spite of her good sense, she answered:

"I shall be pleased to have your company, Mr. Lindell." And there was a silly little idea in her mind that it was not so bad, to be sure, to have the other girls see that she, the new, "green" country girl, could take their fine beau away from them. She was ashamed of herself, but she gave up, and dashing Walter escorted her to the door of the boarding-house before he again lifted his hat to her, bowed as if she were a great lady, and bid her good-night with a flash of his beautiful eyes which said, if Milly could only have read it, "I'll conquer her if I choose!"

Next morning, when Jenny and Milly set out for the store, they were joined by Winnie Lyle, who said, after they had walked a little ways:

"Girls, are you in for some fun?"

"Depends on what it is," promptly replied Jenny.

"Oh, not a bit of harm! Wouldn't hurt a Sunday-school teacher. Did you know Mr. Hornbeck is going to be away for a day or two?"

"No, I did not, at least," said Milly.

"Nor I," said Jenny. "Where is he going?"

"Don't believe I know that, but he's to be gone two or three days, and while he is away Walter Lindell will be floor-walker—and then we'll have a good time. Walt won't watch us like old Hornbeck does."

"But where will Mr. Osborne be all that time?" asked Milly.

"Oh, he'll be there now and then! But he is busy with the drummers for the fall goods just now, and won't be in the store all day. Say, we are talking about having a Dutch lunch one evening. Will you both come?"

Jenny laughed, and Milly asked:

"What is a Dutch lunch, Miss Lyle?"

"Don't you know?"

"No, I confess ignorance."

"Then Jenny can tell you. It's only a little fun and a good time. We won't stay long after hours. You'll come?"

"Just as Jenny says," answered Milly.

"All right then! I'll warrant she's in it with the rest of us." As they reached the store Miss Winnie pulled Jenny back to say, in a low tone, "See here, Jenny Hartman, don't you go to getting good, and telling her anything to scare her! We don't mean a hit of harm—you know there's no harm in it!"

"Didn't say there was!" returned Jenny, coolly. "You needn't be alarmed—Milly may as well learn the world as anybody. That's what she wants to do, and I'm not the girl to spoil sport, if you don't get too loud."

"No danger! We'll let you know when it's all arranged." And they went in to their work.

CHAPTER IV.

JOE COMES TO TOWN

Happy the man whose wish and care

His own rich acres calmly bonnd,

Content to breathe his native air

On his own ground.

Whose herds with milk, whose fields with bread,

Whose flocks supply him with attire;

Whose trees in summer yield him shade,

In winter, fire.

—Pope.

Mr. Hornbeck did not go away quite as soon as the clerks thought he would, and while he remained not a word was dropped about any frolic in the store. Two evenings that week, when Milly and Jenny came out, they found Walter Lindell waiting to walk home with them.

"With you, rather," said Jenny. "Walt knows he is no great favorite of mine. But if you can have a good time, why, I shall not put in any objections. I don't think he will break your heart!" And she stole a sharp glance at Milly.

"Not the slightest danger!" replied Milly, merrily.

"In fact, I fancy," went on Jenny, "that nobody up here can aspire to first place with you. I imagine there's a fellow down there who might not allow it. Am I right? You needn't mind telling your own cozy old Jenny, you know."

"I don't mind, Jen. Yes, there is one at home whom I have promised not to forget,"

said Milly, blushing, a soft, gentle look coming over her fair face as she thought of the loved ones at home.

Jenny nodded sagely.

"I thought so! Is it his photo on your stand?"

"Yes, it is, Jem."

"Well, he isn't very handsome, but he looks too good to trifle with. I know he has a true heart."

"There isn't a truer one lives than Joe," said Milly, warmly. "No, he is not handsome, but so good that he makes me ashamed of myself. I wish I could have been contented at home, as he is."

"Farmer?" questioned Jenny.

"Yes. Owns his own farm, and has a brand-new house built on it, ready for me when I choose to go."

"He has! That's what Walter Lindell has not, nor ever will have. I pity the woman who does marry him at last—if he ever settles down to marry anybody. Milly, I wish you would punish him a bit for the way he has treated other girls. I do believe he is taken with you—or else he is putting on, as usual."

"It don't make any difference to me which he does. I shall not lose any sleep on his account. I don't care to punish him, either, Jen. But if he wants to help me have a good time while I am here, why, that's what I came for, to some extent."

Jenny laughed.

"All right! I won't interfere, not if you keep soher when they have the Dutch lunch."

"Sober! Jenny Hartman, what are you talking about?" cried Milly, indignantly. But Jenny only laughed the more.

"You wait and see! That's all! But don't you miss it, for there'll be no end of fun. I intend to be there myself, so you need not hesitate, my dear."

"I'll think about it," replied Milly, as they reached the house and hastened up to their own rooms.

Friday morning Walter came into the store in a jaunty negligee suit and a tie which seemed to Milly's taste rather too gay. The girls began at once to chaff him.

"Whew! look at Walt!" said Winnie Lyle. "Isn't he togged up to kill?"

"It would kill me if I had to wear that loud tie!" put in Bessie Birch, from the calico counter. "Where did you get it, Walt?"

"Oh, I got it all right!" was Walter's answer, as he stepped and surveyed himself in one of the long mirrors. "Swelliest thing of the season, I do assure you, girls! Suits my style, too, don't it?"

"Bah! you're stuck on yourself!" said Bessie. "Why don't you get an eye-glass and a big-headed cane and set up for a regular dude?"

"Oh, I'm that now without half trying," said Walter, gaily. "You'd be glad to go with me, Bess! Say, I'll come around and take you to church Sunday night; shall I?"

"No, you won't! I can go with a better-looking fellow. I'll bet a penny you don't go to church yourself, either."

"Yes, I will—if you'll go with me, Miss Dayton," he added, in a lower tone, as he passed Milly's counter.

She shook her head, laughingly.

"Couldn't be second choice, Mr. Lindell."

"You never will be with me!" he whispered, with a killing glance which brought the blood to Milly's cheeks in spite of herself. Then the prosaic tone of Mr. Hornbeck broke in upon them all:

"Get to work, young people! No wasting time, please!" Every one scattered to his or her own department, for "Old Horny," as they called him, was apt to get impatient and say something sharp if they loitered too long. But Milly could not help her eyes following handsome Walter as he went down the long room. He certainly was stylish in the nobby summer suit, shiny patent-leathers and the gay tie—and then she thought of Joe. Probably at this hour he was following his plow through the soft ground, in his shirt-sleeves, homespun trousers and broad-brimmed straw hat, a red baudana handkerchief with which to wipe his perspiring brow conspicuously visible from his pocket—and then Milly glanced all around the store at the well-dressed gentlemen who came in and out or stood behind some of the counters.

"I can't stand it. I don't believe I ever could," she thought. "I know how good Joe is, but this life suits me—I never can be content with a clodhopper."

Oh, how she hated herself for the ugly word, but it was out before she could check it, and, after all, it was true. As they were going out at noon Mr. Lindell stopped at her stand, and leaning over the counter said, in a low tone:

"Miss Dayton, I was in good earnest with you, and not at all with Bess, as she knew. May I have the pleasure of calling on you on Sunday night?"

Milly knew that Miss Molly and Miss Polly allowed the girls at their house to have company in the parlor on Sunday evenings, but required them to go at ten o'clock. So she answered, "I believe you may, Mr. Lindell."

"Thank you! I'll come early—and I'll count the hours till then. Miss Milly!" He was gone the next minute, and Milly had not even time to give him a reproachful glance for taking the liberty to use her name.

"After all, what difference does it make?" she thought. "All the girls call me Milly—I



PERSPECTIVE VIEW OF A SEVEN-ROOM RESIDENCE

dare say he used it without thinking. I won't make any fuss about it." But when she told Jenny, as they hurried home to dinner, that Mr. Lindell was coming to call on her she did not mention the fact that he had called her Milly.

They were back at work again in an hour, and Milly had just got through with a customer who was hard to please, when, chancing to look up, she suddenly met a great shock. For there, coming down the store, in his plain gray suit and country-made shoes, was Joe Haywood.

He saw her almost as soon as she did him, and hastened to her, holding out his hand to shake hands with her.

"Ah, I have found you! I thought I should!" was his greeting, while Milly could only say, nervously:

"Why, Joe! Who thought of seeing you?"

"Not you, I'll be bound!" he answered. "But I had to come up to town on business, and so I took time to hunt you up."

"Oh, yes, to be sure, Joe! I'm very glad to see you, certainly."

"You look more scared than glad," he said, good-naturedly, casting a keen glance at her embarrassed face, for she was blushing with confusion and some other feeling of which she was half ashamed.

"Oh, you took me so by surprise, you know! How are they all at home?"

"All right well yesterday; I didn't see any one as I came by to-day." Just then Walter Lindell came up with a box of triumphs, and cast an amused glance at her and her visitor, which Milly saw plainly. She had rather have had any other clerk happen by at that moment, and blushed redder as she tried to reply:

"You won't go back to-day, Joe?"

"No, not if I can come to see you at your boarding-house this evening, Milly. Can I?"

"Yes, to be sure—certainly. I shall expect you. What can I show you, ma'am?" This last was to a lady who came up to the counter, and Joe, seeing she was busy, only stopped to say:

"All right, milly. I'll come about seven or half after," and then he was gone.

The customer had just gone, too, and for the instant Milly was unoccupied, when Walter came back with his box. He stopped long enough to ask:

"Who was our friend?" with a quizzical expression which made Milly answer, honestly and fearlessly:

"That was Mr. Haywood, from my home. An old friend of mine."

"Yes, I guessed that. Haywood? Suits him to a dot! Looks sort o' like a 'Hay Rube,' don't he?"

Milly drew herself up proudly.

"Mr. Lindell, you are speaking of my friend!"

"Oh, yes; excuse me, Miss Milly! But he does look so—so—"

"Lindell, go on to your work!" The short tones of Mr. Hornbeck put a stop to Mr. Walter's speech, and he only dared take time to say:

"Pardon me, Miss Milly! I wouldn't make fun of any friend of yours, you know!" and he was off.

Milly stood pale with anger, but she knew his words were true. Dear, good, honest Joe, he did look like a "Hay Rube," as the slang phrase goes among all those dapper city folks. And Milly did not know that Mr. Osborne had stopped at the door to shake hands with Joe, and invite him to come again, a thing he would not have done for Mr. Walter, though he had been dressed in the finest suit in the whole city. Mr. Osborne was a city man and a man of money, but he knew real worth when he saw it, no matter if it came from the backwoods or the mountains.

Milly passed close to Walter when they went out at supper-time, but she turned her head to avoid speaking to him. She was too vexed at him just now. He hurried on, reached the corner before she did, and stood there. He did not offer to join her, but raised his hat with his most winning smile, and said, "Good-evening, Miss Dayton!" so very courteously that Milly fell before his fascinations just as other girls had done, and answered him more pleasantly than she meant to do.

"I don't like him, and I'm half sorry I said he might come Sunday night," she told Jenny. "But he just makes one treat him nicely whether you want to or not."

"Yes, that's his way!" answered Jenny. She had seen Joe, and when Milly asked her to come down and he introduced to him that evening she readily consented.

"I'll come for a few minutes," said she. "He will care more for a talk with you than he will for new friends. Say, Milly, he is homely, that's true, not even as good-looking as his picture, but I tell you there is something about him that I like. He isn't the fellow to trifle with a girl, and I really do believe if a girl he loved trifled with him it would utterly ruin his life, if it did not quite kill him."

"I do think you read him rightly, Jenny. He is good, Joe is, but I wish—oh, I do wish he was more like the fellows up here. In dress and manner, I mean, of course," as she caught Jenny's surprised look, "not in any other way, you know."

"Well, I should hope not. I dare say, Milly, they might teach him something about dressing and dancing and making a how to a lady on the street, but when it came to true manly

honor and honesty, he could teach them more in a minute than some of them have learned in all their lives. And I take Mr. Walter Lindell and Harry Patterson and two or three more in the store into the catalogue, too!"

"Yes, that's right," said Milly, and she sighed as she spoke, for somehow she was very discontented just then.

Joe came early, as he said he would, and Milly took Jenny down to the parlor to meet him. Joe seemed to like Jenny, and she, on her part, was very friendly to him. She stayed down-stairs half an hour or so, then excused herself on the plea of having to write letters, and went out, leaving the lovers alone for the first time in almost two months.

But the dissatisfaction with her lot which had been troubling Milly did not disappear before Joe's presence. It increased. For her life she could not show much interest in his talk about his new house and his hopes that she would soon be ready to return home and brighten it with her smiles.

Poor Joe saw it, and thought it was partly the natural shyness of a young girl when her wedding-day is not far off. He was very gentle with her, not too persevering, for with his knowledge of his own plainness there had come to Joe a wonderful patience with all things, particularly with the girl he loved so well.

Only, as he was about to go, he drew her close to him, and said, with such deep tenderness that Milly was reuhked for her coldness:

"My darling, I must leave you now! I trust it need not be for long. Oh, Milly, my Milly, if anything took you from me I do not know how I could bear life!"

"Nothing shall take me, Joe!" whispered Milly, as she softly returned his kiss. And just at the moment she meant it with all her heart.

[TO BE CONTINUED]

2

A SEVEN-ROOM RESIDENCE

This house was designed for a village or suburban location, but would be very suitable for a country house. It will be seen that the interior space is very economically used up in the convenient arrangement of hall, parlor, dining-room, kitchen and pantry on the first floor, and four bedrooms and bath-room, with plenty of roomy closets, on the second floor. There is a cellar under the whole of the house, and a roomy attic; stairways running from front hall, and also from kitchen to attic and from kitchen to cellar. The pantry communicating with the dining-room and kitchen has a very large cupboard extending the whole length of one side, and will be furnished with shelves, glass doors, bins and drawers all finished up in the best manner. The main stairway in hall will have columns and pilasters filled in overhead with spindle-work, and will be very ornamental. The bath-room will contain a bath-tub, water-closet and wash-stand, and is provided with a roomy closet. Large open fireplaces are provided in all the principal rooms, and in addition a furnace can be placed in the cellar. In the cellar a laundry can be divided off underneath the kitchen. The outside dimensions are twenty-eight feet wide by thirty-six feet six inches from front to rear. Reference to the plans will give the sizes of the different apartments. The attic can be made all in one, but is large enough to divide into two or three rooms.

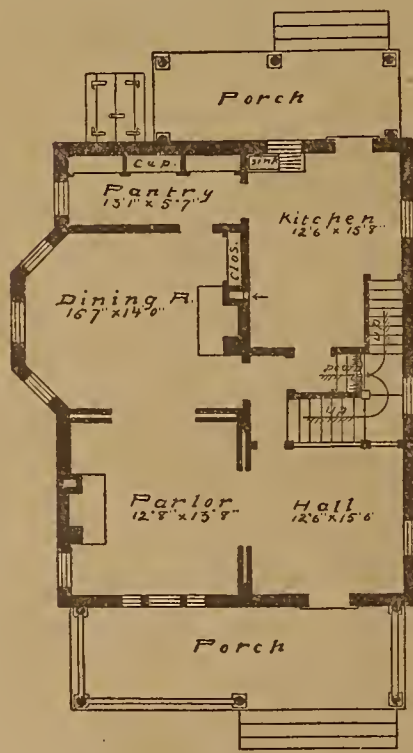
The exterior is designed in the colonial style now prevalent, and has ample porch room in the front and rear. The plans were gotten up for a brick-veneered building, but would look well in frame. A conservative estimate of the cost of such a residence would be about \$2,500 if the interior were finished in soft wood, and painted, stained or varnished. Full particulars as to furnishing the working drawings can be had by addressing D. I. Kuhn & Son, Verona, Pa.

3

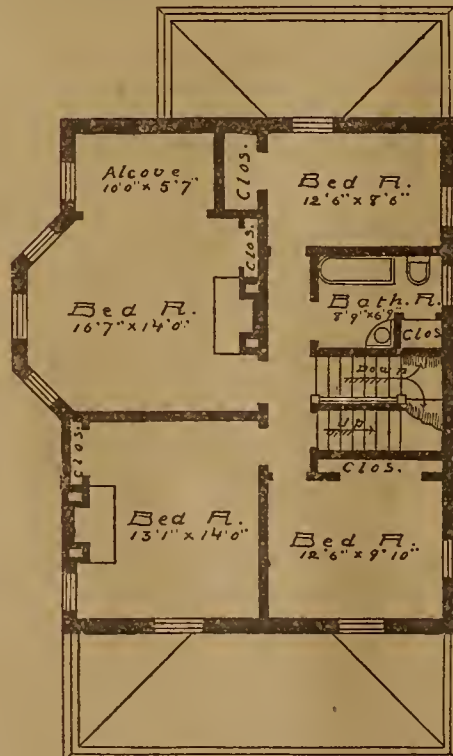
ARIZONA'S PETRIFIED FOREST

To my mind, next to the Grand canyon of the Colorado the most interesting and impressive of the natural wonders of the great Arizona territory is the petrified forest, which covers nearly one hundred square miles, within easy distance, either on foot or horseback, from Billings station, on the Santa Fe railroad; but it can be more easily reached by carriage from Holbrook, where better accommodations can be found. The government explorers have christened it Chalcedony park.

The surface of the ground for miles and miles around is covered with gigantic logs three or four feet in diameter petrified to the core. Many of them are translucent. Some are almost transparent. All present the most beautiful shades of blue, yellow, pink, purple, red and gray. Some are like gigantic amethysts, some resemble the smoky topaz, and some are as pure and white as alabaster. At places the chips of agate from the trunks that have crumbled lie a foot deep upon the ground, and it is easy to obtain cross-sections of trees showing every vein and even the bark. Comparatively little of this agate has been used in manufacturing, although it is easy to obtain. Manufacturing jewelers of New York have made table-tops and boxes and other articles from strips that have been sent them, and if the material were not so abundant its beauty would command enormous prices. Where you can get a car-load of jewelry for nothing you are not likely to pay high prices for it.



First Floor Plan
D. I. Kuhn & Son Arch'ts.
Verona Pa.



Second Floor Plan

PLANS OF A SEVEN-ROOM RESIDENCE

A bird's-eye view of the petrified forests on a sunny day suggests a gigantic kaleidoscope. The surface of the earth resembles an infinite variety of rainbows. The geologists say this great plain, now five thousand feet above the sea, was once covered by a forest, which was submerged for ages in water strongly charged with minerals until the fibers of the trees were thoroughly soaked and transformed into eternal stone. Many of the trunks are still packed in a deposit of fine clay, which was left by the receding waters, but the erosion of the wind has pulverized much of the clay and carried it off in the air, exposing the secrets that nature hurried under its surface.

One great tree spans a deep gulch forty feet wide. It lies where it fell centuries, perhaps ages, ago, and is a most beautiful specimen of petrified wood. The rugs and the bark can be easily traced through the translucent agate, and it is firm enough and strong enough to last as many centuries as it has already spent in its peculiar position. It is undoubtedly the only bridge of agate in the world, and alone is worth a long journey to see.

The Indians of the Southwest used to visit the petrified forests frequently to obtain agate for their arrow and spear heads, and the material was scattered over the entire continent by exchange between the different tribes, from the isthmus of Panama to the Behring strait. The great deposit here explains where all the arrow-heads of moss-agate came from, and other weapons and implements of similar material that are found in the Indian mounds and graves of the central and western states. In the Stone Age the agate of the petrified forest was the very best material that could be obtained for both the implements of war and peace of the aborigines. A scalping-knife could be made very easily from one of the chips of agate, and could be ground to a very fine edge.—Chicago Record.

AN AMPHIBIOUS AUTOMOBILE

A Swedish engineer, Mr. Magrelem, has lately built a tramway-boat that is really an amphibious means of locomotion, for it moves as easily on the water as on a railway track.

The tramway-boat was devised to ply across two lakes north of Copenhagen, divided by a neck of land about three hundred meters wide. It had been nearly decided to dig a canal across the isthmus, in order to connect the two sheets of water by a continuous channel, when Mr. Magrelem offered his plan.

The amphibious steamboat is fifteen meters long by four meters beam; she weighs eleven tons when empty, and fifteen tons with her maximum load. The engine is twenty-five-horse power, and its action is transmitted by means of a triple gear, either to the propeller or to the rimmed wheels. She can carry seventy passengers.

In passing from the liquid medium to the solid road the boat enters a small canal having a slightly inclined bottom and two grooves, where the front wheels are engaged and then meet the rails with which they keep in contact by the action of some pins or spikes. As soon as contact is secured the whole power of the engine is brought to bear on the front wheels, which easily pull the tramway-boat up the incline and make her travel on the rails like an ordinary car. On reaching the other side she launches herself by the same process, inverted, the brakes being strongly applied to the wheels to prevent a too rapid descent. The trip is then continued on the water.—Automobile Magazine.

"ME AN' 'LIZA JANE"

It's fifty year an' more ago since me an' 'Liza Jane,
A-walkin' home from meetin', through a sweet an'
shady lane,
Agreed it was the best fer us to join our hands fer life;
An' hain't I allers blessed the day she said she'd be
my wife!
We've had our little fallin's out, the same as all the
rest,
But all the while I've knowed 'at she's the kindest
an' the best,
The truest an' fergiveness, fer I begun to see
She's had ter be an angel fer ter git along with me.
Fer since I'm gettin' on in years I sort o' set around
An' kind o' speculate about the things 'at's more
profound;
An' as my mind goes strayin' back 'along the path o'
life,
I jest begin to see how much I owe that good old wife.
You wouldn't think her haudsome, 'cause your eyes'll
never see
The many lovin' deeds she's done to make her dear
to me.
My God! the things 'at she's gone through fer love o'
me an' mine
Is 'nuff to make a feller think her beauty most divine!
I s'pose I done the best I could to make her burdens
light,
Yit, lookin' back, I seem to see so much 'at wasn't
right—
So much 'at brought her sorrow—yit, through all the
changin' years
I've seen her keep her faith in me, a-smilin' through
her tears.
An' now we're old together, but to me she's young
and fair
As wheu the rose was in her cheek, the sunshine in
her hair;
An' while I hold her hand in mine and journey down
the hill,
I'll make life's sunset good an' sweet—God helpin'
me, I will!
—Nixon Waterman, in L. A. W. Bulletin.

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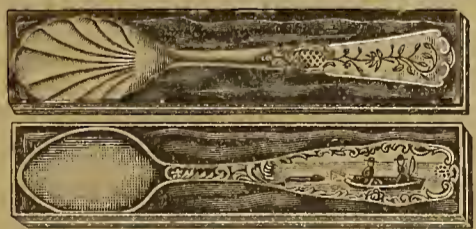
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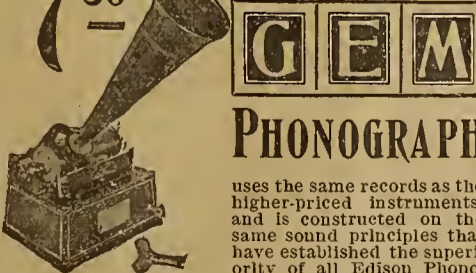
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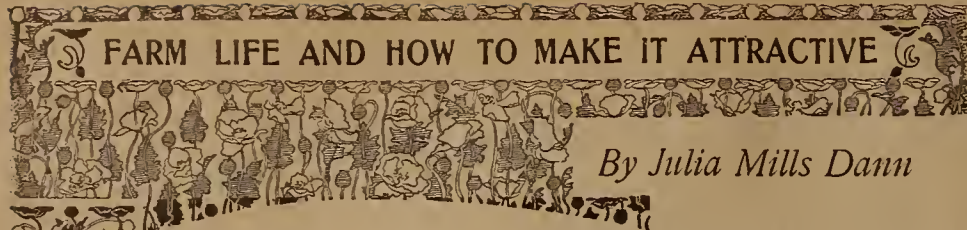
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FARM LIFE AND HOW TO MAKE IT ATTRACTIVE

By Julia Mills Dann

THE life of the farmer ought to be one of the most beautiful in the world. His own master, free from many of the complexities of cares that beset the business man, with plenty of good food, pure air and healthful exercise, he ought to be healthy and wise, if not wealthy. The child that has not passed some portion of his life in the country has as surely been deprived of part of his birthright as if he had been withheld from a knowledge of color or sound. To one who has passed his childhood surrounded by fields and woods, nature has opened a book of precious mysteries, a miracle play wherein all the sublime changes of material life pass in silent and fascinating succession. There are the first spring days when the sunshine comes down in a golden flood, coaxing out of the leaf-mold the hepaticas and spring-beauties—earliest flowers of the season—or wooing the violets, that will open their petals at the first faint patter of the April rain. There are hints, unspoken prophecies of what is yet to come, when the wild columbine will flaunt her scarlet banner from the rocky hillsides, and the sprouting ferns will unroll their green scrolls on which are written many of the secrets told by the whispering winds if we were only clever enough to decipher them. Even the stupid cattle browsing on the windy hills seem to feel the influence that "surges through the veins of the maple and stirs in the roots of the dandelion; so does the bluebird, on whose back a faint glint of color, like that in the heart of an opal, begins to burn amid the blue." But what share has the farmer and his wife in all this wealth of light and color and beauty with which they are surrounded?

Too often not any, at least the wife. Shut up in a close kitchen, breathing the odor of soap-suds, boiling vegetables and fried ham, she has little time to mark the changes wrought by the "gracious sunshine and patient rain" outside. There is the same monotonous round of duties, the same monotonous surroundings indoors in the way of furniture that she has seen year after year until the sight has become maddening. The more sensitive and delicate her mental fiber the more distasteful is this monotony of existence.

Her husband may be the owner of broad acres and the possessor of a good bank account; may understand all new and improved methods of farming, and keep no niggardly supply of modern farm machinery; but he is too apt to meet the half-timid suggestion of his wife for a change in their manner of living with a jesting allusion to "putting on airs."

With the wife poverty of purse too often begets poverty of spirit, and she settles down to what she considers the inevitable necessities of the case, and is frequently the subject of unjust criticism from her neighbors, who speak of her as a woman of "plain tastes, so different from her husband," whom they allude to as a man of progressive ideas, as he is, in his own domain.

There is no class of people in this country of equal wealth who have better opportunities for a certain kind of culture than our well-to-do farmers, and it is their fault, and not the fault of their calling, if they do not improve it.

What can be done to overcome the social isolation in which they are obliged to live and which is made an excuse for all kinds of social shortcomings?

Manifestly, if they cannot go to the world outside they must bring the world to them. It is just as possible to be well informed regarding what is going on in the world outside while living on a farm as elsewhere, only one gets it in a different way. Instead of mingling with people who tell us what we want to know, we must, if we are farmers, get our knowledge from its reflection in the newspapers.

Tennyson, in his poem of "The Lady of Shalott," pictures his heroine under a spell that will not permit her to look outside her palace walls under penalty of some horrible fate.

"She knows not what the spell may be,
But still she weaveth steadily,
And little other care hath she,
The Lady of Shalott."

She sits all day weaving at her enchanted loom, looking into a mirror on the wall, wherein is reflected the pageant of life that passes her window.

"And moving through a mirror clear,
That hangs before her all the year,
Shadows of the world appear.
Sometimes a troop of damsels glad,
An abbot on an ambling pad,
Sometimes a curly shepherd lad,
Or long-haired page, in crimson clad,
Goes by toward Camelot."

What the mirror was to "The Lady of Shalott" books, papers, magazines are to the farmer's family a reflection of what passes by in the world outside. But perhaps you say, "All this costs money." Certainly; so does food and so do clothes, and mental food is just as necessary to good living as either food or clothes.

Just what to read is as much a matter of individual taste as what to eat. If I were to provide a mental meal I should do it as I would one for the table, furnish sufficient variety, that each might find something to his liking. In the first place I should take my county paper, the one that indorses my own political views; then I should take the other, which did not indorse my views, to keep myself informed as to the movements of the enemy. For my other papers I should want my own church paper, of course. But we must not think because we are Methodists or Baptists that our boys and girls are necessarily Baptists or Methodists in their tendencies. It is fast becoming a settled conviction that no special sectarian ladder leads to heaven, but that God has supplied his multitudes of children with many means of transit to that celestial country, where sectarian strifes and bitterness are forgotten in the presence of the supreme God, of whose divine spirit we all have a spark within us.

If I am to give advice to my rural brethren and sisters as to what will so broaden farm life as to make it more attractive to ourselves and our children I would say, above all things, don't read in a rut. Don't think in a rut. Be hospitable to new ideas, and give your family a chance to entertain them also. In so doing you often entertain "angels unawares," that may return at some future time to bless you and yours.

Take illustrated papers. You may not care for the pictures, but your children will, and current events are there set forth in a way to make lasting impressions on your mind. Perhaps you will see your ten-year-old boy drawing with a stick in the dusty road a picture of the Eiffel Tower for the benefit of some less fortunate playmate whose father does not know the uplifting power of a new idea in a child's mind, and his childish explanation may put to flight any former idea of your own that you knew all about it.

Perhaps your wife does not care for reading, but is fond of pictures. Then subscribe for one or more of the many art journals, and you will find there reproductions of the masterpieces of the world, not only of the present, but those that stirred the souls of men in those far-off days when art and religion grew side by side in the hearts and minds of men.

One of your daughters may have a passion for fine dressing, and cares but little for literature and art. Put her side by side with the latest Paris, New York or Chicago fashions by sending for an illustrated fashion magazine, and let her gratify her taste by copying the illustrations in her own gowns. A fashionably made dress is not more expensive than an unfashionable one, and its possession is an inspiration to one whose tastes lie in that direction. A fashionable dressmaker and designer in one of the largest establishments in one of our western cities was a farmer's daughter who had no preliminary training for the position except what she had gained from pouring over fashion books and magazines on her father's farm when she took her position in the establishment first as trimmer, from which she rose to be the best-paid employee in the house.

If another is a natural cook, buy for her the best domestic paper you can find. She will learn to make all the new dishes, for fashions change in eating as well as in

everything else, and her success will stimulate to new efforts. The obstacle you have to contend with is isolation. Put your family in touch with the great currents of life outside, and they will feel that they are a part of it, not shut out from it. Give them the means, according to your purse, to buy a pretty reading-table to put near a favorite window, or a new lamp for the mantel; manifest some interest in the house-furnishing yourself, and your wife will see that her efforts to adorn and beautify the home are appreciated.

You can buy a cheap copy of "The Angelus," the picture that is so much talked about and is now creating so much attention from the enormous price paid for it, and your family will be able to gather from even a cheap reproduction something of the tenderness and sweetness the artist has portrayed in those two lonely figures in the sunset listening with bowed heads to the sound of the distant bell. Invest twenty-five cents—I have known them sold for three—in the new book, "Robert Elsmere," or "Looking Backward," or whatever else is the popular book of the day, and take it home with you. If the family do not care for it, the presence of such books on your table while they are new will attract to your fireside the men and women of the neighborhood who do care and whose conversation will give you something to think about and awaken your interest in things before unthought of.

Reading-clubs furnish room for social intercourse, and also cultivate the mind. There is a growing tendency among women to form these clubs and take up some topic of general interest as a subject. Such a club is now in its third year, the members riding six miles, some of them, to attend the meetings, at which almost every question is discussed, from the best way of broiling oysters to the last magazine and the newest book. Each member is required to subscribe for some magazine, which becomes the property of the club until all the members have read it, when it reverts to the original owner. An occasional entertainment at the school-house or town hall or church provides means for the purchase of new books, which are put in the care of one member, who acts as librarian. The success of this club gives ground for believing that other such ventures could also succeed.

TEACHING THE CHILDREN TO BE USEFUL

How many, many girls enter upon the duties of a home of their own before they have learned the first principles of house-keeping! And how many married lives are really wrecked just from this lack of knowledge upon the part of the young wife! Love is a very curious thing, but neither love nor religion can thrive upon a diet that creates dyspepsia.

A girl may not need to learn how to keep house, how to do all sorts of work from the probability of having these things to do, but she should learn them from the possibility of having them to do some time. Whatever other accomplishments a girl may have, she should certainly know how a house ought to be kept, how work ought to be done, and how much work ought reasonably be expected from one pair of hands.

In the days of our mothers and grandmothers girls were taught to do useful work. I know a woman who pieced a bedquilt in the difficult over-and-over stitch when she was four years old. The stitches were fine and even, and the work well done, better than most girls of eighteen or twenty would do now. The fact of the child's doing this work probably did not count in the mother's mind. She was simply teaching the little one neatness, precision, and giving it a lesson in the habit of industry, which is one of the most valuable that life can hold.

There is nothing in life that makes it better worth living than having an aim in life, than in having work to do. Mrs. Browning says in "Aurora Leigh":

"Get work, get work; 'tis better far than what we
work to get."

And she is right. While we may appreciate the things we get by work, the work itself and the ability to do it is a benefit. It takes the thought, it keeps the mind on wholesome things, and if the girl who dawdles half the morning over a novel, and strolls half the afternoon on the street, would instead turn her mind to useful work she would be much better off.

A great deal of the wrong-doing in life comes more from the fact of unoccupied faculties than it does from almost any other cause in the world.

J. G. Holland voices this sentiment in this way: "Kept to his task by virtue, and kept to virtue by his daily task."

But how are we to have our youth industrious when they have become youth? In no other way than in beginning when they are young and teaching them to do some little tasks daily, certain things that they must do and be taught never to neglect. It isn't so much the work they do as the discipline it gives, and yet the work is well worth the doing.

The girl who slights the frying-pan and leaves bits of potato sticking to the potato-kettle will in all probability slight things of greater importance and think they will not matter if no one knows or sees; but they will matter, for these little things spoil the character. They will leave it open to wrongdoing in other ways, and the neglect of little duties, a neglect practised daily, will certainly leave the channel clear for a neglect of greater ones.

Children can readily be taught to work when they are young, as at that time their faculties are more susceptible to the teachings of grown-up folks. They like to do the things that grown-up folks do, and if they are taught to do them well they will not shrink from doing them when the time comes that work shall be a necessity.

ROSE SEELYE-MILLER.

WASHING BEDDING

Some housekeepers make a practise of putting one blanket, quilt or counterpane at a time into the general wash; but as they require a special treatment it is not a good plan to do this. The best way is to set apart one day in the spring and one in the fall and wash the bedding by itself. Select a day that is bright and with a gentle breeze, so that the bedding will dry quickly and yet not be whipped by a strong wind. Quilts should be washed quickly in tepid suds, rinsed thoroughly in two waters, in the last of which put a pint of thin, cooked starch. Hang on the line with the wrong side to the sun, stretching evenly and pinning well to the line. When the quilt is partly dry unpin it and turn it upside down.

Counterpanes should be soaked in a large quantity of strong, tepid soap-suds, then put into a clean suds as hot as the hand can be borne in. In this water rub on the board any soiled spots that may be on them. Wring them from this water, and put them into a tub of boiling hot water; cover closely, and let stand until the water is cool enough to wring the counterpanes from it. Now rinse them well in two waters, in the last of which put a little starch and bluing. Hang counterpanes in the bright sunlight to bleach them, and when partly dry turn them as you did the quilts; that is, unpinning and turning upside down.

There is a diversity of opinion among housekeepers about the best temperature of the water for washing blankets. Some prefer warm water, others hot water, and some think cold water the best. One thing is certain, whichever is used each water must be of the same temperature if you would keep your blankets soft and not have them shrink excessively. I prefer to use water as hot as I can bear my hands in for the suds, and rinse in water of the same temperature.

Do not soak blankets, but dissolve half a pound of borax in five gallons of hot water, preferably rain-water. Make a good suds with good white soap, and wash one blanket at a time, moving it back and forth in the water, rubbing the soiled places, if any, and washing it as quickly as possible. Wring it lightly from the suds, and put in another, hot, and with borax as before: wash as at first, wring, and rinse through hot water. Do not use any bluing unless you are sure it is pure indigo.

Hang blankets where they will get the sunshine, and also a good breeze, so they will dry quickly. Shake them well, hang straight, and pin securely to the line, changing their position when partly dry the same as you did with the quilts and counterpanes. When nearly dry take the blankets from the line, fold them evenly, and press on one side only with a heavy iron that is not too hot, but only medium so.

If possible have some one to help you in washing blankets, so that as soon as one blanket is put through the suds another person may rinse it and hang it on the line while a second one is being washed. It is an important item in washing blankets that the work be quickly done. White woolen underwear should be washed in the same way, piece by piece. In freezing weather dry woolen underwear in the house, unless it is washed in cold water.

MAIDA McL.

BABY ASLEEP

Baby has gone to the land of dreams!
Hush, or you'll wake him! How still it seems!
Carefully shut the bedroom door,
Noiselessly tiptoe across the floor.
See how sweet he looks as he lies,
With fringed lids shutting the dark-brown eyes,
One pink palm pressing the dimpled cheek
And his red lips parted as if to speak.

Yonder, in the low rocking-chair,
Is a broken plaything—he left it there;
And there in the corner beside the door
Lies a motley heap of many more—
Jack-knife, picture-book, marbles, ball,
Tailless monkey and headless doll,
And new, bright pennies, his special joy,
By the father hoarded to please his boy.

There lie his shoes on the kitchen floor,
That all day long they have pattered o'er—
Battered and chubby, short and wide,
Worn at the toe and cracked at the side;
And there hangs the little dress he wore,
Scarlet flannel and nothing more,
But there clings about it a nameless charm,
For the sleeves are creased by his dimpled arm.

Dear little feet, that are now so still,
Will ye ever walk in the paths of ill?
Rosebud lips, will ye ever part,
Bringing pain to a mother's heart?
Keep, O Father, that baby brow
Ever as pure from stain as now;
Lead him through life by thy guiding hand
Safely into the better land!

—Nancy Priest Wakefield.

COLONIAL THANKSGIVINGS

IN SPITE of privations, hardships, the constant treachery of Indians and with starvation staring them in the face, the Pilgrims with uncomplaining endurance and a brave courage planted their seeds, watched and guarded their first fields in the new world. They planted, asking the favor of Almighty God for its protection, and when the Indian summer days came with their warmth and purple haze a full crop of golden grain was gathered in. Then remembering their prayers of the spring-time Governor Bradford issued a proclamation that for nine days they should commemorate the first harvest. He sent the men out fowling "that they might after a more special manner rejoice together." In the morning after roll of drums the Pilgrims as usual attended prayers. After this game was hunted, and a fine feast was partaken of by all on the last day. Upon this occasion it was deemed wise to invite the Indians, in order to impress upon their minds and hearts the religious services of the day. Massasoit and his tribe accepted eagerly the cordial invitation and were on hand at beat of drum. Massasoit explained to another chieftain the mysteries of the long services which preceded the long-looked-for dinner. The new people were worshipping their Great Spirit, and for this service he would protect them and destroy all their enemies. Thus well did the savages assist in the solemnities of the festive day, 1621.

Two years later a terrible drought prevailed. Special services were called for, and the devout assembled in the church. They prayed nine hours for rain, and while still interceding the showers came up and continued to fall until all danger of drought was removed. The governor immediately ordered that the fast day be turned into one of thanksgiving, and the people acquiesced. In 1631 starvation was at their doors, when a ship bringing new members to freedom's shores and with large supplies of food arrived from Ireland. All the Bay colonies for the first time united together in a day of thanksgiving for their deliverance.

Cordial relations were again resumed when Governor Winthrop, of Massachusetts, invited the Plymouth colony to unite with them in a day of general rejoicing over the fact that in that year, 1632, the British had passed some action quite favorable to the colonies.

During the next fifty-two years some twenty-two thanksgiving days were observed. Some of the reasons were favorable political events, freedom from Indian warfare, discovery of conspiracies and abundant harvests. Once, in 1775, the discouraged Pilgrims, on account of great sorrows and heavy burdens, could find nothing for which they could be thankful.

When the next year rolled around as King Phillips' war was ended they celebrated a joyful day in accordance with a proclamation issued by the governor.

The Dutch governors of the New Netherlands fell into line, and in 1644 observed the day, as they also did afterward in 1645, 1655 and 1656. New York held back until 1755 and then joined with the others, and in 1760 another day was observed.

During 1721 Boston suffered from a terrible scourge of smallpox. In the midst of the distress caused by over a thousand deaths from this disease the Indians caused a vast amount of trouble. In spite of all this

trouble Governor Shute issued a proclamation for a day of thanksgiving, and it was the first one printed in America, a copy of which is here given:

By His Excellency,
Samuel Shute, Esq.,

Captain-General and Governor-in-Chief in and over His Majesty's Province of the Massachusetts Bay in New England, etc. A Proclamation for a General

THANKSGIVING

For as much as amidst the various awful Re-bukes of Heaven, with which we are righteously afflicted, in the Contagious and Mortal Sickness amongst us, especially in the town of Boston; The long and immoderate Rains, which have been so hurtful to the Husbandry, Fishery, and the attending Aspect of Affairs with Respect to our Frontiers; we are still under the highest and most indispensable Obligations of Gratitude for the many Instances of the Divine Goodness in the Favors vouchsafed to us in the course of the Year Past; Particularly for the Life of Our Gracious Sovereign Lord, the King, Their Royal Highnesses, the Prince and Princess of Wales, and their issue, and the increase of the Royal Family; The Preservation of His Majesty's Kingdom and Dominions from the terrible and desolating Pestilence which hath for so long a time been wasting the Kingdom of France; And the Happy Success of His Majesty's Wise Councils for Restoring and Confining the Peace of Europe; For the Continuance of our valuable Privileges, both Civil and Ecclesiastical; and the Divine Blessing upon this Government in their Administration, Particularly in Methods taken to prevent the insults of the Eastern Indians; For giving so great a Measure of Health within this Province, and Moderating this Mortality of the Smallpox, so that a Great Number of Persons are Recovered from that Distemper; and for granting so comfortable a former Harvest, and so hopeful a Prospect of the latter:

I Have, therefore, thought fit, with the Advice of His Majesty's Council, to Order, and Appoint Thursday, the Twenty-sixth Instant, to be Observed as a Day of Publick Thanksgiving throughout this Province, strictly forbidding all Servile Labour thereon, and exhorting both Ministers and People in their Respective Assemblies in the said Day to offer up humble and sincere Thanks to Almighty God for His many Favours as aforesaid, and for many other Blessings Bestowed.

Given at Boston, the Eighteenth Day of September, 1721, And in the Eight Year of the Reign of our Sovereign Lord George, by the Grace of God of Great Britain, France and Ireland, King, Defender of the Faith, etc.

By Order of the Governor, with Advice of the Council,
SAMUEL SHUTE.
F. WILLARD, Secretary.
GOD SAVE THE KING.

Orders issued by the Massachusetts governor for an observance of Thanksgiving were usually ignored by Rhode-Islanders. In order to compel obedience, any lack of piety on that day by a person brought them to grief in the way of fines, imprisonment or persecution.

Once the entire colony refused to recognize the decree issued by the governor for the all-sufficient reason of the non-arrival of a long-looked-for ship containing a hogshead of molasses. The good dames of Colchester refused to manufacture pies without the necessary sweets, and to properly celebrate a colonial Thanksgiving pies were an absolute essential.

During the war for independence Congress ordered annually for Thanksgiving observance. The days fell in the months of April, May, July and December. Business on these days was suspended.

The first national recognition of Thanksgiving was in 1789, when Alexander Hamilton, secretary of the treasury, just before Congress adjourned, at one of Washington's meetings suggested that the President be authorized to announce a day of prayer "in acknowledgment" of the very special favors of Almighty God, especially his affording them the opportunity of having a constitutional form of government for their safety and happiness. Some of the members approved of such a course, while others, headed by Jefferson, objected. It was suggested that it might be wise to wait and see whether or not this new form of government could be thanked. After bitter debates Washington finally issued the first national proclamation for thanksgiving on Thursday, November 26, 1789. A great parade took place in the morning, while the bells of Trinity rung for an hour. Hamilton's friends took a prominent part in the festivities, while those of Jefferson's remained as quiet as possible. Mrs. Washington gave a state dinner, followed by a grand levee. On account of this bitter disputing Washington felt that instead of this being a day of thanksgiving and prayer it was turned into one of enmity.

One of the soldiers broke his nose in a tavern while in a dispute, but claimed that it was done in strict observance of the day. General Washington heard of this occurrence and lost his temper so completely that he swore, mildly though.

After the suppression of the whisky insurrection President Washington issued another proclamation for prayer and praise.

From this time until President Madison's term no more public days of this character were recognized. Congress made request after the war of 1812 closed that again the people should remember in a public manner the mercies vouchsafed them, and so in 1815 the president re-established the old custom.

Governor Johnson, of Virginia, in 1855 ordered a day of general thanksgiving to be observed in his state. Two years later Governor Wise declined most emphatically to issue any proclamation, as he did not deem it wise to interfere with religious affairs. By 1858 the southern states had commenced to recognize this harvest-day. Eight of the states annually remembered the custom handed down by the Pilgrims.

During the Civil War President Lincoln issued national proclamations in 1862 and 1863. Since that time each president has appointed annually a day for the observance of a harvest thanksgiving.

MRS. E. V. WILSON.

THE PERFECTION BED-SLIPPERS

These slippers are so easily made that every woman should have a pair. For No. 3 slippers take two pieces of eiderdown flannel nine inches long and eight inches wide. Having cut a paper pattern as near like the illustration as possible, nine inches in length and four inches wide at the heel before rounding the corner, lay it on the eiderdown,



which has been folded lengthways to avoid a seam at the bottom of foot, cut out, sew at heel and toe in an over-and-over seam, bind the top, add box-plaiting of ribbon same or contrasting shade, and there they are, simple yet dainty, and so comfortable when one drops down to take the "forty winks" every housekeeper is entitled to. Blue eiderdown with pink or canary-colored ribbon is a pretty combination; or pink with black is another.

This pattern may also be utilized for footing old stockings, leaving off the point over the instep, the leg of the stocking to be sloped diagonally where it is to join the foot.

MARY M. WILLARD.

SOME THINGS THAT ARE GOOD

In the olden time when ladies exchanged household receipts, or hoarded them as treasures that must not be made public lest they lose their cachet, a close competition in devising novelties often resulted.

I remember a delicious pumpkin bread that was a specialty of my mother's, and was received with favor everywhere. She never wrote out the receipt for me, but it was simple enough for any good bread-maker to undertake without fear of failure. Set the sponge to rise at night, as for ordinary bread, and then in the morning with the first kneading add about one fourth of the bulk to be kneaded of carefully boiled, mashed, strained and salted pumpkin with a bit of butter stirred in. The pumpkin should be boiled with as little water as possible, so as not to be too mushy. In the old days bread was always given a second rising, and sometimes a third, but modern yeast does not require so much time to do its work well.

The bread left the oven beautifully crisp and brown, with a peculiarly tempting quality of crust, a wonderfully sweet flavor and a rich yellow color that gratified the eye.

One of my grandmother's most noted puddings was simply a boiled batter-pudding into which had been stirred one heaping cupful of grated carrots. Its rich yellow color always won admiration and seemed to emphasize the delicate lightness of the quivering, smoking pudding, with its creamed sauce of butter, sugar, wine and nutmeg.

A favorite dish at tea-time in July was concocted from dark-red cherries stewed with plenty of juice, and poured steaming hot over thin slices of white bread. This was prepared some hours before it was needed, and meantime placed in a dainty bowl in which it was to be served. This had stood in a pan of cold water in the spring-house, for in those days we had no ice-boxes.

At noon we often had as a first course at dinner what was like a sweet soup. It was made from rice boiled an hour or more in milk, with sugar and a little salt added, and when turned into the tureen a dash of grated nutmeg was sprinkled on top. This was a great favorite with all the young people, and

I believe that even in these days of pampered appetites would be grateful to many.

For dessert we had a great dainty in rhubarb, or pie-plant, jelly. Only a skilled cook can succeed with this delicate confection, for rhubarb is a watery substance when stewed, and the greatest care must be taken that as little water is added as is possible to keep it from burning. When well ripened the rhubarb is peeled and cut into short lengths, and heated gently until soft enough to mash and strain. It should be run through a thin cloth till perfectly clear. The old rule of a pound of sugar to a pound of juice insures a delicate jelly of a rare pinkish-amber hue, with an indescribable flavor, if only the cook is expert enough to seize the exact moment when in a little gob the jelly falls from the hot stirring-spoon. It is the test of accurate judgment to know just when to take incipient jelly from the fire and pour it into the waiting glasses, but the pride of hard-won success is the reward of the victor. My impression is that the rhubarb is gently boiled for at least twenty minutes before it is strained, to insure the evaporation of some of the superfluous water.

Another novelty was pumpkin preserve. This was made as you make the ordinary citron preserve. The pumpkin was peeled and sliced, then cut into neat square or fancy-shaped bits and boiled gently till tender without being really soft—there must be no resistance to the broom-straw thrust in to test its condition.

Meanwhile, in the preserving-kettle is gotten ready a rich syrup of loaf-sugar and lemons. To this, of course, must be added water in the proportion of one pint to one pound of sugar. Let this boil till the lemons have given up their flavor and tartness in some measure. Into this drop your pumpkin pieces delicately and gradually, letting them bob about at their ease in their rich, hot bath till they shine clear gold, like the skin of Midas himself. The effect is very pretty when, placed in a cut-glass dish, the deep yellow of the pumpkin contrasts with the paler tint of the lemon syrup.

Let some of your good housewives revive at least two of these old-fashioned novelties for Thanksgiving day. The pumpkin bread and pumpkin preserve would insure a pleasant surprise for the guests at any harvest-home festival. PENELOPE JANEWAY.

FACE-CREAM

There are several good creams which may be prepared at home, and which are much purer and better than those purchased at the stores. The following is one of the best:

CUCUMBER CREAM.—Wash and cut into bits as big as your finger one half dozen good-sized cucumbers. Put them into a jar with six ounces of almond-oil, and set the jar in a kettle filled with cold water. Boil up once, then move back and simmer for five or six hours. Strain through cheese-cloth, and to each six ounces add one ounce of white wax and two ounces of lanoline. Heat up again and stir till thoroughly melted, then take off and beat with a wooden spoon or paddle till cold. Before the mixture commences to cool add slowly two teaspoonfuls of benzoin or a few drops of attar of roses. Benzoin is a great help to the complexion, but you must be sure never to use it too strong.

For sunburn which has reached the point of positive pain a paste made of one part vaseline and one part bicarbonate of soda is very excellent. This remedy is also excellent for the burns caused by mustard or received in cooking. Burns received from acids should first be held under cold water, and then the paste applied. This is a good simple receipt to keep always on hand, and is particularly good to use with children, as it does not sting on the raw spot. N. M.

THE TURKEY

From the first inauguration of a Thanksgiving feast until many years afterward turkeys, geese, ducks, partridges and other wild game were abundant in the forests and bays of Plymouth; and from almost the first mention of the day the turkey seems, by common consent, to have had the place of honor at the feast.

Then, again, for many years cattle were not used as food by the Puritans. And if they had been, think you those men of unbending pertinacity would have allowed the main dish at their feast of thanksgiving to be a baron of beef, "Sir Loin," the dish which of all others except the "wassail-bowl" savored most strongly of the "heathenish revelry" of the mother-country, which they had even sacrificed Christmas itself to put down? K. B. J.

THE MOTHER'S OUTLOOK

THE mother's relation to the problems of child-study is important and cannot be ignored by the conscientious mother who lives for her children and who wishes to do her whole duty by them thoughtfully and intelligently. She welcomes all information and aids, and sees in child-study an interesting and efficient help in accomplishing the end she has in view.

The psychological study of the child begins at its birth, and follows it step by step to maturity, and the mother's knowledge of these results should be her guide.

The process of evolving the soul within us by contact with the outer world we call education, and the laws which govern its development constitute the science of psychology. It is evident that to the new-born child the only avenue open to its communication with others is through the path of the senses. It must first receive impressions. These are transmitted to the nerve-cells of the brain through the nerve-fibers of the nervous system, and a reflex action through the motor nerves follows. These sensations are very feeble at first, but as in later life we learn to do by doing so the power to receive and transmit impressions grows by using; and when these motions have been associated with comfort, pleasure or pain, his activities become more and more well directed and voluntary.

The only way we can study a child is through its facial, lingual, vocal or motor expressions. The hand reflects the spontaneous activities; following these come hand and arm movements, and speech last of all. We are next interested in its power of sight. The child is both nearly blind and deaf for several days after birth. The question of color-choosing is an interesting one, and authorities have not as yet discovered a uniformity of choice. The cause of right-handedness is a question yet to be answered satisfactorily, and the observation of mothers will be of value on this point.

Scientists tell us that for every imperfect sense development there is a corresponding lack of brain development; or in other words, brain development, or education, comes through sense development. Application of this truth is being made in some of the institutions for feeble-minded children, and the best means of awakening their intelligence is found to be by teaching them to use their hands in some systematic way.

The great need of most people is to be able to use their senses completely and have them so under control that they shall respond at once to any demands upon them. The mind also works more slowly than it would with proper training. "The man who can think twice as fast as another," says Professor Scripture, "lives twice as long."

Gibson, the artist, tells us that much of his success in art was due to the fact that his grandmother was accustomed to set him a daily stint of sewing on blocks for a quilt. The systematic use of his hands and the study of the colors in the pieces he sewed helped him greatly in all his after study of flowers and landscapes.

Already many experiments in systematic training of the senses by formal exercises have been made, and no doubt the time will come when the necessary apparatus will be as common in our homes and schools as those used in developing muscles.

Until then let the mother carefully guide the child's sense organs as observation and study will direct her. Music, drawing, hoeing, sewing, sweeping, dusting, cooking—all are valuable helps in developing the brains in her child's finger-tips, and as educating forces are equally as important, if not more so, than book-eraming, for what the child does accurately he sees clearly and utilizes intelligently, and the child who has so developed his sense perceptions that he does his hand-work easily, rapidly and accurately will not be intellectually a dullard.

The methods of the kindergarten and the drill of manual training in the secondary schools must, from the standpoint of sense education, be invaluable means in the economic and economical education of children, and mothers and teachers can and should co-operate to educate those under their care by the methods that child-study has shown to be natural and practical.

LUCY POWELL.

AN "AT HOME" ON THE FARM

Among other letters handed out with the morning's mail one morning was a little cream envelope about two inches square. Upon opening I found it to contain a card on which was written, in a neat hand:

"Miss Nellie Blank will be at home from seven o'clock to nine o'clock on the evening of September 6, 1899."

Our neighborhood is not social to any great extent, its meetings being always of a very informal nature. The idea of such a formal affair as an "at home" in the country was new to me. However, Miss Blank was not the person to attempt a thing she was not sure of carrying out. I was very glad that Miss Blank had honored me with the little card. I was not disappointed in anticipating a successful evening, and it was a success in every particular, as I soon discovered as the evening progressed.

The lawn was beautifully lighted with Chinese lanterns. These were hung on wires stretched from the tops of posts about ten feet from the ground. A vine-covered arbor was decorated and well lighted to serve as a reception-room. Several little friends of Miss Blank, all dressed in white, acted as waiting-maids. At a little distance and to one side was arranged hammocks, chairs and rustic seats. Here was the mandolin club from the village, also composed of friends of the hostess, who were glad to be of service to her, and who rendered a number of fine musical selections. At the opposite side of the lawn were tables from which refreshments were served.

Being in the country, of course most of the guests came in carriages. A brother of Miss Blank and two boy friends volunteered to act as hostlers. They were assisted by a hired man loaned by Miss Blank's father for the occasion. One of these met us at the gate, took charge of the team, and directed us where to find the hostess. Following in the wake of others who had arrived just before us we passed up the walk that led to the arbor, where we were greeted by the hostess, who was surrounded by a group of guests. We passed a few pleasant remarks with her upon the fine appearance of the grounds and the pleasant evening, and then made way for new arrivals.

Being new in the society circle in which Miss Blank moved we were acquainted with but few of those present. A young man whom we had met in the business circles stepped up and shook hands, spoke of the fine evening, the grounds and the music. Then he stopped a friend and introduced him, then led us to some lady friends of his. Another chance acquaintance was equally as kind, and we soon forgot that we were among strangers. It was well named an "at home." Every one seemed to be trying to make every one else feel at home.

Two of the little waiting-maids brought refreshments, and with a pleasant group we sat down near the musicians and ate the delicious ices and wafers. Other guests arrived while we were thus engaged, and more introductions followed. The hostess, passing among her guests, found time to chat with us for a moment or so, and left us with a college friend who was visiting her. A few moments more of small talk and we once more sought Miss Blank, and after sincerely thanking her for the pleasant evening, bid her good-evening. After leaving the grounds we paused for a moment on the outside to look behind.

The musicians were playing a dreamy waltz, which blended with the voices of the guests. The many-colored lights shone over all, bringing out the happy contrast of the white dresses with the dark evening suits of the young men. The white farm-house, with its wide vine-covered porches and the deep shadows of the trees surrounding it, formed a background to what was one of the prettiest pictures we ever saw. To ourselves we once more thanked Miss Blank for the evening.

Miss Blank may be more than an ordinary farm lassie, but she is nothing more than any farm girl may be who keeps good company and cultivates refined tastes. Her home was nothing more than any farm home might be. As to the expense of entertaining her friends, the refreshments were entirely home-made, and were far superior to any bought stuff. The lanterns were rented from a dealer for the evening, and the help was all gladly volunteered. In view of the pleasant evening she had given her guests Miss Blank would not complain of the cost, nor was it more than the ordinary neighborhood ice-cream suppers given by the young people of a family to their neighbors.

JIM L. IRWIN.

THE MAYFLOWER

So much is said and heard of the Puritan fathers and mothers who in the year 1620 came to Plymouth in the Mayflower, and so many, many persons proudly trace their lineage back to one of its party, that it is indeed difficult to realize that the vessel was smaller than many a coast-wise fishing-boat of to-day, and that only one hundred and two persons in all were on board of her.

K. B. J.

That Terrible Headache

Pain back of your eyes?
Heavy pressure in your head?
And are you sometimes faint and dizzy?
Is your tongue coated?
Bad taste in your mouth?
And does your food distress you?
Are you nervous and irritable?
Do you often have the blues?
And are you troubled about sleeping?

Then your liver is all wrong.

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A LIFE CREED

Be noble—that is more than wealth;
 Do right—that's more than place;
 Then in the spirit there is health,
 And gladness in the face;
 Then thou art with thyself at one,
 And, no man hating, fearest none.
 —George MacDonald.

BEAUTY OF THE IMPERFECT

Most of us fret over our faults and failings. Our imperfections discourage us. Our defeats oftentimes break our spirit and cause us to give up. But this is not true living. When we look at it in the right way we see that the experiences that have been so disheartening to us really contain elements of hope and encouragement.

There is beauty in imperfection. Perhaps we have not thought of it, but the imperfect in a good life is oftentimes the perfect in an incomplete state. It is a stage of progress, a phase of development. It is the picture before the artist has finished it. It is beautiful, therefore, in its time and place.

A blossom is beautiful, although compared with the ripe, luscious fruit, whose prophecy it carries in its heart, it seems very imperfect. The young fruit is graceful in its form, and wins admiration, although it is but the beginning of the great tree which by and by it will become. A child is not a man. How feeble is infancy! Its powers are undeveloped, its faculties are untrained—it is yet without wisdom, without skill, without strength, without ability to do anything valiant or noble. It is a very imperfect man. Yet who blames a child for its immaturity. There is beauty in its imperfection.

We are all children of a greater or lesser growth. Our lives are incomplete, undeveloped. But if we are living as we should there is a real moral beauty in our imperfectness. It is a natural necessary process in the unfolding of the perfect. A child's work in school may be very faulty and yet be beautiful and full of encouragement and hope, because it shows faithful endeavor and worthy improvement. A writing-teacher praises his scholars as he inspects the page they have written. He tells them, or certain of them, that they have done excellently. You look at their work, however, and you find it very faulty indeed, the writing stiff and irregular, the letters rudely formed, and you cannot understand why the teacher speaks so approvingly of the scholars' work. Yet he sees real beauty in it, because, when compared with yesterday's page, it shows marked improvement.

So it is in all learning. The child walked three steps alone to-day, and the mother is delighted with her baby's achievement. These were its first steps. A little girl sits at the piano and plays through the simplest exercise with only a few mistakes, and all the family are enthusiastic in their praise of the performance. As music, it was most faulty.

The same is true of all faithful efforts at learning how to live. We may follow Christ very imperfectly, stumbling at every step, realizing in but the smallest measure the qualities of ideal discipleship; yet if we are doing our best, and continually striving toward whatsoever things are lovely, our efforts and attainments are beautiful in the eyes of the Master, and pleasing to Him.

We usually think of defeat as dishonorable. Sometimes it is. It is dishonorable when it comes through cowardice or lack of effort. We ought to train ourselves to be overcomers. But when one has bravely done his best, and after all has gone down in the struggle, there is no disgrace in his failure. A twofold battle is going on whenever a man is fighting with hard conditions or adverse circumstances, and it is possible for him to fail in one and be victorious in the other. Too often a man succeeds in his battle with the world at the cost of truth and right. That is defeat indeed, over which dishonor heaven grieves. But when a man fails in his struggle with circumstances, and yet comes out with his manhood untarnished, he is a conqueror indeed, and his victory gives joy to the heart of Christ. In such failure there is glorious success, and no dishonoring of the life in heaven's sight.

Defeat is the school in which most of us have to be trained. In all kinds of work men learn by making mistakes. The successful business man did not begin with success. He learned by experience, and the

experience was very costly. The true science of living is not to make no mistakes, but not to repeat one's mistakes. Defeat, when one has done one's best, and when one takes a lesson from his defeat, is not something to be ashamed of, but something to be glad for, since it sets one's feet on a little higher plane. Defeat which makes us wiser and better is a blessing to us. We owe more to our defeats, with the humblings of the old nature, the cleansing of motive and effection, and the deepening of trust in God, than we owe to the prouder experiences which we call our successes.

It would be easy to fill pages with the names of those who have gone down in defeat, and who in their very failure have started influences which have enriched the world. In the center of this great host is Jesus Christ. The story of his blessed life is the story of a failure and defeat according to the world's estimate. But did the cross leave a blot on Christ's name? Is it not the very glory of his life that he died thus in the darkness that day? Was his career a failure? Christianity is the answer. He is the captain, also, of a great host, who, like him, have been defeated, and have failed, but have made the world richer by their sacrifice. Let no one speak of such defeats as blots on fair names; rather they are adornings of glory.—Sunday-School Times.

PERSISTENCY

The characteristic of genuine heroism is its persistency. All men have wandering impulses, fits and starts of generosity. But when you have resolved to be great, abide by yourself, and do not weakly try to reconcile yourself with the world. The heroic cannot be the common, nor the common the heroic. Yet we have the weakness to expect the sympathy of people in those actions whose excellence is that they outrun sympathy and appeal to a tardy justice. If you would serve your brother because it is fit for you to serve him, do not take back your words when you find that prudent people do not commend you. Be true to your own act, and congratulate yourself if you have done something strange and extravagant and broken the monotony of a decorous age. It was a high counsel that I once heard given to a young person, "Always do what you are afraid to do." A simple, manly character need never make an apology, but should regard its past action with the calm of Phocion, when he admitted that the event of the battle was happy, yet did not regard his dissuasion from the battle.—Emerson.

GOOD COMMON-SCHOOL EDUCATION

- Every boy and girl that is educated should be able to—
- Write a good, legible hand.
- Spell all the words in ordinary use.
- Know how to use these words.
- Speak and write good English.
- Write a good social letter.
- Add a column of figures rapidly.
- Make out an ordinary account.
- Receipt it when paid.
- Write an advertisement for a local paper.
- Write a notice or report of a public meeting.
- Write an ordinary promissory note.
- Reckon the interest or discount on it for days, months and years.
- Draw an ordinary bank check.
- Take it to the proper place in a bank to get the cash.
- Make neat and correct entries in day-book and ledger.
- Tell the number of yards of carpet required for the parlor.
- Measure the pile of lumber in the shed.
- Tell the largest number of bushels of wheat in the largest bin, and the value at current rates.
- Tell something about the laws of health, and what to do in case of emergency.
- Know how to behave in public and society.
- Be able to give the great general principles of religion.
- Have a good knowledge of the Bible.
- Have some acquaintance with the three great kingdoms of nature.
- Have some knowledge of the fundamental principles of philosophy and astronomy.
- Have sufficient common sense to get along in the world.—National Educator.

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 When soiled discard. Ten Collars or five pairs of Cuffs, 25cts.
 By mail, 30cts. Send 6 cts. in stamps for sample collar or pair of cuffs. Name size and style.
REVERSIBLE COLLAR CO., Dept. C, Boston, Mass.
 RUBENS DANTE TASSO MURILLO ANGELO RAPHAEL

CATARRH INHALER FREE. Dr. Worst will mail his new scientific Catarrh Inhaler with medicine for a year, on three days' trial. Free. If satisfactory, send him \$1.00; if not, return it. **AGENTS WANTED.**
 Dr. Worst, 235 Main St., Ashland, Ohio.

**TERRIFF'S
 PERFECT
 WASHER**

SENT ON TRIAL at wholesale price. If not satisfactory money will be refunded. **SOLD** under a **FIVE YEAR WARRANTY** to wash as clean as can be done on the washboard, even to the wrist- and neckbands of the most soiled shirt, and with far greater ease. Does not wear out the clothes. Economizes soap, labor and time. **AGENTS WANTED.** Exclusive territory given. Big money made. For terms and price Address,
Portland Mfg. Co. Box 27, Portland, Mich.

**PICTURES ON CREDIT
 NO SECURITY ASKED**

We send you 4 beautiful large colored pictures, each 16 x 22, named "Christ in the Temple," "The Angel's Whisper," "The Family Record," "The Life of Christ." These pictures are handsomely finished in 12 colors and could not be bought at Art Stores for 50c each. You sell them for 25c each and send us the money and for your trouble we send you a handsome heavy gold plated ring, set with a beautiful brilliant stone which looks exactly like a diamond. These rings are exceedingly handsome and cannot be told from genuine diamonds except by an expert. If you sell 8 pictures we give you a handsome Silver Dish, a beauty. If you sell 12 we give you a nice Watch or a dozen Silver plated Tea Spoons. The watch is carefully registered and guaranteed a good time keeper. The spoons are heavily plated and guaranteed to wear well. Our pictures are works of art and our prizes are valuable. Don't waste time trying to sell rubbish. Take hold of our High-Grade Goods and secure some of these valuable prizes. We pay postage. We take back unsold pictures. We run all the risk. Address **STANDARD PICTURE CO., 615 Omaha Bldg., Chicago, Ill.**

REDUCED TO \$4.50.

To place our regular \$10.00 **Harrison Thermal Bath Cabinet** in every home, hospital, Dr. office, we send them complete for 30 days with heater, directions, formulas, etc., to any address upon receipt of \$4.50 each. Head, Face Steaming Attach. 75c. extra. **Order today. Agenuine Cabinet with a door. Best made. Rubber lined. Metal frame. Lasts a lifetime. Prevents disease. Cures without drugs, colds, influenza, rheumatism, woman's troubles, piles, obesity, all blood, skin, kidney and nervous troubles. Guaranteed as represented or money refunded. We're responsible. Ship promptly. Descriptive Book FREE. Special Wholesale Prices to Agents. Address the m't'rs. **TOLEDO H. BATH CABINET CO., Toledo, Ohio.****

WE TRUST YOU WITH A BOOK—

a plain, common sense book on health, disease, love, marriage and parentage, by a popular medical authority of N. Y. It has 350 well illustrated pages about what all men and women need to know. We will mail it on approval for 5 cents postage to any responsible person who will either mail back the book or 20 cents. Or, 20 cents with order gets it.
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GUNS

Send stamp for illustrated catalogue, now ready.
**THE H. & D. FOLSOM ARMS CO., 314 Broadway,
 P. O. Box 1114, New York.**

AGENTS If you want to make \$1,500 a year, work for us. Our **LEATHER SUSPENDERS** sell themselves; cannot wear out; attractive assortment; exclusive territory. Samples free conditionally. **J. S. Berry Mfg. Co., B, Cincinnati, Ohio.**

THE YANKEE FIRE-KINDLER Length 15 inches. Weight 1/2 pound. Builds 100 fires with 3c worth of oil. No kindling. Pile the fuel over the blazing kindler and the fire is built. Saves hours of time and gallons of oil. Warranted 3 years. Greatest seller for agents ever invented. Customers everywhere. An average county yields agent \$100 profit. Act quick if interested. Sample prepaid with terms 25 cents. **Yankee Kindler Co., Brook 19 Olney, Illinois.**

\$7.50 BUYS A High Grade PERFECTION Family Knitter
 Knits everything. Hosiery, mittens and all fancy stitches from homespun or factory yarns. Send for free catalogue and samples of work describing hosiery and underwear knitters. Address, **Perfection Knitting Machine Co., Clearfield, Pa.**

Learn Telegraphy
 Become an Operator in the Railway Service. Situations guaranteed. Address **PENNSYLVANIA TRAINING SCHOOL, Reading, Pa.**



SMILES

A WHALING EXPEDITION

I have never been a-whaling where the foaming billows sweep; I have never cut the blubber from the monster of the deep; But I've tender recollections of those days in boyhood's spring When mother did the whaling and I did the blubbering.

-L. A. W. Bulletin.

CREDIT WHERE IT IS DUE

"I am afraid that our new son-in-law's aristocratic traditions will make it difficult for him to hold his own in financial affairs." "I kind of felt that way myself," replied her husband; "but don't let's be hasty in judging him. I must say he talked right up like a business man when it came to fixing a dowry."-Washington Star.

BILL NYE, ADSMITH

ACCORDING to a story that is going the rounds of the newspapers, the late Bill Nye wrote this advertisement: "Owing to my ill health I will sell at my residence in township nineteen, range eighteen, according to governmental survey, one plush raspberry cow, aged eight years. She is a good milker, and is not afraid of cars or anything else. She is of undaunted courage and gives milk frequently. To a mau who does not fear death in any form she would be a great boon. She is very much attached to her present home by means of a stay-chain, but she will be sold to any one who will agree to treat her right. She is one fourth short-horn and three fourths hyena. I will also throw in a double-barreled shot-gun, which goes with her. In May she usually goes away for a week or two and returns with a tall red calf with wabby legs. Her name is Rose. I would rather sell her to a non-resident."

THE ECONOMICAL MAN

"Henry," she said, discousolately, "you didn't give me a birthday gift." "By Jove! that's so," said Henry; "but, you see, you always look so young that I can't realize you ever had birthdays." Then she was happy, and he smiled the mean, subtle smile of a man who has saved money.-Boston Traveler.

AN UNEXPECTED RETORT

"Where," asked the female-suffrage orator, "would man be to-day were it not for woman?" She paused a moment and looked around the hall. "I repeat," she said, "where would man be to-day were it not for woman?" "He'd be in the Garden of Eden eatin' strawberries," answered a voice from the gallery.-Chicago News.

HE WAS DONE

"I would like to have some more peaches, mama," said Tommy Taddells, as he passed up his plate. "Tommy," replied Mrs. Taddells, "you have already exhausted your quota."-Judge.

NO LONGER FRIENDS

Jeweler-"You evidently entertain no superstitious fears concerning edged implements?" Fair customer (who has bought a shaving-set)-"Oh, dear, no! I'm married to him."-Jewelers' Weekly.



Blg Indian-Wough! Paleface much liberal. Fire-water everywhere.-Boston Herald.

A STRICTLY FAMILY AFFAIR

Mama-"Did you tell God how naughty you were?" Lily-"No; I was ashamed. I thought it had better not get out of the family."

A MILD SUGGESTION

"Is this the ladies' cabin?" "Yes." "Then why don't you write to Postmaster-general Smith?" "What for?" "To have it excluded from the males."-Cleveland Plain Dealer.

DIPLOMACY

"But why on earth did you introduce me to your aunt as Mr. Darling? Did you forget that it was Scroggs?" "Certainly not, you old goose! But I know she overheard me call you 'darling,' and I wouldn't have her think I was spooning for all the world."-Cleveland Plain Dealer.

NEVER

She-"If I were to die you would never get another wife like me." He-"What makes you think I'd ever want another like you?"

HUMOR GLINTS

Some men who take things easy get taken for easy things. It is only justice to the kissing-bug to say that it kisses without musing the hair. "Say, pa, what is pessimism?" "My son, it is one of the results of matrimony and milliners' bills. Now don't ask any more questions."-Colorado Springs Gazette. "That hammock has a hoodoo history." "What is it?" "It has been through six seasons at the seaside with the Upjohn family and not one of the girls is married yet."-Chicago Tribune. Friend-"How are you getting on?" Seedy author-"Good! I've got the material on hand for a splendid comedy besides." Friend-"You are fortunate." Seedy author-"Yes. All I need now is the material for a new pair of trousers."-Tid-Bits. Weary Walker-"Lady, would yer please give me a few crullers like dose I got last week?" Mrs. Newed-"Yes, poor fellow! Here are three of them for you." Weary Walker-"Can't yer make it four, mum? Me an' me pardner wanter play quoits."-Boston Journal.

THE WIZARD OF THE WEST

PROF. S. A. WELTMER, OF NEVADA, MO., ASTOUNDS THE WORLD BY HIS REMARKABLE CURES HIS METHOD TAUGHT TO ALL

Disease, with its countless fears and pains, beats against the human constitution with agonizing results. This acknowledged demon to human happiness and peace was not born of Nature, nor of God; it is the handiwork of humanity itself, and can in all cases be dispelled by human hands. Take all classes of disease, be it that peculiar to woman or that which man suffers from indiscretions, whereby he outrages Nature, or any other disease which the human flesh is heir to, it simply proves that the natural functions of the human body are abnormal. A great Scientist, Prof. S. A. Weltmer, of Nevada, Mo., has originated a Method of Magnetic Healing known as Weltmerism, whereby he proves the above statement to be absolutely true. This wonderful man has put his method to a severe test, and the outcome of it is that in less than two years he has cured more than 100,000 afflicted of every disease known to man or woman. His Method goes to the very foundation of the disease, and without the aid of drugs or the surgeon's knife he in a perfect natural manner places the entire constitution in that condition in which Nature meant to be, thereby dispelling disease as if by magic. His Method is so perfect that its wide scope it reaches all classes of people, for through it Prof. Weltmer cures patients at a distance just as readily and permanently as he does those that come to Nevada for treatment. Through the courtesy of that great scholar and scientist, Prof. Kelly, who is the co-laborer of Prof. Weltmer, we are able to publish a few of the many thousands of testimonials in his possession.



PROF. WELTMER

Hon. Press Irous, Mayor of Nevada, was afflicted with kidney and bladder troubles for ten years, and could find no relief in the usual remedies. In one week he was completely restored by Prof. Weltmer. Mrs. Jennie L. Linch, of Lakeview, Mo., was for two years afflicted with ulceration of the womb, heart and stomach troubles and general debility; was reduced to a mere skeleton. Cured by the Weltmer Absent Treatment. In less than 30 days gained 15 pounds. Mrs. Lavisa Dudley, Barry, Ill., suffered for thirty years with neuritis and stomach troubles. Nothing but morphine would relieve her. Permanently cured in a few weeks by the Absent Method of treatment. Mr. John S. Small, Colfax, Ill., was deaf in his left ear for seven years; could not hear a watch tick when placed against his ear. Was permanently cured in three days by Prof. Weltmer.

Any one writing to Prof. S. A. Weltmer, Nevada, Mo., will receive a 40-page illustrated magazine and a list of testimonials from men and women who owe their health and happiness to Weltmerism; also much information on this science of healing.

TEACHES HIS METHOD TO OTHERS

The American School of Magnetic Healing is organized under the laws of the State of Missouri. Prof. Weltmer is the president of this institution, and Prof. J. H. Kelly the secretary and treasurer. It is impossible for Prof. Weltmer to attend to the enormous demands made upon him to cure. He therefore wishes others to take up his profession, so that he may call upon them to assist him in his noble work. With this in view the American School of Magnetic Healing was founded. The method perfected and in use by this school is so complete in all its details that the students become as efficient as Prof. Weltmer himself. In this great art to cure, in ten days. This noble profession is taught either by mail or personal instructions. Any one who desires can learn it, and any one who learns can practice it. This has been abundantly proven by the great number who have been instructed and who are in the active practice of healing by this method. This is beyond doubt the best paying profession of the age, as students who have learned this method through the American School of Magnetic Healing are earning from \$10 to \$50 per day.



PROF. KELLY, Sec'y and Treas.

The following letter is one of the many in the possession of the American School of Magnetic Healing: Prof. J. H. Kelly, Secretary, Nevada, Mo.: DEAR SIR:-Your mail course in Magnetic Healing was received some months ago. After reading same, I caught your idea and at once proceeded to put it into practice, and found I could accomplish all, and even more than I anticipated. I have never failed to get immediate results in all cases treated, and I have made a number of cures in cases that have been given up by the best of our physicians as incurable. I expect to devote my entire time to this work, but should I never use it outside of myself or family, would consider it the best investment I ever made. J. T. IGLEHART, Meridian, Miss. By addressing Prof. J. H. Kelly, Sec'y, Nevada, Mo., you will receive full instructions free of charge.

Advertisement for 'A PRIZE FOR EVERY CORRECT ANSWER'. Features a 'CHINESE PUZZLE' illustration of a man washing. Text: 'We Ask Not One Cent of your Money. This Picture Puzzle represents a Celestial engaged at washing. About him are pictured several of his customers. Write us on a postcard how many faces you see-one, two or three-and each patron who is correct we will award a full-size FOUNTAIN PEN AND FILLER.' Includes an illustration of a fountain pen and a small puzzle image.

Advertisement for 'FAT' reduction. Text: 'How to Reduce it Mrs. L. Lanier, Martin, Tenn., writes: "I reduced my weight 2 1/2 lbs. in 15 days without any unpleasant effects whatever." Purely vegetable, and harmless as water. Any one can make it at home at little expense. No starving. No sickness. We will mail a box of it and full particulars in a plain sealed package for 4 cents for postage, etc. HALL CHEMICAL CO. B Box St. Louis, Mo.'

Advertisement for '\$3 a Day Sure' job. Text: 'Send us your address and we will show you how to make \$3 a day absolutely sure; we furnish the work and teach you free; you work in the locality where you live. Send us your address and we will explain the business fully; remember we guarantee a clear profit of \$3 for every day's work, absolutely sure, write at once. ROYAL MANUFACTURING CO., Dept. 64, DETROIT, MICH.'

Advertisement for 'THE ELECTRICITY' treatment. Text: 'from the batteries will turn a needle through your table or hand. Cures Rheumatism, Liver and Kidney Disease, Weak and Lame Back, etc. For advertising purposes we will give ONE FREE PAIN TO ONE PERSON IN EACH LOCALITY who is willing to introduce them. Address E. J. SNEAD & CO., Dept. No. 318, VINELAND, NEW JERSEY.'

Advertisement for 'CANCER CURED WITH SOOTHING, BALMY OILS'. Text: 'Cancer, Tumor, Catarrh, Piles, Fistula, Ulcer and all Skin and Womb Diseases. Write for Illustrated Book. Sent free. Address DR. BYE, Kansas City, Mo.'

Advertisement for 'Dr. ISAAC THOMPSON'S EYE WATER'. Text: 'Sore Eyes USE Dr. ISAAC THOMPSON'S EYE WATER'

Advertisement for 'THROW AWAY YOUR HAT PINS'. Text: 'The Ideal Hat Fastener is a perfect device for holding the hat on the head without a pin, no matter how hard the wind blows. Just the thing for cyclists, in fact, every lady, young or old. Price 25 cents by mail. Agents wanted. IDEAL FASTENER CO., Station N, CHICAGO.'

Advertisement for 'Goiter' treatment. Text: 'Cured permanently in every case by a new treatment which is sensible and convenient. No outward signs. Enlargement disappears mysteriously and without pain. Circular free. Cowwood Remedy Co. 503 Shillito Street, Cincinnati, O.'

Advertisement for 'ONE CENT' stamps. Text: 'is the price of a Postal-Card. Buy one, send us your name and address, and we'll tell you how you can get the most exquisite XMAS PRESENTS for nothing. THE OLYMPIA MFG. CO., 153 E. 25th St., New York.'

Advertisement for 'ONE SOBER HONEST MAN'. Text: 'Wanted in every County to SELL our Fine Cigars to dealers. Experience not necessary. The Beautiful Presents we give dealers SELL THEM. Write Quick. O'HIO CIGAR CO., Dept. M, Commercial-Tribune Building, 4th and Race, Cincinnati, Ohio.'

Advertisement for 'SALESMEN Wanted'. Text: 'to travel for old-estab. firm. Salary, \$50 a mo. & expenses. No previous experience needed. W. B. HOUSE, 1020 Race St., Phila., Pa.'

IT CAN'T BE DONE

No One Can Remain Well, No Chronic Disease Can be Cured Unless the Stomach is First Made Strong and Vigorous

This is plain because every organ in the body depends on the stomach for its nourishment. Nerve, bone, sinew, blood are made from the food which the stomach converts to our use.

To Los Angeles and Southern California...

Every Friday night, at 10:35 P. M., a through Tourist-car to Los Angeles and Southern California leaves the Chicago, Milwaukee & St. Paul Railway Union Passenger Station, Chicago, via Omaha, Colorado Springs and Salt Lake City, for all points in Colorado, Utah, Nevada and California.

MISCELLANY

WHEN industry goes out of the door poverty comes in at the window. EIGHT thousand carrier-pigeons are kept for use in the Germany army. THE coldest place in the United States is the interior of Alaska, eighty degrees below zero.

THE question of funeral services over those whose bodies have been cremated is still agitating church circles in Germany. The late mayor of Stuttgart was by his request cremated in Heidelberg; and when the ashes were brought home for burial no minister was allowed to take part in the service.

THE horsehair used in making violin and other similar bows is imported from Germany; a considerable part of the hair thus imported, however, coming originally from Russia.

THERE is one telephone to every fifty-two inhabitants in the Hawaiian Islands, and one to every forty-one persons in the principal island of Oahu; and a Honolulu letter to the Chicago "Record" makes it clear that in these new possessions of ours the telephone is really a public "institution."

SOLID GOLD RINGS FREE!

Send full name and address and we furnish you 12 fast selling Scarf Pins, Heavy Gold Plate, different styles, set with Precious Gems. Experts can't tell them from the genuine.

HENRY MUNDELL DIAMOND PIN CO. 155 FRIENDSHIP ST., Providence, R. I.

OUR PRICES ON ELGIN, WALTHAM and GOLD FILLED WATCHES, warranted 20 Years, ARE THE LOWEST. Before you buy it will cost you a cent to examine this great bargain. Watch and Chain, complete, \$4.50.

SEND FREE Solid Gold or Silver plated bracelet sent free sets of our LADIES' for 25 cents a set, (each jewel). Simply send your name and address and we will send you the money and let the chain is beautiful with a dainty little take back all pins you cannot sell.

WILEY'S WOLFSKIN SOLES For Crocheted Slippers for gifts or home use. State size wanted. Take no substitute. 25 cents the only anti-septic sock made (of Rubber Boots, Hospitals and House Wear. Take no substitute. (Box F.) W. H. Wiley & Son, Hartford, Ct.

WANTED Reliable women or men to sell our goods to the consumer in communities from 1,000 to 10,000 population; permanent employment at good pay. Address THE GREAT EASTERN COFFEE & TEA CO., 301 South 10th Street, Saint Louis, Mo.

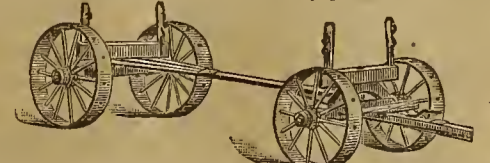
Manufactured with SORE EYES Dr. J. C. Thompson's Eye Water

RECENT PUBLICATIONS

W. Atlee Burpee & Co. Wholesale catalogue of sweet-peas and vegetable-seeds. F. R. Pierson Co., Tarrytown-on-Hudson, N. Y. Choice selections in bulbs for winter forcing for spring flowering.

Reliable Incubator and Brooder Co., Quincy, Ill. Free catalogue of incubators, brooders and a full line of supplies for poultrymen. Also Poultryman's Guide and combined catalogue. Price ten cents.

FARM WAGON ONLY \$21.95 In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon that is only 25 inches high, fitted with 24 and 30 inch wheels with 4-inch tire, and sold for only \$21.95.



This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels, and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

Wash the Dishes Quickly! You can if you use Gold Dust. It does most of the work. It saves time, money and labor. THE N. K. FAIRBANK COMPANY Chicago St. Louis New York Boston

Watch and Chain FOR ONE DAY'S WORK. We send this Nickel-Plated Watch, also a Chain and Charm to Boys and Girls for selling 1/2 dozen packages of BLUINE at 10c. each.

WHY NOT PROTECT YOUR BUILDINGS Against LIGHTNING, FIRE AND WATER? Buildings covered with steel are never struck by lightning!

HEESEN FEED COOKER Get Your Money's Worth. You will find this cooker by far the most satisfactory in every way.

CIDER MILL AND WINE PRESS, For Family use, will make all cider needed for large family in a day. One person operates it.

A FEED COOKER is a money saver on every farm. It increases the grain you have by making it more palatable and digestible.

SEE THAT LOCK? It's the CHANDLEE LOCK and it makes the stay stay where you put it, on any kind of wire—hard steel or soft, large or small, that's why CHANDLEE FENCE is superior to others.

IT COSTS LESS TO BUY NEW WHEELS than to repair the old ones—you can get 4 Buggy Wheels 7-8 in. Steel Tire for \$7.50 4 Carriage Wheels 1 in. Steel Tire for \$8.00

PATENTS FRANKLIN H. BOUGH, Washington, D. C. No attorney's fee until patent is obtained. Write for Inventor's Guide.

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DEALERS CUT IN TWO Musical Instruments of all kinds fine toned and of beautiful construction, workmanship and finish.

LADIES I Make Big Wages AT HOME and will gladly tell you all about my easy pay \$18 weekly. This is no deception. I want no money and will gladly send full particulars to all sending 2c. stamp.

RUPTURE Sure Cure at home; at a small cost. No operation, pain, danger or detention from work. No return of Rupture or further use for Trusses.

\$20 GIVEN TO Ladies, Girls and Boys, distributing our Soap. Write to-day for particulars & Catalog of over 100 Free Premiums.

WINTER WORK FARMER AGENTS and others, take orders for my seeds. Make some cash. Get your own seeds free. New plan. Quick sales. Catalogue and terms free.

CRAZY WORK SILK REMNANTS, enough for quilt, 60c. Large package handsome colors 10c. JERSEY SILK MILL, Box 32, JERSEY CITY, N. J.

A Beautiful Hand-finished Medallion Portrait

THE MOST POPULAR ART NOVELTY EVER OFFERED

We display herewith a sample of one of the latest and choicest ornaments—one which can be made of yourself or from the photograph of any of your friends or relatives.

Description Each medallion is fitted in a gold-lacquered frame, with beautiful beaded edges, convex surface and polished front, giving the effect of painting on glass. The medallions are not made of glass, however, but of a substance equally transparent, which will not break, thus happily combining beauty and durability. They are beautifully tinted and will not fade.

Directions Send a good cabinet photograph—bust preferred—to the Farm and Fireside, Springfield, Ohio, being very careful to write your full name and complete address on the back of it; also give the color of the eyes, hair, complexion and dress. Carefully state which style you wish, oval or round; when, however, this is omitted we will send the round. Remember that no changes will be made from the original; we reproduce only the likeness sent. We do not take one picture out of a group. It will require about 15 days to do the work, and when completed your photograph will be returned to you unharmed, accompanied by your medallion neatly packed and complete in every respect. We guarantee every medallion shall be the best obtainable from the picture sent; hence, be sure to send your best photograph. Only one face made on a medallion.

OUR OFFER

Choice of these Medallions, made from the Picture you send, and the Farm and Fireside One Year, for **\$1.00**
(When this offer is accepted the name may be counted in a club)

PREMIUM No. 82



Artistically hand-painted in water-colors, giving the features their true appearance. Don't delay, but forward your order immediately and obtain one of these beautiful ornaments.

Size of oval medallion is 5½ by 7½ inches. Made in round style also, size 6½ inches.

FREE, your choice of either style for a club of FIVE subscribers to the Farm and Fireside.



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OVER 140 ILLUSTRATIONS

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NOTE THIRTY-FIVE CENTS is the clubbing price for yearly subscriptions to the Farm and Fireside without a premium to the subscriber. But members of clubs may accept any of our premium offers at the clubbing prices and their names can be counted in clubs. RENEWALS and new names, including a club-raiser's own subscription, can be counted in clubs. No reduction will be allowed in the clubbing prices.

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THE BARGAIN BOOK OF THE YEAR

BEING a full and an authentic account of the career of the hero of Manila, including his ancestry, boyhood and education, his distinguished service during the Civil War, his services in organizing and equipping the new navy, and his glorious victory in Manila bay; his diplomacy and statesmanship, and the triumphal journey home, all receive attention. The story of the wonderful victory is incomplete without a full understanding of the years of preparation leading up to it. The book is finely and profusely illustrated.

A THRILLING STORY TOLD IN PICTURES



Admiral Dewey Landing at Trieste

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Fifty-one years ago, we began our present plan of doing business of selling direct to the consumer, as we found thousands of people living in all parts of this country who pay cash for their merchandise, were tired of paying the big profits their local dealers were charging. We then began selling everyone our own goods made in our own factories, consisting of everything you Eat, Use, everything found in a home, in an office, in an hotel, on a farm, or in a barn, and we are saving money to-day for nearly two million people, who live in all parts of the world. Our 304 page Catalogue costs us 69c to print and mail is free to everyone - it tells all about everything to Eat, Wear and Use, has 10,000 illustrations and quotes wholesale prices on 100,000 different articles. Our Lithographed Carpet Catalogue shows Carpets, Rugs, Art Squares, Portieres and Lace Curtains in their real colors. Carpets sewed free, lining furnished free and freight prepaid. Our Made-to-Order Clothing Catalogue with samples of cloth attached, offers suit and overcoats from \$5.95 to \$20.00. Expressage paid on clothing everywhere. We also issue a Special Catalogue of Pianos, Organs, Sewing Machines and Bicycles. Which Catalogue do you want? Address this way:

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means paying rent for a poor farm. Now is the time to secure a good farm on the line of the Chicago, Milwaukee & St. Paul Railway in Marinette county, Wisconsin, where the crops are of the best, work plenty, fine markets, excellent climate, pure soft water, land sold cheap and on long time. Why rent a farm when you can buy one for less than you pay for rent. Address C. E. Rollins, Land Agent, 161 La Salle St., Chicago, Ill.

Pat'd QUAKER Folding Vapor Bath Cabinet 326,000 SOLD. Every home should have one for bathing purposes. It opens the millions of pores, forces out the poisons which cause disease. Makes you clean, vigorous and healthy. Prevents disease. Provides Turkish, hot-air and medicated baths at home, 3c. each. Beautifies complexion. Recommended by best physicians. Without drugs it cures bad colds, rheumatism, laryngitis, neuralgia, obesity, female ills, all blood, skin, nerve and kidney troubles. Guaranteed. Our new 1900 style has a door, a self-supporting frame, best material, rubber-lined. Folds small. Weight 5 lbs. Price, complete, \$5.00. Write us. Valuable book, etc., free. AGENTS WANTED, men and women, \$100.00 a month and expenses. Address G. WORLD MFG. CO., Cincinnati, Ohio.

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OLD RAZORS (sent by mail) hollow-ground, honed and set equal to new for 35c. Handles put on, 25c. Satisfaction guaranteed. Returned post-paid. A. GRAHNS Art Grinding Estab'nt., 1203 Central Ave., CINCINNATI, O.

ANGELS WHISPER Beautiful Large Picture; colored. Sells quick at 25c. Sample 1c.; 9 for \$1. J. LEE, Omaha Bldg., Chicago.

GLEANINGS

BIG CANALS OF THE WORLD

THE Suez canal shows a net tonnage of 6,576 tons in 1869, its first year, 436,609 in 1870, over a million in 1872, more than two millions in 1875, and a steady increase until 1891, when the figures reached 8,698,777, since which time there has been comparatively little change, the figures for 1897 being slightly below those of 1896, but thirty-three per cent in excess of those of 1887, and more than three times those of 1877.

The Kaiser Wilhelm canal, which has been in operation but three years, shows an increase of fifty per cent in that period in the tonnage passing through it, that of the first year after its opening being 1,505,983, and that for the fiscal year ending March 31, 1898, 2,469,795.

The St. Mary's Falls canal, connecting Lake Superior with the lower lakes, shows a more rapid gain than the Suez. The freight tonnage passing through St. Mary's Falls canal in 1881 is given at 1,567,741, reaching more than 3,000,000 tons in 1885, more than 5,000,000 in 1887, more than 7,000,000 in 1889, more than 9,000,000 in 1890, more than 11,000,000 in 1892, more than 13,000,000 in 1894, and more than 18,000,000 in 1897.

Incidentally, the freight tonnage passing through the Detroit river, which connects lakes Superior, Michigan and Huron with Erie and Ontario, is shown to have increased from 9,000,000 tons in 1873 to 23,900,520 in 1896, an increase in that time of two hundred per cent, while the increase in the registered tonnage through St. Mary's Falls canal alone in that time is from 204,446 to 17,619,933.

The Welland canal tables show that the quantity of freight passed through that canal in 1880 was 810,934 tons, and in 1896 1,279,067, though comparing 1896 with 1872, 1873 and 1874, no increase is found, the figures of 1872 being 1,333,104, and those of 1873, 1,506,484, while the tons passed from United States ports to United States ports through the Welland canal fell from 748,557 in 1874 to 653,213 in 1896.

The New York canal tables show a steady decrease since 1880 in the tons of merchandise carried to tide-water. The number of tons of freight carried to tide-water on the New York canals in 1880 was 4,067,402, in 1890, 3,024,765, and in 1897, 1,878,218, while all other canals mentioned as above indicated show large gains in business meantime.

The reduction of freight rates, especially on the Great Lakes and by rail, in competition with the lakes and their canals, is also shown by a series of tables. These show a material reduction in freight rates between Chicago and New York, whether carried by lake and rail, lake and canals or by all rail, though the reductions where carried by the all-water route of lake and canals is greater than in cases where a part or all the transportation is by rail. The average rates a bushel for wheat from Chicago to New York by lake and canal were in 1877 11.24 cents a bushel; in 1887, 8.5 cents, and in 1897, 4.25 cents. In the combination of lake and rail freights the rates fell from 15.8 cents a bushel in 1877 to 12 cents in 1887 and 7.37 cents in 1897, while the all-rail freights fell from 20.3 cents a bushel in 1877 to 15.74 cents in 1887 and 12.32 cents in 1897.

REAL ORIGIN OF "DREYFUS"

The curious origin of the name "Dreyfus" is interesting just at this time. It arose in Elsass in the form of "Trevus." Its present form is due to a strange popular misunderstanding. In the year 1553 the Elector Palatine, Johann II., and his neighbor, the Archbishop Elector, Johann of Trier, agreed to expel all the Jews from their dominions. The Jewish fugitives from Trier sought a new home, for the most part in Elsass. The Jews of that time, faithful to their ancient customs, had not adopted the use of hereditary surnames, which had been common among their Christian neighbors in Germany for more than two centuries. Hence the municipal and communal authorities throughout Elsass entered the names of one and all the Hebrew immigrants as "Treviranus" (that is, "the man from Trier," the Latin Treviri). The "T" of the official scribe was altered in the popular dialect to the hard "D" and the official abbreviation "Trevus" in the local registers became "Dreyfus." Thus every Jewish exile from Trier had to accept, nolens volens, the surname of Dreyfus. There is no ground whatever for various derivations of the name from "Three Foot" (Drei Fuss), "Tripod." - London News.

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CUT BEETS, MANGELS, Turnips, Carrots, and all other roots and vegetables for stock feeding. CUT FINE. Choking Impossible. Run easy, have self feeder, separate dirt from cut feed. Five sizes, hand and power. O. E. THOMPSON & SONS, Ypsilanti, Mich. Largest Root Cutter makers in the world. Catalogue free.

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NO BACKACHE weighs only 41 lbs. EASILY CARRIED SAWS DOWN TREES

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has made roll fencing too expensive for the farmer. You can heat the Trust by making your own woven wire fence with a Hoosier Boy Fence Machine. Weaves any height. Makes the meshes any size you want. It's a fast weaver, strong and durable. First order from your locality gets agency. Write for terms. HOOSIER BOY FENCE CO., Dept. 28, Indianapolis, Ind.

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Send to EDGAR TATE & COMPANY, 245 Broadway, New York, for the most profitably interesting little Book on inventions ever written.

SELECTIONS
THE QUEEN'S HOUSEKEEPING
THE queen is to a large extent her own housekeeper. The first thing every morning a paper of suggestions from the clerk of the kitchen is placed before her, from which, in her own hand, she orders the menus of the day, both for herself and such of her grandchildren as may be with her. These menus are at once sent to the kitchens, gardens and other departments concerned, to obtain the viands required; and their contents duly entered, together with the quantities of materials used, in the books which are kept in the royal kitchen. The queen's chef receives a salary of five hundred pounds per annum, and has as satellites four master cooks, two yeomen of the kitchen, two assistant cooks, two roasting cooks, six apprentices and six kitchen-maids, besides pantry-men and other lesser lights. In addition to the great kitchen at Windsor there are the green-room for vegetables, and the confectionery and pastry-kitchen. This last is a most important department, controlled by a confectioner with six assistants, and fitted in the most complete manner. All Her Majesty's favorite cakes, biscuits, pastry, etc., are made here and sent by special messengers several times a week to whichever of her residences the court may be staying at. All stores at Windsor are under proper supervision, no materials being served out without proper requisition signed by the head of the department concerned. Not a bag of dog-biscuits can even be ordered for the kennels unless on the proper printed form. In fact, the whole vast establishment is practically as methodically conducted as any great London business. This method, which was evolved by Her Majesty and the late Prince Consort out of the chaos which descended from the days of George IV., entirely does away with waste, extravagance, and the abominable perquisite system, and enables Her Majesty to exercise that wise control over her finances which enables her to keep the grandest establishment on relatively the smallest royal income in Europe.

HOW PATTI IDENTIFIED HERSELF
On her recent marriage to Baron de Cederstrom, Patti left orders at her home that her mail should all be forwarded to the Cannes post-office. On her arrival there she went to the post-office and asked if there were any letters for the Baroness Adelina de Cederstrom-Patti.
"Lots of them."
"Then give them to me."
"Have you any old letters by which I can identify you?"
"No, I have nothing but my visiting-card. Here it is?"
"Oh, that's not enough, madame; any one can get visiting-cards of other people. If you want your mail you will have to give me a better proof of your identity than that."
A brilliant idea then struck Madame Patti. She began to sing. A touching song she chose, the one beginning, "A voice loving and tender," and never did she put more heart into the melody. And marvelous was the change as the brilliant music broke through the intense silence. In a few minutes the quiet post-office was filled with people, and hardly had the singer concluded the first few lines of the ballad when an old clerk came forward and said, trembling with excitement, "It's Patti, Patti! There's no one but Adelina Patti who could sing like that."
"Well, are you satisfied now?" asked the singer of the official who had doubted her identity. The only reply which he made was to go to the drawer and hand her the pile of letters.

DEATHS OF PRESIDENTS
George Washington died of a cold which brought on laryngitis; John Adams died of senile debility; Thomas Jefferson died of chronic diarrhea; James Madison died of old age; James Monroe died of general debility; John Quincy Adams died of paralysis, the fatal attack overtaking him in the House of Representatives.
Andrew Jackson died of consumption and dropsy; Martin Van Buren died of catarrh of the throat and lungs; William Henry Harrison died of pleurisy, induced by a cold taken on the day of his inauguration; John Tyler died from a mysterious disorder like a hiliotic attack; James K. Polk died from weakness caused by cholera.
Zachary Taylor died from cholera morbus, induced by improper diet; Millard Fillmore died from paralysis; Franklin Pierce died of inflammation of the stomach; James Buchanan died of rheumatism and gout; Abraham Lincoln assassinated by J. Wilkes Booth; Andrew Johnson died from paralysis; Ulysses S. Grant died from cancer of the throat; Rutherford B. Hayes died from paralysis of the heart; James A. Garfield assassinated by Charles J. Guiteau; Chester A. Arthur died from Bright's disease.

ENGLISH PRONUNCIATION IN ENGLAND
Who or what is conceded to be the English authority on pronunciation? I and a number of other greatly distressed Americans residing in England would be very glad of this information.
A day or two ago, in a company of well-educated English and American men and women, I was asked by an Englishman why we Americans insisted upon speaking the English language incorrectly. I replied:
"I think that educated Americans, on the whole, speak English correctly. At the same time, if you will prove, on the best English authority, that we mispronounce I am sure you will find us amenable to reason."
Immediately I was caught up on the word "amenable."

"It is not 'a-me-nable,' but 'a-men-able!'" declared my English critic. "It is incorrect to give the e the long sound!"
"But Noah Webster in his dictionary says it is 'a-me-nable,'" I retorted.
"Oh, well, Webster is no authority here," was the reply.
"Who is, then?" I asked; for, as I said before, I am always "a-me-nable" to reason.
"Why, the best of our lit'ry people do not consult a dictionary. Oxford is our authority on pronunciation, and when an Oxford professor says a thing is right, why, then it is right!" declared an apparently intellectual Britisher.
Now, I would like to know if this is the true state of affairs? Must I, as a lit'ry woman, instead of consulting a dictionary in my own lib'ry during my earnest endeavors to learn to speak "English as she is spoke" over here, telegraph, telephone or write to Oxford before I am at liberty to say whether I write a letter of "con-do-lence" with a long o and accent on the second syllable (according to my much-respected Webster), or "con-do-lence" with the accent on the first syllable (according to what some English scholars tell me)? Again, if it is true that Oxford is the recognized authority on pronunciation, may I ask who told Oxford how? We may say in America that Yale or Harvard or the University of Chicago is an authority, but the professors in these universities would doubtless refer us to Webster. I am not pleading for the substitution of Webster's dictionary for any "dictionary" that may be in use in England. I only ask, Which is the one? Or is it neither, but just Oxford?

CHOPPING DOWN A TREE
The chopper approaches the tree with a plumb-line; if the top does not lean more than two feet in the case of a large tree, or more than four in the case of a small one, he considers that he can fall it in any direction he may desire. He then views the ground, and selects the most promising "lay-outs," and the undercut is made exactly facing it. The undercut usually extends about one third through, and then the tree is sawed in from the back to meet it. When the two cuts are within six inches of meeting the saw is removed and the tree is weighed up until the top passes the center of gravity, when it falls by its own weight. Where the surface of the ground is such that it is necessary for the butt and the top to strike the ground simultaneously, the stump is snubbed off at the undercut, which provides a slanting surface, so that the butt has no place to rest, and perforce slides to the ground. If the tree needs to be rolled off to one side half the undercut is slanted, and a pile of chips is placed on the flat surface of the other half; the result never fails to manifest the efficacy of this device. Again, by leaving one side of the undercut wood between the undercut and the saw-cut thicker than the other, the tree may be drawn considerably away from its natural course.—Engineering Magazine.

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that PAGE FENCE is the standard of woven Fences? We try to make it such. Others try to IMITATE IT. PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

FENCE! STRONGEST MADE. Built strong. Chicken-tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalogue Free. COILED SPRING FENCE CO. Box 18, Winchester, Indiana, U. S. A.



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Centrifugal Separators cost too much money and require too much machinery. This costs less than the interest on the money and is better. Separates closely and leaves the cream in the best condition. Made in 4 sizes, from 1 to 15 cows. Easy to clean and easy to operate. Strong and durable. Prices, \$5.00 to \$11.00. AGENTS WANTED EVERYWHERE. Write at once for special terms and catalogue. AQUATIC SEPARATOR MFG. CO., Box 200, Ellensburg, N. Y.

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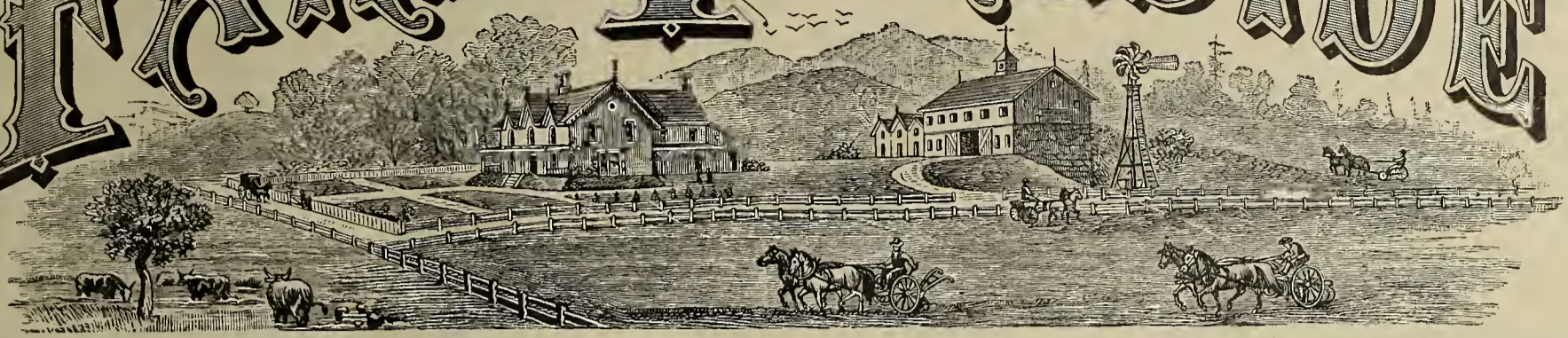
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TERMS 50 CENTS A YEAR
 24 NUMBERS

SOME FAMOUS ARTISTS AND THEIR WORK

Dead he is not, but departed—
 For the artist never dies.
 —Longfellow.

CHOPIN, H.—This distinguished painter stands pre-eminent in the modern French school of religious painting. His pictures are striking because of the method of employing lights and shadows.

The subject of the picture here presented is from the second chapter of Exodus, one of the best-known incidents of biblical lore.

The picture is much esteemed on account of its accuracy, which extends even to the method of wearing the hair and the features of the various races represented. In all essential respects it is true to the national character and costumes as they existed at that day.

The picture shows the luxuriant vegetation along the banks of the Nile at that time, which is strongly in contrast with its state to-day, for fully and truly has the prophecy of Isaiah—the reeds and flags shall wither—been fulfilled. Taken altogether the picture is a gem—for its faithful delineation, for the incident it portrays and for its artistic excellence.



[SIZE 20 BY 25 INCHES]

The Finding of Moses

H. CHOPIN

his profession. While working on the upper part of a picture in one of the churches he fell from the scaffold and sustained injuries which threatened to prove fatal, and he was removed to his beloved Seville, the city he had beautified, where he expired.

The example of Murillo's work which we present—The Immaculate Conception—is one of his masterpieces. When Marshall Souet and the French ransacked Spain, it was carried to Paris and became a part of the famous Souet collection. Upon the sale of that collection, in 1852, this picture was sold to the Louvre gallery for about \$125,000—the largest price ever paid for a picture up to that date. For strength of feeling and beatific expression it is one of the world's great masterpieces.

STUART, GILBERT (1755-1828).—The name of Gilbert Stuart is inseparably connected with that of Washington, as Stuart has produced what is generally considered the best likeness extant of the "Father of His

Country." It is fitting that it should be thus, as Stuart is a thoroughly American product. Born at Narragansett, Rhode Island, in 1755, he became the pupil of a fellow-countryman, Benjamin West, in London, in 1777, and later set up for himself as a portrait-painter, in which line he achieved considerable success.

In 1792 he returned to America and settled in Philadelphia. It was while here, in 1795, that he painted his first portrait of Washington. The second, a full-length portrait, which is offered on the following page, was painted for the Marquis of Lansdowne. For strength of expression Stuart is considered one of the modern masters of portraiture.

From Philadelphia he removed to Washington, and thence to Boston, where he died in 1828.

Many examples of his work are treasured by private families, but to the public, and especially to Americans, he will continue to be known as the painter of Washington.

These Beautiful Pictures
 Given Free to Readers of
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 conditions see next page

MURILLO, BARTOLOME ESTEBAN (1618-1682).

The life of Murillo serves as an illustration of the fact that superior genius, even under adverse circumstances, will make its own way. Born of poor parents, and in early life left with a sister to support, the outlook for the ambitious youth was aught but encouraging. However, his great natural talent, developed somewhat under the direction of a distant relative, fitted him to execute work so superior to that of his associates at Seville that he was enabled to provide for his sister and turned his long-ling eyes toward Rome, where he might study the world's great examples of his art.

In pursuance of his desire to go to Rome he traveled to Madrid and sought the influence of Velasquez, the greatest Spanish painter of that time. Velasquez, struck by his talent, took him under his own instruction and helped him well upward on the ladder of fame. However, instead of being a mere student and follower of his master, he developed a style of his own and became the greatest painter of religious pictures Spain has ever produced. In fact, he was not only the greatest, but practically the last great painter of that nation.

From poverty he arose to great wealth, largely through his art. He married wealthy, and as the pet of fortune got the greatest prices for his pictures ever paid up to his time. He was very pious and very industrious, hardly leaving his work for any cause other than his devotions. Doubtless his piety in part accounts for the large number of religious pictures he painted, and for the great amount of feeling he was able to infuse into them.

He died as a master would want to die—in the pursuit of



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THE FARM AND FIRESIDE

THE MODERN DAIRY

BY JAMES C. FERNALD



IN THE olden time dairy-work was chiefly the work of women. Some men milked some of the cows, but the farmer's wife or daughters commonly assisted, sometimes milking six or a dozen cows each. The milk was then carried to the house and strained into pans set in long rows on the pantry-shelves. Many farms possessed a cool spring-house on a side-

hill, with blocks of stones for shelves, over which the water trickled from ledge to ledge with refreshing coolness, and where the proud housewife ranged her shining pans of milk to rest until the white had turned to gold.

Then the cream was skimmed by hand until enough was secured for "a churning." The old upright dash-churn was brought out, and at this the housewife or the housemaid thrashed away in uncertainty until such time as it pleased the butter to "come."

Various alleviations of this process were invented—revolving churns, oscillating churns, and dog-churns, from which the old house-dog would run and hide when he saw arrangements being made to put him into the treadmill.

When the butter had come it had to be worked and molded by the hand of woman. Fortunately, in many sections an unwritten law always gave her the "butter-money," which with the "egg-money" often furnished the only resource for the feminine wardrobe and for any home decoration the feminine heart might be set upon.

Now all is changed. The creamery has come in, and almost everything of the olden time has gone out except the cow. Something might be done toward dispensing with her, but that the creamery returns butter in the mass in exact proportion to butter found in the milk, so much and no more. The pump thus becomes utterly useless. It does not pay to haul water to the creamery and have it count for nothing in the receipts. But woman's agency has almost disappeared from the business. The cows are milked for the most part by men, and the milk is strained into forty-quart cans in the barn-yard. These cans are at once loaded on wagons and driven direct to the creamery. This is commonly a long, low building with many windows that supply an abundance of light and air. It is made just large enough for its work, with no extra space to accumulate dust or rubbish. Entering the building, one sees great vats, each twenty or more feet in length, and strange-looking boxes and pipes variously arranged about the room.

The whole road leading to the door will be filled every morning with wagons and buckboards, each loaded with great cans of milk. At the creamery all is weighed; nothing is measured. From four to five tons of milk are received daily. Each man's cans are weighed, and the amount of milk placed to his credit by a system of checks. A small quantity of the milk received from each farm is drawn off into a long-necked flask for testing. In the flask the milk is treated with acids. Twenty-four of these flasks are then set in a frame within a covered iron case

called the "tester." This is put in rapid revolution, so that the butter-fat is thrown by centrifugal force up into the graduated neck of the flask, where the percentage of fat can be read off as the rise of mercury in a thermometer is read off. From this percentage with the amount of milk each man has furnished is determined the amount of the butter product that is to be placed to his credit and the amount of skim-milk he is to receive.

This testing process takes considerable time, but the disposition of the milk does not wait for that. As soon as the little flask is filled, labeled and set aside all the cans from that wagon are emptied one by one through a double strainer of cloth and wire into the first long vat; thence it is carried up by a steam-pump into a steam-heated receptacle, where it is raised to the proper temperature and from whence it flows off into the separator. On its lower surface the separator has a series of little flanges like those of a water-wheel. Steam at high pressure is driven against these flanges, setting the cylinder in rapid revolution, when it stands upright like a spinning top, supported only on the point of the stem. This point is the only part of the revolving apparatus that touches anything. Friction is reduced to a minimum, and the apparatus attains a speed of twenty-four thousand revolutions a minute.

By the law of centrifugal force the heaviest matter is thrown furthest from the center. Milk is heavier than cream, just as water is heavier than oil; hence the milk is thrown to the outer edge of the separator, while the cream accumulates at the center. One pipe leads from the inner edge of the bowl, carrying the skim-milk, while another from the center carries the cream. The cream flows off into the second great vat, the cream-vat. The skim-milk is pumped up into a vat near the ceiling, from which a pipe leads down to a faucet on the outer platform. The cans



TESTER

The cream is allowed to ripen for twenty-four hours, when it has slightly soured, and is pumped into the great revolving churn that holds four hundred gallons. The butter when produced is put into the steam butter-worker, where two hundred and fifty pounds at a time are worked into marketable butter. The whole apparatus is run by steam, and this steam is for the most part admitted direct to the machinery without the intervention of an engine. Thus the separator is run, as already explained, by a steam-turbine, into which the steam is admitted right from the boiler. The pumps are operated by cylinders in which steam direct from the boiler is admitted alternately above and below a piston attached to the pump-rod. Two men are able to operate the whole plant. The milk from one hundred farms, which once would have been worked over by one hundred women, each separately skimming, churning and packing, is here cared for by one white-capped superintendent and his assistant—two men in place of one hundred women. Whereas on those one hundred farms the butter would have been of all varieties of goodness or badness, some delicious and some atrocious, here all is of uniform purity, fineness and flavor.

It must be added that the product is purer than any butter made by hand possibly can be. It has been said that the centrifugal force of the separator in revolution throws the milk, as heavier, to the outer rim. But there is something heavier than the skim-milk, and that is dirt—any solid matter. The writer happened to be present when the separator was taken apart and cleaned.

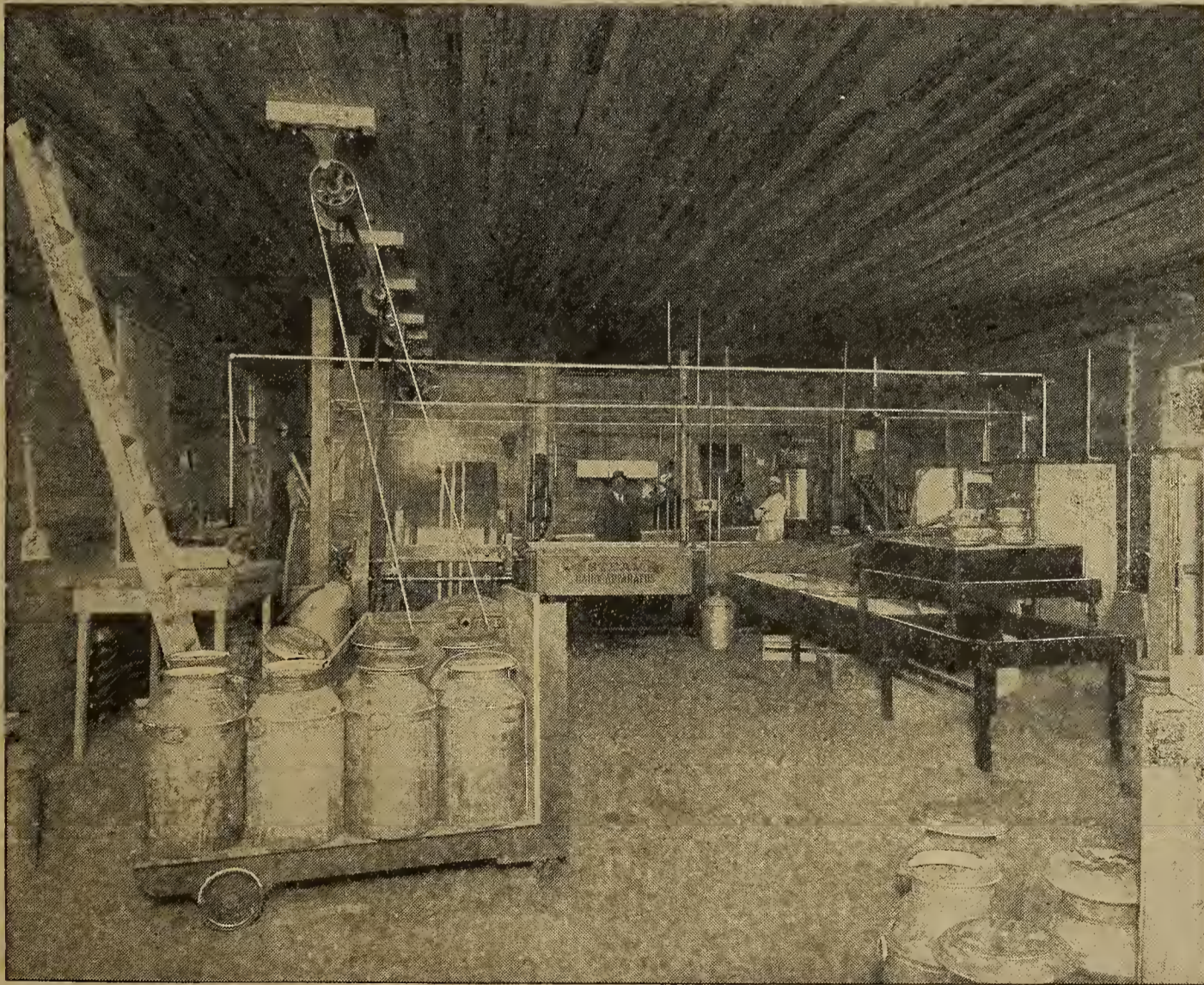
consumer receives a purer article than ever could have been made by the old process. Does the farmer's wife still get the butter-money? We imagine that depends very much on the kind of man she has for a farmer. There ought to be more money for her now. All products are most profitably handled in the mass. The product can then all be depended upon, and is all alike. When once the reputation of a creamery is established there is a speedy sale for all the milk, cream and butter it can send out. Take, for instance, the little town of Liberty, one hundred and eighteen miles from New York, and at an altitude of from two thousand to two thousand five hundred feet above the level of the sea, and amid grand mountains that rise to a much loftier height. All over these picturesque slopes are the mountain pastures where the thrifty and hardy cattle utilize the ground that it would be difficult to use for any other purpose. The town has two creameries in constant active operation. One of these has from the first devoted itself chiefly to supplying canned milk and cream, making butter only as a by-product. The other (views of which are shown in the accompanying illustrations) started with the making of butter as its main object, but has been compelled for months past to devote its chief energies to the production of canned milk to meet the insatiable demand of the great metropolis, where tens of thousands of babies grow up without ever seeing a green field or a grazing cow. But from the mountain pasture the milk purified in the creamery and refrigerated on the train is delivered

is rendered to the consumer. Milk to be thus sold is pumped into a carrier, which runs on a miniature railway and fills the sterilized bottles in rows of sixteen at a time. These are then packed in crates, and shipped by the car-load to the great city.

Thus out upon the farm on the prairie or the mountain pasture that concentration of industry which is so striking a feature of modern civilization has found its way, and the cow is embraced in the grasp of a "trust." In this case at least waste of labor is avoided, the patient and much-enduring wives and daughters of the farmers are relieved from exhausting toil, while the



THE MODERN CREAMERY



INTERIOR VIEW OF A MODEL CREAMERY, SHOWING APPARATUS USED

from which the new milk has been emptied are slid one by one under this skim-milk pipe. An automatic weighing device is set to the amount to which the owner is entitled, and can after can is filled until that amount is reached, when the machine locks itself and allows no more skim-milk to be delivered to that person. The skim-milk is carried back to the farm in the same wagons that have brought the new milk to the creamery, and is there used for feeding calves and pigs.

All around the inside of the cylinder was a coat of solid matter from one fourth to one half of an inch in thickness, and ranging in color from gray to black—the dirt that three strainings had not been able to get out of the milk. So important is this removal of impurity considered that the milk which is to be sent to the city in bottles is all run through the separator, the skim-milk and cream pipes being joined outside the instrument so that all the cream is returned to the milk, and everything except the impurities

sweet and pure at their very door.

The farmer's wife ought to receive a greater return than when she worked over the whole milk product of her farm with her own tired hands, and was then uncertain of the sale. The creamery should give woman on the farm more money, as well as more time to rest, think and plan, and to make herself and her home happy and beautiful. If that is done, more of the boys and girls will be won to love the healthful, simple, independent rural life amid the fields and hills.

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THE Supreme Court of Illinois recently rendered a sweeping decision against combinations formed for the purpose of restricting trade, preventing competition and controlling prices of commodities. In a unanimous opinion it is held that the Glucose Sugar Refining Company is, in fact, a trust under the Illinois law defining trusts and prohibiting them.

The decision reads, in part, as follows:

"A question of law which arises in the case is whether the facts set up in the bill constitute an illegal trust. The public policy of the state of Illinois has always been against trusts and combinations organized for the purpose of suppressing competition and creating monopoly.

"It makes no difference that the agreement for the illegal combination is not a formal written agreement. It may be a verbal agreement or understanding or a scheme not embodied in writing, but evidenced by the action of the parties.

"If the transactions referred to in the bill in this case did not amount to an absolute agreement made in advance between the six corporations they at least constituted a scheme understood by all the corporations and participated in by them all. The carrying out of the scheme would necessarily result in suppressing competition in the manufacture of glucose and in the creation of a monopoly in that business.

"A part of the scheme was that none of the six corporations or their officers should for years engage in the manufacture of glucose, and this feature of the scheme necessarily contemplated the wiping out of all competition in the business. In Distilling, etc., Company versus people, 156 Illinois, 448, we held that a combination to control the manufacture and sale of all distillery products so as to stifle competition and regulate and dictate prices was an illegal attempt to create a monopoly, and that an organization which has a tendency to create a trust and constitute a monopoly is contrary to public policy, and unlawful.

"So it is in the case at bar. The men who control the new corporation which was organized—to wit, the Glucose Sugar Refining Company—are the same men, for the most part, who are interested in and controlled some one or more of the six corporations which disposed of their plants. Many of the stockholders in the old corporation are holders of stock in the new corporation.

"If the allegations in this bill are true the parties engaged in the formation of the trust and combination heretofore described are guilty of the offense specified in the act of June 11, 1891. The demurrers admit the allegations of the bill to be true. The American Glucose Company, a corporation organized under the laws of the state of New Jersey for transacting business in Illinois, and the persons whose names appear in the record, created and entered into a trust or combination with themselves and with one or more of the five corporations other than the American Glucose Company, who conveyed their plants to the Glucose Sugar Refining Company, and entered into an agreement with the Glucose Sugar Refining Company to regulate and fix the price of glucose and grape-sugar and their products and by-products, and they also entered into such a combination to fix or limit the amount or quantity of glucose to be manufactured, produced or sold in that state. These parties, therefore, under the act, were guilty of a conspiracy to defraud. The testimony tends to sustain the allegations of the bill."

IN A recent speech Governor Roosevelt forcibly presented some historical facts on the Philippine question. He said, in part:

"A grimly comic feature of the present international conspiracy against America and civilization is the way in which the adherents of Aguinaldo in the Philippines, and his apologists here, pat one another upon the back; and another striking feature is the wild invective, the savage and incoherent violence of the language employed by these apostles of peace. Yet, after all, it is but natural. They are repeating precisely the tactics of the copperheads of the Civil War. Those of you who are old enough will remember that the copperheads who denounced the Union arms always denounced them in the name of the new gospel of peace. Their cry was 'Peace;' even 'Peace at any price,' and it was these apostles of peace, who by their furious denunciations of Abraham Lincoln and of the Northern people and their frantic invectives against every measure of the government finally stirred to madness the dark and gloomy souls that are always to be found on the outskirts of such a movement.

"In 1863 the preachers of the doctrine of cowardly peace were responsible for the terrible and bloody outbreaks in New York City, which we know by the name of the draft riots. In 1865 these same craven preachers of peace were responsible for the murder of Abraham Lincoln. Nowadays their successors, who use their exact language in denouncing our conduct in the Philippines, have stained their own souls with the blood of our soldiers and of their Philippine foes.

"Every argument that can be made for the Filipinos could be made for the Apaches; every word that can be said for Aguinaldo could be said for Sitting Bull. As peace and order and prosperity followed our expansion over the lands of the Indians, so they will follow us in the Philippines. If we had refused to expand over the West, do you think that the West would have been peaceful now? If, instead of your forefathers settling here in Ohio, you had left Ohio to the Indians, do you think the country would have had peace? Indeed it would not. Just so long as there was an independent Indian power on your borders you were exposed to the certainty of constantly recurrent war. If now the United States were to walk out of Alaska, or out of any of our Indian reservations, as our opponents wish us to walk out of the Philippines, war would promptly ensue; war among the natives themselves or between the natives and white intruders; and if we did not again step in and settle the matter, why, some other great nation would have to undertake the work which we had proved ourselves too feeble or too foolish to perform.

"Remember, the war in the Philippines is absolutely and without qualification a national war. With characteristic perversion of the facts, our opponents have spoken as though this war was unnecessary, as if it

were now waged by President McKinley on his own authority and without warrant of Congress. In the first place, what we have done was inevitable, so far as the administration and the American people were concerned. There was just one chance of avoiding war. If the anti-expansionists, the peace-at-any-price people, had not delayed the treaty in the Senate, if by their loose invective they had not misled the Tagals, we should probably never have had any war in the Philippines. Aguinaldo's proclamation proves beyond shadow of doubt that the insurgents have held out on the strength of the hoped-for aid from the anti-expansionists here in our own home. Had these men not given the impression that the American people was divided, had they not worked for delay, there would probably have been no revolt and no bloodshed. By their clamor and by their obstructive tactics in the Senate they not only delayed the adoption of the treaty, but gave to Aguinaldo and his people the idea that they would receive strong moral support in a war against our flag; and, moreover, they have given this support. They are primarily responsible for the war.

"In view of this attitude of certain of our people the struggle was inevitable. When Dewey smashed the Spanish fleet it meant that the islands would fall into chaos unless either the United States or some other strong power took possession; unless we were willing to see the fleet of another power sail into the harbor as Dewey's fleet sailed away.

"The treaty with Spain was finally ratified by the Senate, but it was not ratified by the Spanish government until a fortnight after Congress had adjourned, leaving the president to act as the nation's representative. The lower house had, meanwhile, taken its share in the ratification (the opposition was so small as to be insignificant) by passing the appropriation of \$20,000,000, as required by the treaty. The islands thus, by the ratification of the treaty and by the action of the Senate and the House of Representatives in passing the twenty-million-dollar appropriation bill, became part of the United States, and it was just as much the president's duty to keep order in them by the use of the army as it would be his duty to keep order in Arizona by the use of the army in case of an Apache outbreak.

"Nor is this all. In passing the army bill Congress explicitly recognized the fact that there was a Philippine insurrection and that it had to be put down by the use of our armed forces. It provided for an army of over 60,000 regulars and over 30,000 volunteers especially with a view to meeting the present exigencies; it set forth that the army should only be kept up to these figures for two years. In other words, Congress explicitly provided an army of nearly 100,000 men for the purpose of carrying out the Philippine war. Under such circumstances the talk of this war being unauthorized by Congress can be due only to ignorance or else to a wilful intention to suppress the facts.

"The taking of the Philippines was inevitable. The outbreak was rendered inevitable by the conduct of those who opposed the taking of the Philippines, and who gave moral aid and comfort to Aguinaldo and his men. The president has acted in the only way in which he could act and remain loyal to his oath of office and to the great trust delivered by the people into his hands. We are doing but our simple duty in introducing the reign of law, order and peace into the Philippines, and we cannot shrink from it without shame and dishonor. The path of expansion is the path of national honor, the path toward universal peace. You, my countrymen, cannot refuse to tread it unless you are willing to renounce your claims to be the heirs of the ages, and to abandon all pretense of following in the footsteps of Washington, of Lincoln, and of all the great Americans who have made our past history mighty and glorious."

AFTER noting the current rise in values of staple products in all industrial nations, and that the index numbers compiled in Great Britain by the London "Economist" are now at the highest point reached for several years past, just as they are in this country, "Bradstreet's" says:

"It has been the fashion of late to ascribe many of the advances in staple values in this country to the operations of combinations, but this view of things is hardly rec-

oncilable with the upward movement in Great Britain, and therefore presumably in other European countries. If the rise in value of any single staple or collection of staples is gone into, in fact, it is usually found that active consumptive demand has been the mainspring of the advance. It is true, as in the case of tin, copper and some other metals, that active speculation for the rise has resulted in values being pushed considerably beyond the point to which consumptive demand alone would have carried it. Industrial combination in this country has probably been most marked in the iron and steel trades, and frequently advances in these prices have been credited to the actions of this or that combination. It is to be noted, however, that the advance in iron and steel abroad has been a very heavy one, and that, despite the efforts of consumers here to buy abroad, our imports have been very small. An interesting feature brought out in recently received English exchanges is the eager demand for British iron and steel for export to this country. The prices of iron and steel here are more than double those of last year, and still there is no flood of imports to be noted. In some lines of steel manufacture, in fact, notably in steel wire, the foreign demand for our products is still an active one.

"The fact appears to be that after a period of repression in nearly all lines of trade and in all countries—hand-to-mouth buying, in fact—the world in 1898 and 1899 woke up to the fact that its productive ability had been overtaken and passed by its consumptive power. The effort to right this discrepancy has resulted in a wide-spread increase of production, but this increase has not been sufficient for the demand, as witnessed by the advances which have occurred in nearly all lines of business. It would, in fact, be hard to point out where the recent advances were even indirectly affected by the operation of combinations here or abroad, except that possibly some foolish and ruinous competition has thereby been avoided. When the immediately urgent demand for staples has been in some measure met, it would seem that a better measure of the ability of combinations to control prices might be forthcoming. Until such time, therefore, it would probably be the part of the wise observer to suspend judgment as to the ultimate success of many widely heralded combinations. It may prove, in fact, that the future holds in store many opportunities for the exercise of that economic side of the combination which aims to cheapen production rather than advance prices of product."

MR. WILLIAM PRETORIUS, a member of the family of the Transvaal's first president, recently gave to the "Times-Herald" this opinion on the conflict in South Africa:

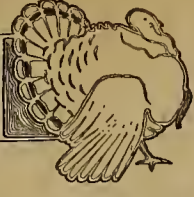
"I think the war is deplorable, and if both sides had not been so stiff, but had yielded a little, it might have been avoided. If the Transvaal had adopted the American policy of allowing foreign immigrants a voice in the country's affairs there would have been no trouble. On the other hand, one's sentimental sympathy goes out to the Boers, who are fighting for the land they carved out of the wilderness and made their own."

If the Boers in the Transvaal had granted the same rights to the "Uitlanders" that the Boers in Cape Colony have under the Colonial government there would have been no trouble. In South Africa the intermingling of Dutch and British, and of both these with immigrants from other countries, is forming the Afrikaner people, just as the American people were formed from different nationalities. There is no just reason for interfering with this national development. It is inevitable. Stubborn resistance may delay it. Great bloodshed may mark the struggle. In the end both Dutch and British will lose their identity in the Afrikaner as completely as Dutch New Amsterdam is lost in New York City.

There is a curious anomaly in the South African situation. In the Transvaal the Uitlander outnumbers the Boer three to two. The majority is under the rule of an armed minority determined to maintain that rule, and loudly complains of many grievances. The Boer is not the oppressed, but the oppressor. In Cape Colony the Boer outnumbers the Briton about three to two and rules because he is in the majority, but the Briton has no complaint. There is no discrimination, no oppression; and there is harmony in the natural development of the Afrikaner people.



ABOUT RURAL AFFAIRS



Science and Woman The progressive element in some families I know is the woman. The man often is ultra-conservative, and if any steps in advance are taken in the homes or on the farms of such people it is because the woman has been earnestly laboring and pushing. And you know that a woman will have not only her say, but in a great many cases also her way. If I see that the man is an old fogy I always rejoice to see the woman alive and on the move. A live woman, too, can make things lively when they otherwise would move exasperatingly slow. On the other hand, I know that many women find it very difficult, if not impossible, to free themselves from the yoke of fixed habits or of the prejudices of their earlier days. They are bound to adhere to mothers' and grandmothers' good old ways, the teachings of modern science to the contrary notwithstanding. My esteemed friend, the accomplished editor of the "Rural New-Yorker," tells in that paper in his characteristic and inimitable way a story which touches a sympathetic chord in my heart. He speaks of the occasional complaints of our scientific friends that their ideas and discoveries seem to travel on three legs, and that practical people are often slow to pick them up. Then he mentions the use of kerosene-oil as an example. It is one of the most useful of household substances. It will give us light and heat, and is one of the most valuable insecticides in use.

Kerosene as Cleansing Agent "It has also remarkable cleansing qualities," he continues. "The housewives who use this in the laundry know that this is so. Now scientific men have demonstrated that kerosene is a great help in washing dishes. It cuts out the fat and grease, and quickly evaporates from the plates so that there is no remembrance of it. I feel sure this is true, yet I am not eloquent or logical enough to get the madame to try it. "Put kerosene-oil on my dishes? Not a bit of it!" That settles it! I know that toue! I shall not be able to demonstrate the thing until madame goes away for a vacation and I wash the dishes myself! Thus it is that fixed habits—of course I won't say prejudice—hit scientific suggestion a hard rap and make it crawl on three legs."

Sinful Waste of Sugar These talks are meant to be an exchange of personal experiences. In return for friend Collingwood's I can give an instance of mine, and one which I have in common with many others. Our scientific friends tell us that cane-sugar if put into and boiled with acid fruits will turn into glucose (grape-sugar), and thereby lose a great deal of its sweetening power. For that reason they advise us, for the especial benefit of the feminine members of the household, that fruits should be boiled and canned without (or at least with but little) sugar, and that the sugar should be added just before the fruit is brought to the table. We are told that two pounds of sugar will sweeten fruit as much when added at that time as three pounds or even more will do when boiled with the fruit at canning. I have brought twenty or more pounds of sugar to the house every week all through the canning and preserving season, and occasionally did call attention to the claims of our scientific friends, and to the alleged sinful waste of good sugar going on in the majority of American households. But there is that "fixed habit" and the reverence for mother's good old way. So that sinful waste goes merrily on, and people talk of hard times and the difficulty of making both ends meet!

The Apple Business All around me is a great apple country. Twenty or thirty years ago the people here were bound to plant every available foot of land with apple-trees. Ten or more years ago these orchards used to bear quite freely and regularly, and the crop brought a good deal of money to the farmers of the county. At that time we knew of only one way of selling the fruit; namely, in barrels. The seconds and culls were simply made into cider or fed to stock. Since then we have had only one full crop—indeed, an extraordinary one. This was in 1896, and it has brought us a revolution in the manner of disposing of our apple crops. The fruit was plentiful and cheap, and barrels were scarce and high-priced. The consequence was that people

learned the trick to do without the barrels, and thousands of car-loads of apples were shipped loose, in bulk, all over the country at a great saving of expense for packages, and of cost of barreling also. Farmers have learned the true value of fruits, too, and speculators cannot secure the crops at a figure which is sure to leave them a big margin of profit. Consequently there is less anxiety on the part of speculators to buy, and farmers have to rely more or less on their own devices and efforts for selling their apples. A good share of the fruit in this immediate vicinity is sold to canning-houses loose in cars, and while prices are not extravagant, this method secures sale for the entire crop, cider stock excepted, which is sold to big cider establishments separately. There is no waste now, as formerly. Everything is utilized and cleaned up, and the aggregate returns are such as to bear a good profit to the producers especially, as the expenses for labor are so very much reduced. There is not much sorting; no barreling, no rehandling. Fruit is largely shaken off the trees into canvas held underneath, especially where the crop is very light. It will pay to pick by hand only where the trees hang full and part of the fruit is wanted for long keeping or for a few fancy barrels. On the whole I must say that our apples this year are of rather poor quality, only a few specimens among them being good enough for barreling to make an A No. 1 quality. There is a general impression, too, that this year's apples will not keep well. We try to turn everything into money as soon as we can. It seems the safest and most profitable plan by all odds. I have followed this plan with my pears, with my onions, my early cabbages, early potatoes, etc., and it works so well and satisfactorily that I shall try to do the same thing always. When the time comes to sell, I sell for the best price I can obtain rather than hold for a possible rise. This holds good for all perishable articles.

Crates Needed I found myself rather short of crates this fall. It shall never happen again, for it is a great inconvenience to have to take off loads of produce, especially apples and pears, and not have crates enough. I bought a lot of bushel-baskets in Buffalo at about ninety cents or one dollar a dozen, and they come handy for many things; but they do not pack well enough when you want to haul apples or potatoes in big loads. They are all right, however, for the big fruit-wagon with extending deck, which alone holds about fifty bushel-baskets or about one hundred large peach-baskets. Crates in the flat can be bought at one of the lumber-mills in the vicinity for about ten cents a piece, and the mill is ready to get them out of any size ordered. I shall have mine made so that two of them will fit nicely into the wagon-box. I want enough of them, so that the pickers can keep on filling them with apples, potatoes or whatever it may be while a load is taken off, and plenty to store produce in cellar, sheds, barn, etc. They come handy for many purposes. Be sure to have each plainly marked with your name. One can easily make good crates at home, too. Saw out end-boards of good wide lumber. If a saw-mill is near, have them sawed out there and notched out for handles. Then get common plastering-lath, cut of proper length, and nail on for bottom and sides and the thing is done.

Prepared Mixtures I know of several ready-made mixtures being offered and advertised by the trade. It has never seemed to me likely that a concentrated Bordeaux mixture could be prepared that will do as good service as the one freshly prepared from fresh materials. The stations always tell us that only a freshly prepared mixture can be relied upon to do the business. For that reason I make my own rather than buy the concentrated mixture which only needs diluting. However, I would like to hear from others who have tried the ready-made article. The Rhode Island bulletin speaks of the "dry Bordeaux mixture," and says: "The dried sediment has been ground and placed upon the market in the form of a fine powder, to be used in powder bellows and guns. After extended trials this powder has failed to give satisfactory results. The principle objections are as follows: (1) It is much more difficult to distribute upon the surface of a plant when applied in the

form of a powder than as a solution. (2) The results obtained from the use of Bordeaux mixture in the form of a powder have been much less marked than when the liquid form has been used. (3) Nearly four times as much material is required to cover the same area when applied in the form of a powder. (4) In the form of a powder it does not adhere to the plant so well as when used as a liquid. A light shower which will not appreciably affect the appearance of plants sprayed with the liquid Bordeaux will often remove all signs of the mixture when applied in the form of a powder." It is for similar reasons that I prefer to apply arsenical poisons for the potato beetles and larvae in liquid rather than in dry form. Besides, of course, we usually combine the two remedies (for blight and for beetles) in one application.

SALIENT FARM NOTES

Rural Meetings We have in this locality a branch of a "domestic science association" composed of ladies, chiefly the wives of farmers, who meet twice a month for the purpose of discussing the various problems which confront and often puzzle the housewife. The meetings are held at the residences of the members in turn, and are formal or devoted to business about ninety minutes, then about thirty minutes to chat and visiting. I asked a young farmer, whose wife is a hustling member of the association, if it was doing any good—benefiting the members in any way. "I think it is," he replied, decisively. "They met at our house about a month ago, and such a scrubbing and polishing as the old house got just before the meeting it has not known in a coon's age. It was swept and scrubbed and cleaned and polished and trigged up in a way that was truly surprising. And not only the house caught it, but the back yard, smoke-house, flower-beds and everything else that my wife manages received a touching up. You see, the association handles all matters relating to home-keeping, and of course each member desires to show the others that she understands her business, so she gives her surroundings fits when the meeting is to be held at her house. I think it is a good thing. I was astonished when my wife read her paper on housekeeping to hear how much she knows about it. She's improving nicely."

There is a grange located in one of our counties that meets at the homes of its members, each in turn, once a month to discuss matters of interest to farmers. After the formal meeting, which lasts about ninety minutes, the members look over the premises and ask questions and offer suggestions. The owner knows three months beforehand that the society will be at his place that day, and naturally he has things in the best shape for inspection. The condition of his farm, buildings and animals settles his standing as a farmer. If he is a master of his art his surroundings unmistakably show it. If he is only an "average" farmer no amount of wise talk can conceal that fact, and thereafter his talks and advice are rated at their true value by others.

What would happen to some of the speakers at our farmers' institutes if a committee of live, practical, up-to-date farmers should suddenly call on them with a view to ascertaining whether they really practised what they preach—whether they really know what they talk about? I fear very much that some of them would "come tumbling." A few years ago I asked a live young farmer to attend our county institute with me, and to my great surprise he respectfully declined. In explanation he said, "I have looked over the program carefully and sized up the speakers. Some of them are good farmers, and some are a long way from being much of anything. I don't care to spend my money to hear men talk whose sole business it is to farm the farmer. When I desire to learn anything about practical farming I want to listen to a man who farms the land—a man who knows what he is talking about and who practises what he preaches. I don't care anything about theory; I want practice."

Stepping into a store I saw a farmer who is about forty degrees below the average directing the cutting of a plug of tobacco he had just bought. "Going up to the institute?" I asked. "Well, no; had'n't thought about it. When is it?" "To-morrow." "Whose going to speak?" "I read such portions of the program as I thought would catch him. "Well, thar's only one man in the bunch I'd care to hear, an' that's So-and-so,

He's got some of the finest hawgs I ever seen, an' I'd like to hear him tell how he feeds 'em. I don't keer to hear A or B or C. They are these fellers that talk through their hats. I know 'em. A man as lives in town an' wears fine clothes an' rents his land to poor fellers that he can skin can't tell me how to run my farm. When a feller wants to tell me how to do anything I first want to know if he knows how to do it himself. When I know a man kin do what he says he kin I am then ready to listen to him. I don't take no stock in wind."

Humanity is about the same the world over. The most skilful workman as well as the buugler stand ready to take off their hats to the man who really is a master of his art. They know he can teach them. They know he is an authority, and what he says can be relied upon as being accurate in every particular. On the other hand, both skilled and unskilled worker despise the superficialist. His chatter wearies them because they feel that the time spent in listening to him is simply wasted. The wisest advice coming from one who does not live up to it himself has no force, and none follow it. If a man has taken an ordinary farm and made it yield him a competence, while at the same time he has increased its fertility, thousands want to know how he did it. If one makes a good living from five or ten acres of land thousands of others are anxious to learn how he does it. If one raises one hundred or nearly one hundred bushels of corn on an acre year after year he is an expert, and all sorts of farmers are glad to listen to him tell about it. If one understands the breeding of any kind of stock, from horses to fowls, understands it so well that he can and does produce the best type regularly, he is the man thousands of breeders desire to meet with and hear.

Usually such men are glad to see others succeed as well as they, and though they are workers rather than talkers they are generally willing to explain their methods if it can be done without neglecting their own affairs. What they have learned has been learned by the closest attention to every detail of their business, and what they have earned has been earned in the same way, and naturally they have come to consider their own affairs of much more consequence than those of others. These are the men institute managers should seek out and bring to the front. They can tell something worth hearing. They are the kind of speakers that will draw out the workers and make institutes successful. Let us have more of them.

Corn-meal Mush As the days become colder the desire for more corn-meal in our rations increases. I am very fond of light, puffy, hot corn-bread, and eat lots of it, but my favorite dish of corn-meal is common old-fashioned mush. Many people eat it for supper, but I prefer it for breakfast. The winter nights are long, and one wakes up rather hungry and wants something hot for breakfast, and mush fills the bill. After eating about a quart of it nicely tempered with rich cream and touched up with sugar one wants little else for breakfast, and when the noon-hour comes he is ready to do full justice to solid dinner. I prefer good mush to pancakes of any kind and it is much more easily prepared, while, as a hired man once said, "the natural heat in the meal keeps a fellow's stomach warm all the forenoon, no matter how cold the weather may be." I use the steel-cut meal or roller process. It is ground almost as fine as flour, and when stirred into boiling water it cooks very quickly and makes a mush that is smooth and of excellent flavor. My time for commencing its use is when the new crop is ready for grinding, and its use is continual until the warm days of spring. It is such an excellent dish for a morning meal that I often wonder why more people do not use it. When I make the kitchen fire in the morning I lay an asbestos mat on the stove and on it set an aluminum kettle two thirds full of water. When my wife comes out the water is boiling and she makes the mush at once, covers it over, and sets it back where it bubbles slowly. By the time I get my chores done it is thoroughly cooked, and both big and little members of the family make it disappear at a rate that would convince any one that it is good. Get the finely ground "pearl" meal, have the water boiling lively, salted "to taste," put in the meal slowly, stirring rapidly, don't make it too thick, let it bubble slowly half an hour, eat with cream and sugar, and you will smile.

FRED GRUNDY.



FARM THEORY AND PRACTICE

AN UNNECESSARY PEST.—There has been much complaint this fall of an "invasion" of the Colorado potato-beetle. The "bugs" have stripped the tomato-vines in the gardens, and have eaten tomatoes and potatoes when no vines remained for them. They belong to the second or third brood, and I am quite sure that any such brood in size that is really harmful to crops is wholly unnecessary and is possible only because many farmers are careless in their method of fighting the first brood. The beetles that appear in the spring deposit their eggs in May and June. The young, after a few weeks of feeding, go into the ground, and in about ten days emerge as beetles, ready to begin the work of producing another brood. If the first brood is fought effectively there is no later brood to damage crops in August and September. The beetles that come out of the ground in midsummer do not scatter much to other fields, but deposit their eggs on the vines about them. It is the beetles that appear in the spring that seek out new fields wherever they may be found. At least this is the rule in all localities where an early crop is grown that furnishes breeding-ground for the second brood. It is my experience that if the young of the first lot of beetles be killed no second lot may be feared that year. The trouble simply is that most growers do not kill all the young. They do not apply the poison until many of the young have scattered over the entire potato-top, and then some escape, go into the ground, and lay the foundation for another brood. The grower of twenty acres of potatoes can kill the young as effectively as the grower of a garden-plot. The secret is to apply the arsenite with some sticky diluent to the bud of each plant before any of the young leave the bud. The mixture should be strong. It remains where the young come within a day after hatching, and it kills as fast as they appear in the bud.

Six pounds of good Paris green to one hundred pounds of flour make a satisfactory mixture. It is none too strong. I have applied it to hundreds of acres of potatoes in past years. There is no use of making all the top white with the mixture. That is expensive and needless. Sift a trifle of this mixture into the buds of the plants before the first "hatching" leaves it. In a few days the young ones leave the bud, going out upon the leaves if not killed, and other hatchlings of little ones continue to come to the tender leaves in the bud. If the arsenite is there it does the work, and not one tenth of the young are ever seen by the farmer. They hatch, find the poison, and drop to the ground. In showery weather a second application may be necessary, the flour in a paste finally washing off. There can absolutely be no doubt that if the growers in any locality were to fight the Colorado beetle in this rational and inexpensive way they would not be pestered with a second brood. Beetles from a distance will appear again next spring, but only one brood in a year need be fought. Spraying with water is less effective, because the water will not hold the arsenite on the vine for any length of time, and the spraying is usually delayed until some of the young become hardy and escape or later hatchlings are left unpoisoned. Buckwheat middlings or low-grade flour in small quantity hold the poison in place for the larvae. The second brood, so great in number in many localities this year, was a pest that was preventable.

LIME FOR POTATO-SCAB.—Professor Massey makes the queer statement that "lime on clover-sod the previous spring seems to check scab." This is directly opposed to the belief and experience of most growers that have experimented carefully. The scab of the potato is a fungous disease that spreads readily in limed land. If the disease is in the ground liming will make it worse.

SWEATING WHEAT.—When grain is not plump, as was the case throughout much of the great Ohio valley this year, there is a distinct gain from sweating it in mow or stack before threshing. There is an old belief among farmers that the grain becomes more plump in the mow. I should not like to assert that this is correct, yet we do know that the sweating brightens the grain and

makes it more attractive. Shriveled grains are often bleached, and after six weeks in the mow they come out much brighter. The improvement in appearance helps to sell the crop to local mills that do not use the tester, and even with the tester it may grade better on account of the perfectly dry condition. The moisture in grain threshed early from the shock causes it to test lower than it would when perfectly dry.

SOWING TIMOTHY.—When timothy is seeded with the wheat I believe that it is best to let the seed fall behind the drill-hoes instead of in front of them. Many farmers turn the timothy-seed spouts forward so that the drill-hoes may cover the seed, and in this way a better stand of plants may be gotten in a dry fall, but too many of the plants come on the ridges between the little drills, and perish later on. The safe place for the timothy-plant is in the furrow with the wheat-plant, as it is then protected by the ridge on each side.

TIMOTHY AND CLOVER.—Clover is not a sure crop on a majority of eastern farms, and the practice of seeding timothy with it increases. The timothy is surer, and then it forms a meadow as the clover gives way. This is all right in theory, but in practice we find that the clover often does not get anything like a fair show. Many sow a few quarts of timothy in the fall with the wheat, and then add the clover in the spring. If the fall is favorable the timothy will make enough plants to take about all the ground that the wheat-plants do not occupy. Timothy is a surface-feeder and a plant that hustles for itself. The tiny clover-plant in the spring finds all the moisture and available food at the surface used by the wheat and timothy plants, and the result too often is a "clover-field" that is chiefly timothy. The idea of then improving the soil is then abandoned, and a timothy meadow impoverishes it more than ever. Many clover failures are due to a fall seeding of timothy, even though only half the usual amount of the grass-seed has been used. Such seeding is safer, so far as securing a crop the next spring is concerned, but if clover be made the prime consideration, as it should often be, the timothy-seed should not go on the ground until early spring. Then the clover really has the advantage. The objection to this method is the danger of having neither grass nor clover if the weather turns dry after harvest. Clover-sods are becoming the chief need of the farms of the eastern and middle states.

DAVID.

KLEINWANSLEBENER

Since few farmers know more concerning Kleinwanslebener than that it is applied to one of the best varieties of sugar-beets I have thought that a few notes concerning it would be welcomed by them. I have, therefore, compiled the following paragraphs from the letters of some friends who have lately visited the estate from whence we get our supply of this seed.

Wansleben is a little town about fifteen miles southwest of Magdeburg, Germany, in a very fertile farming section where root-crops do especially well. As we drive out to the seed-farm we notice on every hand fields of beets and chicory in which the "hired men," who are invariably women, are caring for the crop. In the beet harvest these poor creatures are paid twenty-five cents a day, and generally board themselves. During the drive of about eight miles only two men were seen, one doing some light work, the other smoking and looking on.

Upon the estate the fields in which the beets are grown differ little in appearance from the fields in this country. They are, however, plowed by electricity, and are much freer from weeds than American farms. The interesting features are all in the buildings where the brains of the establishment do the real work. We will go the rounds.

The chemical laboratory naturally comes first. Here the only work done is the analysis of beets, to find out how much sugar they contain. During the busy season from five thousand six hundred to six thousand four hundred analyses are made each day. Each analysis demands the following preparatory work: Washing two bushels of beets, weighing them, cutting off the crowns and bottoms separately, taking off a slice with a wheel-knife, and scraping out about one eighth of each root in the two bushels,

then analyzing a sample taken from a mixture of these scrapings. Multiply these operations by the figures given! A pretty good day's work! Yet all this work is necessary in order to know that these beets to be grown for seed-production next year conform to the requirements that will be mentioned further on.

Just off the main laboratory is a room containing a fire-proof vault in which are photograph-albums. "There is no picture of pa and ma, nor Charley with his pet dog. It is just a collection of pictures of 'mothers' and 'grandmothers' in genealogical succession, reaching back for years." These photos are kept to show the family likeness. Records kept elsewhere show the family blood or sweetness.

In making the selection for seed-production as many points are considered as in the breeding of live stock. Size, shape and specific weight, the shape and number of leaves, the relative weight of leaves and root, as well as the quantity of sugar, are all carefully recorded and considered before the aspiring beets are admitted to the "best society." If the per cent of sugar is satisfactorily high, and the beet answers the other requirements, it is carefully stored until the next year and then planted for seed-production. Seed obtained from this beet is sown, and if the "daughters" obtained are as sweet and good-looking as the mother they are planted. So on year after year. Should they lack in sweetness or comeliness they are discarded and are ground up to make sugar. The cost of all this work in the improvement and the growing of the seed is \$125,000 each year.

At harvest-time the seed is threshed in the field and brought to the great warehouse, where electricity elevates, cleans, screens and transfers it to the drying-house. Here it is carried forward and back on endless belts through a steam-heated room, constant care being exercised to extract just enough moisture to prevent the possibility of mold and yet not to remove so much as to jeopardize the germinating qualities.

After drying, screening is again done, the seed inspected and the power of germination tested. One hundred seeds, selected from carefully taken samples, are soaked for forty-eight hours in distilled water and planted in sterilized sand. The percentage that grow, the number of sprouts sent out by each seed capsule, the effect of pinching off the sprouts and the number of seeds contained in a certain weight are all noted, and if the sample does not come up to a certain standard the seed is not considered fit for market, and is therefore not sold beyond the neighborhood. Foreign fields are thus supplied with the best.

For forty years this labor has been going on, increasing year by year. What a volume of work it represents! Every scientific fact and method has been utilized, every effort put forth to make the "daughter" a little sweeter than the "mother," with what results? The Kleinwanslebener of to-day yields double the quantity of sugar that its ancestors of four decades ago did, and is now recognized the world over as one of the safest varieties for the farmer to plant for sugar-production.

M. G. KAINS.

DAIRY METHODS

At no time in the history of New England agriculture has the call been more urgent for strict and wise business methods in conducting farm operations if the farmer is to reap a reward for his labor and investment of capital commensurate with his necessities of living and gaining a fair competence for the future.

A good working herd of dairy-cows becomes a part of the dairyman's working capital. The investment becomes good or bad according to the ratio of individual productive capacity of his herd; if it is low his investment earns a low increment. Hence, the first unit in this branch of the business is to study the problem of breeding to raise the productive capacity of his herd. Now, I contend that the best way and the true way to build up a high-producing herd of dairy-cows is to breed them on the farm. The factor of time, of course, must come into the problem; but based on this plan, and carried along on right lines, the foundation is solid and will lead to success. The question hinges on right selection of the dams and the use of thoroughbred bulls of whichever breed is chosen. Never use a scrub bull; he has no place in the dairy herd, because the probabilities of his reproducing or transmitting superior qualities of his immediate ancestors is about as sure as that lightning will strike twice in the same place.

Many dairymen are too easily satisfied. But few take the pains to find out the exact

capabilities of each cow of their herd. And yet a knowledge of the income each cow is bringing her owner will often enable the dairyman to make changes which will increase his receipts at a lowered outlay of expense; because if he is keeping many cows it will not be strange if strict test should reveal the fact that one or more of the herd are not paying their way or giving but a small income, and thus dragging down the receipts of the better ones. A knowledge of this fact will also be an incentive to breed to higher individual production.

The dairyman or farmer with a herd of good-grade cows that are producing on an average two hundred pounds of butter annually should not stop there, and he need not if he will put intelligence and business tact into the development and breeding of his dairy. He should not be satisfied with less than three hundred pounds of butter from each of his herd, and three hundred and fifty pounds is not a stretch of the imagination.

When we consider that the cow which produces two hundred pounds of butter a year but little more than pays for her keeping from her butter product, it is evident her net income, if such she produces, must be derived from some other source of her product. This will be her calf and the skim-milk and buttermilk she produces. The latter, if her cream is carried to the creamery, will not be of much account.

A cow of the above capacity will give four thousand five hundred to five thousand pounds of milk in eleven months. This skim-milk, to yield a maximum profit, needs to be handled intelligently to get the most value out of it. The farmer should make this milk pay him twenty-five cents a hundred pounds. It will pay higher than this in feeding his well-bred heifer calves, which are to take their place in the dairy later. It will pay nearly as well feeding pigs—pigs, not hogs.

Ordinarily there is not big profit in raising pork at five cents a pound, I know, but a small profit can be made even at that figure by feeding pigs on skim-milk and some middlings, later some corn-meal, and dressing at one hundred and seventy-five to two hundred pounds dressed weight.

There are dairymen who carry this matter of improvement in breeding to the ranks of the swine, and the small Yorkshires thus produced always find a market waiting for them in Boston at six to eight cents a pound, the marketman being willing to pay a little extra for such pigs when he knows the feeder and finds he can depend upon a supply for a fancy trade.

The heifer calves of the dairy-farm are the best source of supply to keep up the numbers or increase the herd of cows, as well as to improve the productive capacity of the herd. The method of dairy practice which replaces the light-producing cows and poor feeders with robust, promising heifers which are well up in their test with their first calf carries with it improvement and good dairy business sense.

L. F. ABBOTT.

HOW TO CREATE AND KEEP A READY MARKET

It isn't done by underselling your neighbors or bringing your prices down to their lowest figure possible. A man's success lies in three things—honesty, excellence and advertising. If you wish to sell a thing, have it the best of its kind, and put on a price according. Be sure that you do not represent it to be more than it really is. No man likes to be duped; and even if you never expect to make another sale to him he will protect his friends and neighbors from being tricked by you. You must keep your reputation good. Study to make your articles look as well as possible. If live stock, keep them sleek and clean and fat; if small fruit, always put it in fresh crates, and carefully cull out all inferior or bruised or blighted fruit. You may not sell so many quarts, but you will be able to get better prices, and your fruit will be in demand next year. If peaches, apples, etc., market them in clean boxes that can be lined with clean paper, and whenever the paper becomes soiled re-line them. Sell only perfectly sound fruit. Keep perfectly clean, white cloths around your rolls of butter.

When you have anything for sale let it be known. Half of the battle for success lies in advertising. Goods may be worthy of speaking for themselves, but they will never be able to make an impression alone. Be sure you have a good thing, then tell men so. If you have a thing for sale, and see a man who wants or needs it, go after him and tell him so; you will be doing him a favor. Be honest, work for excellence, advertise, and success will come.

JIM L. IRWIN.

NOTES FROM GARDEN AND FIELD

HUCKLEBERRY CULTURE.—An Ohio reader (N. B. M., Calla) asks me a few more questions about growing huckleberries under cultivation. In the first place I have to confess that my knowledge (and that of other people, too) about this fruit is rather meager. The reports from those persons who have experimented with it are somewhat at variance. Some tell of complete success, while I find that others are meeting with difficulties. One says, for instance, that the huckleberry-roots are near the surface and the plants are not thriving where the soil is regularly cultivated as we cultivate strawberries, grapes or any of our ordinary small fruits. He recommends planting clumps of wild plants rather closely so that the foliage completely shades the ground; or, better, mulching heavily between the clusters if planted further apart. There may be a difference between the different types of this fruit. At least I believe that the high-bush blueberry is entirely amenable to culture, and may be planted in single plants or matted rows. But the idea of applying a heavy mulch is certainly a good one. I have repeatedly stated that I make it a practice to put such a mulch on all my small fruit-patches, and that such a course gives me heavy crops of the biggest gooseberries, currants, raspberries, strawberries, etc., and this without much labor or cultivation after the mulch is once applied. The few large weeds and suckers that come up between the rows of course have to be pulled up by hand or cut down as often as may be required, but on the whole it is not much work to do it. In short, I am a firm believer in the usefulness, effectiveness and economy of the mulch heavily laid on. A light mulch is not of much account. For huckleberries I shall certainly not omit the heavy mulch. All sorts of materials come acceptable for it, too, among them straw or hay from the old rotten or half-rotten stacks, coarse weeds, old corn-stalks (all the better if cut), straw manure and rubbish of every kind. I feel that I cannot speak too emphatically in favor of the mulching plan.

PROPAGATING HUCKLEBERRIES.—I imagine that the question of propagating our stock of huckleberry or blueberry plants will be quite a problem. I have had so little practical experience in that line that I feel the need of consulting our authorities. In "The Nursery Book" (Bailey) I find the following on the subject: "Vaccinium (swamp huckleberry, whortleberry, blueberry, bilberry, cranberry) is propagated by seeds, layers, root-cuttings and divisions of the old plants. Huckleberry-seeds are small and somewhat difficult to grow. The seeds should be washed from the fruits and stored in sand in a cool place until late in winter. They are then sown in pans or flats on the surface of a soil made of equal parts of sand and loam. Cover with fine sphagnum, and keep in a cool house or frame, always keeping the seeds moist. Seeds treated in this way may be expected to germinate in a month or two, although they may lie dormant a year. Transplant frequently and keep shaded until large enough to shift for themselves. Layers should be tongued. Cuttings two or three inches long, of the best roots, made in fall and placed in mild bottom heat in early spring often give fair satisfaction. Native plants can be obtained from the woods and fields which will give good satisfaction if small specimens are taken." I do not know of any information which has appeared in print giving greater details of the propagation of these plants. It seems to me, however, that it is time for a more thorough investigation of the possibilities of increasing and cultivating a fruit that enjoys such great importance and popularity.

I have just taken up a large plant of the high-bush blueberry for the purposes of experimenting with its propagation. If any one thinks that this plant is shallow-rooted he will find himself greatly mistaken. I had to work quite a bit trying to get it out with unbroken roots, and then some of the lower portions were left in the ground. I have no doubt that the plant can be easily increased by dividing the root-stock. I shall also try to root some hard-wood cuttings in the greenhouse, and will report the result of my experiments in a future issue of this paper.

MY CELERY.—I am well pleased with the results of my modified new celery culture. I expected to have early celery, the plants all having been started in the greenhouse and transplanted to open ground rather early in spring. Dry weather and want of proper attention at the right time retarded their growth to such an extent, however, that for awhile I looked for a complete failure. Then came frequent rains, and the plants took a new start. Now I am having very good late celery. The plants stand in double rows, with six or eight inches space between each two rows, and about eighteen inches space to the next two rows. The double rows are banked clear to the top with old hay from a half-rotted stack close by, and the plants have been blanching and are still blanching quite nicely. This celery has been grown with about as little work as I ever grew any celery, and I can recommend the plan to any one having a supply of coarse mulching and banking material. I happen to have enough of it that at the approach of colder weather I can cover the whole patch way over the tops of the celery, so as to keep it from injury by frost until severe winter weather sets in. If the mulching material had been applied in early summer, as it should have been, the crop would have been much earlier and probably still better. In short, I find this a safe and easy way of growing celery.

OLD AND YOUNG KOHLRABI.—One of the vegetables which I usually find very enjoyable in the fore part of summer is kohlrabi. I always pull up and use the plants for the table or sale as they grow large enough, leaving the smaller ones to await their turn. Thus it happens that I have some left even now in the earlier rows, and these plants have become very large, and, of course, too old and tough for table use. For many weeks I have been utilizing them for feeding my Belgian hares. These animals seem to like old kohlrabi and to do well on such diet. I find that I have to feed cabbages to the hares with a good deal of discretion, as the cabbage-leaf seems to contain too much water to be a safe exclusive feed for them. I have for years made it a practice to gather and store the old large kohlrabi bulbs with my mangel-beets for feeding to cows in the winter. Although woody, they seem to suit cow taste very well, and I never had any to go to waste. I may also chop up finely an occasional mess for the fowls during the season when green stuff is scarce. My hens will eat quite a mess of it if I mix the chopped kohlrabi with meal, bran, etc., and during the winter it does them all sorts of good to have some bulky vegetable food. In short, even these old kohlrabi-plants are worth gathering up and putting to use as stock feed.

I also have a lot of young and tender ones. Seed was sown about August 1st on a piece of ground then cleared for early cabbages. The plants were late, but they have now (latter part of October) made nice bulbs, and if I did not have so many other vegetables to use on the table I would enjoy them about as much as in the fore part of the season. I have not yet tried how this vegetable will take when put in the market at this late date. Probably the demand will not be as brisk for that crop as in July or August, but I will try it this week. There is still considerable call for table-beets, which I also have in good supply, having started a new patch at the same time when I sowed the late kohlrabi. T. GREINER.

INQUIRIES ANSWERED

Bitter Cucumbers.—Mrs. A. K., Houston, Minn., writes: "For several years I have noticed that the cucumbers became bitter in dry weather and were all right when watered or when it rained enough to keep them in good growing condition. This year the earth was so dry that every one of the cucumbers that I tested was bitter; then I began to water the vines, and soon after it rained. The ones that bloomed after the vines were watered were all right."

REPLY BY T. GREINER.—The bitterness of cucumbers is due either to a characteristic of the strain or to peculiarities of the season, such as lack of moisture, etc. I think our correspondent is nearly right. At least most of my cucumbers were bitter during the dry weather of last summer, and now seems to be all right. I see no remedy except irrigation in a dry time.

English Bean.—R. P. A., Sewanee, Tenn., writes: "I have a bush-bean which I would like you to tell me the name of. I think it is an English bean. It has pods sixteen inches

long and one and one half inches wide. The bean is white when dry. I planted them May 5th. They are still green (September 30th), and I don't think they will ripen. When ought they to be planted?"

REPLY BY T. GREINER.—I cannot tell the name of the variety from such meager description, and do not know whether I could at all. Beans of our ordinary bush or running forms (not the English Broad bean) can only be planted after the ground has become warm and the time of danger from night frosts has passed. The English Broad bean, which is valuable especially for stock feeding, is about as hardy as a wrinkled pea, and can be planted quite early in spring. The bean inquired about, however, is probably a Southern product requiring a longer season.

NEW RASPBERRY

Six years ago Mr. A. O. Haymaker, of Portage county, Ohio, found in a fence corner on his place a new raspberry—evidently a chance seedling—of many fine qualities. Starting with the one plant the stock has been increased many thousands, and under cultivation the promise of the original



has been more than fulfilled. Two years ago plants were sent to the Ohio experiment station for trial, and Professor W. J. Green has made the following report:

"The Haymaker is a purple-cap variety of recent origin. Although resembling the Columbian, it is quite distinct from that variety in many particulars. It appears to be as much superior to the Columbian as the Columbian is to the Shaffer. The plants are extremely vigorous and uncommonly prolific; the berries very large, purple in color, and quite firm. Judging from its behavior here and on the grounds of the originator it is an uncommonly promising variety, and will no doubt prove to be valuable for canning."

THE ROOT OF THE MATTER

A large number of perennials ranging from strawberries to spruce and beech trees were carefully examined, with the result that though some of the fibrous roots were found to be dead the great mass were active or ready for the season's work. It is true that many at first sight appeared to be dead, but when examined under a pocket-microscope proved to have only a dead bark, below which they were active. The idea of a general death of these parts, therefore, seems to be due to careless, imperfect observation.

The practical side of this matter will be apparent to all that have transplanting to do. The practice, based upon the erroneous opinion, was to rely rather too much upon the main roots—those larger than a quarter of an inch—letting the smaller sizes go. The observations above noted enforce the teachings of some nurserymen and professional gardeners that the greater the saving of fine roots the better the chances of successful transplanting, provided that these fine roots do not become dry from exposure to the air.

Again, since the growth of these rootlets commences as a general thing early in the spring, often before the buds commence to swell, and then is most vigorous at the tips of the main roots, therefore the sooner the transplanting be done the better, because if left in the ground much of the reserve food of the roots will be used in pushing out root-tips or feeding roots that will be lost when the plant is dug up. This leads to the conclusion that the best time to lift plants is in the autumn or very early in the spring, so that they may be healed in until needed for setting. In this way practically all of the fresh growth made while the plants are in the trenches can be saved, the loss being only the parts actually cut off in lifting from the nursery rows. M. G. KAINS.

FILLING IN AN OLD ORCHARD

The best advice to give a man who contemplates resetting an old orchard is, don't. The ground has become filled with roots that die, and in rotting become the habitation of injurious insects that will be sure to attack the new tree. Then, too, the ground has

become drained of the richness necessary to nourish the growth of a young tree. It is far better to set out the trees on an entirely new site. But it is often the case that an accident happens to a few trees of an orchard and it is desirable to put in new trees in the places left vacant. Where this is the case every effort should be made to rid the ground of the insects that may have collected about the roots of the old tree. To do this, in the fall of the year dig a trench where the old tree stood, about four feet square and three feet deep. Scatter the soil removed in such a way that it will be thoroughly frozen during the winter, as will the bottom and sides of the trench. In the spring fill up the trench with fresh rich dirt and set your tree. The growth and health of the tree will pay you for the expense and labor. J. L. IRWIN.

ORCHARD AND SMALL FRUITS

CONDUCTED BY SAMUEL B. GREEN

INQUIRIES ANSWERED

Cherries and Plums Not Fruiting.—J. A. E., Clayton, Ga. I am inclined to think that your cherry and plum trees are growing so fast that for this reason they do not set fruit, but it is possibly due to the lack of pollination. I should hesitate very much about girdling them in order to produce flowers, for when a wound is once started in such trees a canker is liable to form that is difficult to heal. I am inclined to think that they are some tardy-bearing kind, and the good soil producing a rapid growth has thrown all their strength to the production of wood rather than fruit. I think perhaps you might experiment with them by summer pruning the new growth, cutting off perhaps one half of it in the latter part of June. In this way growth might be checked a little without endangering the life of the tree.

Apples Not Fruiting—Hop Culture.—C. S. Y., Wolf Creek, Mont. I cannot tell you why it is that your apple-trees blossom, but fail to set fruit; but I think that if they are of the ordinary kinds that it must be due to insect pest, fungous disease or late frosts in the spring. Nothing would be gained by girdling them, since the effect of this, or of cutting their roots, or in checking their growth in many other ways, is only to bring them into flower, and your trees flower now. It does not necessarily make them set fruit. —Cultivated hops are seldom raised from seed, but are grown from cuttings. The plants are pistillate or staminate, and it is customary to only grow a few staminate vines on a plantation, just sufficient to furnish the necessary pollen. I can easily believe that hop-seed might remain over in the ground one year, but I think it is customary for them to come up the first season.

Cherry Not Fruiting.—F. A. S., Palmyra, N. Y. The case of your sour-cherry tree not bearing is very similar to other inquiries which I have received lately. I think that the trouble in your case is chiefly due to the lack of pollination of the flowers, and that probably you will not get good results until some other cherry-trees have come into flower in the near vicinity which will produce pollen for it. I would suggest that next year when the tree is in blossom, if you can do so, you get a branch or two of some other sour-cherry tree, a branch, for instance, from an Early Richmond that is in full flower, and that some time in the middle of a bright day, when the bees are working in the flowers, you put it into the tops of the tree so that they will work on it, and see if that does not make it fruit. This is quite a practical experiment, is interesting, and unless you have very unseasonable weather should result in getting you some valuable information.

Quince Culture.—H. T. P., New Haven, Conn. The quince needs a rich, moist soil and good clean cultivation and plenty of stable manure. The grass and weeds should be kept out near it; all suckers should be removed and the hush trained to one, two or three stems, and any long awkward branches should be shortened. I do not know why the fruit falls, but think it due to the attacks of some insects, either the codling-moth or plum-curculio, or possibly some fungous disease. It would be necessary to have a specimen of the fruit to determine this point.

Blackberry Culture—Grafting the Chestnut.—D. H. S., Ionia, Mich., writes: "Will it do to set out blackberry-plants in the fall? Is anything gained in the first year's fruiting by setting them out in the fall? I want to set them out in new ground among stumps and roots. How will this do for a crop?—On what kind of timber can the common chestnut be grafted or budded? When should it be done? Will it grow on the horse-chestnut?"

REPLY.—Yes. They generally make a stronger growth the following season, which is an aid in the production of fruit the next year following. They can be set among stumps as well in fall as any time, but I do not think much of the plan unless you intend keeping down the weeds and brush that is sure to come up among them.—The common chestnuts cannot be grown practically on any but the same kind of stock, and even then the union will often be imperfect. As a rule growers depend on seedlings and do not graft. It will not grow on the horse-chestnut, as it is not closely related to it. The grafting should be done on small stocks in early spring, below ground for best results.

THE MAN BEHIND THE BAG

We've lately read a terrible pile erbaot the man behind the gun, An' folks has skin'd their lungs a'most a-shooting fer what he's done; He earnt a heap o' honor fer the home-laud o' the free

When he sent the pesky Spaniards scootin' back across the sea. But he's now an old back number, we're tired o' his gag, They's another feller worries us, he's the man behind the bag.

Don't talk erbaot the glories the shootin'-feller won, Ner tell them awful stories o' the dangers he has run; Fer sence they's all past hist'ry they's no need fer alarm, An' it's better naow to think erbaot the workin' o' the farm.

THE BLIND-BRIDLE NUISANCE

AS THE FARM AND FIRESIDE on account of its immense circulation, as well as the high character of its articles on reform lines generally, is especially a good channel I would most respectfully ask a hearing in its columns.

The origin of the blind-bridle custom is about as follows: An English lord several hundred years ago, having "wasted his substance in riotous living," was obliged to sell at public auction his horses and carriage, or his "coach-and-four," as the phrase went.

The only argument having the least force in its favor is that it keeps the horse from scaring. This on its very face is false, since it is so apparent that it is its presence that causes the scare.

Those who favor the blinder seem to assume (if they reason at all) that the horse does not reason, but is a mere machine. Here is just where they make a great mistake.

The noble, patient and faithful horse! As I stop to speak gently to him as I pass him on the street, and push aside the accursed blinder so that I can see his intelligent and wistful eye, I wish the thoughtful and humane could be induced to give this subject attention.

gate the matter to the end that greater safety and comfort may result to man, and a larger measure of happiness to our noble and faithful friends.

CITY AND COUNTRY

An article in the August 15th number of the FARM AND FIRESIDE by "Jim L. Irwin" seems to call for attention. I must say that Mr. Irwin has certainly not observed the conditions of "the boys in the city" when he shows the country boy at a disadvantage.

I have two boys and two girls, and after close observation of city life have concluded to make country boys and girls of them, and I love them as well as Mr. Irwin loves Tom.

In my thirty-seven years of life I have seen boys and girls by the hundreds grow up and be educated in the city, some for doctors, lawyers, book-keepers, merchants, etc., and I believe nineteen failures should be counted for every one moderate success, and the moral side of city life is enough to frighten the devil himself.

Any one that is too bad for the country can bury himself in the city and pursue almost any deviltry desired.

I have known very many good true boys and girls grown to maturity and sorely puzzled how to secure the work for which they are fitted (or any other work). They are not lazy or trifling, either, until enforced idleness makes them so.

As to health, let the country people take care of their health as do city people and they would have good sound bodies. But where the health of the city people comes in I do not know.

MEXICAN JUNE CORN

Mexican June corn fills a place in the South, especially in Texas, that has long been vacant. As its name implies, it originated in Mexico. It is a late corn, and does not do well when planted early.

The Texas floods in June and early in July destroyed acres of corn and cotton. A great deal of this overflowed land was planted in the Mexican June corn. After these floods there was scarcely any rain, and yet this June corn made very fair returns where the ordinary corn would have made absolutely nothing.

When the June corn fails to make a crop of corn it will furnish a good forage crop. It is a white corn, makes good meal and is excellent for late roasting-ears.

NOTE FROM CORRESPONDENCE

FROM NORTH CAROLINA.—Rowan county, situated in the western portion of the state, is large, well watered and fertile. The land is diversified—some red, some gray and sandy, and some black and waxy.

A PRACTICAL POULTRY BOOK One which covers every detail of the industry from incubation to market in our 20th CENTURY CATALOGUE.

SEE! SAW your own wood and save time and money. Saw your neighbor's wood and make from \$5 to \$15 a day.

9 CORDS IN 10 HOURS RUNS EASY. No Backache. weighs only 41 lbs. EASILY Carried.

350 BU. A DAY with the Wolverine No. 305 Mill. Grinds more per hour with less power than any other mill on earth.

IT IS A FACT that the best results in feeding stock of any kind are attained with ground feed.

How many Apples does it take to make a barrel of Cider? No matter; it will take less if you use a.....

SHARPEN your own Horse. THE BLIZZARD the greatest of all HORSE ICE CALKS

Hogs are Higher They are going up daily. Get ready for the boom by breeding now.

NO WHEEL, NO WAGON. Wheels generally break down first. It is cheaper to buy new wheels than to repair the old ones when you can get

GREAT BARGAINS IN GUNS! RIFLES and SHOTGUNS, --- \$20.00 to \$60.00 REVOLVERS and PISTOLS, --- 1.50 to 10.00

HARRISON'S FEED MILLS We offer you the best mill on the market at such a low figure that it will pay you to write us.

ALWAYS READY for business. Our French Burr Stone Mills last years and are always ready for grinding either feed or table meal.

LIKE A BULL DOG is the CHANDLER LOCK and it makes the stay stay where you put it, on any kind of wire—hard steel or soft.

NO USELESS GEARS in this mill to absorb and waste power. It is a simple, direct grinder, of large capacity and requires small power.

SWAN'S STANDARD ROOFING Can be applied by any one on steep or flat roofs.

U-WANT-A NONE SUCH INCUBATOR guaranteed to hatch over 90% of fertile eggs. Price, with Egg Tester, Thermometer, Regulating Device, etc., \$10 to \$36.



THE POULTRY-YARD

Conducted by P. H. Jacobs, Hammonton, New Jersey

WEIGHT OF NEW AND OLD EGGS

THE specific gravity of a new-laid egg varies from 1.080 to 1.090; an egg, therefore, is heavier than sea-water, the specific gravity of which is 1.030. When kept eggs rapidly lose weight and become specifically lighter than water, which is owing to the diminution in bulk of the contents of the egg, the consequence is that a portion of the inside of the egg comes to be filled with air. Prout kept an egg two years and found that it lost weight daily at an average rate of .744 grains. The original weight was 907.5 grains, and after two years' exposure to the atmosphere it weighed only 363.2 grains. The total loss amounted to 544.3 grains, or considerably more than half the original weight. The loss in summer was somewhat greater than in winter, owing, no doubt, to the difference in temperature. When an egg is therefore employed as a test of strength of brine, the newer it is the stronger is the brine that floats it. When an egg is boiled in water it loses weight, particularly if it is removed from the water when boiling and permitted to cool in the open air. The water will be found to contain a portion of the saline constituents of the egg. The loss of weight from boiling is not common, varying from twenty to thirty grains, supposing the original weight to have been one thousand grains. The above shows that an egg grows lighter with age, and that the loss is greater in summer than in winter. When placed in water a fresh egg should sink. When very stale, and lighter, the egg should rise to the surface of the water.

CROP-BOUND

For a crop-bound fowl pour into the crop, through the mouth, all the warm water it will hold; have the water as warm as possible, but not to scald. Work the crop carefully, to break up the mass; hold the chicken by the feet, head down, still working the crop, and the broken-up portions will pass out through the mouth. Repeat the dose of water until all soluble portions are removed. Whole corn, wheat, oats, etc., will readily pass out. The portion remaining unbroken will likely be a stone, piece of coal, rag or string. If either of the former, take a smooth round stick the size of a lead-pencil and eight inches long, pass this gently through the mouth into the crop, being careful not to get it into the windpipe. Press the hard substance carefully against the end of the stick, withdraw the stick slowly, and follow up with the stone or other substance. This can be pressed up and passed out through the mouth. Be careful to keep the object against the stick as you withdraw it. To remove rags, string, etc., use a surgeon's probe or any instrument having a long, slender handle and opening as do forceps. Be careful when placing the foreign substance in the jaws of the instrument not to catch the crop and lacerate it. This method can be used for chicks as well as for fowls. All this can be done in a few minutes, and avoids cutting. Feed soft food for a week, and give a little sweet-oil.

WARMTH AND EGG-PRODUCTION

As the hens are always inclined to lay on the approach of warm weather they may be induced to lay in winter by giving them advantages favorable to those of spring. In the first place they must be sheltered from the cold winds and driving storms. The hen that has to hide away in some retired nook in order to keep warm cannot lay because nature refuses to admit of reproduction under adverse circumstances. Artificial warmth is as highly appreciated by her as natural heat, she obeys the inclination induced by the conditions afforded, and being in an atmosphere favorable to the purpose lays her eggs and attempts to hatch a brood. The warmth which is so essential consists of that which is created within her body by the food allowed. She is literally a stove consuming fuel, creating heat by consumption of food. When the heat is created the essential requirement is to retain it. To do this she must have a comfortable place both day and night, and the food must consist of all the elements necessary to form an egg, which is secured by her in the spring, but in winter must be supplied her. Hence corn, wheat, oats, a portion of meat, ground bone, ground

oyster-shells, and green food, such as cabbage, boiled roots, chopped onion, etc., may be given to afford a variety. When the hens are thus provided for, and allowed a dust-bath, plenty of fresh water and a place for exercise, there is no reason why they should not be induced to lay during the winter season.

DEMAND AND SUPPLY

Fear of overstocking the market deters many from venturing into the poultry business, but present prices show that with the increased number of incubators and a greater number of chicks marketed than ever before the market refuses to be overstocked. The supply is usually barely up to the demand, with prices exceeding some previous years. And not only for chicks are the prices high, but turkeys, geese, old ducks and even old roosters are higher than usual at this season of the year. Prices for live fowls are above the average, but the demand is drifting into the preference for dressed stock. This is favorable to the producer, as dressed stock can be shipped at less cost.

PURE BREEDS AND PROFIT

It is a fact well recognized that no branch of the live-stock business suits the masses of people better than fowl-raising. It is a paying vocation, and is adapted to the young as well as the old, and to all sections of the country. Prime poultry is desirable in every poultryer's beginning. The wisest methods are those learned by experience and with small flocks at the start. Pure-bred stock costs more at the start, but once established in the breeder's yard its beauty, prolificacy and the consequent value of all the specimens produced from the original breeding-birds more than make up for the extra outlay spent in the outset in producing the very best stock that money can buy.

COMBS AND HARDINESS

The head of a fowl has much to do with its ability to stand cold or exposure to dampness. The crests of the Polands and Houdans when saturated with water are slow in drying, the result often being an attack of roup. Fowls that have single combs, such as Leghorns, Black Spanish, Cochins and Plymouth Rocks, are easily frosted in winter. Such fowls can safely be deprived of their combs by cutting them off. The rose-comb fowls are not so much subject to the frost difficulty, and of these breeds the Hamburgs, Dominiques and Wyandottes are prominent. The Brahmas have very small pea-combs.

FEEDING DUCKS WITH HENS

If the ducks are kept in the barn-yard with the other fowls the best mode of feeding them is to give their grain and food under water. That is, the food should be placed in a pan or other suitable vessel, and water poured on the grain until it is covered an inch deep. By such an arrangement the hens cannot rob the ducks, while the latter will eat with greater ease by having their food given in water. It is best to keep the ducks and geese separate from chickens, however, as each will thrive better when away from the others.

DARK AND LIGHT EGGS

Although some claim there is greater nutriment in the dark-shelled eggs, it is doubtful if any one can tell the difference at the table, provided the shells are removed. For instance, take a Brahma hen, which lays a dark egg, and a Leghorn hen, which lays a white egg, and feed them on the same kind of food and there will be no reason for a difference in quality. Yet if the preference is for dark eggs, the price should encourage the farmers to keep the hens that lay them.

PECULIARITIES OF BREEDS

The non-sitting breeds are the Leghorns, Minorcas, Hamburgs, Polish and French breeds, Redcaps, Andalusians, Black Spanish and a few other breeds not so well known. The French breeds are the Houdans, Crevecoeurs and LaFleches. The first is a breed most extensively used in this country. The breeds that are sitters probably rank in the following order: Cochins, Brahmas,

Plymouth Rocks, Dorkings, Games, Wyandottes, Dominiques, Javas and Langshans. They differ, however, not only in the characteristic peculiar to each breed, but also in the individuality of the members of the flock. Although there is a classification of the breeds into sitters and non-sitters, yet no breed has really lost the instinct of incubation. As birds in their natural untamed condition lay at certain seasons under favorable conditions, and become broody only when everything is in their favor, some allowance must be made for the changes brought about by domestication. The non-sitters are also active foragers, and must be kept on the range. Confine them closely in yards and they will in time become broody, as well as become addicted to vices, such as egg-eating and feather-pulling. They will not thrive in a state of inactivity.

NOTES FROM CORRESPONDENCE

A GOOD RECORD FOR TEN MONTHS.—On the first of December, 1898, I started in with 100 hens. I sold through the month of December, 1898, 150 dozens of eggs, and I received \$30. In January, 1899, I sold 127 dozens, and received \$31.40; February, 143½ dozens, received \$25.88; March, 187 dozens, received \$29.62; April, 156 dozens, received \$14.73; May, 122 dozens, received \$15.66; June, 86 dozens, received \$9.; July 112 dozens, received \$10.18; August, 54 dozens, received \$4.15; September, 55 dozens, received \$6.25; total 1192½ dozens and received \$176.87. I sold poultry to the amount of \$33.41; grand total \$210.28. I have left, besides all of this, 150 of the old hens, 100 nice young pullets, and 30 roosters. J. L. H. Beaucoup, Ill.

A REMEDY FOR GAPES.—I read in the FARM AND FIRESIDE last month a remedy for gapes. I have one which I think is very much easier and I know it is a sure cure. Just take a small piece of bread and put two or three drops of turpentine on it and make the chicken swallow it. If necessary repeat the dose two or three times. When some chicks are two or three weeks old they get a stiffness in the legs and cannot walk, and they nearly always die from it. MISS A. L. N. New Orleans, La.

POLES FOR WIRE FENCE.—In noticing the inquiries in the June 15th issue of the FARM AND FIRESIDE I saw "H. J. G.'s" request about netting. The best and cheapest way I have found is to set the poles about a rod apart and stretch your netting, using no upper or lower boards between the poles, but tack down the netting every yard with pronged sticks or sticks with a nail driven in each. The hens cannot fly over it, as there is no top board to light upon. Auburn, N. Y. F. A. W.

INQUIRIES ANSWERED

Turkeys.—A. S., Greenwich, N. Y., writes: "Will you please tell me what is the cause of turkeys having swelled heads, and if there is a cure for it?"
REPLY:—It is difficult to state the cause as you give no details of management. The difficulty may be due to exposure in damp weather or to roup. Anoint faces with vaseline, and keep the birds under shelter, feeding on lean meat and other nourishing food.

Large Egg.—F. G., Reed, Ill., writes: "I would like for you to explain about a peculiar egg that I found in my own poultry-yard the other day. It was a very large egg, being seven inches around, and very heavy. Upon breaking it I found that it not only contained a perfect white and yolk, but also a perfectly shelled egg besides of normal size and appearance."
REPLY:—It is not an unusual occurrence, being due to the fowl being in an excessively fat condition.

Disease of Young Pigeons.—E. I., West Pullman, Ill., writes: "Will you kindly reply through the FARM AND FIRESIDE how to cure young pigeons from the following: On the side of the head, also on the hills, a swelling comes out; a few days after they die. They are fed on corn and wheat and given plenty of fresh water."
REPLY:—They probably have roup in its most contagious form, and any attempt to cure them would be useless. Remove the old birds to another building for awhile, clean the loft, and thoroughly disinfect.

Poultry-house.—Mrs. F. E. W., Bluff Springs, Fla., writes: "I wish to build a poultry-house and would like to know the most appropriate style for this climate."
REPLY:—The style of poultry-house depends largely upon how much one wishes to invest in it. For the climate of Florida a house for twenty fowls should be about twelve by twelve feet, eight feet in front and six feet at the rear, shingled, facing the south, with wire-netting front. The roosts should be at the rear, all on a level, with droppings-board, and nests under the board.

Lice.—B. A. M., Hatfield's Point, N. B., writes: "I have a nice comfortable hen-house which has become infested with very small reddish-brown insects. What shall I do to get rid of them? I have killed all the fowls, as the insects prevented the old ones from laying and the partly grown chicks were dying from the effects of them. Please give me a remedy through the columns of your valuable paper, and oblige a subscriber."
REPLY:—They are probably the small red mites. Drench the walls, roosts, etc., with a mixture of one gill of crude carbolic acid in one gallon of kerosene. Clean the house thoroughly, dust the fowls well with insect-powder, and repeat the work every week. The advertised "lice-killers" are also excellent.

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Every Friday night, at 10:35 P. M., a through Tourist-car to Los Angeles and Southern California leaves the Chicago, Milwaukee & St. Paul Railway Union Passenger Station, Chicago, via Omaha, Colorado Springs and Salt Lake City, for all points in Colorado, Utah, Nevada and California. In addition to the regular Pullman porter each car is accompanied by an intelligent, competent and courteous "courier," who will attend to the wants of the passengers en route. This is an entirely new feature of tourist-car service, and will be appreciated by families or by ladies traveling alone. Particular attention is paid to the care of children, who usually get weary on a long journey. These tourist-cars are sleeping-cars supplied with all the accessories necessary to make the journey comfortable and pleasant, and the berth rate (each berth will accommodate two persons) is only \$6.00 from Chicago to California. Ask the nearest ticket agent for a tourist-car folder, or address Robert C. Jones, Traveling Passenger Agent, 12 Carew Building, Cincinnati, Ohio.

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DEATH to LICE on hens & chickens. 64-p. Book Free. On D. J. Lambert, Box 303, Apponaug, R. I.

VETERINARY

CONDUCTED BY DR. H. J. DETMERS

SPAVIN AND RINGBONE

The Diagnostic Characteristics of Spavin.—A spavined horse when at rest, say in the stable, very often favors the affected leg by touching the ground only with the toe-part of the hoof and by keeping all the joints, but particularly the pastern-joint, in a flexed position. If then the other leg, having to support nearly twice the usual weight, gets too tired, the animal will try to shift the weight and throw it upon the lame foot. If the horse happens to be a cold-blooded and very phlegmatic animal, this shifting may be accomplished without showing anything characteristic, provided the pain produced is not too great; but if the horse is a hot-blooded animal, or of a rather nervous temperament, and the pain (probably a piercing or stinging sensation) is too great, the weight is very soon, or sometimes immediately, re-shifted upon the healthy leg with a more or less jerky motion. If, however, the re-shifting is not done very soon, and the animal, in consequence, has become more or less insensible to the pain, the weight may not be removed from the lame leg until the other one has had sufficient rest, or until the horse from one cause or another is induced to make a step sideways, when the jerky motion can nearly always be observed. Therefore, if a horse is suspected of having spavin, suddenly causing the same to step sideways often decides the question by bringing out the jerky motion. If spavin has existed for some time, say for at least six weeks or longer, another symptom more or less characteristic of spavin, though in reality only characteristic of chronic lameness, will have developed and can be observed if the horse is compelled to stand squarely on a level floor in such a way that light and shadow is equally divided. If then the observer places himself at a convenient distance in a straight line behind the horse, he will observe that on the lame side a shrinking of the muscles of the pelvis behind the hip has taken place. At the same time and under the same conditions a careful comparison of the two hock-joints may be made, at first by comparing them from behind, and then by moving first to one side and then to the other around the horse and comparing the joints and noting every inequality from every direction. When doing this, in order to remain at an equal distance from the horse I usually take hold of the end of the horse's tail, first with one hand and move to one side until an almost front view can be obtained, and then with the other hand and move to the other side, constantly keeping my eyes on the hock-joints so that no difference may escape my observation. If in this way an inequality is observed, the same may then be more closely examined by passing over the same with the tips of the fingers. Still it must be kept in mind that not every inequality or elevation, even if situated in the anterior part of the median surface of the hock-joint, can be attributed to spavin, and that not every spavin causing lameness also has produced an exostosis or a visible and perceptible elevation, particularly if the disease is yet of recent origin, for the morbid process may be yet limited to the articular facets of the affected bones, while in older cases of spavin such an elevation is rarely ever absent. If, however, there is an abnormal elevation presenting a somewhat rough, uneven or irregular surface beneath the skin—the roughness or unevenness can be felt only if the skin is not too thick—the lameness shows the characteristics of spavin-lameness and a shrunken (atrophic) condition of the muscles of the pelvis can be observed on the lame side, the diagnosis is secured. But where such an elevation in the anterior part of the median surface of the joint does not exist the diagnosis has to be based solely upon the characteristics of the lameness. To bring them out the examination must be continued. First the horse is taken out of the stable, and then the first steps which the animal takes must be watched. If they are not sufficiently characteristic, the horse is taken outdoors, induced to stand squarely on his feet (often very difficult to do), and the examination already made in the stable is repeated. After the horse has been kept quiet for awhile, and no conclusion has yet been reached, one man at the head of the horse takes hold of the bridle-reins, say about six or ten inches from the bit, ready to go off with the horse on a trot, if possible on level ground, as soon as the word is given. This man has no business to look back to see what is going on behind him, but must look forward and be prepared to go the very moment he hears the word. Another man takes hold of the toe of the hoof of the lame leg, raises it as high as he can, without throwing the horse, toward the elbow of the fore leg and in such a way as to flex all joints, but particularly the hock-joint. The observer takes his position behind the horse with a whip in his hand, and after the horse has been kept for a few minutes in the position described, gives the animal a touch with the whip and simultaneously gives the command "go," the word at which the man at the head goes off with the horse and the man holding the toe of the hoof lets go his hold and steps aside. If all

this is executed in a prompt and proper manner and without any hitch or hesitation, the horse if spavined will go the first two or three steps on three legs, recover himself after about three or four steps, and will show increased lameness for several steps, provided, of course, he is started off in a trot. If the existing lameness is not caused by spavin, this little test, known as the spavin test, will not perceptibly affect the movement. There is yet another characteristic. A horse lamed by spavin usually shows the lameness the most immediately after being hitched up and started off at a trot, then when the trotting is continued the lameness as a rule gradually decreases and often altogether disappears in ten to thirty minutes unless the horse should happen to make a misstep, which is usually followed by a sudden increase. The lameness, however, is usually the most severe if the horse is first driven or exercised until perspiring, then gets half an hour's rest and immediately after that is started on a trot.

The Diagnostic Characteristics of Ringbone.—The diagnosis in cases of ringbone is comparatively easy, because in ringbone more or less elevation or morbid enlargement is seldom absent. In some cases, it is true, the enlargement is only slight, and a careful examination and comparison will be necessary. If there is an enlargement, but no lameness, it is either a case of ringbone, in which the lameness has been removed by ankylosis (see below), or it is not genuine ringbone; that is, a disease identical as to causes and morbid process with spavin (see FARM AND FIRESIDE of November 15, 1898); but only an enlargement or exostosis produced by some formerly existing inflammatory process in the periosteum and attached ligaments, but not affecting the cartilage-coated articular surfaces of the bones. In such cases lameness, and frequently very severe lameness, exists in the beginning and as long as the process of inflammation is active, but not afterward. Therefore, symptoms of inflammation will be present and can be observed as long as the lameness is existing, which is not the case in ringbone. As the most reliable symptom of the presence of an inflammatory process I consider an abnormally forcible pulsation in the digital arteries (arteriae digitales volares) a symptom not observed in ringbone. The lameness caused by ringbone in so far resembles that of spavin, as it is most conspicuous at the beginning of the exercise and gradually decreases if the exercise (traveling) is uninterruptedly continued. It usually is the most severe when the horse is started on a trot immediately after a short rest, lasting say half an hour or an hour, preceded by exercise carried on to perspiration. As already mentioned, the lameness usually decreases, and it often also more or less disappears, if the exercise is continued, but it seldom disappears as completely as it will in some cases of spavin. The shrinking of the muscles behind the hip if ringbone exists in a hind foot, and the shrinking of the muscles of the shoulder if the disease is in a fore foot, will be fully as conspicuous as in spavin, and will become noticeable in about the same length of time, which will be the shorter the more severe the lameness, and vice versa. A horse affected with ringbone, causing lameness when standing in the stable, usually places the lame foot in such a position as will the most relieve the most diseased or the most painful part of the joint.

The Treatment of Spavin and Ringbone.—Any treatment of spavin will be most likely in vain: 1. If the affected hock-joint is naturally very weak or if the horse is bow-legged. 2. If the morbid process extends to the upper part of the hock-joint in which nearly all the flexing (bending) and extending (stretching) takes place. 3. If the horse is of a very nervous or unruly disposition, if the same has to work or is constantly annoyed by flies, and for these or any other reasons cannot have strict rest, excluding any and every kind of exercise, even if it is only being led to water, for at least two months in a stall with a floor either perfectly level, or at any rate not perceptibly higher in front than behind. The object of the treatment is to remove the lameness by producing a firm union or ankylosis between the diseased articular surfaces of the affected bones, and this cannot be done unless the joint formed by these bones is kept at perfect rest, and unless not any more weight than is absolutely unavoidable is thrown upon the diseased parts. It cannot be the object of the treatment to remove the exostoses constituting the enlargement, for this is out of the question.

The treatment of ringbone has precisely the same object and requires the same conditions. It can be expected to be successful only if the phalangeal joints are naturally not too weak, and if their mechanical proportions are not too defective, and if this morbid process is limited to the coronet-joint, the joint formed by the lower end of the pastern-bone and the upper end of the coronet-bone. Where this latter is not the case it is useless to attempt any treatment whatever, because this is the only one of the three phalangeal joints that can be spared and become ankylosed without making the horse a worthless cripple. On the whole the prognosis in cases of spavin is a little more favorable than in cases of ringbone, because the two lower, semi-movable joints of the hock (the hock-joint is composed of four single joints, of which the two lower ones, the principal seat of spavin, are flat or semi-movable) admit much less motion than the coronet-joint, and therefore become more readily ankylosed.

To produce the desired ankylosis two things are necessary: 1. A sufficient degree of exudation to produce just enough and no more exudates than needed to first agglutinate and then to firmly unite the diseased

articular surfaces of the affected bones. 2. Strict rest to the animal, and more particularly to the diseased joint, as already mentioned.

How or in what way the exudative process is produced is immaterial, only it must not be excessive, for then destruction may result, and it must be sufficient, otherwise no union will be effected. There are two much-applied methods of producing it, each of which has its peculiar advantages and disadvantages. One consists in firing, and the other in a repeated application of a sharp salve or ointment. While the first, the firing, if properly applied is on the whole the more effective, and requires but one application, it has the disadvantage of leaving some permanent blemishes in the shape of scars, which, however, will be but very small and insignificant if the firing is judiciously executed and done with a steady hand. The second method has the advantage of leaving no permanent blemishes, provided no skin and hair destroying substances, such as metallic acids, corrosive sublimate, euphorbium, croton-oil, arsenious acid, etc., are used, for then the blemishes will be a great deal worse than those caused by firing. It has the disadvantage of requiring repeated applications and a constant watching of the effect of each application. Besides this, its effect is perhaps a little less reliable than a well-executed firing. Therefore, where considerable enlargement is existing, and a little additional blemish is of no consequence, I would most decidedly give preference to firing, and where the elevation or exostosis formation is absent or insignificant, and to avoid producing a blemish an object, I would recommend the other method.

The Firing.—For firing I prefer a heavy pear-shaped iron, ending in a point of about thirty degrees, welded with its blunt end to an iron handle not less than twenty-four inches long, or long enough to enable me to keep at a safe distance from the horse, close to the fore leg of the same, a little over half an inch wide and a quarter of an inch thick, so as to enable me to bend it in any way I may desire, and to put the pear-shaped and heated part of the iron into any angle to the handle I may prefer. At the free end of the iron rod I have a wooden handle. I prefer a heavy firing-iron, for two reasons: First, a heavy iron can be held more steady than a light one, and secondly, if the iron is heavy enough and once well heated it will retain the heat until the operation is finished, therefore requires but one heating and makes it possible to finish the operation in a very short time, or before the animal becomes nervous and excited and finds out what is going on. With such a heavy iron heated at red-heat I burn five or six points about three-fourths of an inch or a trifle further apart, and just deep enough to perforate the skin and to throw out exudates. Each point is touched two or three, or if the iron is not quite hot enough, or the horse a thick-skinned animal, perhaps four times. That the points must be made in the right place covering the diseased part of the joint, that the same must neither be too deep nor too shallow, and that the operator must have a steady hand and a watchful eye, and must exercise good judgment, will not need any explanation. Care must be taken not to fire the large vein (vena saphena) passing upward on the median fore part of the hock-joint. For the operation I keep the horse standing, put a good twist on his nose to distract his attention, instruct the man who holds the bridle to hold the horse's head high and to cover with his one hand the eye of the horse on that side on which I do the firing. If these little precautions are taken the whole operation can be finished in about a minute and without any defensive movements of the animal.

The Other Method.—If the other method is chosen, an ointment composed of biniodide of mercury, one part, and hog's-lard, twelve parts, thoroughly mixed and triturated in a porcelain mortar and rubbed in on the diseased part of the joint about once every three to five days will probably answer better than anything else. It has the advantage of not leaving any blemishes in the shape of scars or hairless spots. The first application must be a thorough one, but like in all subsequent ones the rubbing-in, which should be done with the hand, must be limited to the seat of the disease. It is not necessary to use a large quantity at any application; on the contrary, to use too much may do damage, but what is used must be thoroughly rubbed in. About as much as the size of half a hazelnut will be enough for each single application, except for the first, when about double the quantity may be used. The second application can be made three days after the first. Three days later scabs will have formed. The same are easily removed by greasing them over with a little clean lard, for this will sufficiently loosen them in about twenty-four hours to be scratched off with the fingernails. This done, the third application can be made, and so on. Whenever scabs have been formed the same must be removed in the way stated before a new application is made. This treatment, as a rule, has to be continued about eight weeks.

The Testing of the Horse.—After all traces of the effect of the last application have disappeared, if the last-described method has been applied, and after the horse has ceased for at least a week or more to favor the affected leg in any way whatever, but has been standing squarely on his feet, after either treatment has been used, the same may be subjected to a test which, however, on the first day must not be more than a gentle exercise in a walk over a short distance, say about one hundred feet. The second day the exercise may be extended a little further, but only in a walk. On the third day a slow trot over a short distance is admissible. On the fourth day the same, only a little further, and so on. If the horse does not show any lameness in these tests, the same in about a week or ten days may be employed for light work, at a slow gait, which in about a month may be gradually increased, but gradually only, to ordinary work.

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THANKSGIVING - - 1899.



A RUSTIC NOBLEMAN

By Mattie Dyer Britts

CHAPTER V.

A DUTCH LUNCH

Oh, we'll make our hay while the good sun shines—
We'll waste not a golden minute;
No shadow of storm in the blue arch lies;
We'll waste not a minute—not a minute.

—Benton.

NOT a word was said when the first of the next week it became known that Mr. Hornbeck would be absent from the store for three days. But when Milly and Jenny returned from dinner they found pinned to the corner of a ribbon-box on their shelves a queerly shaped card of the smooth brown paper used in the store, and upon it these words: "Compliments of the Jolly Crowd to Miss Dayton and Miss Hartman. Lunch at 7 P. M., back room."

"Well, that is stylish, to say the least of it," remarked Milly, as she gave it to Jenny.

"That's the way they always do things up," said Jenny. "All right, Milly, we'll stay. I suppose you won't object?"

"No; I'll stay if you will. I've a curiosity to see what they do."

"Oh, nothing awful. But I wouldn't be a bit astonished if your country innocence received a tiny shock before we get through."

Customers began to come in, and they had no opportunity to talk, so when the day's work was ended Milly had not asked one or two questions which she intended to ask before she joined the "Jolly Crowd," as they called themselves.

"Mr. Lindell," said Mr. Osborne, on his way out, "you will close up, if you please, and be down very early in the morning to open the doors for the sweepers. Be particular, and see that everything is safe and in good order."

"Yes, sir, I'll attend to it," answered Walter, with a solemn face turned to Mr. Osborne and a laughing wink given to the girls the instant that gentleman's back was turned.

"Oh, yes, he will," whispered Jenny. "But if Mr. Osborne or Old Horny get an inkling of the fun Mr. Lindell will get his walking-papers without ceremony."

"Then what makes you all risk it?" asked Milly.

"Oh, there's where half the fun comes in. Stolen apples are always the sweetest, you know."

Three or four of the older clerks had not been invited to the lunch. They were allowed to go as usual, while the rest made a pretense of getting their stands in order to leave. When the elderly lady who had charge of the ready-made department up-stairs was gone Walter Lindell shut the big front doors, drew down the shades and turned on the two electric lights which always burned all night in the front room and were visible through the front doors, as they were largely of heavy glass.

"Now all hands to the back," said he. "Come on, Lyle, come on, Bess Birch, and help set out the lunch. The rest of you wait till we call you."

Walter, Harry Patterson, Winnie Lyle and Bess disappeared in the little room back of the larger one, while the others gathered in a group behind the big racks hanging full of dresses and summer wraps, where they could not be seen if a passing policeman chanced to look in. Very shortly Winnie came to the door of the little room.

"Behold, the feast is served!" she cried, in a mock-stagy tone. "His Royal Highness bids you enter and partake."

They crowded in, and Milly saw a white oil-cloth spread with sandwiches, cheese, German pretzels, Dutch sausages and a dozen bottles of beer, while the necks of certain taller bottles peeped up from a basket on the end of the box which served as the table.

Several chairs and boxes were pulled up as seats for the girls, Walter declaring that the boys might stand as he did, and be the waiters.

"Now light in, children! Make hay while the sun shines!" said he, as he handed round the sandwiches. "In other words, let's have a grand lark while Old Horny is off the docket, and don't anybody get too drunk to go home!"

"Walter! Ain't you ashamed?" cried Bess Birch. "You'll horrify Miss Dayton here. She isn't used to our eapers."

"Oh, well, she soon will be!" replied Walter, gaily. "Come, Miss Milly," turning to Milly, who did wear rather a disgusted air, "you are not eating half enough. Take another sandwich. Have a bit of cheese? Here, fill her glass, Harry! Hand over that beer, please."

"No, no!" and Milly put her hand over her glass. "I don't drink beer—not a bit for me."

"Nonsense! You must drink with the rest of us. Here, hold your glass; I won't fill it full, but you must take a little."

"No; I don't like it. I never drink it, really," persisted Milly.

"Surely you don't think it wrong to drink beer?" asked Bess, with a mocking smile.

Milly colored, but answered: "No, not for those who care for it. I do not. I can't bear the taste of it; it is too bitter."

"Walter, she wants something stronger," put in Winnie. "Bring on the wine!"

"I'll do that!" Walter took two or three bottles out of the basket and began to fill the glasses. "Miss Milly, positively you shall drink a glass of this nice sherry. Come, it wouldn't hurt a baby! You're not too straight-laced to have a little fun, I know. Come, try it!"

He poured a small glass and held it out to her. Milly did not wish to take it. She had never been used to anything like this, but she had not the courage to refuse before that laughing crowd, especially as Jenny, close beside her, said in a low tone, "Take it, Milly; it won't hurt you."

"Just one, then," said Milly, and took the glass from Walter's hand. She drank it slowly, not with a quick eagerness as she saw that Winnie and Bess did, but eating her sandwich with it and trying one of the pretzels, which were too salty for her taste.

In five minutes she felt that the strong wine was rising to her head and making it feel light and funny, so she would not be induced to take a second glass.

"Oh, well, you'll come to it," said Walter, whose face began to look flushed. "There's Bess here, she wouldn't touch a drop at first, and now she can drink like an old salt."

"I don't think that is nice for a girl," said Milly, plainly; at which they all laughed as loudly as they dared, not to attract the attention of passers-by.

"And there's Winnie—oh, my soul! I wouldn't try to guess how much she can put away! Oh,

wine, which quickly disappeared, though Jenny and Milly both refused to take any more.

"Let's go now," whispered Milly to Jenny. "I don't want Walt to go with us, and he'll be sure to ask if we wait."

"All right; we'll go," replied Jenny. "Our old ladies will be thinking it is time we were in pretty soon."

Milly stopped as they were quietly slipping into the cloak-room for their hats and wraps, and said, with a horrified air:

"Oh, Jenny! I never thought of that! What will they think? What will they say? We ought to have told them!"

Jenny laughed.

"Well, my dear, I fancy it wouldn't have been just the thing to tell them the square facts in the case. But I did tell them that we were invited out to tea, and might not be in before bedtime. So, you see, they are not a bit uneasy, but no doubt imagine we have been taking supper with our Sunday-school teacher."

"Jen, I have never been used to hear people make fun of such things," said Milly, gravely.

"No, you dear little innocent, you have not been used to several things you'll learn here. Come if you want to get away from the rest. They are growing a bit noisy out there. They'd better be careful or Officer Baunister may step in on them. Then it is quite as well for us not to be there."

"I'm ready," Milly and Jenny softly opened the front door, which Walter had not locked, and they went out.

"I dare say Mr. Walter will be as mad as a March hare at us," said Jenny, as they tripped off; "but I didn't want him with us to-night. The whole crowd except you and me are half-seas-over, and might be troublesome."

"Jen, you surely don't mean that they are half drunk!"

Jenny laughed again at Milly's tone of horror and disgust.

"Couldn't you see that they were after all that

"Well, I would not have believed it!" the disgust in her voice still more manifest. "I don't see how she keeps her position in the store."

"Oh, Mr. Osborne and Mr. Smith don't know what she does outside of business hours. Winnie is a first-rate clerk, and they can't well do without her anyhow, so I suppose they don't care to know. You can guess now where her fine clothes come from. Maybe you have noticed they are mighty cheap duds, after all."

"Yes, I have seen that. I wonder how she can live such a life."

"Oh, she's used to it. You can get used to almost anything up here."

They walked fast, not altogether liking to be out alone at that hour, and very shortly were at the door of their boarding-house.

Good Miss Molly was just coming out into the hall as they entered, Miss Polly's placid face visible in the doorway behind her.

"Oh, here you are!" was her pleasant greeting. "Sister and I were just wondering if you had come in. We did not like to lock up until we were sure. I hope you have had a nice evening?"

"Very nice, indeed, thank you," was Jenny's answer. Milly dared not give any reply at all, for she had not learned the art of "polite lying," as it is called.

"I wonder if Miss Lyle has come yet?" remarked Miss Molly.

"No, she is not in, but we saw her on the way home. She will be here directly, Miss Molly," said Jenny.

"Will she? Thank you, Miss Hartman. I think we will wait a few minutes for her, then. Sister, we had better not lock up; Miss Lyle is on her way; she won't be long."

"No, you will not need to wait long, Miss Molly. Good-night, ladies."

"Good-night to you both," answered the kind old ladies as Milly added her good-night to Jenny's.

"Oh, Jen! how could you?" she asked, as they went up-stairs.

"How could I? Why, I didn't tell any story. We did see her, and I'm sure I hope she will be in very soon. If she don't, she had better, for she won't be able to come at all."

"That's worse, Jenny."

"Oh, it won't be as bad as that. She will come all right. Don't let your dreams be disturbed to-night, Milly, dear, thinking of the wild frolic you have seen. You'll get used to things of that kind before long."

"I hope not," replied Milly, as they parted at her door. "Good-night, Jenny."

"Good-night, and sweet sleep to you, my innocent country girl."

Jenny went laughing into her room, and Milly turned the key as she closed her door.

She went directly up to the little dresser, lit the gas, and took a good look at herself in the mirror.

"I don't feel like such a very innocent country girl just now," she said, gloomily. "I feel very much ashamed of myself. I wouldn't have Joe and Aunt Kizzy know this for all the gold in the Klondike, to say nothing of father! Oh, me! I wonder if I have made a silly mistake, after all?"

She took off her hat, loosened her dress, and slipped on a soft sack, but she did not feel like going to bed at once. She turned down the gas, went to the window and drew aside the white curtain.

Many passers-by were yet in the street below, and the garish electric lights shone on one or two straggly, dingy trees that were trying to grow in the brick sidewalk. Nothing else met her view except the dull slate-and-shingle roofs beneath her, and some high brick walls. What wonder that her eye saw a vision of cool meadows shining in the moonlight, of the ripple of the creek, the waving of wide fields of grain and rustling corn, the fragrance of pinks and roses about the old farm-house at home, and that there ran through her mind a strain of an almost forgotten melody:

"I wish for nothing brighter,
I long no more to roam,
When the twilight peace comes o'er me
In my dear old country home."

But she had been determined to "see life" for herself, and it was not the brighter and the sweeter the better she came to know it.

CHAPTER VI.

AN UNEXPECTED MEETING

"It is always the unexpected which happens."

Milly woke with a dull, heavy headache next morning. But work must be attended to, no matter what aches and pains wanted to hinder, so she rose at her usual hour and made ready to go to the store. When she came out at noon she found Walter Lindell waiting to walk up with her.

"What made you run away from me last night?" he asked, as he fell into her step without any invitation, refusing to see by her cool manner that she did not care for his company.

"I thought I had stayed long enough," was Milly's cold answer.

"No, you had not quite. I fully meant to see you home. Come, now, Milly, you mustn't be mad at your Walter."

"I do not acknowledge any claim on you, Mr. Lindell."

"Don't you? Then you must, you really must, Milly, if you don't want to break my heart, and maybe ruin me."

Milly looked him squarely in the face as she spoke.

"I fancy your heart is entirely out of danger from me, Mr. Lindell. I tell you plainly I don't like the company you keep nor the ways you have."

He bent his handsome face toward her, a look of winning, loving penitence in his fine eyes, the look he so well knew how to assume, and said, in manly tones:



SHE WENT TO THE WINDOW AND DREW ASIDE THE WHITE CURTAIN

Win, see here! Give us the latest song and dance; do, there's a lady! I was down to Hessler's to see you-Monday night. Give us the one you did then."

"Yes! Go ahead, Winnie! Give us the last new thing!" put in Harry, and the rest, too, clamored for a song and dance.

"Well, clear the track then," said Winnie, "and here goes! Wait, you whistle for me."

To Milly's astonishment Winnie mounted one of the big goods boxes, lifted her skirts with a stagy air, and while Walter whistled a gay tune, accompanying the whistle by clapping his hands in time to the music, she danced and sang something which Milly knew might be popular, but was neither refined nor ladylike.

But the rest seemed vastly amused at her, and Jenny laughed and encored the performance as eagerly as any of them.

"No, can't do it again," said Winnie, coming down from her box. "I'm half-seas-over now, and if we don't all want to get fired in the morning we've got to break this up pretty shortly. The ten-o'clock police will come strolling along directly and we may get caught."

"Is it ten?" cried Walter. "I didn't think it was so late. Seems to me we haven't been here half an hour. Finish the lunch before we go, folks; that is, if there's any left to finish!"

There was not much, excepting a bottle or so of

beer and wine?" she asked. "Not real tight, you know, but just funny."

"It is anything else but funny to me!" said Milly. "I know one thing, I will never be caught in such a crowd again."

"Well, I said the same thing. I haven't been with them for some time; wouldn't now but for you, Milly. You know you want to see city life, so you ought to have somebody to stand by you."

"I'm obliged to you, Jen, I'm sure. You will not be obliged to stand by me again at any night frolics. I hope Mr. Osborne won't hear of this."

"Won't be apt to. Walt and Harry will look out for that, and you know the girls won't tell. Oh, say, Milly, you have discovered Winnie's secret now, haven't you?"

"Secret? No. What do you mean? What did Walt mean by saying he was 'down at Hessler's to see her' the other night?"

"Don't you know yet where Hessler's place is?" "No—unless—Jenny Hartman, it cannot be that he meant that low theater down on the corner beyond the court-house?"

"He meant just that," replied Jenny. "Now you know where her 'art school' with which she fools Miss Molly and Miss Polly is. She is a singer at Hessler's theater, a place our dear old ladies wouldn't have us visit for the world. You remember I told you not to go if she gave you an invitation."

"Then take me and make me better, Milly. You can do it; nobody else can. I'll be anything you ask me to be—I will indeed. Come, won't you be good friends at least? Please, Milly! I know I'll go to the dogs without you."

Simple Milly believed every word. How should she know that she was not even the hundredth girl he had tried the same game on? She said, more gently:

"I am willing to be friends, but I can never be more than a friend to you, Walter."

The winning tones grew still more dangerously sweet, and the magnetic eyes were fixed on her blushing face.

"Can't you, Milly, dear? Not if I wait ever so long?"

She shook her head.

"No, never."

"Is there any other fellow ahead of me?"

Milly could not, would not tell him that. She remembered he had called Joe a "Hay Rube," and he should not have the chance to make sport of him now. She only answered:

"I have not made my choice yet, but I mean what I said to you."

He gave a deep sigh, and said, in a lower tone, for Jenny and Winnie were close behind them:

"Never mind! I'll wait and hope; it may come all right some day. I'm going to be awfully good now, for your sake. Will you go with me to see Charles Gardner play 'Hazel Kirke' to-night?"

Milly could not miss the opportunity for one sharp shot:

"Excuse me! You would probably prefer to go to Hessler's to hear Miss Winnie."

Walter gave her a keen glance, and burst out laughing.

"What! Do you know that? Who told you?"

"It is enough for you that I know," said Milly, coldly.

"Well, really, now, my little girl, I don't go to Hessler's often. I won't go again if you'll go to a better place with me. Come, now, if you want to do some good, there's your chance. You know I promised to cut Winnie and all that fast crowd—I'll do it for you, Milly. Won't you go with me to-night?"

Poor, innocent Milly. She was not much stronger than other girls, and she gave way under the fascination of his manner. She did long to see the beautiful home drama, and she could not go alone. When they parted at Miss Crane's door Walter had her promise to go with him. Jenny, when she heard it, gave a wise little nod of her head, and said:

"I thought so! All right; go, Milly, and have a good time. But don't you forget your good, plain country boy for all of 'em put together."

"Jenny, you talk nonsense," was Milly's reply.

Still she knew it was not nonsense. She had begun to realize that if anything did happen to release her from her engagement to Joe Haywood she would be glad of it. She was shocked to feel so, but she could not help it. She was merely drifting on, trusting to the future to help her out. She would not acknowledge it to herself, but in her heart she was fascinated by handsome Walter, and if he did keep his word, and give up that gay set and his "fast" habits, why, then, she did not know what might come about some day. Alas, for poor, faithful Joe!

But Milly meant to be faithful, too, as far as she could. She went with Walter, but she wrote to Joe every week. In October Joe came to Hampton on purpose to see her, and remained two or three days. Then she was obliged to say to Walter:

"There is a gentleman from home coming up this week. He is an old friend and a near neighbor, and I shall have to entertain him, so you cannot see me while he is here."

"My loss then," said Walter, dolefully. "Is it our rural friend, Mr. Haywood?"

"Yes, and a true gentleman, too," and Milly looked him straight in the face.

Walter was equal to the occasion.

"Of course, or he would not be a friend of yours. But don't let him stay too long, please."

"He will only be up a day or two," answered Milly, blushing partly from vexation, partly from a feeling that Walter was laughing in his heart at her country beau. She could not read his mind or she would have known that his real thoughts were:

"I'll bet she is engaged to him, and ashamed to own it. Well, no matter. Any time that I can't cut out a Hay Rube and not half try—why, I can, hang it all! If I knew she had plenty of money I might mean business. But I dare say her old dad would not come down for a city fellow in any case, so it won't do. Wait, my lad, it won't do!"

Joe came, and Milly was with him all the time out of business hours. Yet she did not very greatly enjoy his visit. He urged her to come home and go to the pretty new house as its mistress, and Milly, with Walter's handsome, reckless face before her eyes, could not say yes. She could not tell poor Joe that she could not keep her engagement, but she felt that she could not marry him. She was very unhappy just then, but it did not occur to her to think that if she had stayed quietly in her sweet country home the unhappiness need never have come into her life.

She saw that Joe was not looking well, and it only made him plainer than ever. She spoke of it to him one day.

"Joe, are you sick? You look badly. Is anything the matter?"

Joe smiled that patient smile which always went to the girl's heart, and answered:

"Sick? Oh, no; I guess not. I don't seem to sleep very well, and I have not much appetite, but there is not much the matter. I suppose I'll be all right after awhile. Mother and Aunt Kizzy have been dosing me up a bit, and with the rest of this little visit with you I shall be about straightened out when I go home. Nothing worse than a little cold, I fancy, so don't you worry, Milly."

The trouble was Milly did not worry enough—or so she thought. But she walked out with Joe, and talked to him about the new house, as in duty bound, and was glad when he went home and she was free to be with Walter again. At Thanksgiving Milly went home for three days, and by her special invitation Jenny Hartman went with her.

Mr. Dayton and Aunt Kizzy took a fancy to Jenny at once, and she had not for years so enjoyed herself as she did during those few days. On Thanksgiving day Mother Haywood and Joe were invited to dinner, and Miss Kizzy exerted all her skill to get up that dinner. Surely never was a turkey so beautifully brown, or cranberries so rich a crimson, jellies so golden and ruby, butter and cream so rich and sweet, to say nothing of the snowy frosted cakes, the crisp doughnuts, the fragrant coffee, and the delicious mince and pumpkin pies, without which no Thanksgiving feast is ever complete.

"I feel as if I had been to heaven!" said Jenny, when they were seated in the train on their return to Hampton. "Oh, Milly Dayton, if I had a home and folks like you have I'd like to see what would tempt me to leave them for the dull grind of city life."

"You would get tired of the country, as I did," answered Milly.

"Would I? Well, if you would just own up, I shouldn't wonder if you were tired of town, too, by this time."

"Not a bit of it!" said Milly, with a laughing shake of her head. But she kept back a sigh, that Jenny might not hear it, for Milly did somehow feel this leaving home more than she had the first time. Already she had seen the brass under the gilding, and knew that the old adage was still true—"all is not gold that glitters."

But they were soon at work and absorbed in a round of amusements outside business hours, so she forgot to be homesick. Joe had promised to come up again Christmas, and, of course, as the holiday season drew near they were doubly busy in the store. So Milly did not write quite as regularly as she did before, and did not receive as many letters from Joe.

But she got one from Aunt Kizzy early in December, in which the good lady said: "I don't know what's come over Joe Haywood, but he don't seem well or like himself this winter. His mother thinks he is going to have some sort of awful sick spell, and he does look powerful like it. I hope you and him ain't been havin' no trouble. If you fool Joe Haywood it'll come back to you in the same coin, and serve you right, too! But I 'low, with all your giddiness, you know which side your bread's buttered on too well to give Joe up, so I ain't goin' to worry my head any more about it. You better come home after Christmas with your mind made up to stay, and that's all from your cranky old aunty."

Milly was half vexed, half amused over the letter, and if she had replied to it at once would have said some sharp things. But she was very much taken up just then with preparations for a dance to be given the week before Christmas, to which Walter had invited her. Jenny was going with Harry Patterson, and they all assured her it would be "the swellest affair of the season, and all the aristocracy would be there." Milly was too simple to know that the "aristocracy" of Hampton would at no time and place mingle in common with a lot of young working people, and fancied that there at last she would see "society" in all its glory and grandeur.

But one thing she would not do—it was to be a masquerade, and they tried to persuade Milly to take the character of a French dancing-girl, and wear a short skirt and a low-necked dress. Jenny was going as a vivandiere, one who in the French army sells provisions and wine, and her costume had already come home from the dress-makers, but Milly would not be coaxed even by Jenny.

"I will go as a flower-girl, and wear a village dress," she said. "But to appear in a mixed assembly in short skirts and a low-necked dress—why, if my dear old father heard of it he would die of mortification. I won't, and that's all there is of it."

"Well, go as the flower-girl then, and I will be an army officer," said Walter, looking not half pleased, for he wanted to attend the dancing-girl in a Zouave costume.

"All right. I shall arrange my own dress to please myself," said Milly.

"Do so then. I'll send you a basket of flowers if you will carry them."

"Oh, I will, and thank you, too," said Milly, smiling. "But, Walter, there will not be any carousing like there is in the store?"

"Oh, my, no! The most select assembly of the season, I tell you. Don't be so squeamish, you little country goose!"

"Because if there will be I don't want to go," Milly added. But she was quite satisfied, for of course in the "best society" she had been told she was to meet they did not do such things.

Of course Milly must have a wrap suitable to go with the party costume, and so she had committed the extravagance of buying a white swan's-down cloak from the store, which she would not likely wear a half-dozen times in as many years.

"I know it was awfully extravagant to pay fifteen dollars for a cloak so near Christmas, when I need all my money to make presents with," she said to Jenny, "but I did it before I thought, and now it is too late to fret over it."

"I wouldn't fret over such a pretty thing. Only wish I could afford one myself," was Jenny's answer, as she threw the soft wrap over Milly's white shoulders when they were called down to the parlor by the message that the young men had come with the cash to take them to the hall. It was only a short drive to the place where the dance was to be held. Many lights were flashing about, but still Milly did not notice that the stairs they ascended led up directly over one of the drinking-

saloons which abounded on certain streets. She was taken up with her company and her dress, and scarcely cast one glance around until they entered a large, brilliantly lighted hall and were ushered to a small dressing-room at one side, to take off their wraps.

In a moment more they were in the main room, mingling with a motley crowd indeed—Turks, Arah, negroes, angels, fairies, priests, clowns, soldiers, and every other character one could think of, besides a few whom nobody could explain. The band was playing from a platform at one end, and on the other side large doors hung with gay curtains led into what was evidently the supper-room, for the tinkle of glass and silver could be heard within.

Immediately Milly was besieged for a dance by several masqueraders in gay costumes, but as she did not dance she was obliged to refuse all, and took up her position on the row of seats near the wall, to watch the merry dancers on the floor. Walter, as in duty bound, stayed by her for awhile, but Jenny was quickly led away by a tall fellow in the costume of Robin Hood. Milly knew that Walter did dance, and was fond of it, so very soon she said to him:

"Walter, do not sit here with me. Go and dance. I can do very well by myself."

At first he refused, but she persuaded him, and so he took her to a small gallery a little above the main floor, where she could see better, and gave her a seat, promising to come for her in a few minutes to take her to supper.

Milly saw him go up to a girl dressed as Little Bo-Peep and ask for her hand in the set just forming. She watched them for a little, then they were lost in the crowd, and she amused herself by looking at the entire scene. One thing she saw at once. This was not the "best society" of Hampton. She knew as customers in the store many young ladies who moved with the "upper ten," and who at her own home would have visited her as an equal. Here she was only "a working-girl" and outside the magic pale which shut them in. Not one of them was here to-night; indeed, it was quite a different class.

"But no doubt they are all nice," she said to herself. "I do wish they were not so loud and noisy, though. That is not my idea of refined society, whether rich or not."

After awhile she saw the couples begin moving toward the supper-room, and wondered why Walter did not come for her. She could see nothing of Jenny, or, in fact, of any one she knew, and the situation began to grow embarrassing. She waited and waited. Every lady in the room had gone out except herself, and she was disappointed, angry and just ready to cry when she saw Walter coming toward the gallery at last.

"Oh, I am so glad to see you," said she, rising. "Where have you been all this time? I am so chilly! Won't you please get my wrap from the cloak-room before we go to supper?"

"Ain't cold, are you?" asked Walter, a queer smell striking her senses as he bent toward her.

"Yes, I am. Please get the cloak, and then I will go with you."

"I wouldn't know it—got your check?" he asked, in an unsteady way.

"Yes, here it is." She gave him the bit of paste-board, but he still lingered.

"Come with me yourself, Milly. We can go right out from the cloak-room to supper. Come on, old girl!"

He took hold of her arm to pull her along, and she drew back, for his manner was so rude.

"Walter! What is the matter with you?" She laid her hand quietly on his arm, and went to the cloak-room, perceiving to her dismay that he did not walk quite straight.

But he took her cloak, when the attendant brought it, and tried to put it around her shoulders. As he did so he almost fell over her, and recovering himself, he said, thickly:

"Scuse me, Milly, I'm a little bit—"

"Yes, I see you are," returned Milly, proudly and indignantly. "You are not in a fit condition to be seen with a lady at supper. Let us go right home."

"Oh, see here now! That ain't—ain't fair, Milly! Let's go to supper—got a swell spread—let's good to drink! Come on!"

He took her arm again, but she drew it away.

"Walter, you must take me home at once! I insist!" she said, with trembling lips and tears trying to force themselves from her eyes. "Oh, I wish I had never come! Take me home!"

"Got to give me a kiss then!" and he bent down to take what he had asked for, so that she received his breath right in her face. "Ain't goin' to give less you pay me well! Here a kiss, a dozen, Milly, for you're too sweet for anythin'!"

Poor, desperate Milly! One idea was uppermost in her mind—to get away from him and that terrible place. As he stooped she lifted her hand, and with her full force struck away the lips so close to hers, with their polluting breath, and snatching her cloak closer, she ran from the room, into the hall, and down the stairs to the street. She heard him coming after her, and in wild terror she fled like a deer, her white robes flying. One small slipper dropped on the ground, but her fear of the drunken man was so great that she did not even know she had lost it.

She turned the nearest corner, and stopped one instant to think which way was home, when rapid steps came around the corner, and as she made one new spring for flight, a man's voice spoke, kindly, not drunkenly:

"Pardon me, miss, but you—"

Not one word more did he say before she turned on him, with a slight scream:

"Joe! Joe! Joe!"

And to the utter amazement of both of them she found herself clinging to Joe Haywood's arm, in the street, at eleven o'clock at night.

[TO BE CONTINUED]

WHEN OUR GAL SPOKE A PIECE

I ben t' doin's off an' on,
Like apple-bees an' spellin's;
T' quart'ly meetin's, public sales,
Hangin's an' weddin'-bellin's,
But nawthin' since the shootin' scrape
Down on Bill Jones' lease
Hez worked me up like t'other night
When our gal spoke a piece!

'Twuz down 't th' old frame meetin'-house—
They called it children's day;
Th' younguns done it purt' nigh all
Except the preacher's say;
An' that whole program wiggled off
Ez slick ez melted grease—
But th' place where I fergot t' breathe
'S when our gal spoke a piece.

The sup'intendent spoke right up—
I heered him call her name!
An' there she come a-trottin' out!
T'others may looked th' same,
But they wa'n't nary 'nother one,
Not even Thompson's niece,
That looked wuth shucks t' Moll an' me
When our gal spoke a piece.

Me an' my woman set dow' front,
Right clost t' th' mourners' bench;
A-hearin' tbat there youngun speak
Give me a nawful wrench.
And when we heard 'em cheer an' cheer
We set like two ole geese
Wipin' th' silly tears away—
When our gal spoke a piece.

'Twuz jest some leetle, easy thing
Like "Twinkle, Little Star,"
Er Mary's leetle cosset lamb,
Er somethin' like that 'ar,
But 'twan't no twinklin' starlight beams,
Ner tags fr'm lammle's fleece
That made us blow our noses hard
When our gal spoke a piece.

I hain't ben what I'd orter ben;
I've stayed away from church,
An' sometimes Moll an' me hez thought
They'd left us in the lurch;
But—well, we've kind o' rounded up
An' let our wand'rin's cease
Sense we wuz down there t'other night
An' heerd her speak a piece.

—Indianapolis News.

A THANKSGIVING REMINDER

BY LILLIAN HAAS COOKE

IT WAS a very neat little house that "set upon stilts" down in the bottoms, and everything around it was made as neat and nice as it could be, considering the owner's worst and only enemy was the Ohio river, which every year spread over all he possessed and left the little house like a Noah's ark in the vast yellow waters.

In the room above, with a dormer-window facing the afternoon sun, a young woman sat on the floor beside an old trunk, a pretty baby-boy near her playing with some acorn cups. She had been reading a letter written by herself to her lover eight years before.

"It is very sweet, John, dear, to have you care so much for me, and I hope I deserve it. I know well enough that I shall not make you a perfect wife, but I am going to do all I can to make you happy."

Those were the words she saw, and they set her to thinking. Had she done all she could? At first, perhaps, not for long.

She was a "city girl," and he had always lived in the country. She was an orphan, making her own simple living as clerk in a dry-goods store. One summer she went with the girl at the ribbon counter to spend her vacation in the country with the latter's uncle. There John met her, fell in love with her, and won her. She fell in love with the country of which she had previously known nothing, admired John, and consented to marry him. Her mother had often told her of an uncle who was supposed to be rich and who might some day leave his wealth to them. She knew he had become estranged from the other members of the family and was thought to be living in Colorado. Once she had written, telling him of her mother's failing health and that he would be the only relative she had left in the world, but days and weeks and months succeeded each other, and the postman in his rounds barely glanced at the dingy little house where the sick woman lay, still hoping, until death relieved her of that, too. Margy used to build air-castles in which she was Uncle Ed's heiress, but her lover, for of course there was always one, bore no resemblance to good old John. He loved her better than any one ever had, and she was tired caring for herself, tired of the hot, dusty city and everything pertaining to it, so they were married.

John had saved up some money and taken a farm "on shares." For a time all went well, but the crops were poor and things went from bad to worse until he was forced to buy some land in the river-bottoms. He spent every cent that he could spare to make the house comfortable for Margy, but she had settled down into a discontented mood which all his efforts failed to banish. It was bad enough, she thought, before they moved down in the bottoms; but when that event took place she lost interest in everything but the baby, and almost in him, realizing that unless prospects brightened for John and herself the little one would be denied the advantages she was so anxious for him to have. She was not inclined to look on the bright side of life, but was easily discouraged, and being unhappy herself she made little effort to lessen her husband's load.

"One might as well be a nigger as to live in this God-forsaken place," she had said to him. But with a patience equal to that of Job he tried all

the harder to make her happy. It was not the home he had hoped to give Margy, with her pretty, dainty ways, but it was the best he could do now, and he was hopeful for the future.

It was the day before Thanksgiving, but Margy had not given it a thought. It had been a long time since she had observed any of the holidays. As she sat there with the letter in her hand, thinking of that promise to John, and how little she had done to help him and make him happy, she was startled by the unusual sound of a rap at the door below. Opening it, she saw a hunter standing there, and in his hand was Margy's only turkey—dead. He said they had killed it between them—he and his dog—the dog beginning it, and he finishing it to end its suffering. He apologized profusely, and said he would pay for the turkey and take it home for their dinner on the morrow.

"No," she replied, "it is all right. I shall have it for our own Thanksgiving dinner."
"I see you have something to be thankful for to-morrow," said he, patting the baby's chubby hand. "It will be a sad day at our house, for it will be the first we have spent without our boy; he was just such a healthy-looking little chap." He brushed away a tear, then added, "Well, we have a little girl, and we can thank the Lord because he left her with us."

When he had gone Margy sank down in a chair, hugging the baby to her breast. Oh, yes, she was thankful now, and when she caught sight of the letter which she still held in her hand she thought of John. Dear old John! He had always been so self-denying, patient and good to her, and like a panorama her married life passed before her mental vision, leaving her in a flood of tears. She laid the child, who had fallen asleep, on the old rusty-looking lounge and put John's coat over him, giving it a loving little pat as she did so. Then she knelt down, and with her head pillowed on the old coat close to the baby she prayed, "Dear God, I have neglected you as well as John. Forgive me. I am thankful, indeed I am, although I have not known how much until now. Help me to make myself what I should be. Amen."

Everything seemed different when she arose, and she flew around like one inspired. John should have a little extra supper to-night even if the turkey must be picked. He had rowed a couple of miles up the river early that morning to help one of his neighbors "shuck" corn, and probably would not return until seven o'clock. She had gotten in the habit of cooking as little as possible and preparing it with as little trouble to herself as she possibly could, but to-night it was all different. She would scallop the potatoes, poach the eggs and make some biscuits. John was so fond of warm biscuits. She would open a glass of jelly, too, and how surprised he would be at such a feast. Then she began planning for to-morrow's dinner and became so absorbed she did not realize how time was passing until the clock struck seven. Everything was ready and the supper-table looked prettier than it had for a long time. Half-past seven came, but no John. Margy went to the door, peered out into the darkness, and listened; but the only sound that greeted her ear was the lonesome hoot of an owl in the distance, and shivering with the dread of some calamity that seemed about to befall her she hurriedly closed the door and for another half-hour sat on the floor close to the baby. What if something had happened to John! "It would serve me right," she thought, "for being the kind of a wife I have been. But oh, if the Lord will give me another chance I will do much better!"

At that moment her quick ear caught the sound of a galloping horse approaching, and with a bound she threw open the door. As she did so the horseman stopped, and cried, "Hello!"

"What is it?" she called back. "Has anything happened?"

"Be you his wife?"
"Yes, yes; what is it? Tell me quick!"
"They sent me out to tell you. They're a-comin' with him in a wagon."

"Oh, don't tell me he is dead!" she cried, clinging to the door for support.

"I'm 'fraid he is, ma'm, for he seemed to be a-breatin' 'bout his last breff when they sent me along to tell yer to git ready fer him."

Margy stood like one stunned as the hoy turned and rode back. The next half-hour seemed like a month to her as she stood there waiting. And when the slow tramp, tramp, of the horses' feet fell upon her ear, and she realized that they were bringing him home dead, she murmured, "Oh, John," and sank to the floor unconscious.

When she next opened her eyes she was lying in John's arms, with water all over her face, and his dear voice was saying, "Why, you dear little woman, what made you faint?"

"Oh, John," she gasped, "didn't you get killed, or anything?"

"Not a thing, darling. That stupid boy came to the wrong house. Old man Saunders gave him the directions, and he should have gone a mile farther to poor Billy Watkins'. Instead of that he came here and scared my little wife nearly to death. There, there, don't cry. I'm just fludin' out how much you care for me."

"So am I," she sobbed.

"Now you are all right again, and I must hurry. Poor old Billy has gone over to the other shore and we must take him home. He was going to have all his kinsfolks to Thanksgiving dinner to-morrow. It'll be a sorry time for them. Ah! There's a little color coming back. Now sit in this big chair and keep quiet until I come back. Here's a letter for you, little woman; I almost forgot it. Jim Banks was going to the post-office, and I told him to inquire for us. It's got a Colorado mark on it. You can be reading it while I am gone. Guess your old uncle has gone over and made you an heiress," and John went out, laughing at the idea of such an improbable thing. But it was all true.

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THANKSGIVING ENTERTAINING



GENEROUS supply of turkey, cranberry sauce and pumpkin pie, with all the other indispensables of a genuine old-fashioned Thanksgiving dinner, no longer satisfies the ambitious hostess who is bent on dispersing Thanksgiving cheer in some original and novel manner. No

matter how complete and satisfying are all the details of the holiday feasting, some form of entertainment must also be provided. Almost any popular diversion or any of the old-fashioned games may figure conspicuously in this Thanksgiving entertaining if slight alterations are made in the manner of playing or the awarding of favors and prizes especially appropriate to the season. Dainty favors have been provided by a certain hostess this year, consisting of many useful and ornamental trifles made in the form of tiny corn-cobs, and among the prizes for certain games are found scarves and brooches in the form of little golden sheaves of wheat and bunches of tinsel oats, that make the prettiest possible ornaments for the hair.

Then for the children the popular little pumpkins are the triumph of the season. They are made of china, and painted, stem and all. There are slits in the side for eyes, nose and mouth, and you put a candle inside just as you did years ago in the genuine article when you set it on the gate-post to "frighten folks." Somebody got up tiny pumpkins like these last year for a figure in a "harvest dance." The room was partially darkened for a few minutes, and the pumpkin faces shone out in great style as the dancers moved through their evolutions. They will probably be even more popular this year for the children's Thanksgiving souvenirs. Strings of beads resembling small cranberries, gilded cones and nut dolls will also be popular for the children's favors, especially the nut dolls for the tiny tots, which consist of a hickory-nut with the face inked as comically as possible, and dressed as an old woman. It is often these inexpensive souvenirs that may be prepared at home that prove most delightful to the children, as they suggest many possibilities in their world of "make-believe."

In the research for novel forms of entertainment appropriate for the season many Thanksgiving celebrations are brought up for discussion, but the most popular seem to follow as nearly as possible the forms of old-time celebrations. One of these old-time parties given last year was such a success that it will probably be widely popular among the participants when they "take their turn" at entertaining. The enthusiastic grandmother at whose home the meeting was held concluded to give, with the co-operation of the other members of the family, as nearly as possible a reproduction of the old-fashioned Thanksgiving parties at the old homestead when she and her brothers and sisters were children; and the invited guests were the quaintly costumed relatives long ago laid in their graves.

The experiment, of course, entailed a great deal of labor upon the energetic hostess. First she rearranged her modern drawing-room, leaving in only the antiques. To these she added every thing of a similar nature that she could borrow from the enthusiastic relatives, and the old trunks of storerooms and garrets were ransacked for the curious old bric-a-brac and fancy work that seem to take one back to the primer of art decoration.

When the arrangement of parlor and dining-room was disposed of to her satisfaction costumes began to be considered. Each of the families attended to this part singly, leaving the result a surprise for the others. Old family photographs, albums and daguerreotypes were hunted up and copied as closely as possible in every particular, the hair-dressing in itself causing great amusement. The men simply used the absurd part up the back of the head, the women had the bunches of ringlets at the sides, the hair of the boys was arranged in the quaint top-knot curl, and the banged and fluffy-headed maidens of to-day were combed down to the rigidly simple coiffure of fifty years ago.

Every one was kept in a constant state of merriment when the odd-looking guests arrived. The children were the funniest of

all, so completely have styles changed them, particularly the boys. Where costumes like the old portraits were not to be found for them the mothers had fashioned new copies out of inexpensive materials.

Then the little ones, who had long heard with watering mouths of the delicious dishes of "great-grandmother's table," were regaled with an old-time spread. Antiquated receipt-books had been looked up and forgotten favorites brought to the front again. The meal was served, too, in the antique style—a literally groaning board, meats, salads, vegetables and breadstuffs galore at one and the same time instead of our modern long dinner of many courses. Not until dessert was the table cleared, and then it was loaded with plum-pudding, pumpkin and mince pies, brandied peaches, great loaves of cake, rosy-cheeked apples, nuts and raisins.

Another feature of this novel entertainment that greatly increased its interest was this: Every one had been requested to write upon a slip of paper below the question "What are you most thankful for?" an individual reply. This was done at home, and the papers left in a basket in the hall as the guests arrived. After dinner they were all read anonymously. An amusing time ensued in the endeavor to fit the answers to the different guests. Some, particularly the men of the party, had written facetious little dissertations on their blessings that caused much merriment. One paper read, "That I have no husband." As there was only one spinster present this had to be attributed to the laughing, rosy-cheeked auntie who was anything but the typical old maid. The four children of one family were so surprised to find that they each had written "For mother" that they confessed their authorships. The object of this graceful tribute was not the only one with wet eyes.

The one who so generously supplied the information concerning this old-time entertainment, with all the details for carrying it out successfully, says that this year the same people are to repeat the antique part of last year's celebration, with one change. They, children and all, are to assume through the whole dinner the character of some one of the more famous Puritan men and women—not only to be like them so far as possible in dress and appearance, but also in action, phraseology and opinion; that is, to say and do as nearly as possible what their particular model would have said and done under similar circumstances. This, of course, leads to a careful study of our Puritan ancestors, and to the literary member of the family has been given the duty of reading a paper comparing the old-fashioned Thanksgivings of Puritan times with those of to-day. Fortunately, this paper could be supplied for repetition here, in time, probably, to prove helpful to others who are desirous of discovering facts concerning these early celebrations.

"According to the history of this long-ago first Thanksgiving, 'they began now to gather in ye small harvest they had and to fitte up their homes and dwellings against winter, being all well recovered in health and strength, and had all things in good plenty; for as some were thus employed in affairs abroad, others were exercised in fishing about codd and bass and other fish of which they took good store, and of which every family had their portion. All ye Sommer there was no waste, and now began to come in store of fowle, as winter approached, of which this place did abound when they came first (but afterwards decreased by degrees), and beside water-fowle there was great store of wild turkies, of which they took many, beside venison, &c. Besides, they had about a peck of meal a weeke to a person, or now, since harvest, Indian corn in ye proportion.

"Our harvest being gotten in, our Governor [William Bradford] sent four men on fowling, so that we might after a more special manner rejoice together after we had gathered the fruit of our labors. They four in one day killed as much fowle as, with a little help beside, served the company almost a weeke. At which time, amongst other recreation, we exercised our arms, many of the Indians coming amongst us, and among the rest their greatest king,

Massasoit, with some ninety men, whom for three days we entertained and feasted, and they went out and killed fine deer, which they brought to the plantation and bestowed on our governor and upon the captain [Miles Standish] and others."

"Such is the historic record of the first Thanksgiving in Plymouth colony two hundred and seventy-eight years ago. Less than a year before the Mayflower, bearing its little band of one hundred and two Pilgrims, anchored off the rock-bound New England coast. Alone in the boundless wilderness of the New World the heroic Puritans struggled through the relentless winter, battling with snow and wind, savage foes, hunger, sickness and death itself. Grave after grave was dug beneath the snow on a barren bluff by the lonely sea. In three months their number was almost one half of the entire company. But with the spring-time life looked more kindly upon the exiles; summer smiled on their corn-fields, and autumn brought abundant harvest. A few little dwellings had been built, and preparations had been made for others, making a tiny oasis of homes on the desert of the New World. Then it was that Governor Bradford issued his proclamation, and the Pilgrims and their Indian guests partook of that first and now historic American feast.

"Thanksgiving, 1621! How was it celebrated? The roll of a drum announced the hour for prayer. After the religious services came feasting and outdoor athletic sports.

"Thanksgiving day, 1899! How will it be celebrated? With religious services, feasting and outdoor athletic sports.

"But while the celebration of the prospective anniversary will be, despite cynics and pessimists, but a modern elaboration of the original Thanksgiving theme, the variations are many and diverse, so that the Puritan forefathers would find very little in common with their early celebration. In fact, about the only thing Governor Bradford would recognize in our modern modification of the original feast would be his old friend the turkey.

"In early colonial days the dinner, the combined efforts of all the housewives in the colony, was served in the largest room they possessed, or if the weather was warm (for in earlier times Thanksgiving sometimes came in midsummer) upon the green in front of the church. To-day the methods of preparing the Thanksgiving dinner, the serving and the place where it is eaten are much changed.

"Fancy the redoubtable Miles Standish, 'clad in doublet and hose and boots of cordovan leather,' striding along the dining-hall of one of our modern mansions. Picture the amazement of any one of the Puritan cooks of the first Thanksgiving dinner in the old Plymouth colony, could the worthy dame behold the sumptuous appointments of silver, crystal, fine china and snowy linen that bedeck the majority of Thanksgiving tables of the wealthy, and even of the masses ascribed to the 'middle classes' in these end-of-the-century days. And what would the half-frozen, ill-fed owners of the handful of tiny toy houses crouched in the bleak New England colony of two hundred and seventy-eight years ago think and say could they bask in the warmth and revel in the luxury of the average dining-room of to-day?"

"Not that the most sumptuous Thanksgiving dinner of 1899 will taste any better to its participants than did the Thanksgiving dinner of 1621 to Governor Bradford or any of the little company of Pilgrim Fathers, only things are different now. From poverty we have grown to prosperity as a nation, and to the enjoyment of the opportunities and privileges prosperity brings, and the poorest family who boasts a turkey dinner at this year's Thanksgiving celebration can sit down and enjoy it in greater comfort and security than did any one of the original partakers of the first Thanksgiving dinner of nearly three hundred years ago, is in itself inspiration to keep the feast in sincerity and truth."

After the reading of this paper the children will probably decide they have had all the mental food that they can conveniently digest with the turkey, and they will then be ready for the old-fashioned romping games so dear to the hearts of grandchildren, nephews and nieces at these large family reunions. Any new ideas that may be suggested in these games will be welcomed, of course, but it is not necessary for a hostess to give the slightest anxious thought to this part of the entertainment, the privilege being left to themselves to enjoy in their own way the favorite Thanks-

giving games that are repeated year after year will prove the most welcome pastime, and a caudy-pull or corn-popping will provide the evening repast which follows the afternoon feasting.

THEBE WESTCOTT HUMPHREYS.

THANKSGIVING DAY

On a dreary October night two hundred and seventy-eight years ago a little handful of men and women met to consider their situation. They were the remnant of those sturdy Puritan pioneers who had lauded from the Mayflower the previous December. They had suffered untold hardships and were now on the verge of another winter, poorly housed, with a scanty supply of food and exposed to the crafty and implacable fury of the Indians. It was suggested that a day of fasting and penance be proclaimed, perchance the seeming visitations of divine wrath might be turned aside. But the words of a gentle Christian woman changed their plans—a woman who, though widowed by an Indian arrow, and rendered childless by the terrible privations and hardships encountered in this New World, could yet see cause for thankfulness.

"Are we not now permitted to worship him in spirit and in truth?" she said. "Have we not homes? Though the harvest be scant, yet have ye not faith that the Lord will maintain his promise and provide for his own, even as he hath already done in guiding us hither? So in view of these many graces, a day of thanksgiving seems to me more mete than a day of penance."

Shamed by her trustfulness and inspired by her words, Governor Bradford issued the first call for a Thanksgiving day, and sent the young men into the forests to hunt game to grace this first Thanksgiving feast. So by the influence of one brave-hearted Christian woman it is a day of thanksgiving instead of one of penance that has come down to us from the Puritans.

At this first Thanksgiving Massasoit's band of Indians was invited to the festival, which continued a week, the Indians contributing venison and wild turkey to the feast.

The next Thanksgiving feast of which mention is made was held two years later, in July, and was to return thanks for rain after a long-continued drought. From this time days of public thanksgiving continued to be observed, though at irregular intervals, and for various causes besides bountiful harvests, and it is only during the last half of this century that Thanksgiving day has come to be regularly observed each November.

The first Thanksgiving proclamation that was printed was issued in 1677, and a copy of it, I am told, is now in the collection of the Massachusetts State Historical Society. During the war of the revolution many thanksgiving days were ordered, and in 1789 Washington, as president of the United States, issued the first national Thanksgiving proclamation. Congress discussed with seriousness the advisability of this, much opposition being shown, some saying that the states ought to be left to issue such proclamations for themselves if they desired, others arguing that it would be better to wait until our boasted constitutional government had had a longer trial before giving thanks for it. In spite of all opposition the president was requested to issue the proclamation, which he did, appointing November 26 of that year as Thanksgiving day. From this time until 1863 Thanksgiving proclamations were issued by some presidents, and the matter forgotten or neglected by others. After the battle of Gettysburg President Lincoln issued a proclamation recommending that the sixth day of August "be observed as a day of national thanksgiving, praise and prayer to Almighty God." The next year he issued another proclamation, and since then no year has passed without a day of national thanksgiving being appointed by the president.

It has been said that gratitude is always an evidence of a noble nature and is the fruit of great cultivation. This is true. It is very seldom found in its highest sense except among refined and gentle people. It is one thing to be grateful in prosperity and another to be grateful in adversity. It is only the few who can say, "Though he slay me, yet will I trust in him."

Not only with words, but in deeds should we show our thankfulness. We should do what we can for the welfare of others, helping the poor from our more abundant store, and the sorrowful with loving sympathy, seeking to brighten the lives of all with whom we come in contact. MAIDA McL.

THE GOOD OLD THINGS

We used to have old-fashioned things, like hominy and greens,
We used to have just common soup, made out of pork and beans;
But now it's bouillon, consomme, and things made from a book,
And pot-au-feu and Julienne, since my daughter's learned to cook.

We used to have a piece of beef—just ordinary meat.
And pickled pigs' feet, spareribs, too, and other things to eat;
While now it's fillet and ragout, and leg of mutton braized,
And macaroni au gratin, and sheep's head hollandaised.

The good old things have passed away, in silent, sad retreat;
We've lots of high-falutin' things, but nothing much to eat.
And while I never say a word, and always pleasant look,
You bet I've had dyspepsia since my daughter's learned to cook.

—Good Housekeeping.

THE CUSTOM OF TREATING

THE custom of treating and gift-giving has become of so universal usage that one can scarce raise the dissenting voice or disapprove without being considered sordid or strangely queer; for the world fails to stop to listen to explanations of why the disapproval or to listen to other explanations of the where and when the custom of treating is heartily sanctioned.

To treat one's friends and acquaintances pleasantly and considerately and to prepare little surprises and dainties and luncheons in their honor are treats of an uplifting and of a refining influence, and are to be heartily commended wherever practicable and justifiable. And gift-giving belongs to this class of treats, and carried out in reason is highly commendable.

We meet with men—and occasionally with women—who are too prosaic and practical to enjoy or to indulge in gift giving and receiving. But they miss a world of little pleasures, and they are dispellers of sunshine, while the world is in need of all the heart-sunshine that can be found and made use of. Husbands who tell that they do not believe in giving presents, and who practise what they counsel, add so many little disappointments to the lives of deserving wives and daughters, and debar the home of such a vast amount of real happiness. Though the gift from a husband be ever so simple, few wives there are who do not find in the gift a far greater value indeed than its moneyed one. Surprises and remembrances whisper so confidently to her of a sentiment not dead and of a love that to her is more than all the world. Tom brings to me always the first yellow rose that blooms in late May or early June, knowing my passionate love for the flower and its color; and it were ten times a lovelier rose for his bringing and his thought, and for the sentiment and suggestion of love. When later the first great field bouquet of wild-flowers is gathered from pasture-land and roadside it comes laden with a fragrance twofold—the fragrance of sweet odors and sweeter love. A grudgingly given gift of many times the value, or a gift without its happy surprise and suggestiveness of remembrance, could not give woman's heart one half the pleasure of the simple gift to the heart of the woman who is so simple-hearted as to prefer love and confidence above all things else. For

It is not the price of a gift, you know,
That gives to it value and charm;
For the price of a gift has oft, you know,
Wreaked its receiver but harm.

The wealth of a loving heart, you know,
Were vastly more precious than gold,
And the simplest gift with love, you know,
Hath carried a joy untold.

A gift is no gift at all, you know,
If offered from love apart;
It were better no gift at all, you know,
Than a gift except from the heart.

But the treating of self or the self-bestowal of gifts is all too seldom indulged in, by mothers especially, who are always thinking of the dear ones at home, and it is this manner of treats and treating I would talk of in particular.

I believe in the manner of life in which the wife takes due care of her health and personal appearance, and in which she treats herself as well as she treats the other members of her household. It is her undisputed right to treat herself to becoming and sufficient apparel, to needed rest, and to good books and magazines, and to time to read and

enjoy them. Little fear that she will forget to plan treats, gifts and surprises for her friends and family, but through a mistaken sense of duty and in her multiplicity of cares and responsibilities there is a danger of her forgetting to provide for herself. She does so the whole world through. In this manner of caring for, or neglecting to care for herself it is mete that she meet with opposition and unqualified disapproval, and be encouraged to treat herself with as great kindness and consideration as she is known to treat her family and friends.

NEDELLA HAMPTON.

A NEW USE FOR YOUR PALETTE-KNIFE

If you have a palette-knife, and are determined not to use it as its name and nature calls for, use it to scrape the kettles with. It will do the scraping much more effectively than any other kind of a knife that I have ever seen, being so flexible that it bends most beautifully. I used mine in this way among the pots and pans until I recovered from my backslidings and took up painting again. And really is it not too bad for us, simply because we are married, to permit our palette to be thus desecrated, while our paints are drying up for want of use?

"But we have no time to use them," I hear you say; "and then my hand has lost its cunning," you apologetically add.

If you cannot find the time, why, make it, it can be made if sufficient effort is directed to that end. The cunning will return with little practice; no fear about that. Take a few new lessons to brush the cobwebs from perceptions and to act as a lubricating oil to the fingers, and who knows but that



your ability to wield the brush may be the means to the end of making time. Although we may not pretend to be artists in the highest sense of the term in many a town or village where opportunities are limited, we are considered such, consequently may be able to get up a class in painting, and by that means to earn enough money to hire the hardest, heaviest work done, meanwhile giving the young people an insight into this most delightful art.

Sometimes I have found that where the mother could not afford to pay cash for the lessons she was more than willing to work for me in various ways, that her daughter might receive the instruction. I have had sewing done, bread baked, soiled linen washed and ironed, and the children well taken care of for a few hours at a time, all to be paid for in one or two afternoons with the painting-class.

Hence, I would advise you who are allowing your palette-knives to become rusty from disuse to scour and brighten them up again and put them to the "new" old use of mixing paints.

You will find that as a picture progresses you will grow young again. You will forget that the gray hairs are appearing one by one. You will not remember your disappointment at not being able to take the long-looked-forward-to summer's outing, for are you not in the very midst of Nature's beauties? Are you not climbing the mountains, resting under shade-trees and sitting by the babbling brook as you transfer your pigments to the canvas? You return to the home cares rested and invigorated, better able to take up the routine of daily toil. Your spirits are lighter, things do not worry you so easily, husband appears more loving and tender, and the children are better-natured. The work speeds as if on wings. Three-year-old Elsie pats your cheek, and says, "Nice mama, nice mama, to make such pitty picture." The older children say, "We are going to be very good, mama, and help you all we can, so you will have time to finish the picture; we are so anxious to see it all done." Is this not the best "new" use to which your palette-knife can be put?

ELLA BARTLETT SIMMONS.

FANCY STOCKING-TOPS

Stocking-knitting comes in fashion every little while, and is not entirely relegated to the older ladies. Fancy stockings for both golfing and cycling are much worn, and if wanted with club colors can be knit at home, making pleasant firelight work. This pattern is adapted from the stonework on a Mohammedan mosque in Alexandria. The colors are crimson and green, but can be varied to suit one's taste.

This top takes 40 stitches for each pattern, and can therefore be knit only in a large or a very much smaller size. It is worked in four-ply wool of two colors on four steel needles No. 14. Cast on in dark green (A) 40 stitches on each of three needles. Work about half an inch in a rib of 2 plain, 2 purl. One round of plain knitting. In crimson (B) knit one round of plain knitting; in A knit 2 rounds; in B knit 1 round.

First pattern round—Knit 3 stitches A, 7 B. Repeat to end of round.

Second round—The same as first.

Third and fourth rounds—3 A, 2 B. Repeat to end of rounds.

Fifth round—* 3 A, 2 B, 3 A, 3 B, 1 A, 3 B, 3 A, 2 B, 3 A, 2 B, 3 A, 3 B, 1 A, 3 B, 3 A, 2 B. Repeat from *.

Sixth round—* 3 A, 2 B, 4 A, 5 B, 4 A, 2 B, 3 A, 2 B, 4 A, 5 B, 4 A, 2 B. Repeat from *.

Seventh round—* 3 A, 2 B, 5 A, 3 B, 5 A, 2 B, 3 A, 2 B, 5 A, 3 B, 5 A, 2 B. Repeat from *.

Eighth round—* 3 A, 2 B, 6 A, 1 B, 6 A, 2 B, 3 A, 2 B, 6 A, 1 B, 6 A, 2 B. Repeat from *.

Ninth round—* 3 A, 3 B, 11 A, 3 B, 3 A, 3 B, 11 A, 3 B. Repeat from *.

Tenth round—4 A, * 3 B, 9 A, 3 B, 5 A, 3 B, 9 A, 3 B, 5 A. Repeat from *, end 1 A.

Eleventh round—5 A, * 3 B, 7 A, 3 B, 7 A, 3 B, 7 A, 3 B, 7 A, 3 B, 7 A, 3 B, 7 A. Repeat from *, end 2 A.

Twelfth round—6 A, * 3 B, 5 A, 3 B, 9 A, 3 B, 5 A, 3 B, 9 A. Repeat from *, end 3 A.

Thirteenth round—1 A, * 1 B, 5 A, 3 B, 5 A, 3 B, 7 A, 3 B, 5 A, 3 B, 5 A. Repeat from *, end 4 A.

Fourteenth round—3 B, 5 A, 3 B, 5 A, 3 B, 5 A, 3 B, 5 A, 3 B, 5 A, 3 B, 5 A. Repeat.

Fifteenth round—4 B, * 5 A, 3 B, 5 A, 3 B, 3 A, 3 B, 5 A, 3 B, 5 A, 5 B. Repeat from *, end 1 B.

Sixteenth round—1 B, * 1 A, 3 B, 5 A, 3 B, 5 A, 3 B, 1 A, 3 B, 5 A, 3 B, 5 A, 3 B. Repeat from *, end 2 B.

Seventeenth round—3 A, 3 B, 5 A, 3 B, 5 A, 5 B, 5 A, 3 B, 5 A, 3 B. Repeat.

Eighteenth round—4 A, * 3 B, 5 A, 3 B, 5 A, 3 B, 5 A, 3 B, 5 A. Repeat from *, end 1 A.

Nineteenth round—5 A, * 3 B, 5 A, 3 B, 5 A, 1 B, 5 A, 3 B; 5 A, 3 B, 7 A. Repeat from *, end 2 A.

Twentieth round—As twelfth.

Twenty-first round—As eleventh.

Twenty-second round—As tenth.

Twenty-third round—As ninth.

Twenty-fourth round—As eighth.

Twenty-fifth round—As seventh.

Twenty-sixth round—As sixth.

Twenty-seventh round—As fifth.

Twenty-eighth round—As fourth.

Twenty-ninth round—As third.

Thirtieth round—As second.

Thirty-first round—As first.

Work one round in A, two rounds in B, one round in A, in plain knitting. Work half an inch in a rib of 2 plain, 2 purl. Turn, and knit in the other direction for the commencement of the stocking. KONTGIN.

CREAM COOKERY

I am so often asked how I make cream pie-crust, cookies, cakes, etc., that for the benefit of those who would like to cook with cream, but do not know just how, I will give a few receipts for the same.

CREAM PIE-CRUST—Take two cupfuls of cream (if very rich use part water), either sweet or sour, a good pinch of saleratus is enough in either case, salt, and stir thoroughly; then add flour for quite a stiff dough, which, after light molding, cut into as many pieces as you wish crusts, rolling to just fit the plate. This will make three pies of two crusts each.

For a change bake two crusts on separate plates, fill between them while warm with strawberry or raspberry jam, cranberry sauce or freshly stewed apples nicely flavored, or even a corn-starch cream prepared as follows: One pint of rich milk set in a kettle of boiling water; when scalding hot add one egg, one heaping tablespoonful of corn-starch, two or three tablespoonfuls

of sugar, a pinch of salt, vanilla or nutmeg; beat thoroughly and stir constantly till thick enough, put in the pie either hot or cold.

Either of these pies makes a very nice, quick dessert in an emergency, when unexpected company comes and the dinner is likely to fall short. My squash pies are very good. I do not sift the squash, but mash it fine with the potato-masher, and for each pie use one cracker rolled fine, but no eggs.

CREAM COOKIES.—One cupful of sour cream, one egg, one cupful of sugar, one half teaspoonful of baking-soda, cinnamon or nutmeg, salt; stir quite stiff, roll out half an inch thick, dip the top of each one in sugar, and bake immediately in a quick oven.

OUR OWN CAKE.—One and one half cupfuls of flour, one cupful of sugar; break one egg in a cup, fill three quarters full with either sweet or sour cream, and fill up with milk. If sour milk is used add one half teaspoonful of baking-soda; if sweet, two small teaspoonfuls of baking-powder, salt, and any flavoring you like. A few seeded raisins added to the above are a decided improvement.

IMPROMPTU CAKE.—One half cupful each of sugar and cream, one egg, one teaspoonful of baking-powder, and make as stiff as ordinary cake mixture. Bake in a deep tin plate, and set either warm or cold.

CREAM SPONGE-CAKE.—One and one half cupfuls of flour into which stir two small teaspoonfuls of baking-powder, one cupful of sugar; break two eggs in a cup filled with sweet cream; salt, vanilla or lemon; beat well; add for variety one half cupful of chopped walnut-meat, citron or raisins; a very little more flour is need with the nuts. Or put part of the mixture in the baking-tin, and to the remainder add half a teaspoonful of cocoa or a pinch of clove and cinnamon; drop it on the white mixture and it will make a nice marble-cake. Or bake in layers with any filling you like between, and you have a layer-cake.

There are two ways of lemon-filling, the first is excellent for tarts and the other for pies, and both are nice for cakes:

No. 1.—Grated yellow and juice of one lemon, one cupful of sugar, one half teaspoonful of corn-starch; beat well together, steam till quite thick, stirring constantly.

No. 2.—One pint of boiling water, one cupful of sugar, two eggs, one heaping spoonful of corn-starch, butter half the size of an egg, grated yellow and juice of one lemon; beat all well and stir into the boiling water, and cook till thick, stirring constantly. This will make a filling for two pies.

MRS. J. C. CRAWFORD.

HOW TO KEEP A SUPPLY OF FRESH YEAST

We are all familiar with the practice of saving a little lump of dough off of the bread-sponge for leaven for our next baking, but the "little lump" often gets sour, and consequently fails to do its duty as leaven, so the practice is not a safe one. A better way is to leave two or three tablespoonfuls of the batter-yeast in the jar when one goes to make up her bread-sponge in the morning ready for kneading, have at hand one cupful of sifted corn-meal, and with it rub down the sides of the jar and work meal into the batter left until it is stiff enough to make into cakes. The easiest way to do this is to work the mass into a roll, and slice the cakes off with a case-knife. Put the little yeast-cakes thus made on a platter to dry. These will be the foundation of the next baking instead of the "little lump of dough."

A large quantity of this yeast can be used, as it is not bitter with hops, and the sponge will come up with corresponding quickness.

MRS. W. L. TABOR.

LITTLE THINGS

A good-by kiss is a little thing,
With your hand on the door to go,
But it takes the venom out of the sting
Of a thoughtless word or a cruel fling
That you made an hour ago.

A kiss of greeting is sweet and rare
After the toil of the day,
And it smooths the furrows plowed by care,
The lines on the forehead you once called fair,
In the years that have flown away.

'Tis a little thing to say, "You are kind;
I love you, my dear," each night;
But it sends a thrill through the heart, I find—
For love is tender, as love is blind—
As we climb life's rugged height.

We starve each other for love's caress;
We take, but we do not give;
It seems so easy some soul to bless,
But we dole the love grudgingly less and less
Till 'tis bitter and hard to live.

—McCall's Magazine.

FARM LIFE AND HOW TO MAKE IT ATTRACTIVE

By Julia Mills Dann

[CONTINUED FROM NOVEMBER 1ST ISSUE]

Next, if you would bring as much of the outside world to your hearthstone as possible, buy a bookcase, and fill it with books. All the works of Charles Dickens can now be bought for three dollars; George Eliot's complete works for three dollars; the Waverly novels complete for six. There are still cheaper editions in paper covers for just half this price, but the first-mentioned editions are in good cloth bindings. Then in history you can buy Prescott's "Conquest of Peru" for one dollar, and "Life of Ferdinand and Isabella" for one dollar—books whose charms of composition make them as fascinating as any romance. They may not be the newest or the best, but they have been standard works for a long time, and will remain such for some time to come.

If you have money enough to indulge your tastes regardless of expense buy subscription books, not otherwise. They cost enormously in proportion to their actual worth, except in rare cases, such as encyclopedias, where there is great expense incurred in procuring the best articles from those who are experts in their chosen specialties. But you can get a fair library for fifty dollars provided you have an unabridged dictionary, a Bible and a set of encyclopedias to start with.

2

If any farmer's wife, reading this, shall say, scornfully, "Fancy my husband sitting at the center-table evenings bending over an art magazine or a copy of the Angelus! I assure you, oh most visionary of authors, that shining tinware, a neat kitchen and a good meal possess attractions in his eyes before which flower-beds and good literature pale into insignificance."

And fancy need not rove far to discover a farmer who, could he see me face to face, would say, with a shrewd twinkle in his eyes, and an honest and loyal pride in the domestic attainments of his wife, "You speak from the standpoint of a dreamer of dreams. Think for one moment of the life of a farmer's wife, of the daily round of bed-making, sweeping, cooking, baking, (when in its season), canning fruit, pickling and preserving, and see how impracticable are any of these ideas of yours. Where every moment is filled with laborious duties, how can time be found to create these attractions? If they already existed physical weariness would prevent a possibility of enjoying them. My wife is the best housekeeper in this neighborhood. She toils unceasingly, and then is never satisfied, so far does her appreciation of these domestic comforts outrun her strength of achievement. Your whole scheme is in every detail impracticable."

Listen, then, good friends, to an "over-true tale:"

Mary and Martha were school friends. Martha was the better educated, a good musician, and had a fair knowledge of French and German. When she married Mary's brother, who was a farmer, there was to both friends a deep satisfaction in the thought that the tie of a warm friendship would be cemented still closer by the new relationship. Mary remained in the school where they were educated as a teacher, and Martha went to the farm-house with many plans for keeping up her reading and music.

Mary, who spent her vacation at the farm, noticed with genuine sorrow at each visit an increasing deterioration in the quality of Martha's conversation.

The house was a delight in its comfort and neatness, "not at all like country living in my day," she said, proudly, to her friends on her return to the city. But little by little the difference between them widened until there was hardly a topic of common interest they could discuss. She remonstrated with her sister-in-law on the subject of allowing herself to become so absorbed in household details as to neglect entirely the higher life, and begged her to take a little time for her language and music.

2

"When I married your brother," was the reply, "I determined, so far as I was capable of doing it, to minister to every want. He likes cheerful, pleasant rooms, good meals, and a nice table. He has praised me many times for my success as a cook and a housekeeper, but he has never expressed the slightest interest in what I was vain enough to think was my chief attraction when he married me. In the things for which he cares I am proficient. But I realize more and more every day that I am not living up

to my best, and that any skilful servant could do all that absorbs me as well, and perhaps better, than I do. But how can I change? And would it be right if I could?"

Mary glanced at the supper-table. I will spare the reader an enumeration of the articles that comprised the menu—the cold meats, the pastry, canned fruits and other delicious compounds that might have excited the envy of a professional cook. She thought of the young life that was slowly being wrought into these unnecessary dishes, the intellect that was starved that the material comforts of others might be administered to, the thought that was distilled into these savory compounds, and resolved to speak to her brother that very night.

That evening as they sat together after the wife had retired she asked her brother why Martha did not read and practise as much as formerly.

"Well," admitted John, "I cannot bear to urge her to one added thing, she works so hard already. Queer, isn't it? She seems to have lost all interest for everything but housework. I used to think it would be rather nice to have a wife who could play on the piano, and knew something about botany, and I built great air-castles about the books we would read and the walks we would take together. I thought she would like flowers, and I often think with a feeling of positive hunger of my mother's old-fashioned flower-beds with its four-o'clocks and marigolds. I would not let her know for the world that I feel any disappointment, and I do not stint my praises for the things she does, and they are many, as you know. I intend she shall know I fully appreciate her evident wish to make me happy on her own plane."

Disappointment! From her darkened room Martha heard, and hearing, resolved that hereafter there should be companionship and a home, if not a restaurant. There were still cheerful rooms and a plentiful table, but from that day the old slavery was gone forever. Under a mistaken conviction that the other cared for only material comforts each had persistently ignored the culture of that which would have ministered to the highest of which he was capable. But from that day forward there was a change, and the new life was as delightful as imagination could have pictured. And surely that is worth striving for which adorns life, ennobles life, reforms life, and lifts up our ideals.

2

DON'T LET THE WRINKLES COME

No one is pleased to discover that the face is gradually becoming seamed with deep furrows and wrinkles, and would like to keep the face free from them as long as possible.

Women wrinkle sooner than men, as a rule, because they are usually of a more anxious temperament and trouble themselves more about small matters. It is this constant anxiety and worry which proves so disastrous to women. If a man had to bake pies, bread and cakes, prepare puddings, stew, boil and fry, and do countless other things like the average woman is compelled to do, he would likely be anxious and care-worn also.

Indigestion, which is often caused by worry, is another cause of wrinkles. Wearing tight shoes or anything that causes physical discomfort day after day will produce an old look even in a young face, and eventually wrinkles. Bad air is one of the most potent causes of wrinkles, and the remedy, of course, is to obtain good air. Right here let me say that a great many people are too careless about this subject of ventilation, especially in winter. They exclude the fresh air, jam down windows, and keep doors carefully shut, as if danger lurked in the pure air outside instead of in the vitiated atmosphere within.

Repeated frowning is a fruitful source of deep furrows and wrinkles; and so is the habit which some people have of raising the eyebrows at nothing at all. If any reader wants an unfailing receipt for producing a network of "crow's-feet" around the eyes nothing is better than to make a practice of sitting up late at night reading, especially novels. So now, woman, or any one else that wishes to prevent or cure wrinkles and avoid a premature old look, here are some good rules to observe:

Do not fret or worry over what cannot be helped, or over what can be helped. Bathe regularly, not like the regular bather who went in swimming every "Fourth of July," but bathe at least once a week. Eat plenty of good nutritious food. Breathe good air, and enjoy sound sleep at night, avoid tight or uncomfortable clothing, and use rain-water for bathing the face.

AUGUSTA MILLER.

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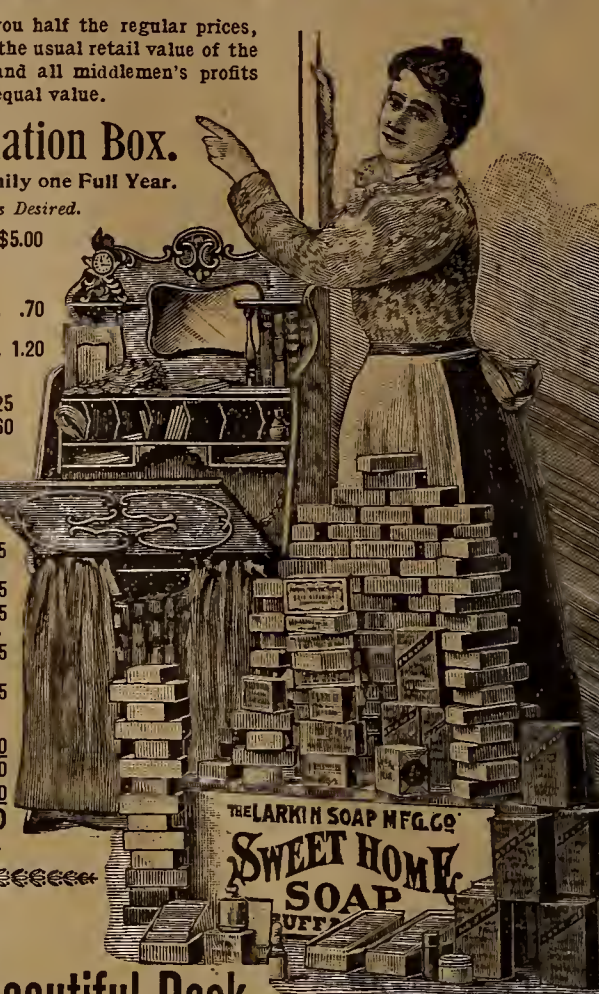
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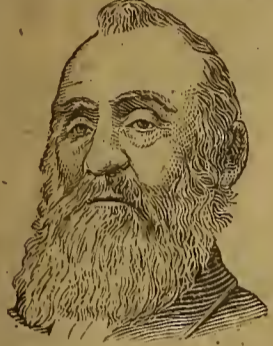
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A LARGE TRIAL CASE FREE

Rev. A. C. Darling, Minister of the Gospel, under date of May 20th, writes from his home at North Constantia, Oswego county, New York:

"I have been troubled with Kidney and kindred diseases for sixteen years, and tried all I could get without relief. Two and a half years ago I was taken with a severe attack of La Grippe, which turned to pneumonia. At that time my Liver, Kidneys, Heart and Urinary Organs all combined in what to me seemed their last attack. My confidence in man and medicine had gone. My hope



had vanished, and all that was left me was a dreary life and certain death. At last I heard of Alkavis, and as a last resort I commenced taking it. At that time I was using the vessel as often as sixteen times in one night, without sleep or rest. In a short time, to my astonishment, I could sleep all night as soundly as a baby, which I had not done in sixteen years before. What I know it has done for me I firmly believe it will do for all who will give Alkavis a fair trial. I most gladly recommend Alkavis to all.

(Rev.) A. C. DARLING.

The venerable Mr. Joseph W. Whitten, of Wolfboro, N. H., at eighty-five years of age, also testifies to the powers of Alkavis in curing severe Kidney and Bladder Disorders, Dropsy and Rheumatism. Hundreds of others give similar testimony. Many ladies also join in testifying to the wonderful curative powers of Alkavis in Kidney and allied diseases, and other troublesome afflictions peculiar to womanhood, which cannot with propriety be described here. That you may judge of the value of this Great Discovery for yourself, we will send you one Large Case by mail free, only asking that when cured yourself you will recommend it to others. It is a Sure Specific Cure and cannot fail. Address The Chiropractic Kidney Cure Company, No. 425 Fourth Avenue, New York City.

SOLID GOLD RINGS FREE!

Advertisement for solid gold rings with images of jewelry and text describing the offer.

HENRY MUNDSELL DIAMOND PIN CO. 155 FRIENDSHIP ST., Providence, R. I.

THROW AWAY YOUR HAT PINS

Advertisement for hat fasteners with image of a hat and text describing the product.

Learn Telegraphy

Become an Operator in the Railway Service. Situations guaranteed. Address PENNSYLVANIA TRAINING SCHOOL, Reading, Pa.

Advertisement for an electric device for treating rheumatism and kidney disease.

TEN WEEKS FOR 10 CENTS—That big family paper, The Illustrated Weekly, of Denver, Colo. (founded 1890), will be sent ten weeks on trial for 10c. clubs of 6, 50c.; 12 for \$1. Special offer solely to introduce it.

Sewing-Machines \$5 and Up Quality First-Class, 20-year guarantee. First-class new large-sized Piano \$125.00 Sent subject to approval. Address BROWN-LEWIS CO., Dept. 11, Chicago, U. S. A.

Advertisement for a cure for rheumatism, gout, and lumbago.

GRAY HAIR DARKENED. Osmark Mountain Herbs for restoring Gray Hair to its Natural Color, Beauty and Softness. Prevents the Hair from falling out, cures and prevents Dandruff. Will not stain the scalp. Superior to the many advertised preparations. Package makes one pint. Price 25 cents, silver, by mail. Address: K. DUBY DRUG CO., ROLLA, MO.

Advertisement for Dr. Isaac Thompson's Eye Water.

SPECTACLES at wholesale. Send for circular. Agents wanted. COULTER OPTICAL CO., Chicago, Ill.

Coe's Eczema Cure \$1 Large sample mailed Free. COE CHEM. CO., Cleveland, O.

OUR SUNDAY AFTERNOON

"I'LL DO WHAT I CAN"

Who takes this for his motto, "I'll do what I can," Shall better the world as he goes down life's hill; The willing young heart makes the capable man, And who does what he can oft can do what he will. There's strength in the impulse to help things along, And forces undreamed of will come to the aid Of one who, though weak, yet believes he is strong, And offers himself to the task unafraid.

"I'll do what I can" is a challenge to fate, And fate must succumb when it's put to the test; A heart that is willing to labor and wait In its tussle with life ever comes out the best. It puts the blue imps of depression to rout, And makes many difficult problems seem plain; It mounts over obstacles, dissipates doubt, And unravels kinks in life's curious chain.

"I'll do what I can" keeps the progress-machine In good working order as centuries roll, And civilization would perish, I ween, Were not those words written on many a soul. They fell the great forests, they furrow the soil, They seek new inventions to benefit man; They fear no exertion, make pasture of toil— Oh, great is earth's debt to "I'll do what I can." —Ella Wheeler Wilcox.

THE STORY OF THANKSGIVING

IT WAS in the middle of November that they first sighted the dreary sand-hills. It was beyond the middle of December that, after various explorations, having chosen their landing-place, they began to disembark. Then they set to building their village. They reared seven log cabins daubed with mud, and four other buildings.

Meanwhile death had been busy. The voyage had been terrible. The time of year was wintry on that hostile coast. They were racked with coughs; they were wrenched through scanty food. In December six died; in January, eight; in February, seventeen; in March, fourteen. They had landed about a hundred strong. Now, in four months, forty-five of their number had been laid away on Cole's hill.

But the spring began to smite the winter, and break its chains. In March warm winds blew gently from the south, and in the woods there was the pleasant singing of the birds. So they turned their thoughts toward sowing. They planted twenty acres of corn and beans, and six acres of barley. It was stiff work. It was all done by hand. They had neither plows nor cattle. So the March glimmer of sunlight and sun-warmth passed on into the steadier genialness of April.

All this time they had one tie still binding them to the distant country beyond the sea. Out in the harbor, with furling sails, the Mayflower had ridden out the winter storms at anchor. But now, in this April weather, she shook out her sails, lifted her anchor, and stood for England.

But not a man or woman faltered. Not one would leave the high enterprise on whose threshold they were standing. They watched her from those sandy shores until she blended herself indistinguishably with the green and blue of the distant sea and sky. The day after the cutting of the last tie Governor Carver died. He was working in the field, was seized with a sudden sickness, and was almost immediately smitten down.

They were very sore of heart, but they would not despair. Before they had started from their Leyden home in Holland they had looked the whole thing over, and had said, "All great and honorable actions are accompanied with great difficulties, and must be both enterprised and overcome with answerable courages." They put Governor Bradford in the place of Governor Carver, and held on.

So the summer months moved slowly along. They were consumed in tillage, in treaties with the Indians, in various expeditions—to Manhasket, now Middleborough, to Nauset, now Eastham, to Shawmut and its vicinity, now Boston and Charlestown.

Then the green of summer began to pass into the autumn gold. The corn, as the old record has it, yielded well; the barley indifferently good; the peas were a failure, owing to drought and late sowing.

But for the voyage over the stormy sea, for the landing, for the village building, for protection from the Indians, for their first harvest, now ripened and garnered, for their trials even, binding them closer to each other and to God, for the hopes, too, shining above those graves which had made Cole's hill

sacred they would be thankful. So the governor sent four huntsmen into the wood for wild fowl. They returned soon plentifully supplied. And then, looking backward through the year, and thanking God for his mercies, and partaking of his bounty "after a special manner," the Pilgrims rejoiced together. And this is the story of the first Thanksgiving day.—Wayland Hoyt, D.D.

THE FUTURE BEYOND OUR KEN

There is a story of a certain rabbi who entered a town and met a little maid carrying in her hand a basket which was closely covered.

"Tell me, my good child," said the rabbi, "what have you in that basket?"

The child answered, modestly, "If my mother had wished that any one should know the contents of this basket she would not have covered it."

God covers up many things from our eyes. Some of these he desires us to search out for ourselves. Men are continually thinking over God's thoughts, reading the lines of God's writing in his word and works. But there are many things in the realm of God's providence which we cannot know. The future is yet beyond our ken, and it is foolish and wrong for us to vex ourselves with trying to find out what it has in store. If God had meant us to know what the coming years have for us he would not have covered them up as he has done. We know one thing—that he in whose hands are the future events of our lives is good and loving, that he is our wisest and best friend. Instead of knowing we may trust.—J. R. Miller, D.D.

AVOID UNKIND SPEECHES

Aren't there some times in your life when everything seems to go wrong, no matter how hard you try to have them go right? Those are the trying days when you want to blame all the trouble on the way you got out of bed in the morning or on other people instead of looking the matter squarely in the face, and saying, "It's one of my exasperating days, and if I can only keep my temper until night comes to-morrow will be different."

Words may be forgiven, but they are not so easily forgotten. The unkind speech that is forced from you because you are not feeling quite well, or the pettish, annoying little action that you indulge in simply because you are nervous or worried doesn't do you one bit of good and makes everybody around you uncomfortable, and long after the words have been uttered or the deed done the memory will rankle and burn and you will wish that you had held on to your tongue and your temper before you got into such a scrape. Remember this the next time that you feel put out by the world in general.

MEASURING THE WORD BY ITS USER

Words are primarily intended to express ideas; but many a word is misleading because it suggests one idea to the user and a very different idea to the hearer. There are few words that convey the same idea to hearers and users generally. Take the words "love" and "art" and "nature," for example; they represent ideas the most lofty and the most debasing, and all the way between these extremes. Love is often used to express the grossest lust, and, again, love is rightly used to express the very nature and likeness of God. Unless we know what the user wants to express the word itself gives us no idea—or the wrong one—when a person talks of love. "Art" and "nature" are similarly employed in speaking and writing. One person is looking upward, and would help others upward, when he employs the term. Another person grovels, and wants others to grovel with him, as he prates or babbles about "nature" or "art." Unless you understand the man who uses the word you cannot rightly understand the word he uses.

STEVENSON'S PRAYER

A little prayer composed by Robert Louis Stevenson has this passage: "Go with each of us to rest; if any are awake, temper to them the dark hours of watching; and when the day returns to us, our sun and comforter, call us with morning faces and with morning hearts, eager to labor, eager to be happy, if happiness shall be our portion."

HEALTH BELT



The Dr. A. Owen Electric Belt Scientifically made and practically applied.

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No Free Fake or Trial Swindle DON'T Drug the Stomach

The Dr. A. Owen Electric Appliances are the only Scientific and Practically applied electric appliances for general use, producing a genuine Current of Electricity for the Cure of Diseases.

WRITE FOR OUR ILLUSTRATED CATALOGUE which contains fullest information, list of diseases, cuts of belts and Appliances, prices, sworn testimonials and portraits of people who have been cured, etc. This valuable catalogue is free.

The Largest, Oldest and Most Reliable Electric Company in the World. THE OWEN ELECTRIC APPLIANCE CO., 201 to 211 State Street, Chicago, Ill.

FASTER THAN EVER

EFFECTIVE OCTOBER 15. THE "UNION PACIFIC"

will inaugurate new train service, and will reduce the time of THE OVERLAND LIMITED, TRAIN No. 1, between CHICAGO, COUNCIL BLUFFS and SAN FRANCISCO, 8 HOURS and 15 MINUTES; 4 HOURS and 15 MINUTES between LOS ANGELES, MISSOURI RIVER to PACIFIC COAST.

ONLY 57 HOURS Buffet Smoking and Library Cars with Barber-Shop, CHICAGO AND COUNCIL BLUFFS to SAN FRANCISCO AND PORTLAND. THREE TRAINS. DAILY to and from Pacific Coast. Elegant Palace Sleeping-Cars, Dining-Cars, Chair-Cars. For full information call on A. G. SHEARMAN, Gen'l Agt. Pass. Dept. U. P. R. Co., Room 86, Carew Building. CINCINNATI, OHIO

Advertisement for a jewelry store offering solid gold or silver bracelets and watches. Includes text: "Solid GOLD or SILVER Bracelet sent free to any one for selling 5 sets of our LADIES' Gold plated Dress Pins..."

Advertisement for sewing machines. Includes text: "\$14 IT COSTS NOTHING to try our Sewing Machines. We ship direct from factory to consumer. Save agents profits. 30 days free trial. \$17.50 sold. Warranted 20 Years. All attachments free." Lists prices for various models.

Advertisement for a gas burner. Includes text: "THE WONDER of the AGE SALESMEN Wanted Everywhere to Sell NEW GAS BURNER for Heating and Cooking Stoves, Ranges, Furnaces, etc. Only natural Gas from coal oil; cooks meals or heats rooms in half usual time. No coal, wood, smoke or ashes; fits any stove." Price \$100 to \$200 per month.

Advertisement for a plating service. Includes text: "DON'T BE HARD UP \$2,000 a Year Easy. Gents & Ladies at home or traveling, taking orders, using and selling Prof. Gray's Plating. Plates, Watches, Jewelry, Tableware, Bicycles and all metal goods. No experience, heavy plate, modern methods. We do plating, manufacture outfits, all sizes. Only outfits complete, all tools, lathes, materials, etc., ready for work. Gold, Silver and Nickel, also Metal Plating by new dipping process. We teach you the art, furnish secrets and formulas FREE. Write to-day. Testimonials, samples, etc., FREE. B. GRAY & CO., PLATING WORKS, 7, CINCINNATI, O."

Advertisement for a radiator. Includes text: "SAVE 1/2 Your FUEL wasted up chimney. BY USING THE ROCHESTER RADIATOR. COST \$2.00 AND UP. Money refunded if not satisfactory. Write for booklet on economy in heating homes. ROCHESTER RADIATOR CO., 3 Furnace Street, Rochester, N. Y."

Advertisement for sewing machines. Includes text: "1500 SEWING MACHINES Second-hand Standard makes, \$3 to \$10. Shop-worn or slightly used samples \$1 to \$12. Three years on trial. New Machines One Fourth Price. Largest dealers in the world. Write for Bargain Offer. Jas. L. Mead & Co., Dept. 43X, Chicago."

Advertisement for eye medicine. Includes text: "PAYS to write for our 256-page free book. Tells how men with small capital can make money with a Magic Lantern or Stereopticon. McALLISTER, Mfg. Optician, 49 Nassau St., N. Y."

Advertisement for eye medicine. Includes text: "PRESERVE YOUR EYES WITH GLASSES. EYE CURES. WRITE FOR DESCRIPTION. NOURISHES, STRENGTHENS, CURES. FOOD FOR THE EYE. CINCINNATI, O. CRAZY WORK SILK REMNANTS, enough for quilt, 50c. 127c package handkerchiefs 10c. JERSEY SILK MILL, Box 32, JERSEY CITY, N. J."



SIGNS OF THANKSGIVING

Alr a-gittin' cool an' coolab,
 Frost a-comin' in de night,
 Hicka'nuts an' wa'nuts fallin',
 Possum keepin' out ob sight.
 Tu'key struttin' in de ba'n-ya'd—
 Nary step so proud ez his;
 Keep on struttin', Mistah Tu'key,
 Yo' do' know what time it is.

Cidah-press commence a-squeakin',
 Eatin' apples sto'ed away;
 Chillen swa'min' roin' lak hornets
 Huntin' aigs emong de hay.
 Mistah Tu'key keep on gobblin'
 At de geese a-flyin' souf;
 Umph! dat bird do' know what's comin',
 Ef he did he'd shet his mouf.

Pumpkin gittin' good and yallah—
 Make me open up my eyes;
 Seems lak it's a-lookin' at me,
 Jes' layin' dere a-sayin' "Pies."
 Tu'key-gobbler gwine roun' hlowin',
 Gwine roun' giblin' his sass an' slack.
 Keep on talkin', Mistah Tu'key,
 Yo' ain't seed no almanac.

Fa'mer walkin' throo de ba'n-ya'd
 Seelin' how things is comin' on,
 Sees ef all de fowls is fatt'ning—
 Good times comin' sho's yo' bo'n.
 Heahs dat tu'key-gobbler braggin',
 Den his face break in a smile;
 Nebber mind, yo' sassy rascal,
 He's gwine nab yo' atter while.

Choppin' suet in de kitchen,
 Stonin' raisins in de hall,
 Beef a-cookin' fo' de mince-meat,
 Splces grown—I smell 'em all.
 Look beab, Tu'key, stop dat gobblin',
 Yo' ain't learned de sense ob feah;
 Yo' ol' fool, your neck's in dangah!
 Don' yo' know Tbanksgibbin's heab?

BATTLE OF SANTIAGO

THE boy had been asked to write a composition on the naval battle of Santiago. This is the painful result:

"Samsun steamed up a waze an' then Cervery come out. He sed 'I guess I'll make a run for it.' So he crackt on all sale an' came a bustin' thru the narer place where Hobsun sinkt the Merrimack, an' he steered clost to shore in hops to git away. Sly seen him a-comin', an' he signuled to tbe other ships an' tha all went fer Cervery like a thousan' brick. Sly swunged the Bruoklyn round an' let 'em have it with both harls from the wurd go. An' pritty soon all the Spanish ships went down plunk like as tho' they had holes bored in 'em. Then when Sly an' the rest of the captins was wipln' thare forrids an' lettin' the guns cool off, up steems Admiral Samsun. 'Hello!' sez Sly, plesently, 'where you bin al, this while?' But Samsun was out of sorts. 'It looks to me,' he sez, bitterly, 'as if you think you wnz the hole thing.' But Sly, he only lafs. 'Oh, I don't know,' be sez, an' winks at the captins. 'I guess there's glorie enuff to go round.' But Samsun was oful bilyus. 'If you'd ohayed orders,' he sez, 'this disgraysful tbling woodn't hav' happened.' Then Sly didn't say no more, coz he saw how bilyus Samsun wuz. An' the Cervery ships hein' sunk for good an' all, tha couldn't try it over again, an' that's all I know about it up to the present writin'."

TOMBSTONE TESTIMONIALS

The Boston "Transcript" reproduces these bona-fide epitaphs:

My husband—God knows why.
 (From a lonely grave in Thomaston, Me.)
 Death caused by swallowing the tip of an umhrel rih into the lungs. He lived seven weeks and expired.
 (For a boy, aged 4 years, buried in Spencer, Mass.)

In This
 World We
 Jogged Along
 Together

Bettyand..... Sam
 (From a monument to Sam and Betty Watson in Oak Grove cemetery, Fall River, Mass.)
 Here lies Dame Mary Page,
 Relict of Sir Gregory Page, Bart.;
 She departed this life March 11, 1728,
 In the 56th year of her age.

In 67 montbs sbe was tapped 66 times,
 Had taken away 240 gallons of water,
 Witbout ever repining at her case,
 Or ever feating the operation.
 (From Bunhill Fields burial-ground, London, England.)

ESPRIT DE CORPS

A provident plumber, on leaving bis home for a holiday with his family, placed a placard just inside the hall door couched in the following language:

"To burglars or those intending to burgle. All my plated jewelry and other valuables are in the Safe Deposit Company's vaults. The trunks, cupboards, etc., contain nothing but second-hand clothing and similar matter too bulky to remove, on which you would realize comparatively little. The keys are in the left-band top drawer of the sideboard—if you doubt my word. You will also find there a check to bearer for five dollars, which will remunerate you for the loss of time and disappointment. Please wipe your feet on the mat, and don't spill any candle-grease on the carpet."—Collier's Weekly.

AN EFFECTUAL THREAT

Busy man—"I tell you I don't want your book."
 Book-canvasser—"Oh, my dear sir, but you do! In fact, you will have to take it. Listen! We have a corps of one hundred agents. I am the first. The other ninety-nine will follow me, one after the other, over the same route. If you don't purchase the book from me you will be called upon by the other ninety-nine. Purchase the book from me and I will give you, free of charge, this notice to hang on your front door, and save you just ninety-nine times as much trouble as I have given you. You will take the book? Ah, thanks! Five dollars, please."

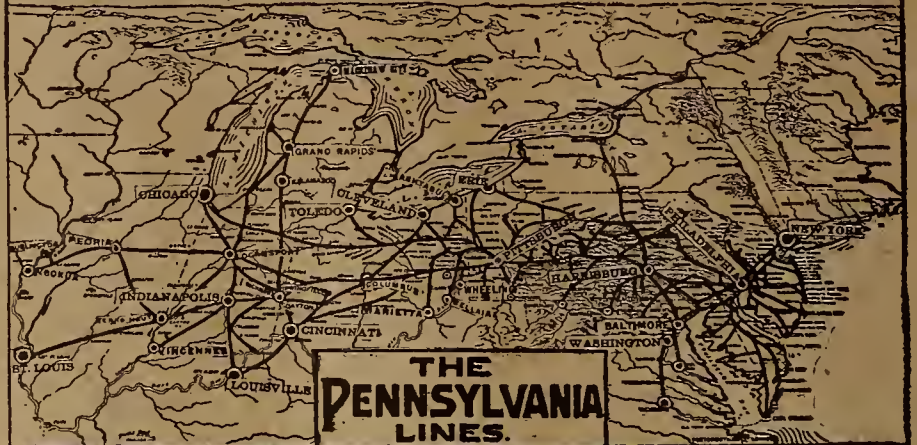
OVERDOING IT

He went about with gladness
 In his face,
 But alas, alack, the sadness
 Of his case!
 People talked about his sunny
 Disposition for awhile,
 And at length began referring
 To his "Idiotic smile."
 —Chicago Times-Herald.



Pete—"No, ma'am, I don't like bees. Nearly got killed by one once."
 Miss Abbey—"What! a honey-bee?"
 Pete—"No. Lynching bee."—Collier's Weekly.

"Look at the Map"



AMERICA'S STANDARD RAILWAY SYSTEM.



\$10,000.00 IN PRIZES GIVEN AWAY.

Any man, woman, boy or girl who will give us a few hours work in their spare time selling our DOUBLE-FED ASBESTOSIZED LAMP WICKS can secure as a prize an elegant Gold-plated, Stem-wind and Set Watch, chain and charm, warranted an accurate time-keeper; an elegant Imported Music Box, will play any tune; a handsome China Tea Set, Jewelry, etc., as per our Grand Illustrated Premium List. **OUR GRAND 60-DAY OFFER.**—Write us a letter stating that you will sell the wicks at 10 cents a piece, and return the money, and we will send you one dozen of our wicks and premium list when sold, you to send the \$1.20 and we will send you at once, by mail, prepaid, either a Photograph Camera, with plates 2 1/2x 1 1/2, ready for work, or a Large Telescope, 31-32 feet long, with a 5 to 10-mile range; a handsome Gold-filled Chain Bracelet, with lock; a Feather Box, 4 1/2 inches long; a Lady's Gold-plated, Chatelaine Chain Purse; a Krugger Diamond Ring for ladies or gents; a Gold-plated Watch Chain and Charm, ladies' or gents'; twelve beautiful Stamped Dollies, or Jars, but not least, a Handsome China Tea Set, as herewith illustrated and described; it is of a handsome design and genuine china. It will surely please any lady. **UNDERSTAND**, we do not give you all the premiums mentioned in our 60-Day Offer for selling only one dozen wicks, but we will give you any one of them that you select and send all prepaid except the China Tea Set, that must go by express, charges collect. All premiums guaranteed to be as represented. It is a part of this agreement that you will return by mail all unsold goods, if any, and all money received for goods as soon as sold. Address **KIRTLAND WICK CO., 896 Broadway, New York.** Dept. N.

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Allen's Foot-Ease, a powder for the feet. It cures painful, swollen, smarting, nervous feet, and instantly takes the sting out of corns and bunions. It's the greatest comfort discovery of the age. Allen's Foot-Ease makes tight-fitting or new shoes feel easy. It is a certain cure for ingrowing nails, sweating, callous and damp, tired, aching feet. We have over 20,000 testimonials. **TRY IT TODAY.** Sold by all Druggists and Shoe Stores, 25c. Do not accept a substitution. Sent by mail for 25c. in stamps. **FREE TRIAL PACKAGE** sent by mail. Address **ALLEN S. OLMSTED, Le Roy, N.Y.** (Mention this paper).

A \$25.00 WATCH in appearance, and the best watch in the world for the money. Double hunting case, stem wind and stem set, superbly engraved. Fitted with one of the following movements: **ELGIN, WALTHAM, N.Y. Standard or Hampden**, absolutely guaranteed for **20 YEARS**. Cut this out and send it to us with your name and address and we will send the watch to you by express for examination, you examine it at the express office and if as represented, pay express agent our **REDUCED PRICE \$3.98** and it is yours. Mention in your letter whether you want **GENTS' OR LADY'S SIZE**. Address **R. E. CHALMERS & CO., 352-356 Dearborn St., Chicago.**

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At **HEMET**, near Los Angeles. Garden spot of California. Situated on a gently sloping mesa 1,600 feet above the ocean, which is 50 miles away. Water supply certain, and goes with the land. The perfect. No incumbrance on land or water. Terms one third cash. Oranges, lemons, apples, apricots, peaches, etc., in abundance. Potatoes yield two crops, alfalfa six crops each year. Good churches and schools. For map, prices and further information address **HEMET LAND COMPANY, Dept. A., Hemet, Riverside County, California**

WANTED MAN with horse and buggy, to sell Pasture Stock Food. Salary \$15.00 per week and 10 per cent on sales. Farmer preferred. Previous experience not essential. Pasture Stock Food is the greatest discovery ever made in practical and scientific feeding, and is sold on an absolute guarantee. Steady, permanent trade established. Sample bag sufficient for two weeks' feeding, free by express, or send 25 cents in stamps or silver to cover express charges, and we will send the same prepaid. **301 Boyce Bldg., Pasture Stock Food Co., Chicago, Ill.**

Notice to Club-raisers
Valuable premiums are given FREE for clubs of subscribers to the FARM AND FIRESIDE. Instructions "How to Get Up Clubs" will be sent free upon request.
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Young men and women wanted for good positions. Address **FISK TELEGRAPH SCHOOL, Lebanon, Pa.**

BEST PAY A new line of Agency Work for either sex, easy and extra profitable; we give special advantages. Send for terms and Free Outfit. **THE CROWELL & KIRKPATRICK CO., SPRINGFIELD, OHIO**

CANVASSERS COIN CASH in working for me. Ladies and gentlemen, this is your great opportunity. **GET FIT FIRST.** Are you ready? Workers write at once to **E. HANNAFORD, Springfield, Ohio.**

ANGELS WHISPER Beautiful Large Picture; colored. Sells quick at 25c. Sample 15c.; 9 for \$1. **J. LEE, Omaha Bldg., Chicago.**

MISCELLANY

A BRIDLE for the tongue is a necessary piece of furniture.
He who serves well need not be afraid to ask his wages.
A HANDFUL of common sense is worth a bushel of learning.
It is no use hiding from a friend what is known to an enemy.
Who undertakes many things at once seldom does anything well.
As EVERY thread of gold is valuable, so is every minute of time.
A MAN of words and not of deeds is like a garden full of weeds.
FOOTBALL was a crime in England during the reign of Henry VIII.
STOCKINGS first came into use in the eleventh century. Before then cloth handgags were wound around the feet.

PREJUDICES IN TRADE

An interesting chapter of trading history could be written upon the effect of a study of local preferences in color upon our foreign trade. We are told that the success of German traders as against English in the Russian market is largely due to the Germans catering for the Russian peasant's great fondness for red in all textile articles. Many a trader has incurred loss by attempting to supply China with green commodities; the same articles in any other color being favorably received. The most curious incident, however, in this connection, is the story of how Saxony has taken away our trade with Brazil in needles. It had been the custom to export needles to Brazil in the usual black paper wrapper. By simply substituting a pink paper the Saxon manufacturer, it is said, has secured a monopoly of that particular market.—Westminster Gazette.

SNOW-BLINDNESS IN ALASKA

In spite of the discomfort of working all day in wet clothing, the experienced Alaskan prefers the rain to the sunshine. The rays of the sun are reflected with dazzling brilliancy from the snow-covered plains and mountains and nothing can protect the eyes from snow-blindness when long exposed to the glare. The numerous contrivances of smoked glass and colored isinglass are worse than useless and are soon discarded for the Indian method of blacking the ski under the eyes and on the sides of the nose with burnt cork or wood. But this affords only a slight relief and many a poor fellow has lost his life by wandering off the trail and among the dangerous crevasses in the glaciers, during a temporary attack of blindness.—Truth.

A GERMAN FAD

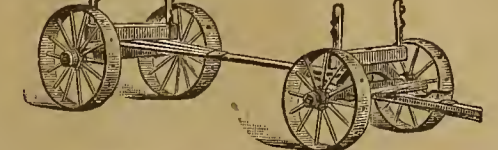
Some idea of the pictorial post-card craze in Germany is given by the figures just published by our consul at Frankfort. About 12,000 workmen are employed in producing these postal souvenirs, and it is estimated that every day about 100 new designs are published. Allowing for each card an issue of 1,000 only—and this is a modest estimate—it means a total of 100,000 a day, or something like 30,000,000 a year. Since the introduction of the souvenir card the number of post-cards dispatched in Germany has increased by 12,000,000. The latest cards are a great improvement on the earlier ones, and some bear etchings by artists of repute.

A FALLACY ABOUT CHEESE

"Cheese," said some wisacre long ago, "digests everything but itself." Never was there a greater error perpetuated by a popular proverb. It aids in the digestion of nothing, and being almost totally indigestible, simply adds another burden to an already overburdened digestive system. The feeling of comfort produced in a person of robust digestive faculties by partaking of a little—a very little—cheese is due entirely to the excitation of the flow of digestive fluid provoked by the ingestion of a completely indigestible substance.—National Druggist.

FARM WAGON ONLY \$21.95

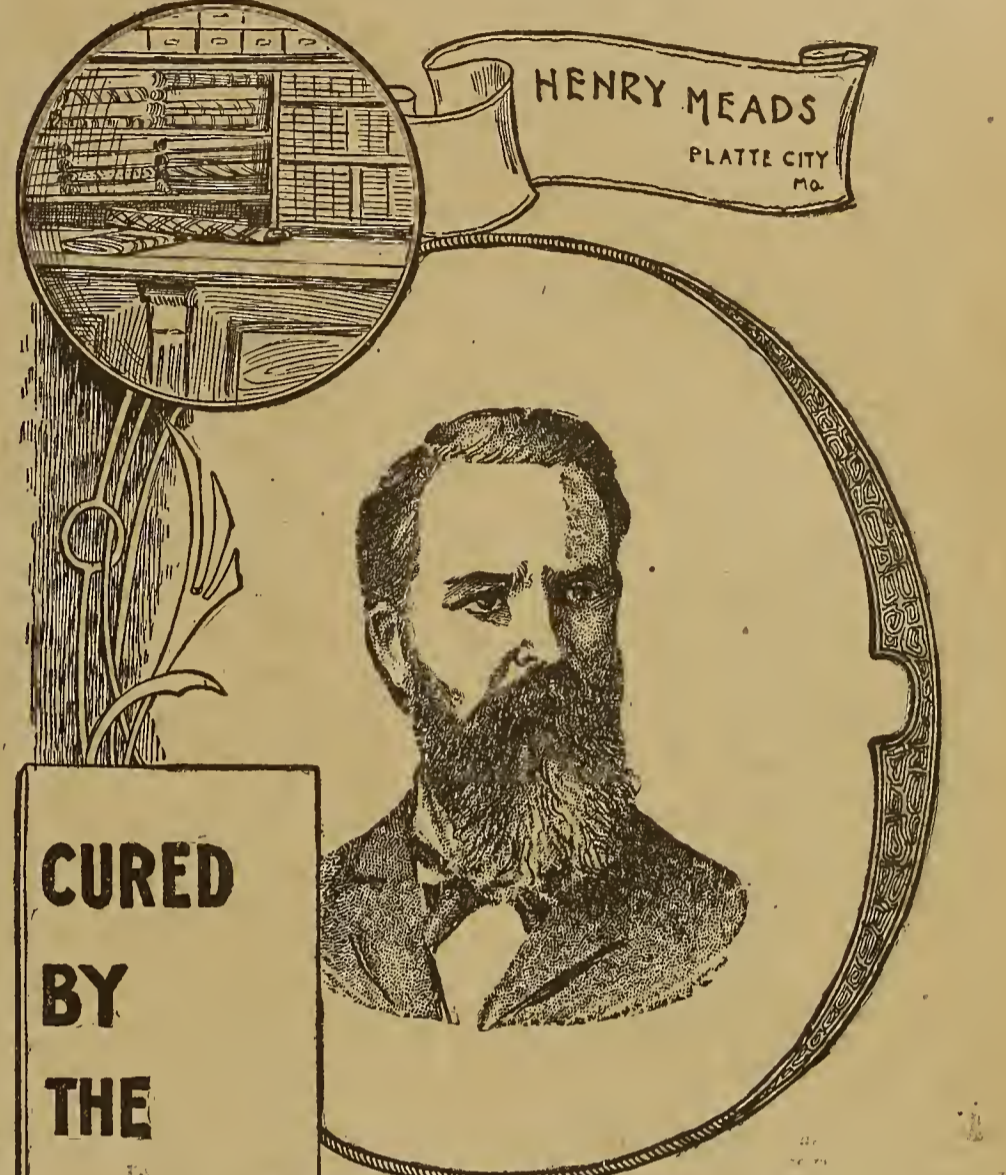
In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon that is only 25 inches high, fitted with 24 and 30 inch wheels with 4-inch tire, and sold for only \$21.95.



This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels, and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

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Weak Lungs, Consumption, Catarrh, Bronchitis and All Pulmonary Diseases



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Mr. Henry Meads, a Leading Dry-Goods Merchant of Platte City, Mo., says:

"In the fall of 1896 I contracted a severe case of nervous bronchitis, which grew rapidly worse. Three physicians treated me, but I obtained no relief. No one knows how I suffered. I would wake up between twelve and two o'clock every night, and cough so hard that I could not lie down, and was obliged to sit up till morning. For days at a time I was deprived of my voice, and I had despaired of a cure. Hearing so much about the Dr. Slocum treatment I sent for a full free course, and was decidedly better within a month. Now, after several months' treatment, I am fully cured, and shall be glad to have you refer to me at any time. Several of my friends have been cured of pulmonary troubles."

Dr. Slocum's treatment is a positive cure for consumption, weak lungs, bronchitis, catarrh, stubborn coughs and colds, throat and pulmonary troubles, asthma, tuberculosis, la grippe and its after effects, and all complications which cause wasting away.

A system that destroys the deadly bacilli and heals the mucous surfaces—a system that cures by building healthy flesh and imparting vitality to every tissue. It cannot fail, as has been proven in thousands of instances in every State.

If you are a sufferer, it is your duty to try it. If you have suffering friends, it is your duty to post them.

FREE To further demonstrate the marvelous powers of his world-famed treatment, Dr. Slocum has decided to send to all who apply the full **FREE** course treatment, consisting of four separate preparations, the same as cured Mr. Meads. Simply send your express and post-office address to Dr. T. A. Slocum, 98 Pine Street, New York, and state that you read the announcement in the FARM AND FIRESIDE.

SOMETHING FOR NOTHING ABSOLUTELY NO CONDITIONS

APRIZE
FOR EVERY CORRECT ANSWER. DON'T SEND ONE CENT. To all who can find in the accompanying Picture Puzzle Admiral Dewey's head in outline, mark it and return to us, we will send at once, without further conditions, a magnificent Tiffany Style Stick Pin, set with an exquisite imitative ruby, emerald or sapphire. Our object in making this marvelous offer is to introduce Imperishable Violet Perfume, and to those awarded a pin we send also 12 packages of perfume to sell for us, if you can, at 10 cents each. When sold return our money, and we will give you free for this service your choice of a Heavily Plated Curb Chain Bracelet, with padlock and key, or a genuine Solid Gold Shell Becher Birthday Ring. To all who answer this within three days from when first seen, we send with your ring or bracelet a Pearl Bangle Gold Finished Initial Stick Pin. This is a fair, open and honorable proposition. No double meaning or juggling of words; simply interpret our puzzle and we will send your prize at once, without money or price. Write immediately; don't put off till to-morrow what can as well be done to-day. Mention this paper.

BIRTHDAY RING **DEWEY PUZZLE**

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I CAN GIVE A FEW PERMANENT BUSINESS.... LADY AGENTS

Desiring a permanently profitable business connection should write immediately for our latest offer. We furnish new material FREE, as needed, and to special ability we accord special rates. Ladies have made \$55 in 58 hours' canvassing. This is a great opportunity. The Crowell & Kirkpatrick Co., Springfield, Ohio.

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GLEANINGS

WOMEN AS FARMERS

WOMEN who own and run their farms without any male assistance constitute thirty per cent of the farming population of Kansas and Oklahoma. Women and girls who are now engaged in farm-work in Kansas constitute fifty per cent of the farming population. This large percentage is partly caused by the absence of the Twentieth Kansas volunteers in the Philippines, all excepting a very few of whom are farmers, and who, upon going to war, left their farm-work in the hands of their wives, sisters and sweethearts. To say that these women have failed to do their duty in cultivating the crops would meet with as much merited contradiction as to charge the Twentieth Kansas with having been afraid to charge the enemy. In fact, Kansas will produce larger crops this year than any preceding season in the state's history. The wheat crop will be a little short, but that was caused by a very cold winter. Of every other cereal and farm product there will be a superabundance. To the Kansas woman, with her usual daring grit and obstinate resolve, is due these excellent crops. The labor they have performed merits all the honor and wealth these crops bring forth.

During times of peace thirty per cent of the farmers in Kansas are women, while Oklahoma comes forward with about the same percentage. At present the Oklahoma women are slightly behind their Kansas sisters in numbers, but not in the amount of work. Oklahoma women, although they have not been as long engaged on farms, are more active and can do more work and get better results. That their crops yield a larger acreage is due somewhat to the fertile soil which is also new and more productive than Kansas land. But between the women of the state and territory there is no jealousy. Each go about their own work, bent upon making a large crop with the same earnest zeal as the most steadfast German farmer. The number of women who work on farms in Kansas will reach over five thousand, while the entire number of farmers in the state aggregates seventeen thousand, exclusive of families. In Oklahoma the population is smaller, but the percentage is about equal.—Frank Leslie's Popular Monthly.

Vapo-Cresolene Cured in she slept... FOR... Whooping Cough, Croup, Asthma, Colds, Bronchitis. For twenty-one years the most successful GERMICIDE in contagious disease. Send for descriptive booklet, containing physicians' testimonials and price list. Sold by Druggists Generally. Vapo-Cresolene Co., 69 Wall St., New York, SCHIEFFELIN & CO., N. Y., U. S. Agts.

\$1000 In Gold FREE A \$950 PIANO FREE The Gentlewoman of New York City wants an agent in your town. It gives premiums of Cameras, Bicycles, Sewing Machines, Desks, Sets of Dishes, Rings, Watches, Shirt and Silk Waists, Handkerchiefs, etc.; in fact, about two hundred useful and ornamental articles and household necessities can be secured without costing one cent. A new and attractive plan of securing subscribers without the objectionable features of canvassing. \$1000.00 IN GOLD AND A \$950.00 PIANO Given Away Free In Addition to Our Regular Premiums. We send our complete outfit and easy plan for raising clubs Free, also our Mammoth Premium List. You will be surprised and delighted with the high quality and great assortment of our premiums, and in addition we are going to give away \$1000.00 in Gold and a \$950.00 Piano. Drop us a postal card to-day for full particulars; do not delay. Everything will be sent you Free. GENTLEWOMAN PUBLISHING COMPANY, Gentlewoman Building, New York City, N. Y.

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DEALERS CUT IN TWO Musical Instruments of all kinds fine toned and of beautiful construction, workmanship and finish. Shipped direct from factory at wholesale prices C. O. D. with privilege of examination. We have the best for the least money. A sweet toned Mandolin, finely finished in mahogany and maple, 9 ribs, \$1.00, dealers ask \$3.00; high grade Guitar \$2.90, worth \$6.00; Stradivarius Model Violin, case and full outfit, \$3.15 equal to any sold at \$6.50; Banjos \$1.25 and up; Graphophones \$5 and up. PIANOS and ORGANS sent on 30 days FREE TRIAL. A \$350 high grade Kenwood Piano \$155. A \$75 Organ \$32.50. Pianos as low as \$120. Organs down to \$21.75. All instruments guaranteed. Send for large illustrated Catalogue FREE. Address, CASH BUYERS UNION, 160 W. VanBuren St., B-7, Chicago.

THE COLOR OF NORTHERN FLOWERS

Blue is the highest color of the floral world, and is preferred by bees. Blue flowers are, as a rule, highly specialized both in form and color, and often possess marvelous mechanisms which aid in disseminating the pollen. This coloring is very common in the mint and pulse families, and in the North there are in the former forty-nine and in the latter sixty-one species of blue flowers. Their structure is such that few insects besides the long-tongued bees can gain access to the honey, and in some instances a single species of flower is visited by a single kind of bee, as one of the larkspurs by one of the bumblebees. While this high specialization of the flower may insure intercrossing, it is yet open to many objections, such as scarcity of proper guests, mechanical imperfections, perforation of the flower by bees, and the development of the perianth at the expense of the essential organs.—J. H. Lovell, in Appleton's Popular Science Monthly for September.

LAW POINTS WORTH KNOWING

Where the promoters of a corporation which they intend to organize contract in the name of the company they are personally bound, unless there is a negative agreement. Where an agent has been bribed to betray his principal, the latter may repudiate the transaction without showing the actual effect of the bribe or gift upon the agent. A seller suing to recover his goods for fraud must offer to return the freight charges paid by the buyer, which were, under the contract of sale, to be credited on the price. Where a principal directs his agent to sell only to a reliable purchaser, "one whom you think would pay promptly," the principal is bound by the judgment of the agent as to the reliability of the purchaser.

Farmers should read the "WESTERN TRAIL" Published quarterly by the Chicago, Rock Island & Pacific Railway. Sent free for one year. Address at once by letter or postal-card, JOHN SEBASTIAN, G. P. A., Chicago.

Keep Ayer's Cherry Pectoral in the house. It is just the friend you need in great emergencies. When you have it on the medicine shelf, you may always feel safe from the Croup. It is too dangerous a disease to be obliged to wait the coming of the doctor. When you send for him it may take an hour or two hours to reach him, and then he may not be at home. This delay may mean a life. Keep Ayer's Cherry Pectoral in the house, and just as soon as the cough is heard give a dose of it. It's equally valuable for acute colds. It will break up an ordinary cold in a single night. Our 25 cent size is just right for these cases. For harder colds and more severe troubles the larger bottles are more economical. "Go for the doctor, quick!" There isn't a disease of the throat and lungs where you can't use this old standard remedy to advantage. For bronchitis, laryngitis, hoarseness, loss of voice, asthma, pneumonia, whooping-cough, pleurisy, la grippe, and consumption there was no remedy ever made that begins to equal it in its power to heal and restore health. Time is Life There is nothing so bad for a cough as coughing. Neglected coughs make the way to consumption easy. Delay here often means the most severe disease. Don't wait until there is a hemorrhage and you are obliged to send for a doctor with all speed. Stop your cough now and prevent future trouble. "When the children have the Croup or are suffering with Bronchitis, or even struggling with Pneumonia, it may be impossible to give them a bit of medicine or procure the services of a doctor. All families should have in the house constantly some safe, prompt acting, as well as positive remedies. For this purpose I urge such families to keep on hand Ayer's Cherry Pectoral." JOSIAH G. WILLIS, M.D., Holland, Mass., Dec. 14, 1898. Three Sizes: 25c., 50c., \$1.00. All Druggists. Prepared by Dr. J. C. Ayer Co., Lowell, Mass.

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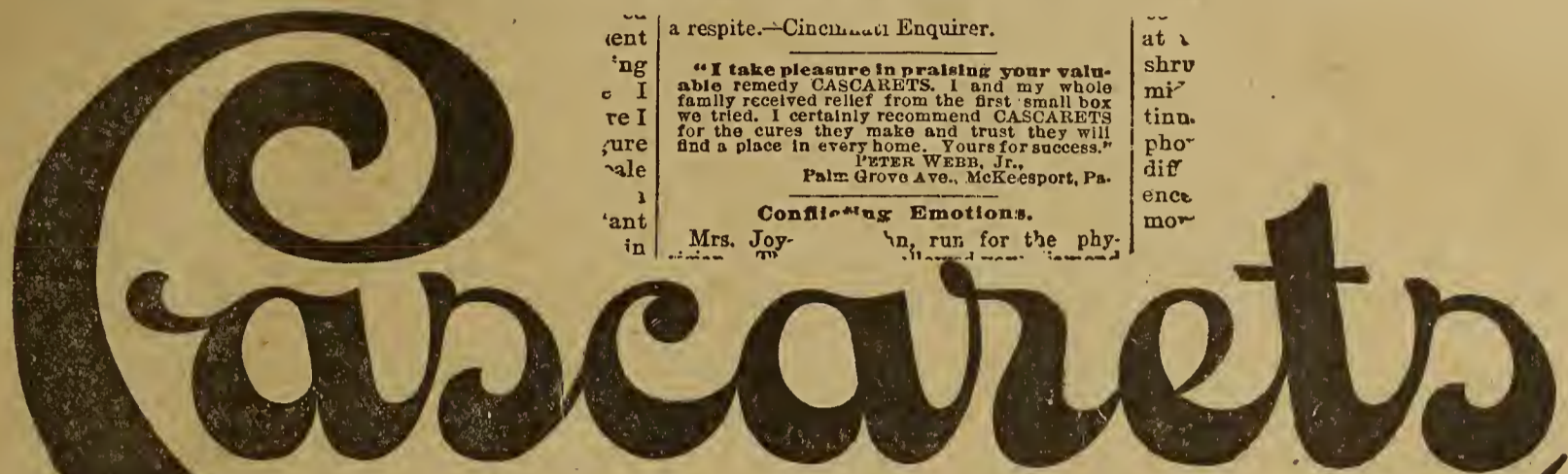
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SEND 10c. for a box of "Dewey Bluebees" Compound Powder, and get a Black Dog Mascot, free, for luck. BALES & CO., 525 Langdon Ave., Springfield, Ohio

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All ages hail with delight the coming of the most wonderful, meritorious preparation that will lighten the ills of humanity and will do away with the taking of obnoxious, violent purges, inconvenient liquids, and pills that tear your life out. Simply because in CASCARETS Candy Cathartic you will find just what you want, convenient in form, pleasant of taste (just like candy) and of never-failing remedial action. They have found a place in every well-regulated household, and are the favorite medicine of the whole family, from baby to good old grandpa.

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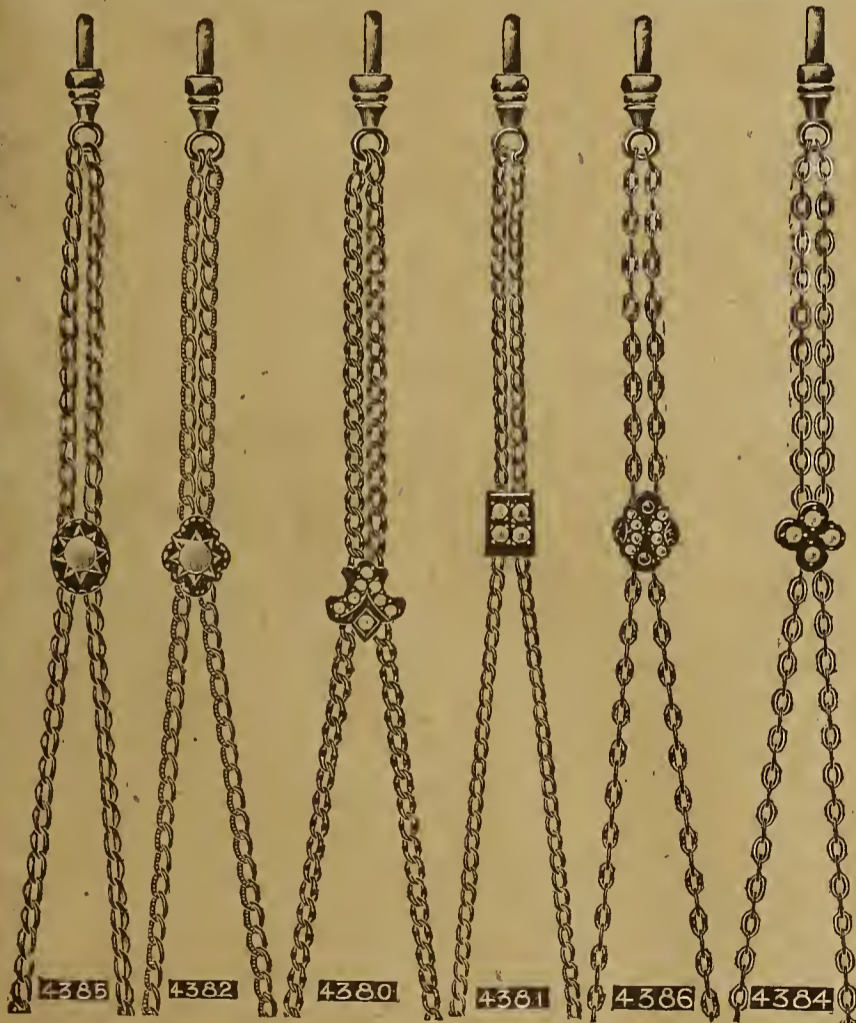
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NOTE.—Thirty-five cents is the clubbing price for yearly subscriptions to the Farm and Fireside without a premium to the subscriber. But numbers of clubs may accept any of our premium offers at the clubbing prices and their names can be counted in clubs. RENEWALS and new names, including a club-raiser's own subscription, can be counted in clubs. No reduction allowed in the clubbing price.

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Christ appeareth to Mary

St. JOHN, 21.

and to his disciples.

sitting, the one at the head, and the other at the feet, where the body of Jē-sūs had lain.

13 And they say unto her, Woman, why weepest thou? She saith unto them, Because they have taken away my Lord, and I know not where they have laid him.

A.D. 33.

them: then came Jē-sūs, the doors being shut, and stood in the midst, and said, Peace be unto you.

27 Then saith he to Thōnās, Reach hither thy finger, and behold my hands; and reach hither thy hand, and thrust it into my side: and be not faithless, but believing.

John 1.1.

Address FARM AND FIRESIDE, Springfield, Ohio



SELECTIONS

INTRODUCING VALUABLE PLANTS

THE free-seed scandal at last became so obnoxious that Congress finally provided that \$20,000 of the appropriation for 1899 might be used by Secretary Wilson to introduce and distribute rare and valuable plants from foreign countries.

FARM LABOR IS SCARCE

The wave of industrial activity and prosperity which has swept over this country of late has caused an enormous demand for labor both skilled and unskilled.

The industrial revival has brought with it a vastly better consumption of farm products. Prices for leading articles are on a basis which should return a fair profit to the producer.

PROTECTING HARNESS FROM RATS—DEHORNING CALVES

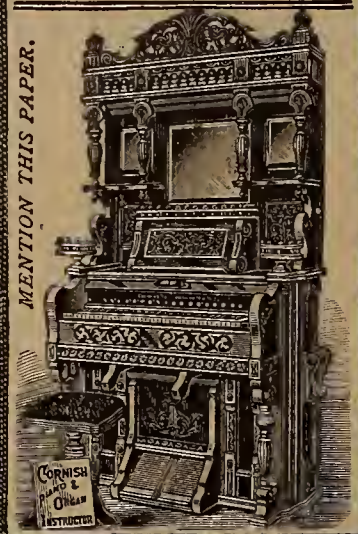
I notice some inquiries for a preventive for rats and mice from nibbling harness. I keep a lump of salt on the sill by my harness for them to nibble at.

For dehorning calves I use common washing-lye, any my wife happens to have on hand. Pour a little of the powder in a small dish, then moisten it to make a thin paste.

ONE YEAR'S FREE TRIAL

BRIGHTEN YOUR HOME WITH THE CELEBRATED CORNISH AMERICAN PIANOS & ORGANS.

A prompt response to this advertisement will secure a DISCOUNT of \$10.00 on the list prices, as quoted in our 1900 Catalogue on any CORNISH ORGAN or \$20.00 on the list prices if you buy a CORNISH PIANO.



ORGANS FROM \$25.

WE WILL ship a Cornish Piano or Cornish Organ anywhere upon the distinct understanding that if it is not satisfactory to purchaser after 12 months' use, we will take it back and refund purchase money, freight charges and six per cent. interest.

Thousands have taken advantage of this, THE ORIGINAL CORNISH PLAN, of doing business, during the time this really wonderful offer has been in force, and the immediate success of this iron clad guarantee decided us to continue it so that thousands more can participate in its object.

FOR FULL PARTICULARS of the WORLD FAMOUS CORNISH PLAN and for a complete description of the instruments made by us, see new Jubilee Catalogue for 1900, HANDSOMELY ILLUSTRATED in Colors—the most comprehensive musical catalogue in the trade.

CORNISH & CO. ESTABLISHED 50 YEARS WASHINGTON, N. J.

REFERENCES.

Our bank, your bank, any bank, or any of the multitude of patrons who have purchased millions of dollars' worth of instruments from us during the past fifty years.



PIANOS FROM \$155.

TWO OF THE GREATEST WATCHES ON EARTH

\$28 for \$12 \$1 Down



Here is a chance to make money. A solid gold watch that can be bought for \$12, sells at sight for \$28, and one for \$15 sells for \$40.



KEENE'S WATCH STORE, R140 Fulton St., New York City. Largest Handlers of Watches in America

TWO COSTLY PRESENTS; YOU GET BOTH. WE TRUST AGENTS with 12 new style, Stone Set, Enamel Scarf and Stick Pins, different patterns. Everybody wears them.

PORTER'S HUMANE BRIDLE

No Bit in the Horse's Mouth



Horsemen endorse this Bridle because it is the best for all horses. It prevents frothing, lolling of tongue, etc.

No more trouble with sore mouths. The hardest pullers driven with ease. Every lover of the horse should use it, because it is humane.

EQUIPPED WITH STRAPS TO FIT ANY BRIDLE

Enamel sent prepaid on receipt of \$2.00 Nickel " " " \$2.25

State if you use side check or overdraw.

INTERNATIONAL BRIDLE CO., Sudbury Building, BOSTON, MASS.

SILVER Soap will clean, polish and silver-plate; will also renew the silver-plating of knives, forks, spoons, bicycles, harness, etc.

SOLID SILVER CHATELAIN

This PRETTY Watch will be sent to anyone FREE for examination. It is one of the most beautiful timepieces ever offered and cannot be bought anywhere for double the money.

FREE FREE To Ladies and Girls This beautiful SOLID GOLD plated or Steel Dog Chain Bracelet, by selling 10c per pkg. Every Blueing. You can have valuable premiums: solid gold rings, cameras, tea sets, musical instruments, bicycles, etc.

For One Day's Work. GOLD plated or Steel Dog ing 12 pkg. XXX Blueing pkg. makes 50c worth of Blueing. You can have valuable premiums: solid gold rings, cameras, tea sets, musical instruments, bicycles, etc.

Any Initial Desired. 10c. This is a fine SOLID GOLD plated initial ring, enameled in black around the initial and is fully worth \$1.00.

\$2.75 BOX RAIN-COAT

A REGULAR \$5.00 WATERPROOF MACKINTOSH FOR \$2.75. Send no money Cut this ad. out state your height and weight, state number of inches around body taken over vest under coat, close up under arms, and we will send you this coat by express, C. O. D., subject to examination.

THIS MACKINTOSH is the latest 1900 style, easy-fitting, made from heavy waterproof, tan color, genuine Davis covert cloth; full length, double-breasted, Sager velvet collar, fancy plaid lining, waterproof, sewed and cemented seams and guaranteed absolutely waterproof.

Non-Territorial Expansion

means paying rent for a poor farm. Now is the time to secure a good farm on the line of the Chicago, Milwaukee & St. Paul Railway in Marinette county, Wisconsin, where the crops are of the best, work plenty, fine markets, excellent climate, pure soft water, land sold cheap and on long time.

REDUCED TO \$4.50.

To place our best \$10.00 TOLEDO BATH CABINET in every home we send it complete for \$4.50 with best alcohol stove, directions, formulas to any address upon receipt of \$4.50.

Notice to Club-raisers

Valuable premiums are given FREE for clubs of subscribers to the FARM AND FIRESIDE. Instructions "How to Get Up Clubs" will be sent free upon request.

SEE AND WONDER AUTOMATIC CREAM SEPARATOR

Simple, easy to operate & durable; saves half the labor. Butter-making simplified. More and better butter. Farmers' and Agents' Gold-mine. Price \$2.50; worth \$100. Send stamp for particulars. Agents wanted. Automatic Cream Separator Co., Quincy, Ill.

USE ONLY Schoenherr's celebrated Domestic and Family Remedies for Stomach Troubles and all Diseases. Also Hair Cosmetics, Ear Oil, Tooth Elixirs, Salves, etc. Sample Free, together with my book on "The Care of the Health," to any address. R. SCHOENHERR, SR., Chemical Laboratory, MILWAUKEE, WIS.

Illing's Standard Poultry Food

better than all Condition Powders, will promote great Fertility in Eggs and Flesh. Sold at 5 cents per pound F. O. B. Chicago. Packages 5 to 100 pounds. Cash with order. ROBERT ILLING, 3712 Washburn Ave., Chicago.

OPIUM PATENT

secured or money all returned. Exam. Free. COLLAMER & CO., 1040 F. St., Wash., D. C.

THE PICTURE=BOOK OF THE YEAR

OVER 300 MAGNIFICENT ILLUSTRATIONS

ACCOMPANIED BY FULL DESCRIPTIONS

The next best thing to making a personal visit to the Philippines, Cuba, Porto Rico and Hawaii is to have them described and fully illustrated by means of photographs. This is done in our book entitled

Photographic Panorama of Our New Possessions

The book is a marvel of scenic beauty and valuable instruction. Each page is 8 inches wide by 11 1/4 inches long, substantially bound and artistically arranged. Cuba has long been known as "The Pearl of the Antilles," Porto Rico as "The Island Garden," Hawaii as "The Paradise of the Pacific," and the Philippines as "The Eldorado of the Orient." All these are now under the protecting wing of the American eagle. It is the duty of every father to take advantage of this opportunity to supply his family with a book which by pictures and words tells all about Uncle Sam's new possessions.

Our Country's History Told in Pictures

SO THAT it is understood and enjoyed by all members of the family. These realistic pictures and important historical events are painted on the mind never to be erased. The reading matter in the book gives a brief and interesting history of the islands, and descriptions of the pictures, with valuable information on the

CLIMATE,
POPULATION,
PRODUCTS,
COMMERCE
and
RESOURCES



Hours of Pleasure and Profit...

THE picture on this page is taken from our new book, and will give an idea of the delightful pleasure which can be had by visiting these scenes through the eye of the camera. The pictures are fully

DESCRIBED and EXPLAINED

and much useful information is given concerning the countries. In the book the illustrations are very much clearer and plainer than can be shown on this page, as they are printed on more costly paper, highly polished.

It is easy as play to get up clubs of subscribers to the Farm and Fireside and this book at 50 cents. We give valuable premiums free as rewards for getting up clubs. Send for our Premium Catalogue. Order by Premium No. 43....

Farm and Fireside One Year and This Grand Book Only... 50 Cents

(When this offer is accepted the name may be counted in a club)

Carve Your Thanksgiving Dinner with a SUPERIOR STAG-HORN HANDLE STERLING-SILVER MOUNTED... CARVING SET

Order by premium number



Postage or expressage paid by us

THE SET is the product of the celebrated Etna works, the leading American manufacturers of table cutlery, and is fully guaranteed by them. THE KNIFE is made of the very best double shear-steel produced by the old Sheffield house of Wm. Jessop & Sons, which for more than a century has held the leading place as manufacturers of cutlery steel. The steel is made from the highest-class Swedish bar that can be procured. All combined this assures the very best cutting blade it is possible to make.

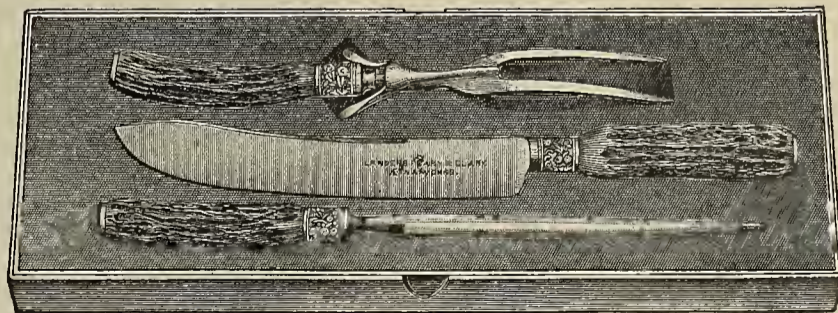
THE FORK is also made of the highest-class steel, and has a guard to protect the hand from accident while carving.

THE SHARPENING-STEEL is the celebrated Lee steel, long recognized as the very best steel produced in the world. It is a round steel, will put a smooth, keen edge on the knife and not wear smooth.

THE HANDLES are made of Genuine Stag Horn, not of celluloid or other composition.

THE FERRULES are Genuine Sterling Silver. German silver or silver-plate would cost less, but would also be worth less. We know that sterling silver will wear and will render satisfaction. The whole set is packed in a silk-lined, dome-topped box. Nothing is more fitting for a present than a first-class Carving Set.

At the Thanksgiving and Christmas seasons a carving set is an absolute necessity. Such a set sells at retail for \$5.00, but we have placed a large order for these sets, and to get subscriptions and clubs we will furnish them at genuine bargain rates, and without profit to ourselves.



Premium No. 682

Premium Offer

Given as a Premium for only TWENTY-FOUR Yearly Subscriptions to the Farm and Fireside; or for TWENTY Yearly Subscriptions and \$1.25 Cash; or for TEN Yearly Subscriptions and \$2.25 Cash.

We will send this Carving Set, and the Farm and Fireside one year, for \$3.50

(When this offer is accepted the name may be counted in a club)

NOTE THIRTY-FIVE CENTS is the clubbing price for yearly subscriptions to the Farm and Fireside without a premium to the subscriber. But members of clubs may accept any of our premium offers at the clubbing prices and their names can be counted in clubs. RENEWALS and new names, including a club-raiser's own subscription, can be counted in clubs. No reduction will be allowed in the clubbing prices.

Address FARM AND FIRESIDE, Springfield, Ohio

NOW READY

GIVEN FREE

The Career and Triumphs of ADMIRAL DEWEY

A MAGNIFICENTLY ILLUSTRATED BIOGRAPHY
OF AMERICA'S GREAT ADMIRAL

This new book gives a full and authentic account of the thrilling career of the hero of Manila, including his ancestry, boyhood and education, his distinguished service during the Civil War, his services in organizing and equipping the new navy, and his glorious victory in Manila bay. No book of biography ever issued has been so finely illustrated; the result is the **THRILLING STORY TOLD IN PICTURES.**



Rescue of the princess from an alligator

140 RARE AND EXCLUSIVE ILLUSTRATIONS

In the book the illustrations are much finer than the ones shown here, because printed on smoother paper, with much slower presses.

Many of these illustrations are historic pictures, some are special drawings, and by far the greater part are from actual photographs. There are nearly

300 LARGE PAGES

6 BY 8 INCHES IN SIZE

containing 140 illustrations and substantially bound in artistically decorated cover. Because we print the book ourselves and make no profit on it at all—we want the subscriptions and clubs—is why we can offer it at such a great bargain.



Cadet Quarters, Naval Academy, Annapolis, Maryland

The book in its completeness and accuracy of description and copiousness of illustration is fully equal to any similar work which sells for \$1.50 and upward. The full history of Admiral Dewey's wonderful and interesting career from

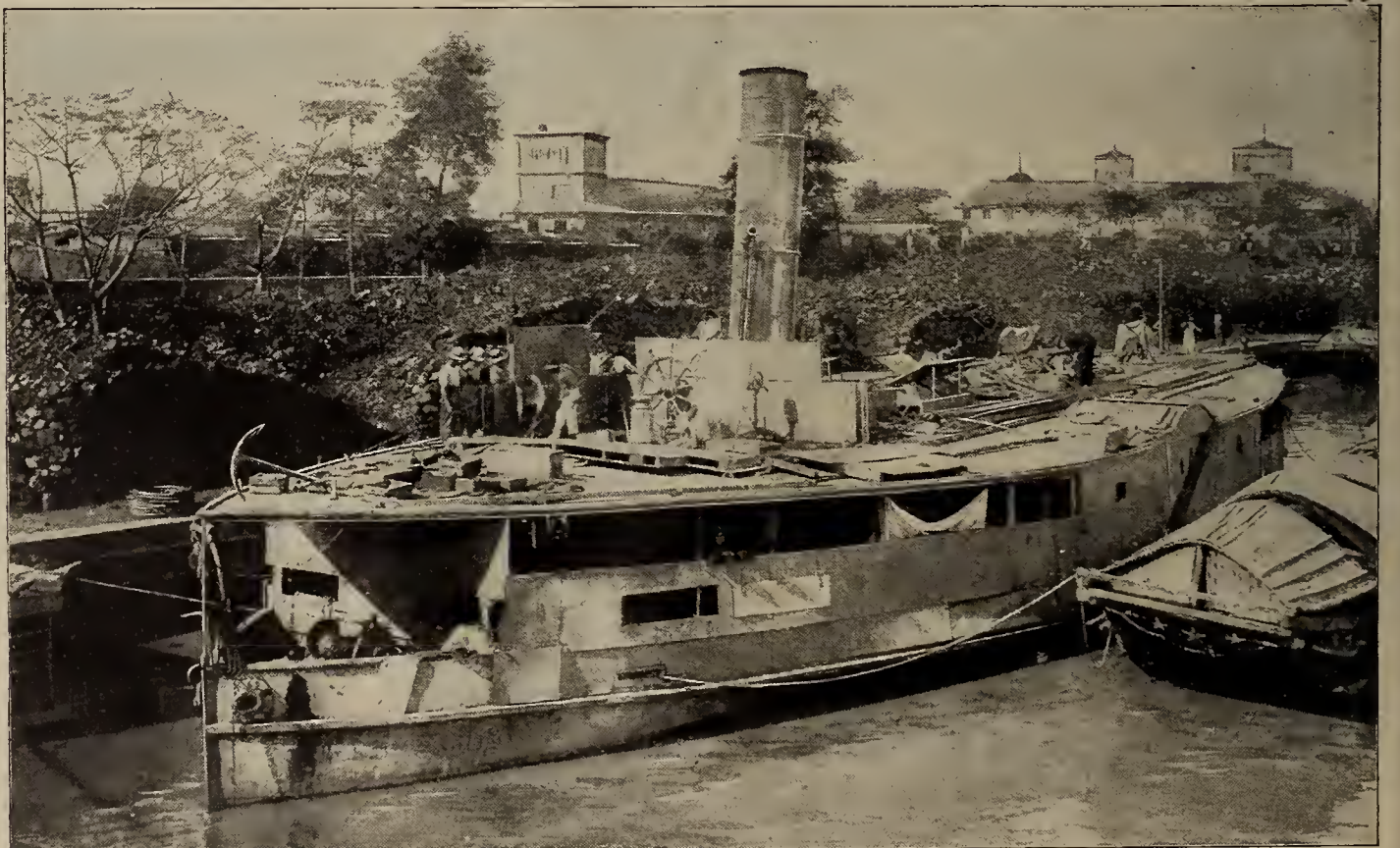
MONTPELIER TO MANILA

is traced in detail. The work abounds in incidents and anecdotes and is full of lively interest to every loyal American.

This Life of Dewey, and Farm and Fireside One Year, only.. **50 Cents**

(When this offer is accepted the name may be counted in a club)

We offer this book **FREE** for a club of **TWO** yearly subscribers to the *Farm and Fireside*.



One of the "tinclads" which shelled Pasig, Santa Cruz and other towns. Commanded by Major Grant

NOTE THIRTY-FIVE CENTS is the clubbing price for yearly subscriptions to the *Farm and Fireside* without a premium to the subscriber. But members of clubs may accept any of our premium offers at the clubbing prices and their names can be counted in clubs. **RENEWALS** and new names, including a club-raiser's own subscription, can be counted in clubs. No reduction will be allowed in the clubbing prices.

Postage paid by us

Address **FARM AND FIRESIDE**, Springfield, Ohio

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2 Magnificent Masterpieces of Art

And the Farm and Fireside One Year, for 50 Cents

Also any THREE of the Twelve Pictures listed below given as a reward for sending TWO yearly subscriptions. The subscriptions may be new or renewals.

STYLE These pictures are reproduced in the very LATEST style. They are not cheap chromos or attempts at color reproduction, which usually bear no resemblance to the originals. In an artistic way every line and shadow of the originals is preserved in the pictures here presented.

SIZE These pictures, including the margins, are 20 by 25 inches in size, five hundred square inches, or about FOUR TIMES the size of this printed page. Without the margins they are about 16 by 20 inches, varying according to the subject.

The paper on which the pictures are produced is the very finest picture-paper, good and heavy, and suitable for framing. The illustrations on this page can convey no adequate idea of the size, beauty and elegance of the pictures.

The clubbing rate of the Farm and Fireside without a premium is THIRTY-FIVE cents, but as a SPECIAL METHOD of introducing these magnificent pictures we will give any ONE of these pictures FREE to every one who sends THIRTY-FIVE cents for one year's subscription to the Farm and Fireside, provided the picture is selected when the subscription is sent in.

35 Cents

(When this offer is accepted no commission will be allowed and the name will not count in a club)



Premium No. 789 Defiance [Size 20 by 25 inches]



Premium No. 790 Kiss Me [Size 20 by 25 inches]

**Choose
Three
From
This List..**

- | | | |
|-----------------------------|----------|-----------------|
| "THE IMMACULATE CONCEPTION" | Murillo | Premium No. 784 |
| "PHARAOH'S HORSES" | Herring | Premium No. 785 |
| "QUEEN OF FLOWERS" | Lester | Premium No. 786 |
| "AFTER WORK" | Holmes | Premium No. 787 |
| "CHRIST BEFORE PILATE" | Munkacsy | Premium No. 788 |
| "DEFIANCE," or STAG AT BAY | Landseer | Premium No. 789 |
| "KISS ME" (CHILD AND DOGS) | Holmes | Premium No. 790 |
| "THE LITTLE SHEPHERDESS" | Koller | Premium No. 791 |
| "PORTRAIT OF WASHINGTON" | Stuart | Premium No. 792 |
| "THE FINDING OF MOSES" | Schopin | Premium No. 793 |
| "CAN'T YOU TALK" | Holmes | Premium No. 794 |
| "WATERFALL BY MOONLIGHT" | Rieger | Premium No. 795 |

VALUE Art-stores are now selling engravings of these famous paintings at from \$2.50 to \$10.00 each. Many competent judges, having made a careful comparison, pronounce our reproductions superior to and more desirable than these expensive engravings.

Farm and Fireside One Year and Any Two of the Twelve Pictures for Only 50 Cents

(When the above offer is accepted the club-raiser may have either the regular cash commission or the name may be counted in a club)

Three Pictures Free Any THREE of the Twelve Pictures Given as a Premium for TWO Yearly Subscriptions to the Farm and Fireside.....

The pictures will be sent by mail, securely packed and postage paid. Entire satisfaction guaranteed. A beautiful twelve-page circular giving illustrations and descriptions of the twelve pictures sent FREE on request. Write to-day.

Address **FARM AND FIRESIDE, Springfield, Ohio**

BARGAINS IN SILVERWARE

THIS SILVER-PLATED WARE can be used in cooking, eating and medicines the same as solid silver. Because we buy our silverware direct from the factory in enormous quantities (nearly 200,000 pieces last season), and give it without profit in order to get subscriptions and clubs, is the reason why we can afford to offer such bargains. This ware will not, cannot turn brassy, corrode or rust. In beauty and finish it is perfect. The durability of silverware depends largely upon the polish used. Ariston Silver Polish is a perfect polish. A quart package for 25 cents.

Pure Coin-silver Plating

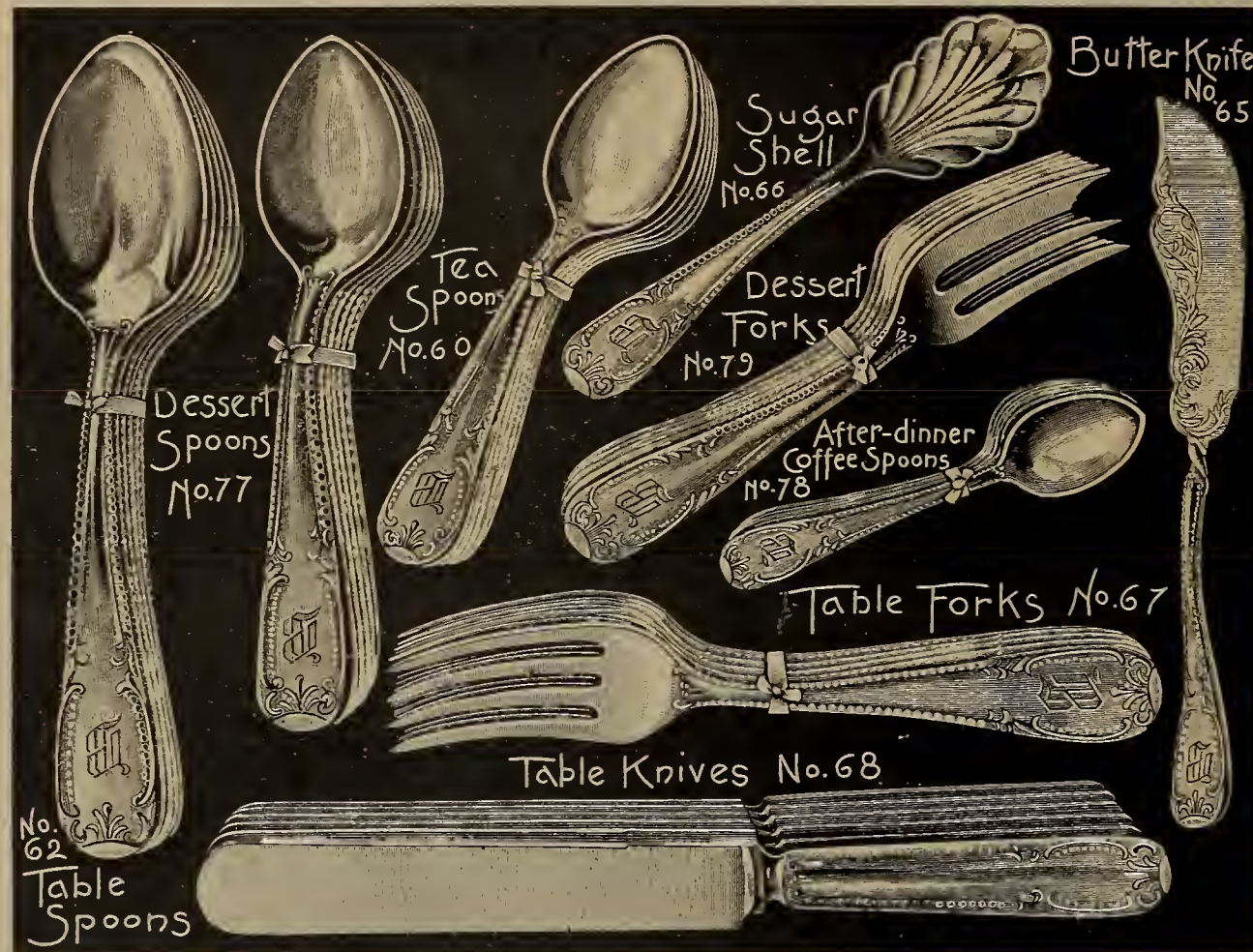
The base of this ware is solid nickel-silver metal, which is the best white metal known for the base of silver-plated ware, because it is so hard and so white that it will never change color and will wear a lifetime. The base of all this ware is plated with the full **standard** amount of pure coin-silver.

The base of the table-knives is fine steel highly polished. They are first plated with nickel-silver, which is as hard as steel, then plated with twelve pennyweights of pure coin-silver. There are no better silver-plated knives on the market. All of this tableware is full regulation size.

Will Stand Any Test

To test this silverware use acids or a file. If not found to be plated with the full **standard** amount of pure coin-silver and the best solid white metal, and exactly as described in every other particular, we will refund your money and make you a present of the subscription. If returned to us we will replace, free of charge, any piece of ware damaged in making the test.

We are unable to adequately describe the beauty and durability of these goods; you must test them for yourself. Every piece (except the knives) is built on 25 per cent nickel base and is bound to give perfect satisfaction.



GIVEN FOR SUBSCRIBERS

For a Club of 50 Yearly Subscriptions to the Farm and Fireside we will send the complete set of silverware, 50 pieces in all.

For Ten Dollars we will send each and every set and piece of silver-plated ware named on this page, 50 pieces in all, and TWELVE Yearly Subscription Certificates to the Farm and Fireside.

Each Subscription Certificate, when it is returned to us, will be good for one year's subscription to the Farm and Fireside to any address.

In the above cases the complete set of silverware must be ordered at one time and to one address. This offer is not good to subscribers living outside of the United States. A package of Ariston Silver Polish given with each complete set.

TENNESSEE.

THE CROWELL & KIRKPATRICK CO.,

Gentlemen:—Your premiums are very nice. I have a set of teaspoons which I received from you as a premium about three years ago. They have proven satisfactory in every respect. Very respectfully,

SUE BUCHANAN.

INITIAL LETTER Each piece of this ware (except the knives) engraved free of charge with an initial letter in Old English. Only one letter on a piece.

GUARANTEE We absolutely guarantee each and every piece of this ware to be exactly as it is described and to give full and entire satisfaction or money refunded.

Ariston Silver Polish

Is absolutely chemically pure—free from mercury, acid, ammonia, grit, or other injurious substance. It is the only material which cleans and polishes silverware perfectly at the same time. A child can use it. Comes in quart packages—enough to last the average family for several years. Never loses its strength. Try it, and if you don't think it the best and cheapest polish you ever used or can buy anywhere else we will refund your money and let you keep the polish. A quart package of Ariston Silver Polish will be sent to any address for 25 cents, or will be given free to club-raisers for sending TWO extra names in a club.

PREMIUM OFFERS

We will send the Farm and Fireside one year and the Silverware at these prices:

- The Farm and Fireside 1 year and a Set of 6 Teaspoons for \$.75
- The Farm and Fireside 1 year and a Set of 6 Forks for 1.25
- The Farm and Fireside 1 year and a Set of 6 Tablespoons for 1.25
- The Farm and Fireside 1 year and a Set of 6 Knives for 1.75
- The Farm and Fireside 1 year and a Set of 6 Coffee-spoons for75
- The Farm and Fireside 1 year and a Set of 6 Dessert-spoons for 1.00
- The Farm and Fireside 1 year and a Set of 6 Dessert-forks for 1.00
- The Farm and Fireside 1 year and Berry-spoon for65
- The Farm and Fireside 1 year and Pie-knife for65
- The Farm and Fireside 1 year and Gravy-ladle for65
- The Farm and Fireside 1 year and Child's Set (Knife, Fork and Spoon) for60
- The Farm and Fireside 1 year and Butter-knife and Sugar-shell (both) for .60

(When any one of the above offers is accepted the club-raiser may have either the regular cash commission or the name may be counted in a club.)

SILVERWARE FREE

For Clubs of Subscribers to the Farm and Fireside

- Set of 6 Teaspoons given free for a club of four subscribers
- Set of 6 Forks given free for a club of six subscribers
- Set of 6 Tablespoons given free for a club of six subscribers
- Set of 6 Knives given free for a club of twelve subscribers
- Set of 6 After-dinner Coffee-spoons given free for a club of four subscribers
- Set of 6 Dessert-spoons given free for a club of six subscribers
- Set of 6 Dessert-forks given free for a club of six subscribers
- One Berry-spoon given free for a club of four subscribers
- One Pie-knife given free for a club of four subscribers
- One Gravy-ladle given free for a club of four subscribers
- One Child's Set (Knife, Fork and Spoon) given free for a club of four subscribers
- Sugar-shell and Butter-knife (both) given free for a club of four subscribers

(The following note gives instructions how to take subscriptions in clubs.)

NOTE.—Thirty-five cents is the clubbing price for yearly subscriptions to the Farm and Fireside without a premium to the subscriber. But members of clubs may accept any of our premium offers at the advertised prices and their names can be counted in clubs. RENEWALS and new names, including a club-raiser's own subscription, can be counted in clubs. No reduction allowed in the clubbing prices.

Postage or expressage paid by us in each case

Address FARM AND FIRESIDE, Springfield, Ohio

THE FARM AND FIRESIDE

"Yet in that bulb, those sapless scales,
The lily wraps her silver vest,
Till vernal suns and vernal gales
Shall kiss once more her fragrant breast."

BERMUDA RURAL LIFE

BY M. G. KAINS



AGES ago a volcanic mountain arose in the Atlantic ocean about seven hundred miles east of South Carolina, and upon its summit the coral animal found a congenial home, where through all the centuries that have elapsed since then it has continued to build the reefs which are now known as Bermuda—the most northerly islands of coral formation in the world.

After a particularly rough passage of two days from New York the cedar-covered hills of the islands, dotted with white stone houses, are seen rising above the sea to a height of about three hundred feet. But from the time these are first sighted until the steamer is safe at the wharf four hours intervene, during which a pilot, with nerves of steel, guides the vessel among sunken rocks and between little islands, which in one place are so close together that an active man could almost jump ashore from either side of the boat. There are about three hundred islands, occupying a space of less than twenty miles by four, and are greatly cut up by bays and channels.

Everybody on the islands turns out to see the ship come in. The colored people, who form about sixty per cent of the population, are there in full force decked in white or the gorgeous greens and yellows so dear to the African heart; the whites, clothed in softer tints, are seen waving to acquaintances on board; an occasional Portuguese, in somber working garb, lends a listless interest, while here and there the British soldier, scarlet coat, white helmet and all, stands "at ease," the human exclamation-point, supremacy!

We soon discover that we are in a strange land, though the language is our own. There are no tall buildings, the tallest being only three stories. Many of the inhabitants have never been out of sight of the islands, and of course have never seen a street-car, a horseless carriage, a railroad, a threshing-machine, a dairy, a cheese-factory, a five-acre field, or a hundred other things of our every-day life. The largest farm is less than sixty acres, the largest field less than four. The smallest field I saw I could jump over in any direction without difficulty. Land is so scarce that every square foot possible is planted to something. As a result the islands are dotted with little plantations smaller than a back-yard garden in one of our cities.

Very few cattle and sheep are kept; goats take their places because of the scant pasture and the high price of hay, which all comes from the mainland, which likewise furnishes the milk, condensed. For the same reason the meat is nearly all imported. And this is true of grains and mill-stuffs. Wheat, oats, rye and barley do not produce well, and are never grown because land is too valuable. Rent is \$50 or more a year an acre. Unless a man can get \$500 an acre a year for his crops he thinks that farming does not pay.

But these are not the only things that indicate a foreign land. The houses, roofs and all, are of stone sawed from quarries in every parish of the islands, often costing little more than the expense of cutting the blocks and of putting them up. In fact, it is no uncommon thing for a man to saw out a cellar, burn the broken pieces of stone for lime, which, mixed with the sand removed in excavating, is used to cement the perfect blocks in erecting the walls and roof. The only materials used in the construction of such houses that do not come out of the cellar-hole are the wood, glass and iron-work and the tools used in building. Almost as cheap as the mud hut of a Western ranch! More durable, however.

In close connection with the house is the rain-water tank, into which all the water that can be collected is emptied. In many places, particularly upon the larger farms, the roofs of the buildings are too small to insure an adequate supply of water for all purposes, and so places are made smooth upon the hillsides, shingled with stone, and cemented. These are called sheds, and they collect a large quantity of water in immense tanks at the base of the hill. Although Bermuda has a boundless horizon of water, yet water is the one thing she needs most. The soil is so porous that within an hour or two even the puddles and pools formed by a heavy rain have passed down into the soil, and it is possible to walk in these places without soiling the shoes. There are no springs, brooks, rivers or fresh-water lakes. All water not collected from the clouds is salt or brackish, hence the necessity for collecting every possible drop of rain.

It will at once suggest itself that this water will have the disagreeable smell and taste of our cistern-water. But this is not the case, probably because it obtains more or less lime from the roofs that catch it and from the tanks in which it is stored. It is perhaps needless to say also that these stone tanks are kept far cleaner than our wooden cisterns usually are or can be. They are scoured and whitewashed at least once a year.

Next to the cistern perhaps the most notable requisite of the smaller farms, at least, is the Bermudian canary. This little creature may be heard warbling at all hours of the day and night, and provoking his auditors, particularly at daybreak, to utter profane remarks. I have heard many donkeys bray,

even the southernmost of our states. On account of its close proximity to the Gulf stream, the eastern edge of which passes close to the islands, Bermuda possesses a remarkable climate, mild and equable, even for the latitude. The thermometer seldom ranges below fifty degrees in winter or above eighty-five in summer. Frost is unknown. Under these conditions I find the people cultivating all kinds of crops common to the

With onions and lilies and all other crops the methods are as primitive—all hand.

The Bermudian does not, however, let his land lie idle, as many of our farmers do. No; he works it for all there is in it, and more, too. As soon as his potatoes are three fourths grown—three or four weeks from harvest—he plants another crop of potatoes between the rows, and these are well up when the first crop is dug. Three crops are thus obtained between mid-December and Easter, the first being planted in October. When the last of these is harvested there is a crop of something else well under way. And so on year in and year out. Soil robbery systematized!

Rotation, green manuring, soiling, mulching, surface tillage to conserve moisture and to kill weeds, housing of manures, and the other methods common with our progressive farmers are to the Bermudians scarcely more than names.

There were at one time magnificent peaches, oranges, lemons and other fruits growing in great profusion upon the islands. Carelessness and apathy have destroyed them. A fly stung the peaches, and the peach is almost never seen; the scale fastened upon the orange,

the lemon and other fruits of this class, and there are scarcely more than a score of these fruit-bearing trees. At one time the banana was exported; it is now imported, though some bananas are still grown. Under ordinary culture the banana should yield at the prices paid the grower in Bermuda \$250 to \$300 an acre clear, with the expenditure of scarcely any effort in cultivation. Many tropical fruits which are but a name in our Northern markets, some of which cannot be safely transported by rail, are grown to perfection in private gardens, yet no one thinks of establishing an export trade. Thrips are ruining the onion crop; mites, diseases and bad methods of culture are destroying the lily. The islands are an entomologist's Elysium and a plant pathologist's Paradise!

But to look upon the brighter side once more! The few progressive farmers are awake to the needs of their fields, and are eagerly testing the practices recommended by Mr. G. A. Bishop, superintendent of the Botanic Gardens, a well-trained, practical man, and are already obtaining better crops. Mr. Bishop is trying to introduce new crops to be grown for the New York market, and is meeting with some encouragement. But the work will be slow. The Bermudian is too hearty, too affable, too easy-going to take up new things quickly. He is perfectly willing to chat by the hour upon these or any other subjects, and readily forgets what an American would consider to his interest.

But there are very pleasing traits in the Bermudian character. Though anxious to get the top price for his produce, the Bermudian is glad to know that his neighbor has met with like good fortune. His house is a home embowered in vines and flowers tended by the housewife and mother, and is open to friends and visitors in the most hospitable fashion. If he is not wealthy, he is, what is better, content. Since he attends to the needs of his parents there is no need of a poorhouse—another thing only a name in the colony. Above all, there is a strong religious feeling there that draws him to the Throne of Grace to worship the Great Creator who has placed him in a land of flowers and of plenty.

"And the stately lilies stand
Fair in the silvery light,
Like saintly vestals, pale in prayer;
Their pure breath sanctifies the air
As its fragrance fills the night."

"The citron-tree or spicy grove for me would never yield
A perfume half so grateful as the lilies of the field."



THE CACTUS ON WHICH THE COCHINEAL INSECT LIVES

latitude, and many that on the mainland thrive only in the tropics.

But the average Bermudian takes things as they come. He is indolent. He practises the methods of his father and his grandfather; these are good enough. He contents himself with poor crops; to exist is sufficient. He talks politics on "Front street"—more politics to the square inch in Bermuda than to the square foot in Tammany; he enjoys the flowing bowl as much as other men. He is quick to appreciate the value of new tools, new methods and ideas, slow to put them to use; ready at all times to point out the flaws in another man's practice or plans, sturdy to defend his own. He can't help his nature. The climate is responsible. Livelihood is so easily obtained that there is no incentive to work as our farmers often do. From what I saw I do not like to call him lazy, as most visitors do. He does a great deal of work—hard, back-breaking work; work that an American farmer would never think of doing; work that an American farmer would make his horse do with some kind of tool or other. No, the Bermudian is not lazy, only indolent, too fond of traditional prosperity and the methods by which it was secured. But let me specify.

The three great crops are potatoes, onions and lily-bulbs. Let me exemplify with the potato. In preparing the land a plow with a reversible mold-board is run over rather than through the soil, turning a furrow-slice seldom more than three inches deep. To do this only one horse is used. He is led. A second man guides the plow, and two or more men smooth the furrow-slice with potato-diggers and hand-rakes (harrows are rarities). In one field there were five of these men raking (one does not show in the illustration), and they rested at least two thirds of the time. The two at the plow also took frequent rests. Seven men at \$1.50 a day! How much an acre? When all is smooth a line is made across the field and a shallow trench dug with a spade for the tubers, which are cut in half, carefully placed cut side downward and covered by hand. When the plants are a few inches tall the soil is hoed up to them once or twice and the larger weeds removed by hand. At harvest the crop is dug with forks or hand potato-diggers, sorted by hand, barreled and shipped to New York, where the price may be \$6 to \$10 a barrel. It is possible to get fifteen to twenty barrels of first-grade potatoes from one of seed, but the general run is less than ten from one. Nothing but the usually high prices which they are able to procure for their produce keeps the growers from running behind.



PLANTING POTATOES

but none to compare in volume and power with the Bermudian jackasses. The little beasts are very largely employed for the lighter work, such as drawing produce to the wharves and of taking their masters from place to place. They are, however, as obstinate as their continental brethren, and will often take longer to reach a destination than their masters could without their aid.

If we have made our trip in the winter we have changed to our summer clothes the day after leaving New York, and are now past the cold waves that occasionally vex

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IN THE eighteenth annual report of the Tuskegee Normal and Industrial Institute—an institution doing more than any other in the country for the solution of the negro question—Principal Booker T. Washington says:

"One of the main problems as regards the education of the negro is how to have him use his education to the best advantage after he has secured it. In saying this I do not want to be understood as saying that the problem of simple ignorance among the masses has been settled in the South, for this is far from true; the amount of ignorance still prevailing among the negroes, especially in the rural districts, is very large and serious.

"In his present condition it is important that in seeking after what he terms the ideal that he does not neglect to prepare himself to take advantage of the opportunities that are right about his door. If he lets these opportunities slip I fear they will never be his again. In saying this I mean always that the negro should have the most thorough mental and religious training, for without it no race can succeed. Because of his past history and environment and present condition it is important that he be carefully guided for years to come in the proper use of his education. Much valuable time has been lost and spent in vain, because too many have not been educated with the idea of fitting them to do well things that they could get to do. Because of the lack of proper direction of the negro's education some good friends of his, North and South, have not taken that interest in it that they otherwise would have taken. In too many cases where mere literary education alone has been given the negro youth it has resulted in an exaggerated estimate of his importance in the world, and an increase of wants which his education has not fitted him to supply.

"But in discussing this subject one is often met with the question, Should not the negro

be encouraged to prepare himself for any station in life that any other race fills? I would say, yes; but the surest way for the negro to reach the highest positions is to fill well at the present time what is termed by the world the more humble positions. This will give him a foundation upon which to stand while securing what is called the more exalted positions. The negro has the right to study law, but in the end we shall succeed sooner in producing a number of successful lawyers by preparing first a large number of intelligent, thrifty farmers, mechanics and housekeepers to support the lawyers. The want of proper direction of the use of the negro's education results in tempting too many to live mainly by their wits, without producing anything that is of real value to the world, or to live merely by politics. The negro has the right to enter politics, but I believe that his surest road to political preferment that will mean anything is to make himself of such supreme service to the community in which he lives that political honors will in time be conferred upon him.

"Almost from the beginning this institution has kept in mind the giving of thorough mental and religious training, and at the same time along with it such industrial training as would enable the student to appreciate the dignity of labor and become self-supporting and valuable as a producing factor, keeping in mind the occupations open in the South for employment. This institution has now reached the point where it can begin to judge of the value of its work as seen in its graduates.

"Three hundred and fifty-three students have finished the course of training at this institution, and are now scattered throughout the South, doing good work. A recent investigation shows that about three thousand students, who have taken only a partial course here, are doing commendable work. . . . Wherever our graduates and ex-students go they teach, by precept and example, the wider lesson of thrift, economy and property-getting, and friendship between the races."

THE preliminary report of the Philippine Commission, composed of President J. G. Schurman, Admiral Dewey, Professor Dean C. Worcester, Colonel Charles Denby and Major-General Elwell S. Otis, is the most important document yet published on the Philippine question. After the submission of the report to the President, Admiral Dewey said to a representative of the New York "Herald":

"I wish you would say this for me, that I indorse every word of the commission's admirable report. I can say this with perfect propriety for the reason that I did not write it. It was written by the literary members of the commission after full and free conference between us, but on every conclusion reached we were unanimous. It is an absolutely truthful representation of all that has happened and of the existing situation.

"There has never been a moment since the first gun was fired that the United States could have withdrawn from the islands, and the reasons set forth in the report as to why permanent American control is essential are, in my opinion, unimpeachable. There is no other alternative. That the Tagals are realizing it is shown by the rapid disintegration from Aguinaldo's ranks."

A few of the salient points of the report are presented in the following abstract. In a memorandum submitted to the commission Admiral Dewey says:

"Upon the arrival of the squadron at Manila it was found that there was no insurrection to speak of, and it was accordingly decided to allow Aguinaldo to come to Cavite on board the McCulloch. He arrived with thirteen of his staff on May 19th, and immediately came on board the Olympia to call on the commander-in-chief, after which he was allowed to land at Cavite and organize an army.

"This was done with the purpose of strengthening the United States forces and weakening those of the enemy. No alliance of any kind was entered into with Aguinaldo, nor was any promise of independence made to him, then or at any other time."

After rapidly sketching events up to the time of the arrival of General Anderson, when Aguinaldo, at his request, removed from Cavite to Bacoor, the commission says:

"Now for the first time arose the idea of national independence. Aguinaldo issued a

proclamation in which he took the responsibility of promising it to his people on behalf of the American government, although he admitted freely in private conversation with members of his cabinet that neither Admiral Dewey nor any other American had made him any such promise."

The report states that Aguinaldo wished to attack the Americans when they landed at Paranaque, but was deterred by lack of arms and ammunition, and that from that time on there was a growing friction between the Filipinos and the Americans.

"There were no conferences," says the report, "between the officers of the Filipinos and our officers with a view to operating against the Spaniards, nor was there co-operation of any kind. . . . There never was any preconcerted operation or any combined movement by the United States and Filipinos against the Spaniards."

After carrying the story up to the time of the outbreak on February 4, 1899, the report says:

"After the landing of our troops Aguinaldo made up his mind that it would be necessary to fight the Americans, and after the making of the treaty of peace at Paris this determination was strengthened. He did not openly declare that he intended to fight the Americans, but he incited everybody, and especially the military men, by claiming independence, and it is doubtful whether he had the power to check or control the army at the time hostilities broke out.

"Deplorable as war is, the one in which we are now engaged was unavoidable by us. We were attacked by a bold, venturesome and enthusiastic army. No alternative was left us except ignominious retreat. It is not to be conceived of that any American would have sanctioned the surrender of Manila to the insurgents. Our obligations to other nations, to the friendly Filipinos and to ourselves and our flag demanded that force should be met by force.

"Whatever the future of the Philippines may be, there is no course open to us now except the prosecution of the war until the insurgents are reduced to submission. The commission is of the opinion that there has been no time since the destruction of the Spanish squadron by Admiral Dewey when it was possible to withdraw our forces from the islands either with honor to ourselves or with safety to the inhabitants."

The report sets forth the efforts at conciliation with Aguinaldo. The various commissions sent by him were assured of the beneficent purposes of the United States, and that there would be granted to the Filipino people as large a measure of home rule and as ample liberty as consistent with the ends of government, "subject only to the recognition of the sovereignty of the United States—a point which, being established, the commission invariably refused even to discuss." Nothing came of these negotiations on account of the obduracy of Aguinaldo, and the report sums up the result as follows:

"No better proof could be furnished that the primary object of his struggle is not, as is pretended, the liberty of the Filipino people, but the continuance of his own arbitrary and despotic power. In any event the American people may feel confident that no effort was omitted by the commission to secure a peaceful end of the struggle, but the opportunities they offered and urged were all neglected, if not indeed spurned."

"The Filipinos are not a nation," says the commission, "but a variegated assemblage of different tribes and peoples, and their loyalty is still of the tribal type. . . . Intelligent public opinion on which popular government rests does not exist in the Philippines. And it cannot exist until education has elevated the masses, broadened their intellectual horizon and disciplined their faculty of judgment. And even then the power of self-government cannot be assumed without considerable previous training and experience under the guidance and tutelage of an enlightened and liberal foreign power. For the bald fact is that the Filipinos have never had any experience in governing themselves. . . . Their lack of education and political experience, combined with their racial and linguistic diversities, disqualify them, in spite of their mental gifts and domestic virtues, to undertake the task of governing the archipelago at the present time. The most that can be expected of them is to co-operate with the Americans in the administration of general affairs, from

Manila as a center, and to undertake, subject to American control or guidance (as may be found necessary), the administration of provincial and municipal affairs."

"Should our power by any fatality be withdrawn the commission believes that the government of the Philippines would speedily lapse into anarchy, which would excuse, if it did not necessitate, the intervention of other powers and the eventual division of the islands among them.

"Only through American occupation, therefore, is the idea of a free, self-governing and united Philippine commonwealth at all conceivable. And the indispensable need from the Filipino point of view of maintaining American sovereignty over the archipelago is recognized by all intelligent Filipinos and even by those insurgents who desire an American protectorate. The latter, it is true, would take the revenues and leave us the responsibilities. Nevertheless they recognize the indubitable fact that the Filipinos cannot stand alone.

"Thus the welfare of the Filipinos coincides with the dictates of national honor in forbidding our abandonment of the archipelago. We cannot from any point of view escape the responsibilities of government which our sovereignty entails, and the commission is strongly persuaded that the performance of our national duty will prove the greatest blessing to the peoples of the Philippine islands."

The report concludes:

"Our control means to the inhabitants of the Philippines internal peace and order, a guarantee against foreign aggression and against the dismemberment of their country, commercial and industrial prosperity and as large a share of the affairs of government as they shall prove fit to take. When peace and prosperity shall have been established throughout the archipelago, when education shall have become general, then, in the language of a leading Filipino, his people will, under our guidance, 'become more American than the Americans themselves.'"

IN A forcible address at the recent annual meeting in Springfield, Ohio, Master Aaron Jones recommended that the National Grange continue to press their demands for appropriate legislation on the following important matters:

"First—Free delivery of mail in the rural districts; and that the service be placed on the same permanent footing as the delivery of mail in the cities, and that the appropriation therefore be commensurate with the benefits and demands for the service.

"Second—Providing for postal savings banks.

"Third—Submitting an amendment to the Constitution providing for the election of United States senators by direct vote of the people.

"Fourth—Enlarging the powers and duties of the interstate commerce commission, giving it power and charging it with the duty of fixing maximum rates of fare and freight on all interstate railways.

"Fifth—Regulating use of shoddy.

"Sixth—Enacting pure-food laws.

"Seventh—Providing for the extension of the market for farm products, making it the duty of the United States consuls to aid in the extending of markets for farm products as for manufactured articles.

"Eighth—The enactment of an anti-trust law clearly defining what acts on the part of any corporation would be against public policy.

"Ninth—The speedy construction of the Nicaragua canal by the United States.

"Tenth—The speedy construction of a ship canal connecting the Mississippi river with the Great Lakes, and the Great Lakes with the Atlantic ocean.

"Eleventh—Revising the fees and salaries of all federal officers and placing them on a basis of similar services in private business."

He also recommended to the state granges that they urge on their respective state legislatures appropriate legislation on the following matters:

"First—Anti-trust law.

"Second—Equalizing taxation as will cause all property to bear its just proportion of the cost of government.

"Third—The passage of pure-food laws.

"Fourth—Provide a state commission with the duty and power to fix maximum rates of freight and passengers on all railways subject to their jurisdiction.

"Fifth—The revision of all fees and salaries, placing them on an equitable basis."



ABOUT RURAL AFFAIRS

Fruit Versus Alcohol

The germ-killing powers of the fruit-juices which I commented on in an earlier issue of FARM AND FIRESIDE are not the only argument that might be advanced in favor of the free consumption of our acid fruits. That fruit-eating has also a tendency to take away the craving for alcoholic drinks can hardly be doubted. The most devoted follower of Gambinus will not likely care "to sing the praise of brown October ale" right after he has eaten an apple, an orange or a bunch of grapes. This accounts for the fact frequently observed and pointed out by me; namely, that we have no class of men more temperate in their habits, so far as the use of alcoholic drinks is concerned, than are our fruit-growers. Florists as a rule are much more addicted to the drink habit than their fruit-producing brethren. The explanation, too, is very simple. The following remarks are attributed to a writer in a European temperance journal: "In Germany . . . alcoholic disease has been successfully coped with by the adoption of pure diet and natural curative agencies. I have said that the use of fresh fruit is an antidote to the drink craving, and this is true. I have met men who have told me that fruit has often taken away the craving for drink. It may be asked, how can fruit and pure diet do all this? . . . Every apple, every orange, every plum and every grape is a bottle of medicine. An orange is three parts water—distilled in Nature's laboratory; this water is rich in peculiar fruit acids medicinally balanced, which are specially cooling to the thirst of the drunkard, and soothing to the diseased state of his stomach. An apple or an orange eaten when the desire for liquor arises would generally take away that desire, and every victory would make less strong each recurring temptation. The function of fresh fruits and succulent vegetables is not so much to provide solid nourishment as to supply the needful acids and salines for the purification of the blood. Once get the blood pure, every time its pure nutrient stream bathes the tissues of the body it will bring away some impurity and leave behind an atom of healthy tissue, until in time the drunkard shall stand up purified and in his right mind."

The last two sentences, I think, furnish the true explanation of the apparent mystery. The uncontrollable craving for alcoholic drinks is not a natural condition. It is a disease. Its prime cause is improper nutrition. It is not so much the saloon which makes drunkards, although it helps a bad cause along. The kitchen is the place where most of our drunkards are started. Parents may set to their children a good example of temperate habits; they may send them to good schools, to church and to temperance lectures, and try to keep them away from saloons and out of temptation. But as long as from ignorance or shiftlessness they fail to supply their children's bodies with the proper food in well-balanced ration, refuse to them a reasonable quantity of succulent vegetables and acid fruits, and neglect to instill into them the main principles of hygienic living, which forbid excesses in eating as well as in drinking, they must be primarily and chiefly held responsible if such gross mistakes result in producing blood clogged with impurities, morbid cravings, and finally in overindulgence in alcoholic drinks. Neither can parents unload all that responsibility upon bad company and the saloon. In many of our American rural homes (and in others, too) the food is bad—bad for the digestion, bad for proper nutrition, consequently bad for the general health and well-being, and bad for morals. There is frequently an excess of fat-forming, heat-producing materials, such as fat meats, starchy foods, like white bread, corn-cakes and other dishes in which corn is the chief ingredient, potatoes, sweet-meats, sugar and candies, etc. What is needed is a larger proportion of blood and muscle makers, such as milk, eggs, fish, fowl and other lean meats, beans, peas, etc. This is to secure perfect nutrition. Not less needed is more moderation in the now often excessive indulgence in nerve-destroying strong teas and coffees, and the freer use of nerve-building vegetables and fruits with their germ-killing acids. Above all, however, stand regularity and temperance in partaking of any food. Eat plain foods. Don't tempt your

appetite with a great variety of elaborately prepared dishes. Eat just enough to satisfy your natural appetite, rather less than more. If you follow all these suggestions you will be in a fair way to live long in health and happiness, and not have to seek happiness or forgetfulness in the cup that inebriates.

Roadside Fruit-trees In France, Germany and other European countries a large percentage of the fruit consumed is grown on trees planted along the roadsides. These trees are a source of considerable revenue to the local authorities, town or city governments who planted them, and sell the fruit on the trees to the highest bidder. I see it stated that in Belgium there are three quarters of a million roadside fruit-trees, which in one year produced \$2,000,000 worth of fruit. I am sure that the sour cherries alone that are grown along the roadsides in Germany figure up many million dollars in value. The sour cherry there is the most commonly found roadside fruit-tree. The sweet cherry is also frequently seen, and so is the prune and plum, the pear, the apple, the walnut and the chestnut. Our European brethren are too practical to plant trees along the roadsides that are merely ornamental. I believe that in many cases here, especially in back settlements where the depredations of the small boy are less to be feared than near the big cities, we might profitably select fruit-trees in place of the usual elms, maples and other mere shade-trees when planting roadsides. Basswood or lindens, however, may be planted with profit where bees are kept. A large tree is apt to yield dollars' worth of honey in a good year. Besides, it is a stately tree and good to provide shade. Last summer I noticed that my European linden bloomed quite a little later than did the American basswood around me. I do not know whether this is a general observation or whether there is some difference in the blooming season of all lindens. Should the European species be a confirmed tardy bloomer, it would be advisable for bee-keepers to set trees of both kinds in order to prolong the season of the basswood honey flow. Whatever trees we plant on the roadside, however, should be trimmed up rather high.

A New Cherry Pest We have a piece of highway that is bordered with sour-cherry trees right in this vicinity. The trees are still young, and are not much of a success as shade-trees. But they have given good crops of fruit every year right along, and in some years the fruit sold well at acceptable prices. Worms and rot are the two chief enemies of this fruit. The worm is the larva of the common plum-curculio, I suppose. Cornell University experiment station now tells us (in Bulletin 172, September, 1899) that another insect enemy has recently appeared in at least one Massachusetts and in several New York cherry orchards. While one can usually tell from outside indications whether a cherry contains one of the old-fashioned worms or not, the new pest works in such an inconspicuous manner that the wormy fruit appears all right on its outside. This new pest seems to attack all varieties of cherries whether sweet, subacid or sour, or whether early or late; it may also attack plums and prunes. Fortunately, the insect infests the fruit only, and there is little danger of its being spread by means of trees from the nursery. Fortunately, also, the adult insects are slow in their movements, and are not long flyers. The greatest danger is in their spreading from the fruit as it reaches the consumer's hands. Unfortunately, on the other hand, there is hardly any practical way of fighting the pest. The only thing that I have seen recommended, and that promises some relief, is letting our hens do the fighting. If the cherry orchard is plowed soon after the fruit is gathered, and the surface is stirred every few days, fowls confined in the orchard or accustomed to stay there will probably find most of the brown pupae of the fly that is the parent of the fruit-worm. Last season I again found that my sour cherries on trees that were kept thoroughly cultivated produced larger fruit and less worms than trees standing in sod or neglected otherwise. T. GREINER.

SALIENT FARM NOTES

Cow-peas The farmers of the middle West are beginning to appreciate the real value of the cow-pea, and I feel satisfied that in a few years a thousand acres will be planted where only one is now. It is not only a grand good forage-plant, but as a nitrogen-gatherer and renovator of the soil it stands very close to clover and is just what is needed on thousands of farms. It is a sun plant and delights in a hot and rather dry season. It needs lots of sunshine and about half the moisture necessary to make a good full crop of corn. It grows best and yields the best forage on land that is naturally dry and somewhat sandy, though it will do well on any kind of land that is not wet and cold. I have seen thousands of acres of cow-peas in southern Illinois growing finely on land that was aptly described by a native as follows: "Right after a good shower an old hen will stick fast in it, and half an hour later you could crack walnuts on it!"

The Whippoorwill variety makes the largest growth, probably, of all that will succeed well in the central West, but it is far more difficult to cut and handle than the Black. Any one who understands how to cut, cure and handle clover can manage the Black cow-pea. The pea is not injured by a shower quite as much as clover, but the less moisture it encounters between cutting and storing the better the quality of feed it makes. Cut at the right time—that is, when the lower pods are ripe—it makes a hay that all kinds of stock are very fond of and will fatten on. Sometimes I find a horse that does not take kindly to it at first, but it soon gets over that, and after once acquiring a taste for it, prefers it to the timothy hay. For milk-cows and young growing stock it is equal if not superior to the best clover hay.

In southern Illinois the peas are often sown after a crop of oats or winter wheat is taken off the land, and generally they make a fair growth and are pastured or turned under as a fertilizer. This is not always a safe plan, however. I would prefer to put them in about the time corn is planted, or immediately afterward, cut the crop for hay, then sow the land to winter wheat. Plow the land as for corn, pulverize it thoroughly with the harrow, then drill in the peas with a corn-planter, straddling the rows. This will make the rows fifteen to eighteen inches apart, and if the peas are dropped four to eight inches apart one will have, if his seed is good, a full stand. Harrow the ground again after planting, and if weeds spring up or the soil crusts, go over it again when the peas are four or five inches high. Many growers prefer to do the cultivating with a one-horse harrow or shallow-running cultivator that cultivates three spaces at a time. The ground should be left at the finish as level and smooth as possible, so that the mower will run well. From four to six pecks of seed are required to the acre. Do not plant thickly if a crop of seed is desired. When the plants stand well apart the pods are larger, there are more of them, and the peas are better than when the stand is thick.

Like clover, the cow-pea is a nitrogen-gatherer, taking it from the air and storing it in the soil. Unless the soil is almost devoid of humus it is not necessary to turn the vines under to obtain the full benefit of the nitrogen gathered by the plant. When the vines are in the proper condition to cut for hay the roots have about completed their work, and removing the vines does not, to any extent worth considering, lessen the amount of fertility made available by the plant. Still, if the soil is so devoid of humus that it packs hard and bakes quickly, the entire growth of vine may be turned under with benefit. In sections where the cow-pea is grown largely it is customary to follow it with corn or wheat. Cow-peas for seed are sold by all leading seedsmen, also by some growers, and their advertisements may be found in agricultural papers in early spring. I have none for sale. Write to the seedsmen, not to me. Cow-peas are listed in nearly all seed catalogues.

Corn Fodder My corn fodder is dry and bright and looks like—has the same color that timothy hay has when it has been cut and cured at exactly the right time. It was cut and shocked in the latter part of August, just as the grain hardened, and truly is what experienced stockmen would call "prime feed." Many wise old farmers declared that I was cutting it too early, that it would mold, heat, rot, etc. But it was

just ready for cutting at that time; just ready to make first-class feed, and it was cut. Had it reached that condition in July it would have been cut just the same. I never have seen corn spoil in the shock if it was cut when it was ready for cutting, whether that time was July or October.

A few days ago a neighbor asked me if I could use a few loads of fodder that he had to spare. I told him to bring me a couple of shocks so that I could see what it was like. When he brought them he said, "This corn was planted the latter part of June and was in the milk when that frost came. The fodder is pretty good, but the grain is not much force!" He unloaded it, and it was stuff. He cut it immediately after the frost had killed it, and instead of putting it into small shocks so that it would dry out quickly he made the shocks sixteen hills square, and the consequence was it had heated and was a moldy, bad-looking mess. I didn't want any more, and was strongly tempted to burn that, but I tried a cow I was fattening with an armful of it, and to my great surprise she fairly devoured it. I gave her a lot of sound corn, poured it in the manger, but she would not touch it until she had stripped every moldy ear off that nasty-looking fodder. She finished up the two shocks in eight days and seemed to do well on it. What, then, was in it to cause her to like it so well is a mystery to me.

I much prefer, however, to feed animals good, sound, well-cured fodder and grain, and I am satisfied that one will in the end be the gainer by several dollars. I have seen farmers feed dead animals to their hogs and fowls, but in almost every instance mysterious ailments followed sooner or later, and the losses resulting proved plainly enough that such material was not fit for food. The best is none too good, and except in very rare instances good management will preclude the necessity for using damaged feed of all sorts. If the party who brought me the moldy fodder had planted good, sound seed he would have grown a full crop of corn and it would have ripened when mine did. But he procured some doubtful seed because it was cheap, and was obliged, in consequence, to replant the third time, and his season's work went for naught. It is hardly necessary for me to say that this farmer is a "general failure."

Seed-corn In the care of seed-corn one can scarcely be too careful. When we reflect that the crop of next season depends so largely upon the care we give the small quantity of seed necessary to plant a large area it would seem that we would take every precaution against even the slightest injury to it. In this latitude about all that is necessary to insure sound, live seed is to gather it before hard frosts and thoroughly dry both grain and cob before hard winter weather sets in. This is so easy to do that it would seem that every man who half tries to farm would not neglect it. But there are many tillers of the soil who are filled to overflowing with everything but a knowledge of their own vocation, and these are the chaps who fail to select and care for seed, or to do anything else at the proper time. The management of the government makes such large demands upon their time and requires such close attention that they entirely overlook such trivial matters as saving and caring for seeds, or even getting them in the ground at the proper time and in the proper manner.

The Farm Garden I notice my name on the program of a Congressional Farmers' Institute, and this time I am expected to talk about the farmer's garden. When I learned that I was to talk on this topic I drove around to about a dozen farm homes and took a look at the gardens, and such gardens! I am of the opinion that a great majority of our boys need not a little, but a great deal of instruction in the best methods of managing a garden. Nineteen times in twenty the garden gets away from the farmer before midsummer and becomes a wild tangle of weeds, grass and vegetables gone to seed. This is simply through lack of the stitch in time. Usually the garden is well plowed and pulverized in the spring and the first crop of weeds subdued. Then the rush of farm-work leads to neglect, and in a very short time the second crop of weeds has full control, and the task of cleaning them out is so fraught with aches of bone and muscle that the owner turns his back on the whole thing and says to himself, "Let 'er rip!" FRED GRUNDY.

OUR FARM

FARM THEORY AND PRACTICE

WINTERING HORSES.—It is within bounds to say that two thirds of the work-animals of the farm are necessarily idle the greater part of the winter. There is not work for all. In some communities there is yet lumbering to be done; in others some hustling farmers find jobs of hauling for the public or for themselves, and there is some regular farm-work in spells of favorable weather, but all the work possible cannot occupy all farm-horses one third of the time, taking the country as a whole. The maintenance of these idle horses is a big tax on the farmers, but is one of the necessary items that we must treat as we do taxes, insurance, etc. The criticism to which farmers are subjected on this account by some writers is out of place. The horses are carried through a necessarily idle time for the service rendered in the busy season of the year—usually from early spring until late fall. All that we can do is to arrange for the most economical wintering. Speaking now only of the ordinary farm-horse, I am sure that it is the custom to feed too much grain and timothy hay. Corn is all right as a winter grain when fed in moderation, and the more costly oats is not a necessity, but both corn and timothy are binding, heating foods, especially when fed to idle animals. Until within two or three weeks of spring work bright corn fodder is better than the hay, and the grain ration need not be more than half that given during the season of hard work. The stable should be warm, the bedding abundant, the watering regular, either two or three times a day, and each animal should have a good grooming once a day. These count for more than heavy grain-feeding. A gallon of small potatoes or roots once a day is beneficial. Such wintering is cheap and prepares the animal's stomach for the heavier grain and timothy feeding that should precede the hard spring work by a few weeks.

THE STABLE FLOOR.—The manure from an idle horse during winter contains nearly all the fertility that was used in growing the feed consumed by it, and that supply we have in the stalls if we do not let it escape. Probably not ten per cent of FARM AND FIRESIDE readers have cement floors in their stables, and the question is, How can all the fertility be saved and returned to the soil without expensive changes in the stable? A clay floor is good for the horses, but hard to keep right. If a board floor is used, instead of having auger-holes bored in it to permit escape of the liquids, the floor should be a double one with joints carefully broken so that no liquid can escape. The stall should be roomy. Now, to save the valuable part of the manure and keep the horse clean the bedding must be abundant. If the fodder has been cut or shredded, the refuse from the manger makes good absorption material. Straw is fairly good. But the usual mistake is to suppose that cleanliness and good treatment of the horse demand that the stall should be made absolutely clean every evening or morning, as the custom may be. The horse will be more comfortable, and the manure will be saved more perfectly, if each evening the litter in the stall is carefully leveled and covered liberally with fresh bedding until a week's accumulation is gotten, when all should be drawn direct to the field. Don't hold up the hand in holy horror until the plan has been tried. It is cleanly—more so than that of daily cleaning. The tramping packs the bedding tightly, and the lower part becomes a sponge to take up the liquids. The surface is always dry. The liberal bedding secures that. There is no heating in a week's time—the tramping excludes the air too much for that. The plan means a clean, comfortable bed for the horse, and the saving of many dollars' worth of fertility during the winter.

EXERCISE FOR FATTENING-CATTLE.—In years gone by I have tried fattening a few steers in the old-style barn-yard, sheltered by a straw-stack at night and fighting each other at the feed-trough during the day, and I have tried stall-feeding. There is no comfort for beast or man in the first method, and no profit for the feeder. The primary object in feeding steers through the winter is not to have feed consumed or to give exercise to the feeder, but to get some profit from the operation in actual cash and to have a choice lot of manure for the fields in the spring. In the case of the dozen or

less cattle fed on the average Eastern farm there is just one right and comfortable way of doing the feeding, and that is by having each animal in his own stall, eating in quiet his grain and coarse feed, resting in quiet and without fear on his own bed of straw. The uncomfortable animal will not fatten without an excess of feed, and sometimes not even then. A little feed goes a long way with a steer that is kept warm and quiet. Very little exercise is sufficient for fattening-stock, and that should be given an hour or so before time for the evening meal. It is too much to expect that feed can do much for an animal that must be on the constant watch to escape the horns of its fellows, or that must travel long distances to fight for a chance at a hole in the ice, or stand in cold and sleet wondering when warm weather will come again. My most satisfactory results have been in cases when the water was supplied to the steers in their stalls, and no exercise at all was taken, but these were animals to be sold to butchers before grazing. If the cattle are to be put upon pasture until midsummer, then a little exercise each day in winter is probably safest. Lots of bedding, a sense of safety, comfort and quietness help the animal to convert its food into profitable gain in weight. DAVID.

UNUSUAL TOMATO CULTURE

The Northern tomato-field presents a picture of a crop growing two feet high; the Southern field, four to five feet. That is, some of the Southern fields of early tomatoes do, and such fields present a beautiful sight. The tomatoes grown at Crystal Springs, Mississippi, are the finest of the early spring tomatoes which reach the New York market. They are not so early as the Florida winter tomatoes, but they are much finer and larger, and their growing is a sci-



STAKED AND PRUNED TOMATO-VINES

ence. The method of culture is pruning and staking, and the Mississippi trucker, his wife and ten children are all employed in the tomato-fields, and kept busy pruning, too. This method of culture has been systematically tested by the New Jersey experiment station, but the success in the North has not been as great as that in the South.

In the first place the tomatoes are planted in rows three and one half feet apart, and three feet apart in the rows, which would be close for ordinary field-work, where the plants lie on the ground. The plants are cared for in the usual manner until they begin to bend over with their own weight. Then six-foot stakes, rived out of pine, are pushed firmly or driven into the ground after a softening rain, and the plants tied closely to them with a piece of ordinary white wrapping-string ten inches long. Next every plant is pruned and every sucker is pulled out, leaving only single stems with no limbs. This is the most laborious part of the work, as the suckers shoot very rapidly, especially after the first ones have been pulled. In a short time, with rapid growth, another tying is necessary, care being taken to tie the fruit bunch on the outside, so as not to rub

against the stake. Almost constant pruning is necessary. Here and there a large limb will be found which has escaped attention; it must be torn off. The tomato-plant will stand any amount of breaking and cutting away without injury. The small-sized cyclone which swept over Maryland and Virginia about the first of August laid low many fields and broke down hundreds of trees and limbs. In my family tomato-patch not one plant was left standing after the storm. Every stake was blown down, and some of the tomato-stalks were twisted and broken as though they had been tramped upon.

The tendency of the cutting away of all limbs is to not only greatly stimulate the growth of the single stem, but to enlarge its leaves, thus furnishing sufficient shade for the fruit clusters. By having the plants in this kind of a patch tied up close to the stakes surface scratching of the ground can be continued long after an ordinary field has spread all over the ground.

The effect of this cultivation is to force the crop ahead of the rest about six days, as the strength goes into the fruit rather than the vine. The tomatoes grow to a large size and the fruit clusters make an almost continuous line the height of the stake. The fruit is where it gets plenty of light and air, and there is no rotting and practically no sun-scalding. It is also easily picked, no time being lost in looking for ripe fruit.

Several years ago while in Florida I grew one and one half acres of winter tomatoes by this method of staking and pruning. The result was all that could have been desired; the fruit matured evenly and ahead of the remainder of the field. Standing and looking down the long rows, the vines standing upright, bushels of fine fruit were in sight, and the general appearance was more that of a little fruit orchard of some kind than of a tomato-patch. As the weather got dry these

tomatoes continued bearing good-sized fruit to the end of their crop, whereas the ones in the field planted in the usual way produced small, second-quality fruit of less than half value in the New York market.

With tomatoes bringing from \$5 down to \$2 a crate, and with the size and quality of the fruit an important factor, this method pays well, but it is hardly of any practical value in the Northern tomato-field for the main crop. However, the plan has a number of advantages for the home garden or patch. The tomato is a very rank and vigorous grower, and in the field its root system completely occupies the soil. With the ordinary method a great growth of vine is produced, and to sustain this requires a large amount of moisture. The plant thrives in a comparatively thin soil, and the necessity for setting plants wide apart lies not in an in-

sufficiency of plant-food arising from a too close intermingling of roots so much as in a lack of moisture. On a hot day a vigorous tomato-plant will pump out a large amount of water from the soil. Even by the time the first blossom appears the plant begins to put out suckers or limbs, and these continue coming until there are dozens of branches, constituting a great mass of vine growth. The staked tomatoes being a much smaller plant and requiring less moisture, can be planted closer. If desired, the plant can be trained to two instead of to a single stem. GUY E. MITCHELL.

SOY-BEANS

There are a number of varieties of soy-beans, but the early yellow soy has proved the best. They are erect-growing, with from one to six or more stems branching out from near the ground and reaching a height of from one and one half to three and one half feet; seldom falling down, except in very rich, loose land. The branches are thickly studded with pods from the surface of the ground to the top, a single plant having sometimes as many as two hundred pods

containing from one to four beans, the usual number being three. The soy-bean is a remarkable drought-resister, and will do comparatively well on thin land. However, they respond very readily to plenty of moisture and good soil. Being a legume, if the bacteria which produce the tubercles on the roots are present in the soil they leave the land richer in nitrogen the same as clover does. The land may be inoculated by getting earth from a field that has the bacteria in the soil and planting it in the rows with the beans. We used a fertilizer attachment to a hose-drill this year with good success. Planting should not be done until the weather is warm—after corn-planting. They will make a fair crop after rye or wheat if the season is favorable. The ground should be well prepared and the beans planted near the surface. We plowed the ground last spring, going over what we plowed each day with a good subsurface packer, and planted the beans immediately, with a press-drill, stopping holes so as to plant in rows thirty inches apart and from one to two inches in the row. This required thirty pounds (one half bushel) to the acre.

They may be cultivated as other crops; keeping the soil in good shape and the weeds down is all that is required. We used the spring-tooth cultivator, except in a few places where the weeds obtained a start on account of the wet weather. The crop can be handled so it will not be necessary to use the hoe at all. Land lately matted is liable to give trouble, as it is usually weedy.

Until this year the harvesting has been the great problem, but we found that there are machines manufactured for the purpose, and have tried several of them and found them to be successful, so the harvesting no longer stands in the way. The yellow soy does not shell readily, and so can be let stand until well ripened. We began harvesting when most of the pods had turned brown, and a few of the top leaves were sticking on. The bean-harvester has large knives which cut the stems just under the ground, cutting two rows at a time and throwing them together in a windrow. An ordinary one-horse hay-rake will take two of these windrows at a time and the horse walks between them. We raked and shocked immediately after the harvester, and left them to cure in the shock. Threshing was done in the field with an ordinary separator, using all blank concave and running no faster than necessary to keep the machine from clogging in the shakers and riddles, so as not to crack the beans. . . . The sixty acres of beans averaged fifteen and one half bushels an acre, making the cost of production fifty-five cents a bushel.

Soy-beans as a feed take the place of oil or gluten meal, and in composition are richer than oil-meal. In feeding them to milk-cows, fattening cows and hogs they have given astonishing results. In two experiments carried on last winter in feeding hogs the addition of one fifth soy-bean meal to Kafir-corn gave practically double the returns from Kafir alone. The ten hogs fed Kafir-meal alone, during a period of fifty days, ate 2,872½ pounds, and gained 441 pounds; the ten fed Kafir-meal, four fifths, and soy-bean meal, one fifth, ate 3,766 pounds of the mixture, gained 866 pounds, and sold for ten cents more on the hundred than the other lot.

When the beans thoroughly ripen in the field the straw is worthless, but if cut and cured while green makes excellent hay. They make excellent hog pasture and are a good crop for selling.—Kansas Station.

HANDY FARM CONTRIVANCES

While among the Michigan beet-growers, instructing them about raising sugar-beets for the factory, I saw some new things.

Among farm gates that any kind of a machine can be taken through I found one in two parts, one part sliding each way. Another was the longest gate I ever saw. It was hinged to the post at one end, and the other had a buggy-wheel, so a boy could easily roll it open or shut.

At another place I saw the granary-stairs hinged to the building, and when not in use it turned up against the door and fastened.

At the same place I saw an ordinary thumb-latch on a door that swung out, and as it swung back against the building the latch dropped into another catch set on the side of the building.

At this same place I saw a water-trough for stock, just an ordinary one, but it had a hinged cover about two feet shorter than the trough. When the cover was down an animal could drink at either end, and the dog couldn't get into the trough. Or the cover could be opened and all the stock could drink. J. F. THISSELL.



NOTES FROM GARDEN AND FIELD

SECOND-CROP SMALL FRUITS.—Among the new things which the agent of the Agricultural Department has picked up in foreign countries for distribution and trial in this country is also a new "everbearing" strawberry from France. I have for years been trying to grow strawberries out of their season, especially by planting so-called "everbearing" varieties. I had some of these kinds from Washington, Oregon and California. They all may bear a second crop or perhaps some fruit scatteringly during the entire season in the Pacific coast states. At least that is what was said of them when they were shipped to me. But here on my grounds they are doing well if they bear a full crop at the time that other strawberries do, and after that they rest from their labors or content themselves with making a few runners, or a good big plant if of bush habit. I also have quite a patch of the Alpine strawberry, which I planted not only for their (to me) very agreeable flavor, but especially on account of their habit of growing some fruit all along after the regular strawberry season. And yet their main yield (and it is very light at best) comes while we have plenty of other strawberries; and after that the fruit comes very scatteringly. Taken all in all, even this Alpine is not much of a success for general cultivation, and I am afraid that the French everbearing will not prove much better. I am willing to give it a trial and a fair show, however.

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FALL STRAWBERRIES.—Occasionally our common strawberry varieties take a notion to give us a second crop. I have seen fruit on new and yet unrooted runners of the Enhance and other sorts. This year I have reports from various patches where Wilsons have given quite a show of exceptionally large and well-flavored fruit in October and November. One of my neighbors in one of his patches (one fourth of an acre) has picked as high as ten quarts a day, and from that down to one quart or less, and sold this fruit for seventy-five cents to one dollar a quart. This is an old patch which had been mowed and burned over right after the fruiting season. In an adjoining patch, planted with another strain of the Wilson, and treated similarly, but few berries were found. Another neighbor reports having found at least a few berries in his patch, also of Wilsons. Now, why did some of these patches bear a fall crop this year, while they do not in other years, and while other patches did not this year? This last summer was exceedingly dry, and the strawberry-plants shortly after the fruiting season suffered so much from lack of moisture that they received a severe set-back, dying down, in fact, in some cases, especially where the patches were burned over, almost in the same way as they die down in winter. Then came abundant rains, with spring-like weather. The plants took a new start, and some of them bloomed and fruited. That is probably the whole explanation.

I am told that the Enhance is more apt than almost any other variety to produce a second or fall crop of berries; also that some growers have been trying to develop this habit still further by raising seedlings from fall-grown berries, and again seedlings from the second-crop progeny of these. Possibly we may secure a fall-bearing strawberry in this way for awhile. The growers who are the first successful ones to raise fall strawberries will have a chance to make some money out of it, even if the price of a quart of such berries should drop materially when a freer supply comes in.

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FALL RASPBERRIES.—Occasionally we hear of second-crop or of fall raspberries. A few years ago in the fall I received some canes loaded with red raspberries, from Oregon, and the sender claimed that the variety there had a regular habit of bearing fruit either all summer long or a second crop in the fall. I secured a few of the plants, but to all appearances they have no tendency to bear fruit after the first crop in early summer in this climate. On the other hand, all my red raspberries often produce some fruit on the same season's young canes, but this fruit ripens just at the close of the regular raspberry season. The cultivated blackberries, Kittatinny, Lawton, etc., usually produce some fruit on the new canes, and this fruit ripens here in September and October. But it is not often enough to pay for picking. In "American Gardening" I find a communication from a firm in Colorado who

say that in that state it is a common thing to see blackcap (and red) yield a second crop of berries. They say: "With us the Cumberland, Gregg, Columbian, Loudon and Cuthbert have in the past few years all borne more or less of a second crop. The same has occurred in the Snyder and Kittatinny blackberries. Even large fruit-trees, such as the Duchess and Yellow Transparent apples, have here borne second crops, and it is a regular habit of the Bartlett pear to recommence blooming here after the first crop is half grown. We have five hundred dwarf Bartletts, and each tree carries, this day, from five to forty second-crop pears, which are the size of a small hen-egg and commencing to turn yellow, while a good crop of very fine fruit has been gathered from these trees a month ago. With us all second-crop fruit is borne on the new wood which ripened early, and then being stimulated by excessive moisture started into growth again, which accounts for the second crop." In this climate Bartletts and other pears make an effort to produce a second crop on the new wood, but the result is usually very meager—one or two undersized, half-developed specimens, which growers simply consider as "a freak of Nature."

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SPRAYING THE PARAGON.—For about two years previous to this our larger Paragon chestnut had been affected with a peculiar leaf disease which resulted in crippling the fruit so that the burrs, although of the usual large number, failed to become fully developed and to fill as healthy burrs do and should. The nuts remained small and were poor in quality. I forwarded leaves and twigs to the pathologist of the Agricultural Department in Washington, but he was unable to diagnose or recognize the disease. This last season the tree received the regular treatment for fungous diseases. It was sprayed once in spring when in full leaf, and another time a little later. The Bordeaux mixture seemed to stay on well, so that traces of it could be seen even in early autumn. This year the burrs and nuts attained about their regular size; the leaves did not curl as in the previous two seasons, and I feel encouraged to repeat the treatment next year. The reports from my orchard in Ontario county are not very flattering this year. The excessively long dry weather during the summer, and early fall frosts, seem to have entirely ruined the crop, as also that of native chestnuts. It is one of the only two failures of this crop which I have observed during the past ten years. Much has been said in recent years about starting a Paragon chestnut orchard, and to tell the truth the idea has had a good deal of attraction for me. I find, however, that it is much easier said than done. Starting such an orchard is not the most difficult, either, if you do not shun the expense, as the trees are rather high-priced. But keeping it a-going is the trick, as so many of the trees will either refuse to make thrifty growth or will actually die, and replanting will all the time be found necessary if the orchard is desired to be complete.

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PITTING POTATOES.—A lady reader in Ohio asks about the right way of storing potatoes in pits. In an earlier issue I described the construction of pits for storing root crops. Potatoes can be stored in the same manner, but they must be covered more heavily and carefully. It will not hurt beets, carrots or turnips very much to be touched by frost. But that should never happen to potatoes. My favorite way is to cover them first with a thick covering of straw, then a light covering of soil, next another coat of straw not quite as thick as the first, and finally another covering of soil well packed down. Should the weather be very cold, a further covering of coarse manure, corn-stalks or the like may be necessary. Except when the soil is quite porous I would prefer to make the pile on top of the ground. The best of drainage is absolutely necessary for the potato-pit.

* * *

SOIL FOR FORCING LETTUCE AND RADISHES.—A reader in Illinois asks me about the preparation of soil for forcing lettuce, radishes, etc., in the greenhouse, and how deep growers prefer solid beds, or beds built up solidly with earth, the prepared soil being placed on top, of course. I have just as good results, however, in planting my lettuce and radishes on an ordinary bench, especially if arranged for subirrigation. The soil on my benches is about eight inches in depth. The best way to prepare the soil is as follows: Shave off thin sods from a rich pasture-field or cow-yard. Pile these up in alternate layers with strawy manure. Keep the pile

well moistened during the warm season, preferably with liquid manure, until the sods begin to decay. Then cut the pile down with a spade, and work it over thoroughly, repeating this once a week or month until the whole presents a homogeneous mass of fine earth. Add sand, if that is lacking, in the mixture. Don't be afraid of having the soil too rich for forcing succulent vegetables. For a quicker way of preparing soil, take fine old manure and any clean loamy soil, equal parts or so, adding sand if necessary, and mix the whole thoroughly and evenly. Clean muck, clean leaf-mold or old rotted wood may be added to good advantage. In some cases I have put clear manure, or a mixture of clear horse droppings with soil, such as we use for mushroom-beds; in the bottom of the bench, covering with three inches of prepared fine soil. This plan has given me very fine and tender lettuce.

T. GREINER.

2.

THE CATALOGUE SEASON

The advertisements of seedsmen, florists and nurserymen will soon appear. As soon as they do, send for their catalogues. It is a great advantage to make an early selection of seeds, plants, trees, etc., for next year's planting, and to send in orders early.



ORCHARD AND SMALL FRUITS

CONDUCTED BY SAMUEL B. GREEN

INQUIRIES ANSWERED

Iron-dust as Fertilizer.—C. H. So far as known iron-dust is of no value as a fertilizer. By some florists it is thought to improve the color of the foliage and flowers of some plants when used in the soil, but nothing certain is known in regard to it, and practically all the soils of this country contain far more iron than plants can use. But very little iron enters into the composition of plants.

Woolly-aphis.—J. P. D., Cumberland, Md., writes: "I notice something on my young apple-trees having the appearance of little hunches of cotton. They are soft and very easy to crush. After they are mashed they have a purple color. What causes them, and what is the remedy?"

REPLY:—The hunches of cotton which crush so easily and leave a purple color are probably clusters of woolly-aphis (lice), which are injurious to apple-trees. If carefully removed it will be found that there are many lice in each cluster, and that each louse is covered with a white, waxy water-proof covering. One form is found about the lower branches and sprouts about the trees, and weakens them very considerably and often causes bad injuries. Another form grows about the roots, where it causes swellings. The injury from this latter cause is known in Europe as "American blight," although it is probable that the insect originally was brought from Europe to this country. The root form is perhaps responsible for more mysterious losses in the apple orchard than any one thing, and it is very difficult to treat; when the trees become badly infested with this pest there is practically no remedy. The form on the branches, however, may be destroyed by lightly brushing them over with a little kerosene, but not sufficient to soak into the bark, or it may injure the tree. A strong soda or potash-lye wash is also a good remedy, and there is no danger of hurting the bark when it is applied.

Strawberry Culture—High Cultivation—Pruning Black Currants.—M. H., Toronto, Canada. While in a general way, where there is plenty of room, strawberries should be planted about one foot apart in rows three feet apart, yet in a small garden it is probably desirable to grow them in a different way. When planted as far apart as recommended it is customary to allow a large number of the runners that grow from the plant to root and make a sort of a mat of plants for fruiting the next year; but in the home garden it is a very good plan to set the plants perhaps one foot apart in rows two feet apart, or even one foot by eighteen inches, and keep all the runners that may be produced cut off. In this way the plants make strong bunches, and no runners are rooted. I should say in your case that it would be best for you to take up every other plant in every other row in one direction, as otherwise you will find it difficult to get in among the plants when they are well grown, either to cultivate them or to pick the fruit; but there is no necessity of your doing it this autumn, for the plants which you set out this autumn will have an abundance of room to bear what fruit they will next year; but after they are through fruiting next year you should cut them out, for the next season they will need more room.—The term "high cultivation" means the doing of everything that will promote growth, and is a sort of general term in common use. It would mean, for instance, if used in a general way, the cultivation of the soil to keep it loose, and to keep out weeds, and also good manuring, so

that there will be plenty of plant-food in the soil. It should also mean what is seldom implied, that the plants are not left too thick together; that is, that each plant on the ground has every opportunity for doing its best.—Black-currant bushes do not need much pruning, only enough to keep them in shape and take off any wood that may have become weak or diseased. Also, the suckers which come from the root should be cut out, unless needed to fill out the bush. It should be remembered that it is just as important for the plant to have good sunlight conditions as it is to have good soil conditions, and that if the leaves crowd one another they take away from the opportunity of obtaining plant-food, for by far the larger portion of plant-food which plants assimilate comes from the atmosphere.

Pear Queries.—F. W., Tarlton, Ohio, writes: "1. Can cuttings of Kieffer pear cut in the spring be made to grow, and how? 2. Will Kieffer-pear seeds come true if planted from trees apart from other varieties? 3. Can Bartlett or other varieties be grafted on Kieffer stock?"

REPLY:—1. I doubt if cuttings of the Kieffer pear cut in the spring of the year can be made to grow successfully in Ohio; at least not without great care being taken. I should much prefer to take off the cuttings in the fall of the year, winter them either in a cold cellar or deeply buried in the ground, so that they will be calloused by spring, and in the spring of the year put them into a gentle hot-bed. As a rule, however, success with Kieffer-pear cuttings has not been nearly as good North as at the South, owing, I think, to the fact that it requires a milder climate for successful rooting of them out of doors, and the wood is less liable to winter injury. 2. I do not know definitely as to the Kieffer pear coming true from seeds from trees which are located away from other trees; but if it is true that they come true from seed it would be very remarkable, for no other of our fruits come true in this way. While there are a few varieties of fruits that produce themselves nearly true from seeds, yet this is very rare, and practically of little importance as a matter of propagation in a commercial way. Experience seems to show that some of our peaches, and possibly some of our plums, are more liable to come true from seed than are other tree-fruits. 3. The Bartlett and other cultivated varieties of pears may be grafted on the Kieffer stock, and do very well indeed.

Grafting Grapes.—J. C. H., Boston, Mass., writes: "1. Is the grafting of grapes necessary? 2. Is it ever desirable?"

REPLY:—1. For all practical purposes the grafting of the grape is not necessary in northern United States, for the reason that the varieties of grapes that are here grown for general purposes are native varieties, and they have sufficient vigor and hardiness without being put upon any other stock. Practically all the grapes that are sold in the section named are grown from cuttings, and are on their own roots. In a few cases, where it is desirable to raise some of the weaker-growing kinds, it is a good plan to graft them onto strong roots to make them more vigorous, but it is seldom attempted. 2. Of recent years large numbers of grapes have been grafted for planting in French vineyards, and the stock used for this purpose has been the common river-grape of the United States (*Vitis riparia*). The reason why it has become necessary to graft grapes in France, when for hundreds of years they were grown successfully on their own roots from cuttings, is due to the fact that Phylloxera, or the American root-lice, has been imported from America into France, and that while this root-lice is not seriously injurious to our native American grapes, yet it destroys the European wine-grape when it attacks its roots. Soon after this pest began to spread through French vineyards the French government offered a large premium for a remedy for this trouble, as it was thought that unless some remedy was found the wine industry, which is very important in France, would soon become a thing of the past. This remedy has been found in the grafting of the French vines upon American stock. These stocks are termed "resistant" stocks, since they resist the action of the root-lice. For many years great quantities of the wood of this American vine was shipped to France, but they have such a start in it now that comparatively little has been imported of recent years. This insect which is so troublesome to the vines of France is the same insect which prevented the early settlers in this country from establishing the wine industry of the Old World upon a successful footing here. While in California recently I found that there were many sections where the Phylloxera was injuring the European varieties of grapes—for it should be known that practically all the commercial varieties of grapes of California are of European origin, while those of the rest of North America are of native origin. I learned that while a large number of growers were still planting out cuttings, so that the vines would be upon their own roots, yet the more enterprising grape-growers believe it very desirable to graft on resistant stocks, as has been done in France, and it probably will be true that California grapes will be grown upon these resistant roots. It seems a little odd to think that the French wine industry is dependent upon our common river-bank grape for its sustenance.

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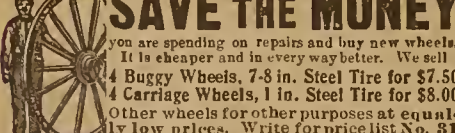
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OUR FARM

FARM STUDIES

IMPROVEMENT in crop conditions are far greater than we have been accustomed to estimate. It seems now that New England, being compelled to make account for her abandoned farms, and to atone for her wasted forests, has begun to apply science to farming with some effect. The average yield of wheat to the acre is now greater in Connecticut than in Dakota. The farmer is learning every year how to get more out of his land without destroying the power of his land to keep up with future demands. Irrigation is almost as common in the Eastern states as in the Western. A few years ago it was suggested to the farmer that if he could cover up the water that fell, and prevent its evaporation, he would be able to get along with a much less rainfall. To-day we find him doing this by means of a continuous use of the cultivator, and sometimes even with dust-machines carefully spreading dust over the moisture. Sir William Crookes, of England, told us that the world's production of wheat would soon be unequal to the world's demand. Our Secretary Wilson says in reply that the United States could produce a couple hundred of millions of bushels more than it does now. That is, we could produce a thousand millions of bushels a year.

The progress made in the way of intensive farming has been very great during the last fifteen years. Large farming in the Eastern states is no longer popular. It is discovered that a man may live well and secure a better income from a few acres than from several hundred acres. With this drift toward intensive methods we find a decided reaction toward cultivating the land for home rather than for market. From my own experience I judge that from four acres one may be able to obtain all the small fruits and large fruits that he may desire for home use, and at the same time, if near a market, sell enough to cover the expenses of a good-sized family. Where the list of fruit covers all the berries, currants, grapes, plums, cherries and larger fruits, we may count annually on a loss of two or three sorts, but the income from the remaining stock remains sure. Extensive farming, on the contrary, commits too much to one or two or three crops, and the failure of these is liable to mortgage the farm or foreclose a mortgage.

It must be remembered that farming, instead of being the simplest, is the most complex and difficult of all the industries. In fact, farming or land tillage is both a science and an art. To be able to produce in many ways to be able to create. For the producer must not only repeat the process of planting and reaping, but he must know how to increase the products of the soil. The farmer's work involves a knowledge of all the known sciences, including chemistry, entomology, botany and branches of biology. No one can hope to succeed in farming unless he is able to comprehend the nature of the insects with which he must cope, or with which he must co-operate. The simple problem of manures alone is more complex and more important to be thoroughly understood than any problem that vexes the manufacturer. The farmer and the orchardist of late years are compelled to understand the nature of arsenites and sulphates. The latest developments in farming include cold storage and silo storage. It does not, therefore, seem unjust when we demand a modification of the school curriculum to such a degree that questions of land tillage shall be involved quite as much as questions that pertain to commerce and mechanics.

I observe that farm depression is attributed to all sorts of causes. These causes generally mean little more than that agriculture is depressed because it is depressed. It is not to explain the general difficulty when we say that land has gone down in price or that wages have gone up. What we wish to know is why the land has gone down and why the wages have gone up. A thorough student of industrial and sociological events will readily trace the difficulties which agriculture has been compelled to meet as far back as the dawn of the steam age. Steam displacing hand-power and entering into autocratic control of the industries, about 1830, at once unbalanced the relation between agriculture, manufactures and commerce. We have never been able to make use of steam for farming purposes to any such degree as it has been utilized for manufactures and for commercial purposes.

The drift, furthermore, was at once initiated to take away from the farm most of its elements of self-dependence, carrying them over to factories. With this change was inaugurated the drift toward concentrating population in cities and towns. Farms were left isolated by comparison, and farm life robbed of its equality of attractiveness and comfort.

E. P. POWELL.

CAULIFLOWER AS A MONEY CROP

Next to the early celery the most profitable crop in the market-garden has been cauliflowers. Near me are several large villages, and in these the demand for cauliflowers has been greater this year than I could supply. All through September and the early part of October the people wanted them for making mixed pickles, and also for cooking for table use. I suppose that in most villages there is a like demand for them, and for the reason that most people do not succeed in growing them there is an opportunity for the person who will give them the special culture they require to make a good profit in growing them.

I have been growing cauliflowers for market for several years, and have learned how to practise a method of culture that makes them nearly a sure crop. I first began to practise a very similar method in growing celery, and was so well satisfied with the results that I am using the plan with some modifications for growing cauliflowers. The plan, briefly, which has made the crop a success is to plant them in very rich soil; then when the plants are several inches high mulch the space between the rows heavily with manure or other material, then irrigate by pouring the water on the mulch.

Now to describe my method of culture more in detail. I have found it best not to economize too much in purchasing seeds. The higher-priced strains of white cauliflowers, where the type has become established by careful selection for many years, are the most reliable in heading, and the whiter the heads the better they will sell. The large pure white curds sell because of their attractive appearance. The Early Snowball is the standard with many people, and is probably more extensively grown than any other variety. I am using it for both the early and the late crop, and it has been very satisfactory. The first sowing of the seed is in a hotbed in March. A little later I sow seeds in a cold-frame, and sow at different times in the open ground during April and May. Only a small part of the early crop should mature at one time, for the leaves will soon grow up through the heads, and spoil them for market if not sold at the right time.

For the main crop I sow in open ground the last of May. When making the seedbed in the open ground I give it a good dressing of ashes and poultry manure, also lime to prevent the clubfoot. This is spaded in and the surface raked down fine. The seeds are sown in shallow drills about eight inches apart, and treaded in with the feet if the ground is dry, then about one half inch of soil is drawn over them with the back of the garden-rake. If the bed is watered during dry weather the plants will be ready for transplanting in about one month. A deep moist soil is best adapted to cauliflowers, although it is possible to grow good crops on any good garden soil. I plow in a heavy dressing of a good quality of stable manure, then harrow and furrow the ground for the plants about two and one half feet apart.

The plants for the main crop are transplanted from the last week in June to the first week in July. The plants are set about sixteen inches apart in the rows, and twelve thousand plants can be set on an acre. They are cultivated until they are nearly one half grown, then the spaces between the rows are covered with a thick mulch of manure. On this manure the water is poured with a hose. The fertilizing matter is washed out of the manure with the water, thus making liquid manure that is immediately available to the plants.

The mulching and the irrigation I depend upon to make the crop a sure one, and without them in a dry season I have found the crop very uncertain, for the growth must not be checked during the time when the plants are heading. The cauliflowers are mostly sold from the market-wagon at from ten to fifteen cents a head. I do not often ship them to the cities, but I think I could make fair profits in so doing, with fine heads. I have found the most money is made in retailing them in the villages, where there is less competition.

W. H. JENKINS.

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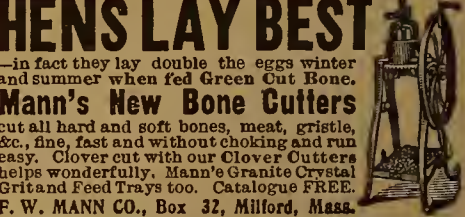


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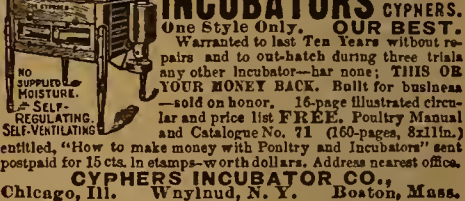
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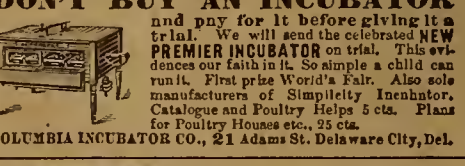
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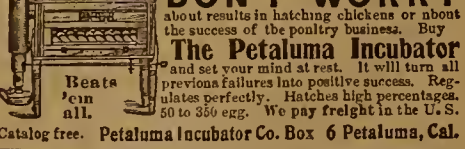
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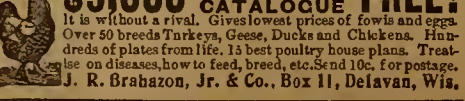
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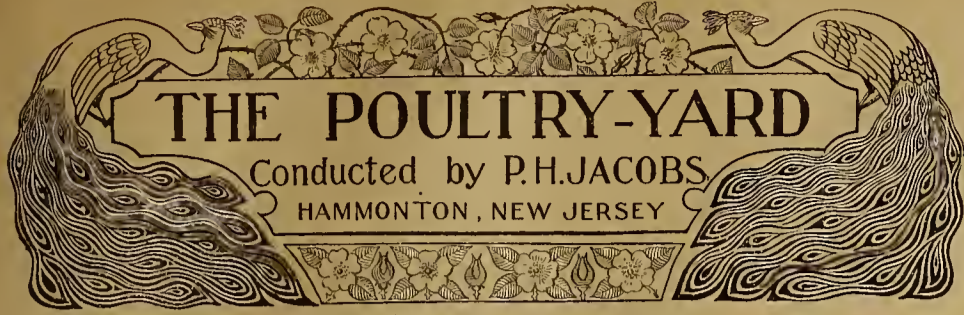
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FATTENING FOWLS

ONLY healthy fowls should be sent to market. They may be fed on ground oats, cracked corn and a little crude tallow, with a variety of other foods, confining not over a dozen in a small yard. The food may be ground and either put up in a trough or on a flat board running along the front of the coop. It may be mixed with water or milk—the latter preferred. It should be well soaked, forming a pulp that is crumbly and that does not run off the board. They must be well fed three times a day (or four times), the first time as soon after daybreak as may be possible or convenient, and then at intervals of four hours. Each meal should be as much as they can eat up clean, and no more. When they have done feeding the board should be wiped, and some gravel may be spread. It causes them to feed and thrive. After a fortnight of this treatment you will have good fat fowls. If, however, there are but five or six to be fattened, they need not have as much room as though there were twelve. Nothing is easier than to allow them the proper space, as it is only necessary to have a few square yards of ground. This requires attention, or fowls will not keep fat and healthy. As soon as the fowl is sufficiently fattened it must be killed, for it will not get fatter, but lose flesh. If fowls are intended for market, of course they are, or may be, all fattened at once; but if for home consumption it is better to put them up at such intervals as will suit the time when they will be required for the table. When the time arrives for killing, whether they are meant for market or otherwise, they should be kept without food or water for twelve or fifteen hours, which enables them to be kept for some time after being killed, even in warm weather.

GRAVEL AND BONE

Sometimes the fowls are well, but they grow poor and sluggish. Sometimes they die and the owner is unable to discover the cause. It is frequently for the want of gravel. The ground is covered with snow for months. It is too cold for the fowls to range out, and it is a long time for them to go without materials to grind their food with, for these little stones in the gizzard are the fowls' teeth. In some parts of the country gravel is not accessible in quantities that admit of gathering it for winter use. The best way is to provide cracked bone. This serves both the purpose of gravel and as a lime supply for egg-shell foundation. To get it in small quantities will make the cost seven to ten cents a pound. The bone thus procured is often "spent" bone; that is, bone which has been exposed to the elements long enough to eliminate from it by decay all the rich animal matter which it contains, which should not be lost, as it is highly nutritive and very stimulating to fowls. To save cost, trouble, and to have always a good article of bone, let each reader get a bone-cutter and cut his own bone.

TESTING EGGS

A simple contrivance for testing eggs is a round pasteboard box five inches long and three inches in diameter, with a cover on. In one end cut a round hole one and one half inches in diameter, and in the other a pointed oval, the shape of an egg, but not large enough to let the egg pass through. When the eggs have been under a hen three or four days an expert can test them accurately, but an inexperienced person should allow them to remain one week. Then in a room having only a lamp take each egg separately, place it against the oval opening, and placing the round hole to the eye, look through toward the brightly lighted lamp, at the same time taking care not to let the thumb or finger holding the egg intercept the light. The eggs which have begun to incubate will show a dark spot at some point, with fine veins radiating from it, while the infertile ones will appear as clear as when perfectly fresh, and these are still perfectly good for use for feeding young chicks, as sometimes many cannot be distinguished from newly laid eggs when broken.

"PIP" AND THE CAUSE

Pip is a name applied to a condition in which there is a dry, horny scale at the end of the tongue. It is generally caused by some affection of the air-passages, especially clogging of the nostrils, by reason of which the fowl is compelled to breathe through the mouth, and exposure to the air causes the appearance of this scale. The breathing becomes noisy, and the sound which has been compared to the word "pip" results, which has given the name to this disorder. Those who treat pip as a serious disease prescribe daily camphorated oil and sometimes raw egg. These remedies, with careful diet, often remove the symptom, and the disease is said to be cured. The horny tip should not be cut off, as was the former practice, but an application of chlorinated soda to it may be useful in helping to restore it to the normal condition. But the better plan is to look for the real cause and treat that. It may be some difficulty with the respiratory system, or it may be the result of indigestion. Some poultrymen do not believe in "pip," and claim never to have seen it or the hardened tongue-tip which is said to characterize it. The name of "pip" is used to designate that there is something wrong, no matter what the cause. Often a few drops of melted lard once a day proves efficacious.

INDIAN GAMES

The Indian Game has reached a front place as an excellent table-fowl. Its breast, so full of meat, its stately carriage and its heavy weight place it where some market-fowls cannot reach it. Strange as it may appear, the Indian Games are nearly as heavy as Brahmans, on an average, and yet they do not so present themselves at a glance. It is claimed that to estimate the weight of an Indian Game one should add about two pounds to the supposed weight. That is, if an Indian Game appears to weigh about seven pounds you can make it nine and the scales will show it. It has long been known that the Game was superior to all breeds for the table, but the Indian Game is to other Games what the Brahma is to the common fowls. Its juicy flesh, small proportion of offal, heavy thighs, full-meated breast and flavor of meat make it something not often seen on the table. The turkey is not far above it. Crossed on Plymouth Rocks, Asiatics, Wyandottes, Dorkings and Houdans a fowl nearly equal to the Indian Game is secured. It impresses its qualities on all breeds. Games, however, do not rank high as layers compared with some other breeds. They may be said, with the Dorking, to be exclusively table-fowls.

GIVE PLENTY OF ROOM

If fowls are too closely confined they will be constantly striving to get at liberty. If they can fly they will get over the highest fences, and in every way they show us—more than do ordinary animals of any sort—how well they love the range of field and pasture. They should, therefore, be given all the space that can be allowed them, and if this cannot be furnished at all, then how much more important it is that one does not keep too many fowls confined within the limits of the fowl-house exclusively. However well the poultryman may feed and tend them, when thus restricted, if there be an excess of numbers crowded together, the hens will cease to lay, both cocks and pullets will get ill, they will lose their flesh, become miserable in a short time, and in no instance can they be made to give good returns when thus managed as to their quarters. If there is but a small house, and no runs outside, pen up a few adult birds in one flock so as to give as much room as possible.

NESTS FOR SITTERS

Make proper provision both for the accommodation of the sitting hen, and her brood when it appears. When it is intended to hatch only one or two broods during the year the matter is comparatively simple, for then the sitters can be accommodated in an empty shed or coop, stable or outhouse.

The only thing necessary to be done is to see that they are kept comfortable and not disturbed by other fowls. It is a mistake to allow a hen to sit in the ordinary roosting-place, as she has not that quietness which is so requisite under these conditions. For nests use a box fifteen inches square and eighteen inches high for large fowls, and three inches less for smaller varieties. This may have no bottom except a covering of fine-meshed wire netting, with solid sides, back and top—the latter perforated with ventilation-holes. The front may, if the nest is to be placed in a house alone, be open except for a crosspiece four inches wide at the bottom. In this box the nest should be made by placing therein a spadeful of fine earth and hollowing this out saucer-shape. Upon the earth will next be placed a layer of clean, dry, soft straw—oat-straw is excellent—and the nest is complete.

GROWTH OF CHICKS

The following is arrived at by careful experiments, and should be preserved for future reference: The cost of feeding a chick is one cent a week for ten weeks, or ten cents for ten weeks. The amount is very small at first, but on the fifth week it is exactly one cent. After the first week the cost increases. The chick should then weigh two pounds, live weight, thus costing five cents a pound. A brood should double in weight every ten days until the chicks are forty days old, when they will gain greater weight, but not so rapidly in proportion to weight. If penned and fattened with carbonaceous food, the chicks will gain one fourth their weight in ten days after they are of the size of three pounds. It is estimated that ten pounds of food, mixed grain, will keep a chick in growing condition for ten weeks; but if the weight of two pounds is expected meat and green food must be allowed. The experiments performed gave the above results as an average. Some breeds of chicks grow faster than others, especially those that feather slowly, and the weights and cost will vary according to the climate, warmth, shelter and management given.

CORRESPONDENCE

PROFIT FROM A SMALL FLOCK.—I would like to give you my experience with eleven hens for eight months, beginning February 11, 1899, and ending September 30, 1899. They laid 103 dozen eggs, which sold for \$12.40, the feed for the hens costing \$1.40, thus leaving a profit of \$11 for eggs. I set five hens on seventy-five eggs, the eggs costing sixty-five cents. I hatched fifty-five chicks and raised forty-five of them, the said chickens costing \$1.80 for feed and selling for \$11.25, leaving a profit of \$8.80 for chicks; thus \$8.80 for chicks and \$11 for eggs leaves a profit of \$19.80, or \$1.80 apiece. Mrs. F. A. E. Star Prairie, Wis.

INQUIRIES ANSWERED

Eggs for Hatching.—Mrs. W. H., Oregon City, writes: "How long will eggs keep if taken from the nest and retained until hens are ready to hatch them out?"

REPLY:—If kept in a cool place and turned twice a week they will keep from three to five weeks, according to conditions, and hatch.

Tarred Paper.—H. R., Winamac, Ind., writes: "Can tarred paper be used for making a poultry-house warm without injury to the fowls?"

REPLY:—It is excellent and will not injure the fowls. Place the paper on the outside of the walls, so it will keep the walls dry.

Drop Off the Roost.—I. R., Patterson, Ill., writes: "My fowls drop off the roost, remain on the floor with their necks stretched out, and soon die. They do not appear sick until prostrate. They have the run of the farm. From five to ten will be affected at once."

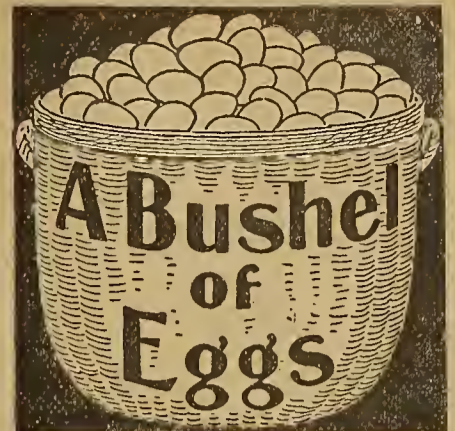
REPLY:—It is difficult to assign a cause unless details of management are given. Probably they have eaten something poisonous.

Distinguish the Age of Fowls.—L. A. W., Kansas, writes: "Please tell me how I may know old hens from young ones besides their having spurs. Mine are a mixture of different breeds."

REPLY:—It is difficult for an inexperienced person to distinguish them. Pullets have brighter plumage, smoother legs, combs and wattles, are more shapely, and their toes and beaks more flexible. One must learn by selecting some and comparing them.

Several Questions.—E. H. H., Warwick, Mass., writes: "1. Will coarse hay in natural lengths serve as a litter in which hens may scratch for grain? 2. Is clover that is cut to half-inch lengths fine enough for fowls? 3. Should steamed clover be fed with the morning mash, or separately? 4. How long before roosting-time should hens be fed the meal?"

REPLY:—1. It will serve well. 2. Yes. 3. It may be given with the mash or he fed separately after sprinkling a little corn-meal over it. 4. About an hour.



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OUR FARM

FOR THE LAND'S SAKE

BY M. G. KAINS

If you own a little field,
For the land's sake
Drain it well to make it yield.
For the land's sake
Drain away excessive water
Which would little seedlings slaughter.
Drain it off, indeed you oughter,
For the land's sake.

If you plant a little crop,
For the land's sake
Don't let cultivation stop.
For the land's sake
Start the cultivator boeing
Soon as little plants are showing,
And all the season keep it going,
For the land's sake.

When the harvest well is over,
For the land's sake
Don't forget your crimson clover.
For the land's sake!
You will surely see a wonder,
After winter bursts asunder,
If you plow the clover under,
For the land's sake.

HOW TO PLANT A TREE

IT MIGHT seem to some persons that setting a tree is such a simple thing that any one can easily do it. The fact is that many practise on this principle and make very poor work of it. It is simple enough, but it requires good common sense, some skill, and a little hard work to do it right. In the first place, the soil in which a tree is to be planted should be mellow. If an orchard is to be planted, the cheapest way to fit the soil is to plow three rounds where the rows are to be, throwing the furrows away from the center, and making the dead furrows as deep and mellow as possible. Little hand-work will then be needed in making a place for the roots. If only a few trees are to be set, the deeper and wider the holes are dug the better, provided the soil is such that water will not stand in them afterward.

The roots should be trimmed, but not the tops, before setting, as the latter can be balanced better by most persons after the tree is set than before. Cut them back but little in the North, but half their length or more where the climate is mild. This matter has been thoroughly tested in many places and by careful experimenters, with this conclusion:

In placing the tree put the heaviest part of the top toward the prevailing summer winds, which are usually from the southwest. A slight inclination of the body of the tree in the same direction is advisable, but not so important as that the main branches should incline that way. Do not set the tree more than two inches deeper than it stood in the nursery.

Now we are ready for the soil. Fill in the bottom of the hole with good top soil, or at least loosen up the subsoil a spade deeper than the lowest root. Gradually fill in with finely pulverized earth that is as rich and dark as can be handily had; but the greatest care should be used not to crowd the roots together, nor to leave open spaces next to them. This is often done by hasty filling-in and allowing clods to go in with the fine soil. The most skilful part of the job is to firmly pack the earth around every root. Tramp and press it in between the roots, making it as firm as it was before having been stirred, if possible. After the roots are well covered, fill up a little higher than the level of the ground with loose earth, and let it remain so, except next to the body of the tree, where it should be tramped to hold it firmly in position.

Before going to the next one, trim it at once. An apple or a pear tree needs about half of the last year's growth cut back, except in case of one-year-old trees. They should be headed with the knife where the branches are desired to begin to come out. A peach-tree should be cut to a single straight stem not over two feet high. This may seem severe treatment, but it is almost essential to the proper growth of a peach-tree. Plum and cherry trees do not need such radical pruning, but more than apple-trees. The reason for these differences in treatment is that the trees of the stone-fruits do not send out their new rootlets to absorb moisture so quickly as the others mentioned. In short, they are harder to start into growth. Shade-trees generally

need about the same pruning as apple-trees. Evergreens need greater care, that their roots may not be exposed to the open air one minute if possible.

The names of all trees should be carefully preserved in a book. Not a day should be lost in making this record, and the labels all taken off the trees. Many good trees are seriously hurt or killed by letting the wires that hold the labels remain where the nurseryman put them.

Puddling trees and plants of all kinds just before setting is a very good plan. It is done by digging a hole some two feet in diameter and a foot deep near where the planting is done. Fill it full of water. Throw in mellow clay soil, and stir it until there is a thin, sticky mud. In this dip the roots of every tree the minute it is trimmed ready for setting. If time enough elapses before setting, allow the mud to dry, dip them again, and plant at once. This will ensure free distribution of common garden-trees to start growth better than without it.

H. E. VANDEMAN.

GOVERNMENT SEED DISTRIBUTION

The American Seed Trade Association has prepared a strong protest against the promiscuous free distribution of common garden-seeds by the United States government through the Department of Agriculture. The points made are as follows:

"1. No class of merchants in this country, in proportion to net returns from their investment, pay more toward the support of the government, both in the form of duties on imported seeds, postage on seeds and catalogues sent by mail, than the seedsmen. It is manifestly unfair that they should be singled out for government competition by means of free seeds, sent by mail free of postage.

"2. The retail value of seeds sent by government to any one person is seldom more than twenty-five cents; but when this amount is multiplied by several millions, and the fact considered that many others expect to receive government seeds, and withhold their purchases from regular dealers until the season is past, some idea can be formed of the great injury worked to the legitimate seed trade.

"3. The original intent of the law was to distribute for trial new and improved varieties only, but as now conducted common standard and, in many cases, old superseded varieties are distributed at an expense, including carriage, of over \$300,000 annually."

The last argument, to the effect that the original intention of Congress was to limit distribution to new, rare or improved varieties of seeds and plants, such as are difficult for individuals to procure, is in our point of view the strongest of the series. It is true that government competes unfairly with the seedsmen, but so it does with the horticultural press in the way of disseminating a vast amount of free literature on garden and farm topics. The abuses of the present system of seed distribution are so flagrant in comparison to the small public benefit that it is high time that it be stopped, and there are indications that the present Secretary of Agriculture is reforming the service, to the extent of re-establishing the introduction and distribution of useful exotic plants, but he has little power to alter the present method as long as Congress insists on making the appropriations. It appears that there is an elaborate system of jobbery connected with the government seed distribution. Congressmen have been elected on the strength of the seeds mailed to their constituents, and to make their promises good have bought the quotas of city members, costing the government the greater part of \$1,000, for sums as small as \$75. City members, on the other hand, are often willing to trade their seeds for the shares of various expensive and finely illustrated books, published by the departments, belonging to the seed-hunting country Congressmen. The present seed distribution seems to be a bad business all around, and the farmers of the country should see to it that their representatives in Congress vote to stop it.—Rural New-Yorker.

WHAT IS A GOOD YOUNG COW WORTH?

That depends upon what she is to be kept for and what sort of a cow she is. If she is kept simply and solely for the milk she can make the answer is easily reached. We have only to learn how much she eats and how much milk she makes. If she is to be kept for butter and cheese making the question will be, How much butter or cheese will

her milk yield in the churn or vat? If, on the other hand, she is to be kept as a breeder, something else must be learned besides and beyond how much milk, butter or cheese she can make. If she is to be used on a milk route, and yields, say 6,000 pounds, or 563 gallons of milk in a year, that sells for, say twenty cents a gallon, or \$130.60 a year, allow one half of this for food, attendance on cow and cost of delivery, and we have the yearly worth of a milk-cow in a milk route, under the most favorable conditions.

By a similar process of figuring it is easy to estimate the money value of a cow in the butter or cheese dairy. When we come to figure on the value of a cow as a breeder, however, the problem becomes more involved. New factors that are never fixed come into play and our arithmetic fails us. Foremost and most forceful of these factors is heredity, as recorded in pedigree. A young cow whose physical appearance and performance show that she has inherited the breeding and milking qualities of a long line of famous ancestors is worth infinitely more than one of precisely the same form and performance whose ancestors are unknown.

What a cow is worth as a breeder depends not alone upon the cow herself, but quite as much upon what her ancestors did. To her money value as a milk or butter maker must be added her higher power as a cow-maker—as a transmitter of inherited powers.—The Jersey Bulletin.

FALL AND WINTER WORK AGAINST INJURIOUS INSECTS

Many of our most destructive insects pass the winter either among matted prostrate grass, among fallen leaves or especially along osage hedges, lanes and fence-corners. Whenever such places can be burned over in late fall, winter or early spring the effect will be to destroy many of these. Instead of having our annual clearing up in May, as many do who clear up their premises at all, this should be done during the seasons above mentioned, as by May many of the destructive insects have left their winter quarters and are beyond reach.

In the orchard the falling of the leaves will reveal cocoons and even insects themselves upon the trees that cannot be easily detected while the foliage is still hanging to these trees. Many insects pass the winter within a folded leaf that is attached to the twig to prevent it from dropping off, and in this way deceive the eye of the orchardist. It will pay to go over the orchard and remove the cocoons and dried leaves clinging to the trees.—Ohio Experiment Station.

EXTRACTS FROM CORRESPONDENCE

FROM VIRGINIA—THE FARM-HAND.—I would like to say a few words concerning the farm-hand. I have worked out about three years, and have found it tough, rough and tougher. It is push from before daylight until after dark, and poor pay, as \$10 is about the best a fellow can do around here. I am going to seek other employment next year. It takes about all a fellow makes to keep him in good clothes. What is the use of a person working just to keep himself in clothes? I am working for one of the hardest working-men in the country, and will only get \$115 for the year, which is not quite thirty-seven cents a day. Farmers, is this right? Think over it. If I ever own a farm and hire hands I am going to treat them with respect. We should do unto others as we would have them do to us. Troutville Va. RAKEHANDLE.

FROM FLORIDA.—I came to Florida eight years ago for my health, and live on a farm one and one fourth miles south of Tallahassee. As far as the climate and the people here are concerned, they are O. K. As to the soil, the principal part consists of old worn-out plantations, some of it no better than so much blue sky. At the same time there is some good land here that has been properly fertilized and cultivated by the white man. The principal part of the land is cultivated by the negro, and he does no fertilizing, and burns the weeds off instead of plowing them under. It is astonishing, however, to see how a little fertilizer of any kind improves the land. We want more Northern or Western farmers. But I would not advise anybody to sell out a good farm. Come and rent a farm for one season. In the meantime look around. At the end of the year, if the prospect is satisfactory, it is time enough to invest. There are some people here making money in farming, fruit and stock raising. The dairy business is good. Ordinary land will raise from 20 to 50 bushels of oats to the acre; 20 to 40 of corn; 50 to 150 of sweet potatoes, and other produce accordingly. Corn and oats are seldom worth less than 50 cents a bushel; sweet potatoes 40 to 50 cents a bushel. J. B. S. Tallahassee, Fla.

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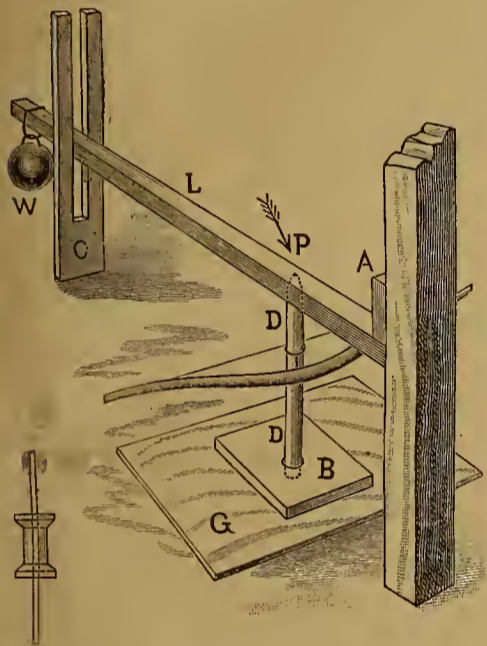
QUERIES

READ THIS NOTICE

Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two WEEKS before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Wintering Cabbages.—M. H., Toronto, Canada. Cabbage should be gathered on the approach of severe weather, for it will not stand safely more than ten degrees of frost. Where one has a good cold cellar a very good way to keep a small amount of cabbage is to pull them with the roots and plant them in earth in the cellar. In mild sections a very good way is to stand the cabbages on their heads on the approach of cold weather, on dry ground, outdoors, and cover them over with about three inches of earth and perhaps twelve inches of mulch, or sufficient to keep out the frost. Treated in this way the cabbage can be cut out at any time during the winter by removing the mulch.

Drilling Hole Through Glass.—W. A. D., Modesto, Cal., writes: "For drilling holes in glass use a hollow drill of brass tubing the size of hole wanted. Supply with a medium grade of emery kept wet with spirits of turpentine. Use a how, or fiddle drill as it is sometimes termed, which gives the tube or drill a rapid motion backward and forward.



If the drill be small, fit it into a common spool; wedge it fast and put the cord of the drill-bow around the spool. In the accompanying illustration A is a cleat on a post; L a lever on top of the drill; W, weight on drill; P, plug of wood in drill-tube; D, drill-tube; B, guide-block; G, glass, and C, two upright guides for lever, thus allowing one hand to feed drill, the other to run the bow. L is countersunk at P to let the drill have a bearing. Oil at P."

VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two WEEKS before the date of the issue in which the answer is expected. Veterinary queries should be sent directly to DR. H. J. DETMERS, 1315 Neil Avenue, Columbus, Ohio.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

Bloody Milk.—G. W. W., Tarbrook, S. S. (?) Please consult FARM AND FIRESIDE of August 1st and other recent numbers.

Probably Swine-plague.—J. M. R., Snoqualmie, Wash. The symptoms you describe are such as are often observed in swine-plague, or so-called hog-cholera.

Milk Comes in a Spray.—E. H. H., Wevertown, N. Y. Examine the opening in the teat of your cow, and if you find it partially closed by small excrescences, ask a veterinarian to remove them. It may be best, though, to wait until the cow is dry.

Udder Full of Small Sores.—F. A. C., Bear, Tenn. Anoint the sores on the udder of your cow a few days in succession with a mixture of olive-oil and lime-water, equal parts, and see to it that the cow is not only kept clean, but also kept in a clean place and is provided with clean bedding.

Cut by a Wire Fence.—L. T. H., Joppa, Texas. Dress the sores twice a day with a mixture of equal parts of iodoforn and tannic acid, cover them with absorbent cotton, and then keep the legs well bandaged. Commence applying the bandages at the foot.

Warts (?)—N. A. W., Monticello, Minn. What you call warts, it looks to me, according to your statements, is horny scar formation. If it is too great an eyesore, employ a veterinarian to excise it and then to superintend the process of healing, because if grease and tar are again applied after the scar has been excised the second scar may be even worse than the first.

Worms in Cats.—B. H., Cincinnati, N. Y. Take a few grains of sautoin, mix it with a little molasses or honey, say half a dram to each grain, and then smear a quantity containing not more than half a grain of the sautoin on a fore leg of each of your cats, no matter whether they show plain symptoms of sickness or not. When those symptoms you describe have already set in it is usually too late to save the animal.

Trouble in Making Butter—Egg-sucking Dogs.—C. P., New Hampshire, Ohio. If the udder of your cow is in a normal condition the cause of your trouble in gathering butter is not in the cow, but outside. Therefore, the creameryman and not the veterinarian should be consulted.—As to your egg-sucking dog there are several remedies. So, for instance, you may fill an egg-shell with bot sand, or with red pepper, and give it to the dog, and be soon will find "a hair" in the egg-sucking business.

String-halt.—E. C. S., Wartrace, Tenn. The ailment of your colt evidently is string-halt. Unless the cause can be ascertained and can be removed a treatment is useless. All the best authorities seem to agree that string-halt may be the result of various different causes, and, in consequence, distinguish several kinds of string-halt; but it also seems that they find it rather difficult to decide, in most cases at least, what kind of string-halt it is and what cause has produced it. Only in some comparatively few cases a careful examination, combined with the history of the case, will make a correct diagnosis possible.

Four Horses Died.—H. K., Freeport, Kan. The symptoms you describe, it appears to me, are only superficial and of minor importance. There must have been others of far more diagnostic value, which, it seems, have escaped your observation. Besides this, all four animals died, and it would have been very easy to throw light upon the nature of the disease by making one or more post-mortem examinations. The hair that came off probably did so where you had applied your liniments. As it is, I cannot tell you anything about the nature of the disease and its probable causes.

Stiffness.—J. M. S., Hollywood, Ala. What ails your mule is general stiffness caused by a partial degeneration of the muscles in consequence of too much hard work, and of course is incurable, though some improvement can probably be effected by an exemption for a long time from any hard work and by allowing all the voluntary exercise the animal is willing to take. There is no string-halt about it. Your mule, you say, cannot lift his feet higher than twelve inches from the ground, while in string-halt, at least at the beginning of the exercise, the foot of the affected leg is at every step often raised high enough to touch the abdomen.

Uterine Catarrh.—J. H. H., Gorman, N. C. If your mare is really not older than twelve years you may succeed in effecting a cure if you irrigate her internal sexual organs once a day for several days in succession with a one-per-cent solution of creolin in warm water. The simplest way to do it is to take a large funnel of either glass or tin, slip a rubber tube over the end, insert the other end of the rubber tube, which ought to be from six to eight feet long, into the vagina of the animal, or if it is found that the os is open, into the uterus itself, then to raise the funnel as high above the horse as it conveniently can be done, and to pour in the fluid, which by its own weight will go where you want it.

Fistulous (?) Withers.—K. P., Leavells, Va. Please consult answer to K. C., Mechanicsburg, Ohio, in FARM AND FIRESIDE of November 1st. If an abscess is developing, have it opened at the lowest possible point, so as to secure perfect drainage, and then dress the whole abscess cavity twice a day by filling it with absorbent cotton saturated with a four or five per cent solution of carbolic acid. A fistula requires for its successful treatment the performance of one or more surgical operations, but the ability to perform them in a proper manner cannot be acquired by such a brief description as I would be able to give in these columns, nor will the fact that a veterinarian is not convenient enable any one to perform the same.

Paraplegia in a Sheep.—H. J. G., Mount Ayre, Ind. The paraplegia, or one-sided paralysis, of your sheep is probably caused by some morbid change in the opposite hemisphere of the brain. What this morbid change, which undoubtedly causes pressure upon the motory centers, consists in may possibly be ascertained by a careful examination, and will be revealed by a post-mortem examination, which to make you will soon have an opportunity if your sheep is yet alive. It is not impossible that you will find a cystworm in the right hemisphere of the brain. If you do, be sure to cremate the head of the sheep and the cystworm, so that no dog may get hold of the latter and thus raise a lot of tapeworms.

Scratches.—N. W. C., Philomath, Oreg. If your horse is subject to so-called scratches, see to it that his legs and feet are well cleaned every day, that the horse occupies a dry and clean floor, and if then, in spite of these precautions, scratches should make their appearance, make twice a day to all the sores, small and big, a liberal application of a mixture composed of liquid subacetate of lead, one part, and olive-oil, three parts. Maybe the straining in the skin of the lower extremities, thickened perhaps by the repeated attacks of scratches, has something to do with the peculiar actions of the horse when drinking; it is, however, also possible that these actions are nothing more than a bad habit, acquired, perhaps, when the horse had scratches.

A Splint.—F. McC., South Milwaukee, Wis. What you describe is a so-called splint, which, situated where it is, low enough not to extend to the knee-joint, is not apt to cause any lameness. As the animal is yet young, and the splint itself a recent production, the latter most likely will gradually get smaller without any treatment, for the yet porous exostosis will gradually contract by getting denser, so that when the colt is a full-grown horse the now rather large splint will be small and but very little of an eyesore. The contraction and eburnification may be somewhat hastened either by an application of constant but moderate pressure, or by thoroughly rubbing in once a day a little, not more than the size of a small pea, gray mercurial ointment.

Warbles.—J. H. M., Covina, Cal. Your opinion about the workings of the gaddy of cattle is about right, and the "cattlemen" told you a fib. The best protection during the summer is to keep the cattle in a very good condition. Covering the same is also resorted to in a good many places, but the covering you used was probably too hot and too heavy and undoubtedly not well enough fastened. A little later in the season you will find in every warble a small round hole. It will then be advisable to press out the larva of each one of them, and to crush it with the foot as soon as it falls to the ground, because if this is not done the larva will burrow into the ground, change there to a pupa, and the latter, after some time, to a fly which will be ready for business next summer.—About hollow tail, see what has been said in FARM AND FIRESIDE of October 1st.

Bitter Milk.—A. J. P., Milford, Mich. It is evident from your communication that your cow is innocent and has nothing whatever to do with the defective condition of the milk, which is all right when milked, and only acquires its bitter taste after it has been milked out for some time. The milk, therefore, becomes infected where it is kept. It is difficult to ascertain where and how the infectious principle has been introduced, and where the infection is taking place, but it surely is somewhere, and consequently it will be necessary to carry the disinfection much further than would be required if the exact source of the infection were known. Boiling-hot water will probably be the best and cheapest disinfectant wherever it can be applied without damage, and a thorough ventilation will have to follow. In many cases bitter milk will be produced if spoiled food, straw of leguminous plants, as peas, beans, etc., or food containing bitter substances, are fed to the cows, but this seems to be excluded in your case.

Probably Epileptiform Fits.—H. D. C., Eminence, Kan. Symptoms like those you describe are observed in incomplete epileptiform fits. Although the same, as a rule, have a different source, it is not impossible that in your mare, being already an aged animal and perhaps not in the very best of condition, the same may be produced by the presence, not of bots, as your physician told you, but of a large number of worms, belonging to the species *Ascaris megalocephala*, in stomach and duodenum. If such should prove to be the case it may be possible to remove the attacks by expelling the worms. This may be done by giving on an empty stomach, two mornings in succession, from two to three drams of tartar emetic combined with half an ounce of powdered marshmallow-root and half an ounce of powdered licorice-root and an addition of just enough water to make a stiff dough to be formed into two cartridge-shaped pills. After the medicine has been given the mare should not be fed until six hours later. Epileptic and epileptiform fits can be removed only if the causes can be ascertained and be removed. As this is but seldom the case, the disease as a rule is incurable.

The Ankylosis of a Spavined Joint Severed.—C. S., Kerr, Pa. You say your horse had spavin and was lame five years ago, and that the lameness at that time yielded to treatment. This undoubtedly was brought about by a production of ankylosis, or firm union, between the articular surfaces of the diseased bones (see article on spavin, etc., in FARM AND FIRESIDE of November 15th). The horse, according to your statement, remained free from any lameness in the spavined joint until last spring, when, perhaps by some severe exertion, by a misstep, or by a similar cause, the union, or ankylosis, between the articular surfaces of the diseased bones became severed, and in consequence the horse is and has been lame since last spring in essentially the same way as five years ago. The lameness simply disappeared because the ankylosis made any motion and, therefore, any pain-producing friction between the diseased bones an impossibility, but the existing morbid changes remained essentially the same. It is possible, though by no means certain, that subjecting the horse again to treatment (see above-mentioned article) will once more produce ankylosis. In your case I would give preference to judicious flogging.

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MAKING THE CHILDREN'S CHRISTMAS PRESENTS

"May the glory and love of the Christ-child surround us
As shone the light down from his star in the East."



Put your heart into your Christmas work more completely this year than ever before. A generous spirit and loving fingers will beautify very prosaic materials.

The dear little babies are first in our hearts and first on our Christmas list. One of the early gifts appropriate for a young baby is a christening-robe. The robe is to be wrapped around the child when it is carried to the church to be christened. White silk hand-somely embroidered in white is the material used. A dainty sack of fine white flannel is scalloped and the edges buttonhole-stitched. The embroidery design is a tiny green fern-branch of the maiden-hair variety. The effect is exquisite. The little Japanese house-sacks for infants are delightfully comfortable and artistic.

An embroidered pillow-slip is a welcome gift. An old-fashioned tin rattle with a straight handle can be made into a pretty gift by a covering of gay-colored worsted in short crochet. Tie a tassel-tipped cord of the same where the handle joins the rattle.

Small children welcome paper dolls with tissue-paper garments or costumes cut from fashion magazines. The customer is shown jointed, undressed dolls with papier-mache body, bisque head, moving eyes, flax hair, from twelve inches at twenty-five cents, to two dollars and twice the former height.

In the rare instances when a child does not admire dolls he—it is sometimes she—will surely enjoy cloth animals. If he has none now, start a menagerie.

Mark evenly a smooth piece of cardboard in order that the spaces may be of equal size, and letter neatly. Make several alphabets, using different colored inks—red, blue or black. Pictures, posters, etc., form veritable treasures. These are best preserved in scrap-books. Many of the advertisements in the magazines can be effectively used. Do not you remember—not "Ben Bolt," but the sweet child peering into the lily?

What would the boys like? A pot of blossoming hyacinths once pleased one small lad. "My heart feels their fragrance," he quaintly told the giver.

A bolster-shaped pillow of blue bunting is embroidered with white stars and gay red ribbons are tied at each end, for a patriotic boy's own room.

An ingenious father or brother could make a very satisfactory blackboard. A new style of scrap-book contains interesting pictures, and the owner is expected to write the stories himself. A square writing-portfolio of blue linen is both attractive and practical. Old kid gloves were used for a round, businesslike pen-wiper, gray and yellow with initial in blue and white silk on the cover.

A whisk-broom and fancy holder are chosen for a neat small boy.

Pretty little boxes may be made from heavy water-color paper. Christmas messages, flowers, etc., may be employed for decorations. These are charming gifts when filled with delicious home-made candy.

This quotation, the motto of the Duke of Manchester, "Defeated I may be, but I surrender never," will appear in gold letters on a white linen calendar. Will not the sturdy little soldier rejoice.

A nimble crochet-hook, pretty worsted and a glad heart form a perfect combination for Christmas-gift making. Useful leggings and slippers, dainty fascinators and the warmest petticoats are all possible.

Fancy collars in white, blue or red duck or pique and finished with rows of machine-stitching, insertion or braid are fashionable. One model "falls square at the back with V effect in front." Two or three dainty handkerchiefs are inexpensive, delightful work and very acceptable gifts.

"A happy thought" was a doll dressed like an angel, long white robe, long hair, and wings. The child was taught to tell her thoughts to it and the little angel would help her. Its influence certainly did.

A round fan is smoothly covered with holly-red velvet. A circular pocket of red and white silk is added. The edges of this photograph-holder are finished with handsome red cord, prettily draped and tassel-

tipped. Here are several blue prints of famous paintings. A beautiful lesson will they teach.

On a linen photograph-frame a delicate pink rose with buds, and this wisdom, "Gentle words are roses sweet," are skilfully embroidered.

If you are an adept with a paint-brush, rejoice; a chair of one's very own, though found in grandmother's attic, with its fresh cheery coat of paint, will become a precious possession. A small round stand after a skilful renovating last year held a graceful fern. Proud indeed is its young owner, for it still flourishes.

A Christmas booklet of water-color paper is shaped like a large white wing, has the one word "Christmas" in gold letters, and within this wish:

May joy and peace float down to thee
As on an angel's wing,
And in thy tiny heart be cradled
New love for the child and King.

ADELE K. JOHNSON.

FANCY STOCKING-TOP—NO. 2

Four-ply yarn in dark blue and heather. Four steel needles No. 12 or No. 13. Cast 32 stitches on each of the three needles. In blue (b) knit 1 round, purl 2 rounds, and knit 1 round. Repeat these 4 rounds in heather (h), and again in b.

First round of pattern—4 h, 4 b. Repeat all around.

Second round—3 h, * 4 b, 4 h. Repeat from *, end 1 h.

Third round—2 h, * 4 b, 4 h. Repeat from *, end 3 h.

Fourth round—1 h, * 4 b, 4 h. Repeat from *, end 3 h.

Fifth round—4 b, 4 h. Repeat.



Sixth, seventh, eighth, ninth and tenth rounds—Same as fifth.

Eleventh round—3 b, * 4 h, 4 b. Repeat from *, end 1 b.

Twelfth round—2 b, * 4 h, 4 b. Repeat from *, end 2 b.

Thirteenth round—1 b, * 4 h, 4 b. Repeat from *, end 3 b.

Fourteenth round—4 h, 4 b. Repeat. Work these fourteen rounds in backward sequence till you have worked the twenty-eighth round, which will be exactly like the first round. Knit and purl the twelve rounds of the border as at the beginning of the top, and commence the stocking.

A TALK TO FARM BOYS

In the first place, no matter what the opinion of other people may be, and perhaps your own as well, there is no more honorable occupation, or one having wider opportunities, than the business of farming. There is nothing that any man may aspire to that a farmer may not hope to win. No business will return more for the amount of labor and capital invested, if intelligently applied, than farming. There is no business that leads to success without labor guided by education. The farmer is not a drudge. The fact that there are so many hard-working, poor men on farms, rented or mortgaged, is that they have been attempting all their lives to have muscular force make up for lack of mental ability to farm. There is no uneducated successful farmer. A man may succeed who has no book-learning, but he has learned his lessons from Nature herself and the book of experience.

There are failures in every branch of business, and in every case it is lack of education for the business, or a natural unfitness for that particular calling that is the underlying cause of the failure. It is so with

farming. The man who lacks ability to carry on other business will make the most dismal failure of farming as well. For the poor boy who has nothing but his health and ambition to aid in his struggle for manhood there is no better place in the world than on a farm. Study farming. Learn the science of it. Read farm literature. Talk with your neighbors of their methods and experiences.

Aim high, but do not hesitate to begin low. You cannot hope to reach the top without some falls, and if at the bottom it won't hurt so much and you can learn the lesson as well. You won't be overburdened with capital, so must look well before taking a step. Study and plan ahead, always allowing for a wide margin, and do not count on more than half the amount of profit your figures say will be yours. This will save you many bitter disappointments, and you will be greatly encouraged should you get more than you expected. Make every dollar you can honestly, and add it to your little bank account. Every young man should start a bank account. It is what he must call upon when ready to buy that farm—for of course every farmer must own his own farm. Swell the account with every dollar you can add to it. Watch it grow, and plan how to raise it another five or ten dollars. And while laying by cash to buy the farm, lay by the education to work it when it is yours. Don't think that you are wasting your life working for some one else, but think rather that you are going through a college course, getting a business education, experimenting on some one else's farm, with board, tuition and apparatus furnished free and getting good pay besides. This is your position, and if you appreciate it your farm, which must be your diploma, will be a credit to you.

If circumstances will permit, it will be of the greatest benefit to you to attend some agricultural school. Of course, you have a good common-school education, perhaps a high-school, maybe even a college education; but an insight into the science of farming will be of great benefit, as it will teach intelligent observation, which is half the battle.

Subscribe for two or three good farm papers, study them carefully, and discuss the subjects of their columns with your neighbors. You will learn much from the actual experience of men right in your neighborhood in this way. You will not feel able to purchase many books, perhaps, but you should have a few standard works on farming, gardening, stock-raising, etc. You can learn much by discussing these with men whose business make them specialists in these lines. Of course,

you should not ask advice of a veterinary surgeon without the expectation of paying for it, yet this would not apply to discussing points of his business with him in a social way.

Be diligent, and when your apprenticeship is done, and you are able to make a large enough payment on your farm to reduce the interest below what your rent would be, and you feel confident that you can meet the payments, buy the farm. But go slow. Do not venture too far while there is a debt over you. Push your business to the utmost. Work to improve your farm, plan each season so that the next will be more profitable to you than the last, and some not far distant day the debt will be paid and you will have a good farm, well cared for, all your own. Then you will be ready for living—for widening out and developing your resources.

Being an intelligent young man, of course your stock will be only the best, and the careful breeding you have already given them has started the finest herd of cattle, the best drove of swine and the most profitable yards of poultry in the country. Your business now has only to develop and increase to bring noble returns. Your career as a successful farmer is assured.

And, boys, do not forget that your calling is a gentleman's calling. While about your work in the fields it may be necessary to dress in coarse, strong clothes of a cut suitable for the labor you are performing; but it is not necessary to wear a heavy, dirty coat when off duty, and it will take but a moment to change your heavy boots for light footwear. And when your business calls you into town, you can afford to put on a neater suit than your work-clothes. You will be more respected and looked up to for it. It pays every business man to advertise, and no one more than a farmer. Half the secret of prospering is in making the world realize

that you are prosperous. You can advertise your calling in no better way than to let the world see that your occupation brings in enough that you are able to live and dress as a gentleman.

The object of all effort should be the home. Live always within your means, but realize that nothing is too good for the home and home folks. Let your ambition be to make your farm an ideal farm, your home an ideal home. J. L. IRWIN.

UNEXPECTED POETRY

There were many times in farm-house life which were very disagreeable to Mrs. Evans. Pig-killing, lard-trying, sausage-making and soap-making were among these dreaded times. That particular morning as they were eating breakfast by lamplight she was fretting at her luck, and finally said, "I would like to see where the new minister's poetry would come in here. He said last Sunday that we could find prose or poetry in our lives about as we chose. And he talked about thorns and roses and what seemed to me a good deal of nonsense; for he will find out a different side of life if he stays in the country and mingles with the people. There is not any poetry in the hard work of farm life."

Mrs. Evans continued, "Pa, I don't suppose you will send the young minister's family a sparerib and tenderloin as you used to do to the old elder's people?"

Mr. Evans was so used to the sharp words of his wife that he never minded her complaints, but often said to the children, "Ma don't mean half she says." And he good-naturedly replied, "Guess we better not break off a good habit. It's more blessed to give than to receive, you know."

So when the pigs were cut up Mrs. Evans put a clean collar on her boy Joe, and he combed his hair a little extra, and took his basket a long way to the minister's house, where he was very kindly received. While he was getting warm and chatting with the minister's wife the minister was writing a note to thank Joe's father and mother for the sparerib. Joe thought to himself that he could as well tell his father and mother what they wanted him to, but he said nothing. Soon the note was ready, and Joe got home with it. The eldest daughter was the best reader of the household, so she read the note aloud as the family were waiting a little for supper. The note was in rhyme, and read as follows:

I had a sparerib sent me one day,
And it set me to musing somewhat in this way:

A pig is a wonderful creature, I said,
From the curl of its tail to the top of its head.
From the earliest age the poor thing is sent out,

To go through the world on the strength of its snout;
Perhaps there is no creature on earth
So abused as the pig from the day of its birth.

That vast congregation of Israel's race
Regard it with horror; 'tis to them a disgrace
To touch or to eat of such manner of brutes
As Moses condemned in the first institutes.

And not only the Jew, but others inclined
To think when Diabolus got into the swine,
And put the whole herd that was feeding to rout,
That having got in, he has never come out.

We've many good laws in this free land of ours,
Restraining the wrong by conservative powers,
But the hoast of them all is the trial by jury.
If that is infringed a commotion and fury
Is instantly raised, and the people in might
Declare they will never be shorn of this right.

In the case of the pig the law's set at naught;
Without mercy or justice the poor thing is caught,
Condemned unto death, and it can't be denied
That the creature is hung before it is "tried."

My musings are shaped by no definite plan,
But I plead for a pig because I'm a man.
And motives of honor my feelings have swayed,
For it was from a sparerib that woman was made.

The minister had won the Evans family sure enough with the rhyme. For some reason people on the farms read carefully the accounts of trials by jury—seldom one escapes their attention—and just that hit "hung before tried" amused both Mr. and Mrs. Evans very much. Mrs. Evans said she would keep the rhyme, and it would brighten up all the pig-killing seasons of her life. Mr. Evans did not say, but thought almost out loud, "The minister has tact, anyhow, for the women were sure he was way beyond having any interest in country life."

MARY JOSLYN SMITH.

LOVE IS ALL

(In protest against the sentiment expressed in "The Man With the Hoe.")

Let labor holdly walk abroad
And take its place with kings,
For who has labored more than God,
The maker of all things?

The time has come, aye, even now it is,
To rank that parable in Geuesis,
Of God's great curse of labor placed on man,
With other fairy tales. Why, he began
All work himself! He was so full of force
He flung the solar systems on their course
And buided worlds on worlds; aud, not con-
tent,

He labors still; when mighty suns are spent,
He forges on his white-hot anvil—space—
New stars to tell his glory aud his grace.

Who most achieves is most like God, I hold;
The idler is the black sheep in the fold.

Not for the hardened toiler with the hoe
My tears of sorrow and compassion flow.
Though he be dull, unlettered and not fair
To look upon; though he is howed with care,
Yet in his heart if dear love folds its wings,
He stands a monarch over unloved kings.

One sorrow only in God's world has birth—
To live unloving and unloved on earth;
One joy alone makes life a part of heaven—
The joy of happy love received and given.

Down through the chaos of our human laws
Love shines supreme, the great eternal cause.
God loved so much his thoughts burst into
flame,

And from that sacred source creation came.
The heart which feels this holy light withu
Finds God aud mau and beast and bird its
kin;

All class distinctions fade and disappear.
Death is new life, and heaven he sees a-near.
Brother is he to "ox" and "seraphim,"
"Slave to the wheel," mayhap, yet kings to
him,

And millionaires seem paupers if from them
Life has withheld its luminous great gem.
Or if his hadge be scepter, hoe or hod,
That man is king who knows that love is God.
—Ella Wheeler Wilcox.

THE BORROWING HABIT

AT THE head of the list of "don'ts" should stand "Don't borrow," for it is impossible to disguise the fact that an habitual borrower becomes in course of time the standing nuisance of any neighborhood: The male borrower is not so greatly to be dreaded, for as a rule his propensity manifests itself with reference to money only; therefore, when his character in this respect is once established it is not impossible for the men of his set to avoid him. But alas! we can never know which one of our personal belongings is adapted to the needs or tastes of the female borrower, nor how soon we may be called upon to part



with it. She has a wide range—the female borrower—and does not hesitate to ask for anything, from a postage-stamp all the way up to a horse and carriage.

Mrs. Jolly with her large family of rollicking children came to live next door to little Mrs. Jones, whose household consisted only of herself, her husband, and an exceedingly well-bred English pug. All went smoothly

for a short time. Mrs. Jolly was formally welcomed to her new surroundings with due cordiality by Mrs. Jones, the call had been returned, and upon the principle of that attraction said always to exist between two of unlike temperament a violent friendship seemed imminent. However, the approaches to this began to be secretly undermined by the insidious encroachments of the borrowing habit. Indeed, the acquaintance was but a week old when the borrowing set in. First it was tea—"Mother forgot to order it," Jenny Jolly explained as Mrs. Jones handed her the desired quantity. Then it was sugar—"Only a teacupful," shouted Mrs. Jolly from her kitchen window; the teacup, and small boy bearing it, having preceded the verbal request, stood waiting in the meantime upon Mrs. Jones' back doorstep. The following day it was potatoes—"Father" had brought company home to dinner and they were "all out of potatoes." Mrs. Jones did confess to her husband that evening that as much as she liked Mrs. Jolly she wished the latter wouldn't borrow so often. "It tires me so to wait upon the children," she explained; then added, as if fearing to be understood as having entered a complaint against her new neighbor, "It's because they are not settled, I suppose; it will be different when their house is in order and she knows where to find her own things."

Ignorant Mrs. Jones! Would Mrs. Jolly's house ever be "in order?" Would she ever know "where to find her own things?" These questions presented themselves later as problems to be solved, for as time went on there was no perceptible change.

The relation between borrowing and paying is necessarily so close—the former being in itself a suggestion of the latter—one would hardly suppose that an expert borrower would almost invariably prove a bad paymaster, yet such is the case, and Mrs. Jolly was not an exception to the general rule. Many of the articles borrowed were returned, although none of them promptly, and when these articles chanced to be household stores there was always a difference of some kind between the thing borrowed and the one returned. Often the returns were upon the "instalment plan"—the first payment being the only one made; sometimes when the required standard in quantity was reached the quality was far below par.

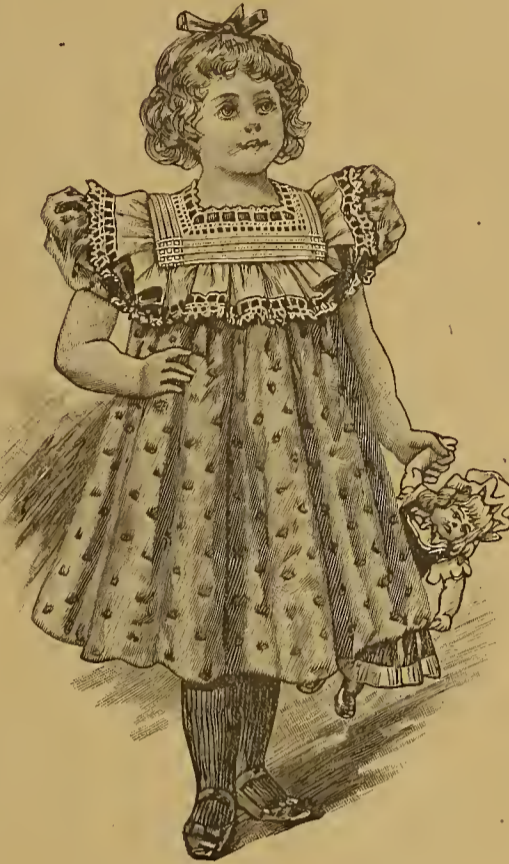
After much wise thinking Mrs. Jones conceived a scheme by which she could in a measure preserve her own superior butter, fresh eggs and first-class tea and coffee from the inroads of the borrowing habit, and yet not sacrifice the friendly feeling existing between herself and her neighbor. She carefully set aside all the returns made by Mrs. Jolly, and out of this store, as long as it lasted, filled the cups and plates and platters that came a-borrowing.

One morning a ring of the front door-bell collided with a peremptory rapping at the back of the house; when Mrs. Jones, after striving to open both doors simultaneously, found Tommy Jolly at one demanding the lawn-mower, and Jenny at the other with a polite request from her mother for a sheet of paper and an envelop, she for the moment did lose her patience. A scarcely perceptible lack of her usual cordiality was, however, the only evidence of this, and the children with the borrowed articles were marched together out of one door without a word.

The culminating stroke came later, and at a time when friendship between the two women had so nearly reached the vanishing-point that skilful ruling of her own spirit on the part of Mrs. Jones was required to keep even the faint semblance of it in sight. It died a natural death on the day that Pedro, the pug-dog, was surreptitiously borrowed by the four younger members of Mrs. Jolly's household, harnessed tandem with Jemima, the Jolly cat, which he hated, and made to draw a miniature express-wagon containing four Jolly dolls.

That the feat was finally accomplished was due only to the determination, perseverance

and ingenuity of the four Jolly children. As the four dolls, however, were being thus borne in triumph to a new residence built the day previous for their occupancy, a weak strap in the extemporized harness gave way, affording opportunity for Jemima to jump upon Pedro's back, where she made such unscrupulous use of her claws as to cause his dogship to yelp and howl most pitifully. The unwonted commotion brought both Mrs. Jones and Mrs. Jolly to their respective verandas, whereupon Pedro redoubled his fran-



tic efforts to break loose, and finally succeeding, stopped to revenge himself by taking a generous piece out of the well-filled stocking of little Serena Jolly. This, an act unprecedented in all his career, capped the climax. There was no more borrowing, but the friendship, too, had come to an end.

The above story is not an imaginary one, nor is it an exaggerated instance of what is every day accomplished by the borrowing habit. Mrs. Jolly is not a myth, but a living, breathing reality; she makes for herself a place in almost every community, and never fails to become one of its disagreeable component parts. Her daughters are to be found where the interests of many congregate and may be made to conflict—in factories, behind counters, in work-rooms of every kind, as well as in school and in society; and wherever they may be, the borrowing habit is there let loose, many are victimized, and chaos reigns.

Not more accurately does the traditional straw serve its purpose by indicating the direction of the wind than does the borrowing habit serve as an index to individual character; it is a by-path into which stray the improvident, the thriftless, the idle, the incompetent, and those who are careless of the needs and conveniences of others. The shop-girl borrows the week's wages of her thrifty companion because her own have been forestalled in the spending before they were earned. The school-girl walks off with the umbrella and overshoes of her room-mate because her own are either worn out or lost, or perhaps are not conveniently near at hand. In society it is always Mrs. Jolly and her daughters who, when about to give an entertainment, send out and borrow of their neighbors—silver, napkins, bric-a-brac, even chairs and tables, or anything else which may be lacking in their own home and is yet needful to the furtherance of their plans. Then follows damage to the articles borrowed, perhaps their complete destruction, and the more disastrous results of neighborhood gossip, loss of friendship and of respect.

The tendency of human character is to fix itself, and this is accomplished only by the power of habit. An act daily repeated forms a habit, whether good or bad, while many habits centered in one personality form the character by which that personality is recognized through life. What an incentive should the thought furnish to intelligent and untiring effort in the education of our children. As we are conscious of the act by which material food is taken into their bodies, but are not conscious of the silent process by which this food is converted into bone and tissue, so are we conscious of the

acts and events which go to make up the daily lives of our little ones, but are not immediately conscious of the subtle influence these exercise in the shaping of their future characters. The borrowing habit is but one among many against which we should wage unceasing warfare, between which and our children we should stand as invincible protectors. By making daily practice of sending a little child on borrowing expeditions to the neighbors a mother not only furnishes a key by which her own true character is opened up to a discriminating world, but she also belittles her child, and helps to develop in him the contemptible characteristics of which the borrowing habit is but the natural offshoot.

The law of heredity is one to which Nature never fails to yield obedience, and what we are, in and of ourselves, will soon have passed onward to those who shall come after us—those whose lives will reflect, as a mirror reflects form and face, all the ignorance, the weakness, the untutored littleness of our own natures, or else that large-heartedness, breadth of vision and quick comprehension of human needs which are the result of wide culture, and which will prove to the world that we have possessed the true spirit of motherhood, and that we have at all times given to our children, both by precept and example, of our best understanding.

LILLA A. WHITNEY.

A LITTLE GIRL'S WARDROBE

The illustrations suggest some very pretty changes in a little girl's wardrobe. Two dresses are of soft cashmere suitable for cool days, one of white and one of small-figured white China silk. To vary these one can have fancy adjustable yokes, and sleeves to slip into the short-sleeved dresses, of silk. The dress itself can be of simple construction, and with the addition of fancy yoke and sleeves can be made to look very dressy. White dresses that have been used through a summer can be utilized as aprons in the fall and winter by removing the sleeves, and putting either a double puff or wide lace or embroidery in the arm-holes. The skirts are very little trimmed. As it is so often necessary to lengthen them, it is well to have the hems hand-sewed, so that the stitches can be easily removed.

The elaboration of the neck-finish is really the dressy part of a little girl's dress, and this can be as dainty as possible.

CROCHETING VERSUS DARNING

Have you ever tried it? If not, do so at once. Instead of putting on an unseemly patch where the hole is too large to darn neatly, cut the edges smoothly and crochet a solid piece in the vacancy. You will be surprised to find how very quickly and neatly this can be done. Even small holes can be treated in this manner if one desires. I prefer this method to any other for mending underclothing or any hosiery. It is unnecessary to say that the yarn used for such purposes should be soft and fine, though of



a firm texture, and should match as to color. The crochet-needle must be fine enough to cause the finished work to be dainty and smooth.

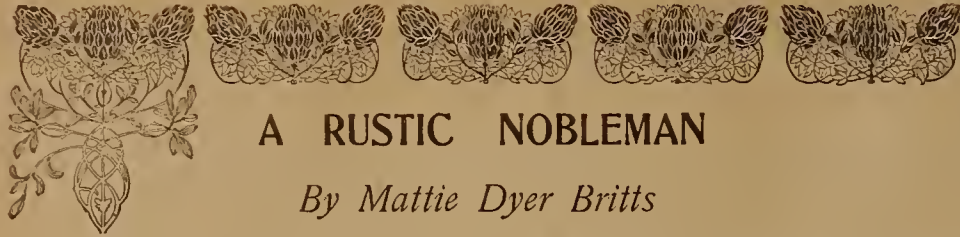
The idea of the neighborhood darning club, though by no means new, is emphatically good. One of my Iowa friends says they have had a club for five years, and that nothing could induce them to disband it. Upon Wednesday afternoon of each week these friends and neighbors meet together, each lady bringing her mending, and they have a new edition of a Ladies' Aid Society; here each one aids herself by doing her own necessary repairing.

"It isn't half so poky," said my friend, "as remaining at home and working disconsolately at the rents and tears, holes and wears without the inspiration of the company of the others."

Books are read and subjects are discussed at these meetings, so that there is a mental development as well as the mending development as a result.

ELLA BARTLETT SIMMONS.

[HOUSEHOLD CONTINUED ON PAGE 19]



A RUSTIC NOBLEMAN

By *Mattie Dyer Britts*

CHAPTER VII.

A FATAL LETTER

Call me false, or set me free;
Vow, whatever light may shine,
No one on your face shall see
Auy grief for change in mine.

—Browning.



JOE could hardly believe his own senses. He held her firmly for an instant, saying, in bewildered tones:

"Why, Milly, Milly, child! What does this mean?"

"It means, Joe—"

"Stop one moment! Never mind what just now."

Joe's wits had quite returned, and he interrupted her to throw up his hand and whistle to the driver of a passing cab, and as he did

so, without noticing what he did, he put the white slipper he had picked up into his pocket.

The man drew the cab up to the sidewalk. Joe quietly put Milly inside of it, then stopped.

"Your street and number, please, Milly? You wish to go directly home, don't you? I have forgotten the number."

"Oh, yes, Joe; right home. No. 215 Pine street."

Joe gave the man the number, then turned to Milly again.

"I may go with you?"

"Oh, yes, yes, please do, Joe!"

He sprang in beside her, the door was shut, and they drove off. Joe very calmly put his strong arm about Milly's trembling form, and said, gently:

"Now, my little girl, tell old Joe all about this. What is wrong?"

For answer Milly began to sob childishly. Joe let her cry a minute, then said, still so gently and kindly:

"Our time is very short, dear, for I must leave you at the door. Can't you tell me?"

"Tell me first, Joe, how it happens that I met you, of all people in the world?"

"Oh, very easily. I had to come up for Mr. Tenuant, with a horse I sold to him, and I must go back by the midnight train. I knew I would not have time to see you this trip. I certainly did not expect to meet you coming from a place like that alone."

There was no reproach or doubt in his tone, but Milly felt herself blush all over in the darkness of the cab, as she answered:

"Is it not a good place, Joe?"

He hesitated, then said:

"It is a saloon, Milly. Surely you did not come from its door?"

"Oh, no, no, Joe; indeed not! I came from the hall up-stairs. I did not know it was over a—a saloon. Oh, how I have been deceived!"

"I was sure of that, Milly, when I saw it was you. At first I did not dream who it was, but I knew it must be a woman in trouble, and no true man could pass her without offering his help, you know. That is why I dared to speak to you when you flew down the street."

"No true man!" The words went to the girl's heart. She suddenly turned toward him, beat down, and touched her sweet lips to the sleeve of his rough gray coat.

"Joe!"

It was all she could say. Joe just drew the arm which held her closer, and said, in that same honest way:

"Don't do that, my dear. I am not worthy so much. Tell me, quickly, please; we will soon be at your house."

"Joe, there isn't much to tell. I was invited to go to a dance at—that hall with some of our clerks, and I went, thinking it was one of the best places in the city. One of the young men got drunk, and when he went to put my cloak on he—he tried to kiss me. I was frightened and ran out, not thinking what I did, to get away from him. Joe, I will never go with that set again. You will forgive me this time?"

"Milly, don't talk like that. I have nothing to forgive you."

"Oh, Joe, you have; more than you guess! You—you won't tell them at home?"

"Milly!"

He spoke but the one word. The next instant she had hidden her face against his arm.

"You will forgive that, too, Joe. I know you better than to ask such a question. I am so thankful it was you I met, Joe!"

"Yes, dear, I am glad, too. Here we are now. I must leave you. You are not frightened any longer?"

"Oh, no; I'm all right now, Joe; don't be uneasy. Must you go to-night?"

"Yes, I must. But I'll write to you from home."

"I will write to you to-morrow, Joe."

The cab stopped. Joe made a half motion,

and Milly thought he was going to kiss her. Then he seemed to change his mind, and only said, kindly, "Good-night, dear," as he helped her from the cab, and took his own place in it again. She answered his good-night, ran hastily up the steps and on up to her own little room, where she flung the snowy wrap into a chair, and dropped into another for a good cry. Relieved by it, she rose and began to prepare for bed. Then for the first time she thought of her slipper.

"Oh, my goodness, I am half barefoot! I wonder if Joe noticed? I hope he didn't—I won't say anything if he didn't. But oh, what will he think? How good and manly he was! So different from these dandies up here—he's a man! But he's too good for me—yes, he's too good! I wish I didn't feel as if I could never bear a country life, and could be happy with him. Perhaps he don't want me now. I shouldn't wonder after what he saw. One thing is sure, I will never go with Walter Lindell again. I ought to hate him—I half believe I do. But he is so handsome and stylish—why can't he be good as well? Oh, dear me! Was ever a girl in such a pickle? I ought to love Joe, but I know I can't marry him—I can't stand it. I don't respect Walt

The next morning came a letter from Joe, in which he had not one word of blame or scolding for Milly, but only entreated her to decide one way or the other.

"I trust I am not less of a man than most of my fellows," he wrote, "but I do feel that I cannot longer bear the suspense of the last few months, and so, my dearest girl, I ask you to tell me my fate. Either you do love me or you don't. If you don't, and can't, heaven forbid that I should tie you down to a loveless life. If you do, come to me now, Milly—now or never, for I shall never ask you again. We must come to an understanding of some kind, so do think of it, and let me know my fate at once. Whatever it may be, no other woman shall ever come into my life. If you do not come to the new house as its mistress I shall sell it very soon and spend my life taking care of my mother. If you will come, now is the time, Milly. My sister out in Kansas will come to live with mother—she is a widow, you know—and they will manage the farm—with my help, of course, as I shall be so near. So you must decide for all of us, my darling, but please do it at once. Don't keep me in suspense any longer. May God bless you always, no matter what you say to your devoted

"JOE."

A straight-forward, manly letter, which breathed of the true heart prompting it. And if he was only handsomer, more up to date, cared more for fashion and lived in the city, she would not hesitate. As it was—no, she could not.

"I hate to hurt good old Joe," she said to herself, "but if it must be done, as well

mother took note of his increasing listlessness, and one evening when he came in with his face red as fire, and the big veins throbbing in his temples, she said to him:

"Joe, I know you are sick—sick as you can be. I do believe you are going to have a fever. You've got to go straight to bed, and I'll run over and get Mr. Dayton to go to town for the doctor."

"You'll do no such thing, mother," was Joe's good-natured reply. "I am not sick, only I've got a terrible headache. I'm going out to the west barn now to feed the sheep. When I come in, if you'll have me a strong cup of tea ready, I'll lie down a bit and see if my head won't get better."

Mother Haywood was not half satisfied, but she did as he requested, for that night. Early the next day little Robbie Simms came over to Dayton's while they sat at breakfast and said that Mrs. Haywood had sent him to tell them that Joe was in a raging fever, and wouldn't Mr. Dayton please get on a horse and ride to town and send the doctor out.

Meanwhile, over at Hampton, Milly, when her work was done at the store, and she was alone in her little attic room, sat down to her table and wrote Joe a letter, full of kindness, it is true, from her standpoint of kindness, but breaking off her engagement with him.

"I know there is not another man in the world who would ever be so good to me, Joe, as you," she said, "but you are not just what I have learned to fancy as my style of man, and I feel that I never could be happy in the humdrum life on a farm. I should be miserable myself, and so make you miserable, when it was too late. So, though I am afraid this will be somewhat of a blow to you, and perhaps make you hate me, it had better come now than later. I am very, very sorry that you have wasted some of your best years on me, but indeed I did once think I loved you before I had wider views of life, and that is my apology for not telling you the truth sooner. I hope some other and more worthy woman will become the mistress of your pretty house, and make you a great deal happier than I could ever have done. And that you will sometimes think of your old friend, and believe that she is grateful to you for all your kindness to her, is all I dare to hope. Forgive, but do not forget your unworthy

"MILLY."

Well, it was done. Milly went to bed, but not to much sleep, after it. And the next day her first act, on her way to the store, was to post that fatal letter and send it on its way to Forestville to break poor Joe's heart. At least she was free now, and let come what would, she would not blame herself.

Of what they would say at her home she hardly allowed herself to think. She could not expect anything else but the severest censure—of that she was certain. She dreaded to hear from Aunt Kizzy, or to see her kind father's rebuking eye, when she went home, but it could not be helped—she must face the music, for she had set the tune with her own hand.

It seemed to Milly that there was an unusual stir of some sort about the store. The clerks were gathered in little knots talking, and when she entered, instead of taking her in they appeared to become quiet until she was out of hearing. Her heart began to beat rapidly. Had they learned of her adventure on Wednesday night? Were they talking about her? She hurried to her counter, and began with nervous fingers to arrange the bright ribbons and laces. Presently Jenny came in, and Milly saw her stop with a little group and join the talk.

"Jen will tell me, I know," was her thought.

As soon as Jenny came from the cloak-room to her station she said, in tones of suppressed excitement:

"Milly, what do you think of the news?"

"I have not heard any yet," was Milly's reply.

"What! You haven't? Everybody is talking about it."

"Yes, I saw they were talking about something, but they took care to stop when I came up." Milly spoke a trifle resentfully, and Jenny came nearer to her.

"Oh, well, I suppose they thought you would not care to talk of it. Walt Lindell has left town."

"Left town?" questioned Milly, flushing in spite of herself.

"Yes. It's a good thing he took you home early Wednesday night, Milly. I wish you had not been with him at all."

"So do I. But what did he do, Jen?"

"Well, it seems that after he took you he must have gone back to the hall and got with a lot of wild fellows and went out, drunk as lords (though why a lord has any more privilege to get drunk than other men I never could see), for a regular lark."

"I suppose they had it," put in Milly, coldly.

"I rather think so! They came down here and tried to break into the store!"

"Why, Jenny!" and Milly turned quite pale.

"Yes, indeed! Officer Bannister saw them and arrested the whole lot, and took them to jail. Yesterday morning in court they plead guilty, and as they had really not even got in, Mr. Osborne had the whole thing hushed up on condition that Walt left town and didn't come back."

"So ends the chapter! I'm glad he's gone!" said Milly, seeing that Jenny was looking rather curiously at her.



SHE SAT DOWN ON THE STAIRS AND OPENED THE LETTER

WAS ON HER KNEES AT JOE'S BEDSIDE

Lindell now, but I'm afraid I do love him a little. What shall I do? What shall I do, and who will help me?"

She heard the clock strike one, and hastily finishing her undressing she lay down upon her bed. But she could not sleep for a long time. When she did fall into a troubled slumber she dreamed wild, incoherent dreams, in which she was running through lonely roads pursued by Walter Lindell, and when he came up to her he suddenly turned into a fiend with gleaming eyes, and she seemed to see Joe struggling under his terrible feet. She was so frightened that she woke in a cold sweat, and slept no more that night, or rather morning, for it was near daylight when she opened her eyes.

Next day Walter Lindell was not at the store. Word came from his boarding-house that he was sick, but Jenny and Milly guessed very readily that he was only recovering from his spree.

Milly told Jenny a little of her adventure, but not of her meeting with Joe, only that she had fled from Walter and started to run home alone.

"I saw the shape he was in," said Jenny, "but he wouldn't tell me what had become of you, so I supposed he had taken you home before he got too drunk. Milly, if I was you I would turn that gentleman down forever for that piece of work."

"You may be very sure I shall," was Milly's reply.

do as he says, and end it all quickly. I don't think I will ever forgive Walter—but oh, he is so handsome! He did seem to like me, too. I wonder if it will hurt him much if I 'turn him down,' as Jenny says. Will it be his ruin? I couldn't be that—I don't want to have him on my conscience. Oh, dear! I don't know what to do! But one thing is sure, I can't, marry dear old Joe! But I hate to think of giving him up. He is so good; nobody is just like Joe."

The sigh with which she spoke the words, the tears that came into her eyes, ought to have revealed to the foolish girl the true state of her heart, but she did not discover it—not as yet.

Nether did she know that all the way home there had rung in Joe's ears those words of hers, "You have more to forgive than you guess," nor how they were torturing his faithful heart. He had no doubts of Milly, none, but oh, what did those dreadful words mean? What had she done, or what was she going to do, that he must forgive? Joe understood her better than she understood herself at this time. It was as much to save her from herself as for his own sake that he wrote as he did.

At his work, in his brain, in the brown pastures, everywhere, those words kept ringing, ringing through his mind, until his head ached and his brain reeled with the tortures. He said nothing at home—not a word of having written her any special letter. But his

"It don't hurt you a hit?" Jeny asked, still watching her.

"Not one bit," answered Milly. "Why, Jenny, you must remember there is some one else ahead of what Walt ever was."

"Yes. Mighty glad of it," said Jenny.

But Milly turned to her work with a sick feeling. She had not intended to tell a story—but there was no one else now. She had hauled him of her own accord. And the revulsion of feeling that came over her, as she thought of the difference between him and the man for whose sake she had partly thrown him over, was enough to sicken anybody. Walter Lindell and his kind sank into insignificance beside the simple, honest, manly country boy whose love she had despised, and was now fearful she had only learned to value when it was lost to her forever.

CHAPTER VIII.

THE FARMER LADDIE WINS

Clear the brown path to meet his coulters gleam! Lo! on he comes, behind his smoking team. With toll's bright dew-drops on his sunburnt brow, The lord of earth—the hero of the plow!

—Holmes.

By evening the small excitement in the store had somewhat cooled down. Not a word was said in Milly's presence, but she still felt that the eyes of all the clerks were watching her. For herself she spoke truly when she said she was glad Walter was gone. Her mind was now bent on the answer she would receive to her letter to Joe—if she got any at all.

She was coming down the stairs on the following morning when Miss Molly stopped her at the foot of the flight with a letter in her hand.

"Letter for you, Miss Dayton—came by special messenger," said she. "I was afraid you had gone, and would miss it."

"I should have been gone in a minute more, Miss Molly. Thank you!" as she took the letter, and glanced at it, her cheek paling a little at the sight of Aunt Kizzy's crabbed superscription.

"From my home!" she exclaimed. "Oh, I hope there is no bad news!"

She sat down on the stairs and opened the letter, while Miss Molly, echoing her hope that it contained no bad news, looked on with interest, and good Miss Polly's mild countenance peered over her sister's shoulder. This is what Aunt Kizzy wrote:

FORESTVILLE, Dec. 18.—

MY DEAR NIECE:—I reckon somebody ought to let you know that if you want to see Joe Haywood all'day before yesterday, and the doctor says it is brain fever, or likely to run into it, and if it does his chance is mighty slim. Your pappy went to town for the doctor yesterday morning, and if I'd 'a' thought I'd 'a' sent you word then. But I didn't, so maybe if you come now you can do the poor boy some good. He has not been well for some time, and the doctor says it will only take a mighty light shock to send him out of the world. He asked Joe's mammy if there was anything on the boy's mind troubling him, but she don't think there is. I have an idea, in my mind, which I didn't hint to her, that as like as not you and him have had some tiff, and he's worried over it. Maybe 'tain't so; you know best. But if 'tis, and I was you, I'd come home as soon as I could, for Joe's the best bean you'll ever get, and I hope you know it. This wouldn't get to you before evenin' in the usual way, but I'll have 'em send it by one o' them boys in striped caps, so's you'll get it early in the mornin', and can come, if you want to. We won't know about it, so I reckon you'd best come out in one o' the hacks from the depot if you get here before we get word from you.

AUNT KIZZY.

Milly sank back on the stairs pale and sick at heart. The good old ladies were full of concern for her, and came forward quickly.

"Oh, Miss Dayton, we're afeard you have got some bad news! You ain't goin' to faint, honey? Oh, Sister Polly, run into our bedroom and fetch a little of that old wine right quick!"

"I have had news, but indeed, dear Miss Molly, I don't need anything," said Milly.

But the good old souls would have her drink the wine Miss Polly hastened to bring, and the generous draught really did her good.

"Now tell us, honey, it ain't so very bad, is it?" And the two good women stood anxiously by the trembling girl, waiting for her answer.

"Yes, I fear it is. A dear friend—the gentleman I am engaged to—is very sick, and they have sent for me."

"Dear! dear! now that's too bad! But cheer up, dear child! Maybe he will get better. You'll go right away, will you?"

"Yes; as soon as I can go to the store and let Mr. Osborne know."

"Can't we send somebody down for you?"

"No, thank you. There is no train until ten o'clock—I shall have plenty of time. I had better go myself."

"Well, yes, perhaps you will want to draw your pay, as you can't tell just when you will come back, can you?"

"No, I cannot, now, dear Miss Molly."

"Well, whenever you do come we will have your room ready for you. If we can do anything to help you, Miss Milly, we will be glad to do it."

"Yes, I know you would, dear kind friends. But there is nothing, I think; thank you again. I must hurry on to the store."

She arose from the stairs, and went on her way, thinking only one terrible thought—Joe

was in danger—he must have no shock, and she had sent him that fatal letter. He would have received it the afternoon of the day before, if some one was in town to get the mail. Her own father had been to town for the doctor—he would have called for the mail, too, and the dreadful letter had done its deadly work.

"Joe did love me, he did!" she almost moaned, as she hastened to the store. "He has told me often that he did not think he could bear to give me up. I feel as if I was his murderer. If he dies I shall know that I was. Oh, if I had not sent it! If I had only, only waited, he might at least have died in peace if he must die! Is it too, too late? Can I help him if I go now and tell him the truth? I did not know it until this word came, but I know it now. It is Joe I love, not Walter nor anybody else. I know now that I can bear my life with him better than the grandest life without him. Oh, dear Lord! grant that I may not be too late! Grant that something may have happened that he has not got that awful letter yet! Oh, if he has, how they will hate me! But I must go; yes, I must go, if they turn me out of the house. And if I know his mother, that is what she will do when she knows how I have treated her boy."

Reaching the store she told Mr. Osborne the same simple truth she had told the old ladies, that the gentleman to whom she was engaged was very sick, and she had been sent for. Mr. Osborne excused her immediately, telling her she would find her post waiting if she could come back, and hoping she would not be absent long, just at their busiest season.

She also told Jenny, and promised to write and let her know how Joe was as soon as possible after she reached home. Then she hurried back to her boarding-house, packed a satchel with the few articles she needed to take, and was in time to catch the ten-o'clock train down. There was a hindrance of half an hour on the way, owing to a freight-train that had run off the track—it seemed to Milly like two hours—but she reached Forestville at half-past twelve, and looked about her at once for some way to go out home, two miles over a rough road, on a sharp December day. There was not a hack at the station, nor a neighbor in sight, as she had hoped there might chance to be. She determined to walk, leaving her satchel to be called for. But first there was one desperate hope—that fatal letter might not yet have gone from the office; she would go there, and perhaps a kind Providence would deliver it into her own hand. She went to the post-office; in that country village everybody was known, and neighbors often carried each other's mail—it would readily be given to her. She asked first for her own family.

"No, there ain't anything now, Milly," replied the post-mistress. "Your father was in this mornin', and took out your mail, and a letter for Joe Haywood, too. There ain't a thing for your neighborhood. You just got back?"

"Yes, I have just come. I thought if there were letters I might take them out; but it don't matter, Miss Clemson. Good-day."

She went slowly out of the office. Did not matter? Why, it was a matter of life and death—and the last chance was missed.

"Thank goodness, at least, that he did not get it yesterday!" she breathed, as she set out on her long walk. "I shall follow it now so soon that it may be I am in time to tell him not to believe it. Oh, if I am not, if poor Joe is gone, I don't care to live another day! I shall know that I have killed him, and I can't live, no, I can't, with such a fearful burden on my heart!"

The bitterest hour of Milly's life was the one in which she walked on out to the farm, not knowing whether Joe yet lived or was gone, sent to his doom by her foolish hand. She first turned into the lane leading toward her home, took a few steps, and turned back.

"No," said she, "I will face my fate at once. It is all I can do for him now. I had rather meet anything in this world than his mother after he has read that letter; but it must be done. I did the deed, now let me take my punishment as best I can."

Her heart sank lower and lower as she went slowly up the old, familiar grass-grown path leading to Joe's home, which stood quite a little ways back from the road. When she was just at the gate, to her great dismay she saw Mother Haywood coming out of the door of the house.

"Is she coming to order me not to pass the gate?" was her agonized thought. "I can't blame her, but I must and will see Joe, if only once more in this world!"

Hardly able to stand, she stopped and waited. Mother Haywood saw her, came up, and to Milly's astonishment threw her arms around the girl's neck and kissed her.

"Oh, Milly, I'm glad you've come!" was her greeting. "Kizzy said she'd send you word."

"Yes, I got her letter," Milly made out to gasp. "How is Joe?"

"He seems a little bit better to-day," was the answer, which surprised her. "I know your coming will help him, if anything can."

She broke down and began to cry, while Milly stood still, actually unable to ask the question which was burning in her brain. As soon as she could regain her self-control Mother Haywood answered it before it was asked:

"Milly, it seems funny, but you have come as soon as your own letter has. Your pa brought the mail out about an hour ago. Joe has been sleeping ever since—partly the medicine, I reckon—but anyhow he's asleep, and I didn't dare disturb him even for a letter from you. I left Nancy Hill with him for a little bit. I want to run over to your house and get some mutton-tallow Kizzy said she'd fix for me. So I just laid your letter (I knowed it was from you by the writing, you see) right on his hand, so he'll find it if he wakes before I get back. Now you run right in, and maybe you'll see him before he gets it."

"See him before he gets it!" The words seemed to repeat themselves in Milly's head. Why, that was what she had prayed for! Had a kind God really heard her prayer, and was she not too late? If she could only get into the house in time to save him! She fairly flew up the gravel walk when Mother Haywood opened the gate, and trembling from head to feet, softly opened the door, passed through the hall and into the old family sitting-room, just out of which was Joe's bedroom. No one was there. Nancy Hill was busy at something in the kitchen, no doubt. She went very softly to the bedroom door. Oh, thank heaven! thank heaven! God was kind, for there lay Joe, calmly sleeping, his hands folded across his broad breast, the white letter lying still unopened upon the folded hands.

One gentle, quick spring, not to disturb him—the letter was in her hand, crumpled up, and thrown into the open fire near by, while Milly, utterly broken down, was on her knees at Joe's bedside, her face buried in the bed-clothes, sobbing like a child, and as near fainting as ever she had been in her life.

Her sobs wakened him, and the first she knew she felt his hand on her bowed head, and heard him say, feebly, "Milly, dear, don't feel so bad. I shall get well now."

She was on her feet instantly, bending over him with tender words and wet eyes, as he asked, "Did you come to bring yourself to me, Milly, darling? Is that the answer to my letter?"

"Yes, dear Joe!" she whispered. "Yes, the answer is here, if you will have it!"

"If I will? Milly, I thought you would write, but this is better!" He put up his arms, and Milly, as she felt their gentle clasp, knew that he would live, and was happy as she never expected to be again.

Six weeks later he was able to go over to her house to see Milly. The wedding preparations, which were going on merrily, seemed to require a great many such calls, and Mother Haywood declared it was a blessing they were to be married soon, for Joe wouldn't be good for a thing on the farm until it was over. One evening when he was with her Joe suddenly said, "Milly, I've got something that belongs to you."

"Have you?" asked Milly. "What is it?"

He put his hand in his pocket, drew out a small parcel wrapped in white paper, and gave it to her. Milly unrolled it, and her lost white slipper lay in her hand. She blushed crimson.

"Joe, how and where did you get this?"

Then Joe told her how he had picked it up when she dropped it, and followed her to restore it, and in the surprise of finding out who the flying girl was had put it into his pocket, and forgotten all about it until now.

"I want you to wear it at our wedding, Milly. Will you?"

"No, I won't, Joe! I've had quite enough of that silly time, and don't want any reminders of it to spoil my wedding-day. I'll wear a good, sensible black pair, such as suits a young farmer's wife, which I am proud and happy to be at last."

"Even if he is the plainest man in the country, darling?" asked Joe, with a smile.

"He is not plain to me, Joe! He's got the heart of a king—and he's got mine, too, to keep forever!"

But one reminder of that time was at Joe and Milly's wedding, for they invited Jenny down, and you may be sure she came. Not only that, but she became so interested in another young farmer, the son of Joe's sister from Kansas, that it is more than likely that before the Christmas bells ring again she will be a farmer's wife herself.

THE END

REMOVAL OF THE NEGRO

All attempts to settle the question of the negro in the South by his removal from this country have so far failed, and I think they are likely to fail. The next census will most likely show that we have about 10,000,000 black people in the United States. About 8,000,000 of these are in the Southern States. We have almost a nation within a nation. When we consider, in connection with these facts, that the race has doubled itself since its freedom, and is still increasing, it hardly seems possible for any one to consider seriously any scheme of emigration from America as a method of solution. At most, even if the government were to provide the means, but a few hundred thousand could be transported each year. The yearly increase in population would more than likely overbalance the number transported. Even if it did not the time required to get rid of the negro by this method would perhaps be fifty or seventy-five years.—Booker T. Washington, in the November Atlantic.

"THE MAN WITH THE HOE"

[A new version]

BY L. W. MILLER

His form is erect, his eye is clear; Though he has passed the fourscore year Allowed to man, he knows no fear; He has fought life's battle and conquered the foe, And his weapon was never a sword, but a hoe.

His arm is brawny, his hand is strong, And the shrill notes of the March wind's song Daunt him not, for he treads along As to martial music, bearing in these A call to sow for the autumn sheaves.

His soul is brave, he dreads not the storm, Nor the pitiless rays of the sun so warm; The "Hand at the helm" will shield him from harm. He believes the promise (nor does he quail) That "seed-time and harvest shall not fail."

With cheerful brow and smile serene He calmly beholds the pleasing scene Of ripened grain with gilded sheen; And thanks the Giver with humble mind For His mercies ever sure and kind.

He contentedly sits by the blazing fire When the wintry blasts are rising higher, And his aged wife her chair draws higher, Saying, "You have kept us from want and wee By the Lord's help and your work with the hoe."

NAVY OFFICERS' LIFE

In such a mammoth and wonderful mechanical contrivance as a modern war-ship there is an enormous amount of brain calculation involved, and especially in times of war the officers of the ship have not the sinecures which they are fabled to enjoy. The commanding officer, for instance, has much more to do than to simply give the order to set sail for his desired goal, and then calmly sit down in luxury and await his arrival at his destination. On a war-ship the loss of a single man in a gun-turret may mean the advancement of each remaining member of the detail. Every man has a certain standing, and rigid rules for precedence are established.

The officers of the United States navy are divided into two classes—officers of the line and officers of the staff. The officers of the line are as follows, and exercise military command in the order mentioned: Rear-admiral, commodore, captain, commander, lieutenant-commander, lieutenant, lieutenant (junior grade), ensign, naval cadet, boatswain, gunner. They take rank in each grade according to the dates of their commissions.

The officers of the staff comprise medical officers, pay officers, engineer officers, chaplains, professors of mathematics, naval constructors, civil engineers, carpenters and sail-makers—ranking in that order. The officers, assistant and sub-officers of the various grades have relative ranks, from captain to ensign, according to seniority and real position.

The rear-admiral may be assigned to the command of a fleet, a squadron or a naval station, and during his tenure of office his authority is absolute to those under him. He is the brains of his command, and must do the planning and supervising in general, with perhaps the aid of the counsel and advice of his under officers. In a battle he it is who orders the strategic movements upon the enemy, and upon his perspicacity upheld by the strict adherence to his plans rests the result.

A commodore has almost as much power as a rear-admiral, the command of a fleet, however, being denied him. A captain is further limited to the command of but a division of a squadron as his highest power. A commandership is but a short degree less in authority, embracing nearly all of a captain's authority except as to the direct command of ships. A captain may have in charge a ship of the first rate, while the third rate is as high as a commander may attain to.

In order, a lieutenant-commander, lieutenant, and lieutenant of the junior grade may serve as executive officers or have command of inferior-rate vessels. The ensigns and naval cadets may do any duty on the watch or in the engine-room as may be assigned them. All officers, from captain down, may also be assigned to shore duty. These officers of the line occupy about the same plane as commissioned officers in the army. Each has his particular station in battle, but they may be called upon to act directly as assistants to the ship's commanding officer. They all are instrumental in forwarding the proper orders to the stations and seeing that they are carried out.

Boatswains, gunners, carpenters and sail-makers are warrant officers, and have no relative rank. All below these, including mates, are petty officers. The petty officers are divided into four classes, the chief, first, second and third. Each of these classes is subdivided into four branches, the seamen, artificer, special and marine. The seaman branch embraces the master-at-arms, the boatswain's mates, the gunner's mates, the quartermasters, the coxswains and the school-masters. The artificer branch of petty officers includes machinists, carpenter's mates, holler-makers, coppersmiths, blacksmiths, plumbers and fitters, sail-maker's mates, water-tenders, printers, oilers and painters. The special branch is composed of yeomen, apothecaries, band-masters and musicians. Sergeant-majors, first sergeants in charge of guard and corporals go to make up the marines.

HEART DISEASE

Some Facts Regarding the Rapid Increase of Heart Trouble

Heart trouble, at least among the Americans, is certainly increasing, and while this may be largely due to the excitement and worry of American business life, it is more often the result of weak stomachs, of poor digestion.

Real organic disease is intractable; but not one case in a hundred of heart trouble is organic.

The close relation between heart trouble and poor digestion is because both organs are controlled by the same great nerves, the Sympathic and Pneumogastric.

In another way, also, the heart is affected by the form of poor digestion which causes gas and fermentation from half-digested food. There is a feeling of oppression and heaviness in the chest caused by pressure of the distended stomach on the heart and lungs, interfering with their action; hence arises palpitation and short breath.

Poor digestion also poisons the blood, making it thin and watery, which irritates and weakens the heart.

The most sensible treatment for heart trouble is to improve the digestion and to insure the prompt assimilation of food.

This can be done by the regular use after meals of some safe, pleasant and effective digestive preparation, like Stuart's Dyspepsia Tablets, which may be found at most drug-stores, and which contain valuable, harmless digestive elements in a pleasant, convenient form.

It is safe to say that the regular persistent use of Stuart's Dyspepsia Tablets at meal-time will cure any form of stomach trouble except cancer of the stomach.

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DR. ISAAC THOMPSON'S EYE WATER

The seamen and messmen are about the only persons actively engaged in the handling of the war-ships of the navy who have not the privilege of being classed as officers. These two departments are also divided into the same four branches, and comprise seamen of low grades, seamen gunners, apprentices, landsmen, firemen, shipwrights, sail-makers, coal-passers, musicians, buglers, haymen and the various grades of cooks, stewards and mess attendants. Thus it will be seen that with the exception of but a few men nearly every war-shipman is an officer of higher or lower grade.

Of the duties of the warrant officers, the navy regulations provide that they shall act as assistants to the heads of departments to which they belong; the boatswain and sail-maker to the equipment officer, the gunner to the ordnance officer, and the carpenter to the construction officer.

The boatswain's especial charges are the spars and rigging, the anchors, boats and other movable articles, and spare parts pertaining to these in the hold and stores. The gunner has charge of the batteries, and supervises all ordnance-work. He has in charge the condition and ready accessibility of the armament and ordnance stores. The carpenter, of course, has for his duties all pertaining to the keeping in repair of the wooden portion of the vessel, the spars, the watertight compartments, the bottom and the mechanical devices for the management and safety of the vessel. In action he must see to speedy repairs of all damages which affect the effectiveness of the ship. The sail-maker is the head of the department in charge of the canvas in all conditions.

The executive officer of a vessel is the captain's right-hand man. He is detailed from among the officers of the line by the Secretary of the Navy. He is next in rank to the captain, but has no authority independent of him. The executive officer takes the carrying out of the captain's orders upon himself, and relieves the head of the vessel of many minor and arduous details, acting in his place and keeping a constant and watchful oversight on the men and their work. He is also detailed as equipment and construction officer, and in these capacities has charge of all extra supplies, the requisitions, invoices, returns and disbursements.

The second officer below the captain is the navigator and ordnance officer. He has general charge of the ship's course, under orders, and in reality is the pilot skipper. He reckons out the ship's position and has the oversight of the conning-tower, chart-house and steering apparatus. The navigator has charge also of the ship's log, and, in fact, is a small edition of the captain himself, always, however, bound by the latter's orders. As ordnance officer he performs duties in connection with the magazines, shell-rooms and torpedoes. He keeps everything in readiness for instant action, and is held personally responsible for the efficiency of the arrangement and appurtenances.

The officers of the deck and of the gun, torpedo and powder divisions, as their titles indicate, have subordinate control over these departments. The officer of the deck resembles the army officer of the day; he is the officer on watch in charge of the ship. The safety and immediate availability of the vessel are in his charge to a degree. The junior officers of the line are defined as being those of a rank below that of a lieutenant of the junior grade, not assigned to regular duty as watch and division officers. The ensign may also serve as clerk to the commanding officer.

The duties of the officers of the staff are clearly indicated by their titles. The medical directors, inspectors, surgeons, past assistant surgeons and assistant surgeons are detailed to duty relative to the sanitary condition of the ship and the healthfulness of all on board.

The pay officers (with the same subdivisions) have control of the monetary receipts and disbursements and the paying off of the ship's men. The engineers look after the steam-motive power, electric lighting and appliances, and exercise general supervision in the engine, boiler and coal compartments. The chaplain addresses himself to the moral welfare of the men, and holds divine service each Sunday at sea when practicable. It is believed that this feature was omitted one Sunday in Commodore Dewey's squadron in Manila bay. The naval constructor is a general appendage to successive vessels of a fleet to observe their good and bad qualities, and later point out to the Navy Department wherever he sees there are chances for improvement in the building of new or in the overhauling of old war-ships.

The so-called flag officers are those immediately attached to the commodore of a fleet or squadron. The personal staff consists of a chief of staff, flag-lieutenant, clerk and aides. The surgeon, paymaster, engineer and marine officer of the fleet constitute the fleet staff of a flag officer. The last four exert powers in their respective departments over the rest of the fleet at the order of the commodore. The personal staff aids him in the execution of his orders and in signaling. The duties of the four classes of petty officers are mainly the carrying out of the commanding officer's orders relative to their stations, transmitted to them by their chiefs of departments.—New York Mail and Express.

STILL A MYSTERY

Prof. S. A. Weltmer, Through the New Science, Weltmerism, Continues to Startle the World by His Astounding Cures

LEARN A PROFESSION THAT BRINGS A GOLDEN HARVEST

The miseries of disease have been transformed into the joys of health by a new science that is as mysterious as it is efficacious. This new science, which is known as Weltmerism, as it takes its name from Prof. S. A. Weltmer, of Nevada, Mo., who originated it, is now endorsed by the press and pulpit. This universal endorsement came about from the fact that this wonderful curative power, which cures diseases at a distance just as readily as it does those cases that are personally brought to Nevada for treatment, has been tested in the past two years on more than 100,000 cases of every disease known to man or woman, some acute, others chronic; some were cases of women who suffered every agony from disease common to their sex, and others from men who suffered debilitation from early indiscretions; in fact, there is no affliction known that was not tested by this wonderful method of Magnetic Healing, and it is recorded that in every instance relief was almost instantly brought on and in more than ninety per cent a permanent cure was effected. So tremendously successful has been Weltmerism in the curing of diseases that all skeptics have been dispelled and scientists throughout the civilized world proclaim that on account of Weltmerism it can now be said for the first time in the history of the world that the curing of disease is brought into the domain of an exact science, and in all diseases, no matter what their nature, a cure can be effected. We have received from the hands of Prof. J. H. Kelly, the noted scientist, who is a co-laborer of Prof. Weltmer, a few of the many testimonials that are in his possession:



PROF. WELTMER

Mrs. Lucy A. Shook, wife of Rev. H. C. Shook, Minister of the M. E. Church, Bucklin, Mo., suffered for five years with constipation, indigestion and poor circulation. She was under the constant treatment of medical doctors, but continued to grow worse, until finally she decided to go to Nevada, Mo., for treatment. One physician, with fifty years' practice, told her she would never reach the Weltmer Institute alive. Her husband strongly opposed her taking the Weltmer Treatment, as he had no faith in it, but finally consented, as he did not want to oppose his wife's wishes longer, as he believed her dying woman. Mrs. Shook was brought to the Weltmer Institute on a stretcher; she took six treatments, and is now a well woman. Rev. Shook left Nevada with his wife most enthusiastic over her cure, and is now a firm believer in Weltmerism.

Hon. Press Irons, Mayor of Nevada, was afflicted with kidney and bladder troubles for ten years, and could find no relief in the usual remedies. In one week he was completely restored by Prof. Weltmer. Mrs. Lavisa Dudley, Barry, Ill., suffered for thirty years with neuralgia and stomach troubles. Nothing but morphine could relieve her. Permanently cured in a few weeks by the Absent Method of Treatment. Mrs. Jennie L. Lynch, Lakeview, Mo., was for two years afflicted with heart and stomach troubles and general debility; was reduced to a mere skeleton.

Cured by the Weltmer Absent Treatment. In less than thirty days gained fifteen pounds.

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Any one writing to Prof. S. A. Weltmer, Nevada, Mo., will receive free of charge a 40-page illustrated magazine and a list of testimonials from men and women who owe their health and happiness to Weltmerism; also much information on this science of healing.

TEACHES HIS METHOD TO OTHERS

The method of Magnetic Healing (Weltmerism), while a mysterious force, is at the same time a natural one, it is a power lying dormant in every human being brought into the world, and only needs to be brought to the surface. Prof. S. A. Weltmer in an interview stated that any one who wished could learn this grand profession, and any one who learns it can practice it. This has been abundantly proven by the many students of the American School of Magnetic Healing, of which Prof. S. A. Weltmer is President, and Prof. J. H. Kelly, Secretary, for students of this School are now practicing with grand success, the healing art, through Weltmerism. It can be said without hesitancy that this is the best paying profession of the age, for the students who are now practicing report that they are earning from \$20 to \$50 per day; this is not strange when one considers that disease is the greatest enemy of the human race. It is a foe to success, happiness and contentment, and this wonderful power, known as Weltmerism, dispels disease and vanquishes this foe without the aid of either medicine or the surgeon's knife; and then again, all other professions are overcrowded, while it is impossible to overcrowd a profession that cures disease, especially when statistics tell us that over eighty per cent of the human race are suffering from diseases of every nature. Prof. S. A. Weltmer is very anxious to have others take up his noble profession and assist him in his grand work, for his method of healing has now become so famous that he must call upon others to assist him; he will, therefore, teach the method of Magnetic Healing, known as Weltmerism, to any man or woman who will write him. He will teach them by mail or personal instructions; he makes the statement that a student becomes as efficient in the curing power as is himself in ten days' time. Any one who wishes to take advantage of this grand offer and become possessed of not only the grandest, but at the same time the best paying profession of the age, can do so by addressing Prof. J. H. Kelly, Secretary, Nevada, Mo., who will send you full instructions free of charge.



PROF. KELLY, Sec'y and Treas.

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Contains 100 superb half-tone engravings, made from photographs taken of our Army in camp, on transports and in actual service, Spanish and American Gun-boats, Cuba, Havana, Manila, Landscapes, Architecture; shows the manners and customs of the people of our new islands; Pictures of our heroes—Dewey, General Charles King (known as Captain Charles King, the author), Wheeler, Hohson, Roosevelt, Sampson, Miles, Schley, Shafter, Lee, Brooks, Carroll; Groups of Officers, Cavalry, Artillery, Infantry, Ships, Rifle-practice, Spanish Soldiers, Insurgents, Chicamauga, Jacksonville, Tampa, Last Farewell Letters Home, Hospitals, Clara Barton, Rough Riders, Santiago, San Juan, Manila, the Beautiful Women of Cuba and Manila. The Album is 5x8 inches, weighs 12 ounces, printed on finest coated paper. Sent FREE to any address in the United States, Canada or Mexico, for 12 Cents, to cover postage and packing. Copy may be seen at any ticket office of the Big Four Route. Order at once, as the edition is limited. Address **WARREN J. LYNCH, General Passenger and Ticket Agent "Big Four Route," Cincinnati, Ohio.** Mark envelope "War Album."

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30 Days Free Trial in Your Own Home. **WE PAY FREIGHT.** Fine new machines \$3.50, \$12.75, \$17.50, \$20.00. Unscrupulous concerns offer machines made of old parts worked over. You can't afford a poor machine at any price. Ours are strictly new. **Guaranteed 20 Years.** Write to-day for Special Cut Price Introductory Offer. Salesmen Wanted. **FEDERAL SUPPLY HOUSE, (Successors to CONSOLIDATED WHOLESALE SUPPLY CO.) Lake and LaSalle Sts., Dept. 4, CHICAGO, ILL.**

To Los Angeles and Southern California....
Every Friday night, at 10:35 P. M., a through Tourist-car to Los Angeles and Southern California leaves the Chicago, Milwaukee & St. Paul Railway Union Passenger Station, Chicago, via Omaha, Colorado Springs and Salt Lake City, for all points in Colorado, Utah, Nevada and California. In addition to the regular Pullman porter each car is accompanied by an intelligent, competent and courteous "courier," who will attend to the wants of the passengers en route. This is an entirely new feature of tourist-car service, and will be appreciated by families or by ladies traveling alone. Particular attention is paid to the care of children, who usually get weary on a long journey. These tourist-cars are sleeping-cars supplied with all the accessories necessary to make the journey comfortable and pleasant, and the berth rate (each berth will accommodate two persons) is only \$6.00 from Chicago to California. Ask the nearest ticket agent for a tourist-car folder, or address **Robert C. Jones, Traveling Passenger Agent, 12 Carew Building, Cincinnati, Ohio.**

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How to Reduce it
Mrs. L. Lanier, Marlin, Tenn., writes: "I reduced my weight 2 1/2 lbs. in 15 days without any unpleasant effects whatsoever." Purely vegetable, and harmless as water. Any one can make it at home at little expense. No starving. No sickness. We will mail a box of it and full particulars in a plain sealed package for 4 cents for postage, etc. **HALL CHEMICAL CO. B Box 25, St. Louis, Mo.**

FREE CURE for ASTHMA
Trial Package of three special medicines Free. **DR. W. K. WALRATH, Box 608 ADAMS, N. Y.**



WHEN WE ARE GONE

BY ADELBERT CLARK

Dear friend, when you and I are gone Beyond this life of hope and fear...

And those we love and leave behind, Whose bitter grief may last for years...

Each babbling brook will sing its song Through shady woodlands, just as clear...

So as for me it matters not, If they are only loyal now, If not a flower or wreath is laid...

SOLID READING

THINK that I can scarcely render a better service to my young readers than to most earnestly urge them to make a practice of devoting a little time each day...

THOUGHT GEMS

What it is our duty to do we must do because it is right, not because any one can demand it of us.—Whewell.

True friendship is a plant of slow growth, and must undergo and withstand the shock of adversity before it is entitled to the appellation.—George Washington.

A good heart is the sun and the moon; or rather the sun, and not the moon; for it shines bright, and never changes, but keeps his course truly.—Shakespeare.

Setting out on thy soul's pilgrimage, unite to thyself what hearts thou canst. Know well that a hundred holy temples of Mecca have not the value of a heart.—Omar Khayyam.

Every man is a divinity in disguise, a god playing the fool. It seems as if heaven had sent its insane angels into our world as to an asylum.

then the mad fit returns, and they mope and wallow like dogs!—Emerson.

Keep faith with thy fairest ideal unto the perfect day. Thou canst not know how many souls stand in the ray that passes through thee...

Happiness, as proved by ages of human experience, is simply the music of a well-ordered life; and every time you break a law of body, mind or soul you detract so much from the very possibility of happiness...

One of the hours each day wasted on trifles or indolence saved and daily devoted to improvement is enough to make an ignorant man wise in ten years—to provide the luxury of intelligence to a mind torpid from lack of thought...

We can only have the highest happiness, such as goes along with being a great man, by having wide thoughts, and much feeling for the rest of the world as well as ourselves.

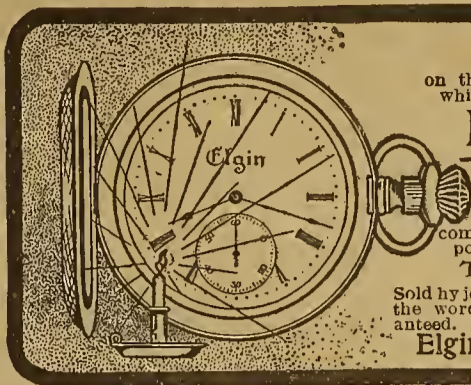
FOR EVERY-DAY ILLS

The "Public Health Journal" furnishes the following suggestions in the way of preventives for every-day ills:

- Try cranberries for malaria. Try a sun-bath for rheumatism. Try clam broth for a weak stomach. Try cranberry poultice for erysipelas. Try swallowing saliva when troubled with sour stomach. Try eating fresh radishes and yellow turnips for gravel. Try eating onions and horse-radish to relieve dropsical swellings. Try buttermilk for the removal of freckles, tan and butternut stains. Try the croup tippet when a child is likely to be troubled with croup. Try hot flannel over the seat of neuralgic pain, and renew frequently. Try hard cider—a wine-glassful three times a day—for ague and rheumatism. Try taking a nap in the afternoon if you are going to be out late in the evening. Try breathing the fumes of turpentine or carbolic acid to relieve whooping-cough. Try a silk handkerchief over the face when obliged to go against a cold, piercing wind. Try an extra pair of stockings outside of your shoes when traveling in cold weather. Try walking with your hands behind you if you find yourself becoming bent forward. Try a cloth wrung out from cold water, put about the neck at night, for a sore throat.

HOME POLITENESS

It is significant to observe how some men fail to know the way to treat their wives and sisters when they meet them. It seems to be too much trouble to lift their hats or to give their nearest the courtesy they would freely render any woman outside of the domestic circle.



A Little Light on the watch subject is found in our new booklet, which all are invited to send for—free of cost. Elgin Ruby Jeweled Watches

come in various sizes, grades and prices, to suit every pocket. Recognized universally as The World's Standard. Sold by jewelers everywhere. An Elgin watch always has the word "Elgin" engraved on the works—fully guaranteed. Elgin National Watch Co., Elgin, Ill.

Ladies' or Gents' size WATCHES, RINGS, WATCH-CHAINS AND CHARMS, FREE &c. As a grand premium, any one can earn this Beautiful Gold Plated Hunting Case Stem Winder Watch, Charm and Chain...

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\$50.00 HELP! HELP!! \$50.00

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IS WHAT WE PAY for introducing Dr. Blair's and Rawleigh's Remedies and Flavoring Extracts in your vicinity. Steady employment 62 weeks in the year.

\$3 a Day Sure

Send us your address and we will show you how to make \$3 a day absolutely sure; we furnish the work and teach you free; you work in the locality where you live.

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Giving Entertainments with our new Moving Picture Outfit. Latest and best. Many are making \$10 to \$25 per day. You can do it. Small capital needed. Ours is cheapest, latest and best. Write at once. BROWN-LEWIS CO., (Dept. 19), Chicago, Ill.

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1500 SEWING MACHINES Second-hand Standard makes \$3 to \$10. Shown or slightly used samples \$7 to \$12. Three years on trial.

LADIES I Make Big Wages AT HOME— and will gladly tell you all about my work. It's very pleasant and will easily pay \$18 weekly.

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FAMILY RECORD A beautiful picture; rich colors; background solid gold. Tremendous seller. Agents delighted. Sample free for 12 cents to pay postage and advertising, none for \$1, post-paid. HOME ART PICTURE CO., Chicago, Ill.

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For the Enlarged and Improved 1900 Edition of Peerless Atlas and Pictorial Gazetteer of All Lands. Over 300 Colored Maps and Fine Illustrations. Magnificent NEW Maps, each 19 by 13 inches, of the PHILIPPINES—Pacific Ocean—Cuba—Alaska, etc.

DON'T RENT

ESTABLISH A HOME OF YOUR OWN

Read "The Corn Belt," a handsome monthly paper, beautifully illustrated, containing exact and truthful information about farm lands in the west, letters from farmers and pictures of their homes, barns and stock.

WALL PAPER Send for free sample book of beautiful designs direct from manufacturers and save 25 per cent. Agents Wanted. KAYSER & ALLMAN, 1214-1216 Market St., Phila., Pa.

THE YANKEE FIRE-KINDLER Length 15 inches. Weight 1/2 pound. Builds 100 fires with 1/2 worth of oil. No kindling. Pile the fuel over the blazing kindler and the fire is built.

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WANTED A reliable man to represent us permanently in your county. Commission or Salary paid Weekly. Many of our agents earn \$100 monthly.

1427 Silk Fringe Cards, Love, Transparent, Escort & Acquaintance Cards, New Puzzles, New Games, Premium Articles, &c. Finest Sample Book of Visiting & Hidden Name Cards, Biggest Catalogue. Send 2c stamp for all. OHIO CARD CO., CADIZ, OHIO.

LADIES TO DO PLAIN SEWING at home, \$1.50 per day, four months' work guaranteed. Send three one-cent stamps for sample and particulars. R. W. HUTTON & CO., Dept. 3, Philadelphia, Pa.

OPIUM and Liquor Habit cured in 10 to 20 days. No pay till cured. Write DR. J. L. STEPHENS CO., Dept. A3, Lebanon, Ohio.

GET AWAY WITH GLASSES! EYE CURES FOOD CO. NOURISHES, STRENGTHENS SIGHT. EYE CURES FOOD CO. CINCINNATI, O. WRITE FOR DESCRIPTION. PATENT secured or money not returned. Exam. Free. COLLAMER & CO., 1040 F. St., Wash., D. C.

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Cures Every Disorder of the Kidneys, Lame Back, Rheumatism, Neuralgia, Bladder Troubles and Even the Hopeless Cases of Bright's Disease and Diabetes—A Trial Bottle Free.

To the thousands of unfortunate people who are sick and despairing with weak kidneys, weak back, rheumatic pains, irritated bladder, Bright's disease or Diabetes a free trial bottle of Peruviana, a new and wonderful remedy, will be sent by mail absolutely free as a trial.



MRS. REV. B. TRESSENRIDER.

It cured the Mrs. Rev. Tressenrider, and she writes us as follows: "Dear Sirs—I have been badly afflicted with kidney and bladder trouble which our family physician failed to cure after almost three months' treatment. I then sent for the Peruviana, have taken one and a half bottles, and I feel that I am cured of the terrible disease. I haven't had a symptom for five weeks. Am truly thankful to you for your kindness, will recommend it to the afflicted, do all I can for the sale of the Peruviana. Very respectfully yours, Mrs. Rev. B. Tressenrider, 208 S. Grand Ave., Columbus, Ohio."

Hundreds of cases given up as hopeless, have been quickly cured. Don't waste valuable time wondering if the remedy cures, but send your name and address to the Peruviana Herbar Remedy Co., 756 Second National Bank Building, Cincinnati, Ohio, and by return mail prepaid they will forward a free trial bottle, enough to show the action on the kidneys and afford a most comforting feeling that here is a remedy that promises restoration for diseases heretofore declared hopeless and necessarily fatal.

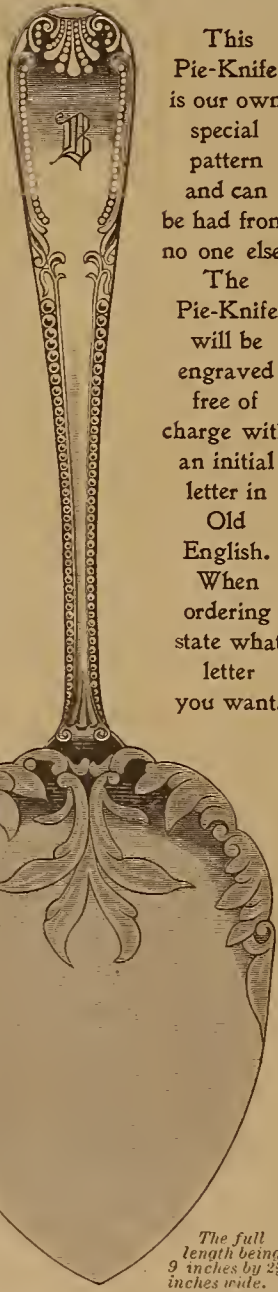


FREE! Sell 10 of our scarf-pins at 10 cents each, return us the money and we will send, FREE, this Akah Diamond ring. SOLID GOLD finished, warranted. Send full address for pins and premium-list. NO MONEY Required. BISMID JEWELRY CO. Park Street, Attleboro, Mass.

SILVER-PLATED

PIE-KNIFE

This quadruple silver-plated Pie-Knife matches our regular silverware, which is fully described elsewhere in this issue. It is plated with full standard amount of coin-silver and guaranteed to give satisfaction or money refunded.



This Pie-Knife is our own special pattern and can be had from no one else. The Pie-Knife will be engraved free of charge with an initial letter in Old English. When ordering state what letter you want.

This cut is about two thirds the actual size of the Pie-Knife.

The full length being 9 inches by 2 3/4 inches wide.

Free This Pie-Knife will be given free for a club of FOUR yearly subscriptions to the Farm and Fireside.

We Will Send the Farm and Fireside One Year and This Elegant Pie-Knife for..... **65c.**

(When this offer is accepted the club-raiser may have either the regular cash commission or the name may be counted in a club)

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THE MAN WHO TELLS YOU THINGS YOU KNOW

Have you ever had the pleasure, when there's work that waits for you. To be cornered by the man who grabs your arm And proceeds to tell you freely what the government should do To protect your "fellow-countrymen" from harm? Who exclaims, "I'll tell you what, It has come to where we've got To do something, or we'll have the dence to pay!" Sponting for an hour or so, Just as if you didn't know All and more than he has words or breath to say.

What a joy it is to hear him while he tells you all about Things that everybody knows from A to Z; What a pleasure 'tis to listen while he fiercely argues out Some question upon which all men agree! What a treat it is to stand There before him, nodding, and Give ear to what you knew long, long ago; To be talked to as if you Were a Rip Van Winkle who Had been sleeping soundly twenty years or so!

What a privilege to waste your precious time while he proceeds To tell you what the government should do; To hear him naming over all the people's woes and needs, As if they looked for help from him and you! Oh, if there is a place Where the damned are, let a space Be reserved for that intolerable bore Who, while there's work that waits, Puts a wise air on, and prates Concerning things we always knew before. —Chicago Times-Herald.

SIGNS OF WINTER

THE approach of winter is presaged by an impression that one's underclothing has suddenly become diaphanous, and that it does not cling to the body, after unwonted activity, with that fond affectionateness that marked its behavior during the summer. Another sign, and one that may be considered reliable, is a sudden rise in the price of coal. There is no more infallible prognostication of coming cold weather than your coal dealer. The winter season is foreshadowed, also, by an elasticity of gait which makes one feel as if he were renewing his youth. But, unfortunately, with the first cold snap comes back that old frog in the throat that, reversing the custom of cold-blooded animals, has lain dormant during the heated season. The cough and the sneeze are heard in the land, and a sudden desire seems to have come upon humanity to risk that fine of \$100 for expectorating upon the sidewalk, in the street-cars and in all sorts of places. The window-screen and screen-doors become an impertinence and the furnace resumes its inning. The morning milkman's steps are brisker than has been their wont, and even the creeping newspaper-boy becomes an animated being. The snail at once becomes a sluggard in the morning, and in the evening hies to rest at an unconscionable hour. It suddenly occurs to you that it is immodest to appear in public barehanded, and you hasten to clothe your pickers and stealers in decorous garb. Your fair skin has a tendency to transform itself into goose-flesh, and you are afflicted with the outward and visible sign of the shaking palsy. The air is redolent of the aromatic effluvia of camphor. The man who has carefully closed the door upon entering or leaving your office is now as careful to leave it wide open. Finally, the mercury in the thermometer discovers a shrinking disposition, and in a word you are reminded once more that this is a cold, cold world.—Boston Transcript.

THE GREAT EDITORS

The stranger in a great city was being shown over the offices of a great publication establishment. He saw the presses and the type-setting outfit, and then he said, with a little timidity: "There's one thing more I'd like to see." "What's that?" "I'd like to see 'em edit." "Oh, of course. I had pretty nearly forgotten that. You know we're so enterprising that the editing is only a small part of it. But we've got editors, lots of 'em. See that man with the waste-basket by the side of his desk, and the stack of mail three feet high?" "Yes." "We've got up a discussion on kissing-hugs. He's the kissing-hug editor. The man just to his right, with all the diamonds, gives advice to people in love. He's the wounded-

hearts editor. These portly, handsome gentlemen to the right, who are engaged in ordering office-boys around, are the sea-serpent, how-to-be-heartful and summer-drinks editors. The how-not-to-eat-with-your-knife editor is away on his vacation. The is-it-right-to-hug-while-shooting-the-shoots editor is doing his work. The when-to-pnt-on-your-flannels editor is away on his vacation, too." "And that man who sits away off there in the corner and doesn't seem to be in it?" "Oh, he's just a managing editor or an editor-in-chief or somebody. I don't know exactly what."—Washington Star.

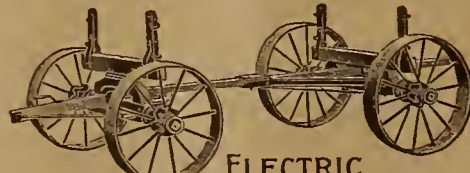
CHILDREN'S SAYINGS

Little sister is telling a fairy tale to her baby brother. She says, impressively, "And the wicked giant seized the mau, and took a large knife and cut out his heart, his liver and his bacon." "What kind of a dog is that, papa?" asked a small Johnny, as he observed the big animal chasing his own tail. "That's a watch-dog," replied the father. "And will he go as soon as he winds himself up?" asked Johnny.—Chicago News. It was the first time little four-year-old Willie had ever seen a snake, and as it writhed and squirmed along he ran into the house to tell of his discovery. "Oh, mama," he exclaimed, "come here quick. Here's a tail wagging without any dog!"—Chicago News. A little girl who had been sent to school for the first time, on her return confessed to her mother that she did not like it. "The teacher put me on a chair," she explained, "and told me to sit there for the present, and I sat and sat, but she never gave me any present." History is all the time having new readings, and some of the best of them come from the mouths of children. "When Rome was burning, the Emperor Nero was playing a fiddle," so the teacher told Robbie. And this is what Robbie told his mother that evening, "The Emperor Nero was playing a fiddle, so they burned Rome." In a car a small boy was observed to be suddenly agitated, but regained his self-control after a few moments. Soon after the conductor came to ask his fare. There was a slight pause, and the passengers were surprised to hear the following: "Pleathe charge it to my papa; I've thwallowed the money."

There was a disagreement, and the mother undertook to straighten things out. "Why can't you play nicely?" she asked. "Cause he wants to boss things," answered the younger. "He wants me to play I'm president of the United States." "Well, why don't you?" "Cause it's my turn to be Dewey."—Chicago Evening Post. The other evening at dinner the face of four-year-old Edith was lighted up with unusual beauty, and her dark eyes had a dreamy, far-away look that prompted her mother to ask, "What are you thinking about, darling?" "Oh," replied the little miss, "I was just wondering whether you chewed your padding or swallowed it whole."—Chicago News. Danny's father, who is a farmer and stock-grower, took several car-loads of hogs reared on his farm to Chicago, where he sold them to a great pork-packing firm. While in Chicago Danny's father received the following letter from the little boy: "Dear Papa:—Did you see Mr. Armor kill the big fat hog with the black tale, and didn't he think it was a hnsster? I was sorry to see the hogs leave the farm, and you most of all. Your loving son, "DANNY."

FARM WAGON ECONOMY

The economy of this proposition is not all found in the very reasonable price of the wagon itself, but in the great amount of labor it will save, and its great durability. The Electric Wheel Co., who make this Electric Handy Wagon and the now famous Electric Wheels, have solved the problem of a successful and durable low down wagon at a reasonable price.



ELECTRIC

This wagon is composed of the best material throughout—white hickory axles, steel wheels, steel hounds, etc. Guaranteed to carry 4000 lbs. These Electric Steel Wheels are made to fit any wagon, and make practically a new wagon out of the old one. They can be had in any height desired and any width of tire up to eight inches. With an extra set of these wheels a farmer can interchange them with his regular wheels and have a high or low down wagon at will. Write for catalogue of the full "Electric Line" to Electric Wheel Co., Box 96, Quincy, Ill.

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Scientifically made and practically applied. All of the beneficial results that it is possible to obtain from Electricity can be had by using a Dr. Owen Electric Belt. Call or send for our large Illustrated Book, which treats fully and scientifically on how to cure yourself at home with electricity. The Largest, Oldest and Most Reliable Electric Company in the World. THE OWEN ELECTRIC APPLIANCE CO., 201 to 211 State Street, Chicago, Ill.

3 DUEBER A \$2500 Watch in appearance and the best timekeeper on the market. Superbly engraved, double hunting case. Magnificently finished RUBY JEWELLED WORKS, stem wind and stem set and absolutely guaranteed for **20 YEARS** Cut this out and send it to us with your name and address and we will send the watch to you by express for examination, you examine it at the express office and if as represented pay express agent our special introductory price \$3.50 and it is yours. Only one watch to each customer at this price. Mention in your letter whether you want GENT'S OR LADY'S SIZE and order to-day as we will send out samples at this reduced price for 60 days only. R. E. CHALMERS & CO. 352-356 Dearborn St. Chicago.

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OUR PRICES ON ELGIN, WALTHAM

and **GOLD-FILLED WATCHES,** Warranted 20 Years, ARE THE LOWEST. Before you buy it will not cost you a cent to examine this great bargain; Watch and Chain, complete, \$4.50. CUT THIS OUT and send it to us with your name, post office and express office address and we will send you C. O. D. for examination this beautifully engraved 14k double hunting case, gold plated, stem wind and stem set watch fitted with a richly jeweled movement, guaranteed a perfect timekeeper and equal in appearance to any \$25.00 watch. A long gold plated chain for ladies or vest chain for gents at our 20 year guarantee sent with each watch. After examination if you are satisfied it is a great bargain pay the express agent our special price \$4.50 and express charges and it is yours. Mention if you want gent's or ladies' size. **DIAMOND JEWELRY CO.,** CHICAGO, ILL., Dept. A18, 225 Dearborn Street.

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AGENTS WANTED, BOTH SEX. Goods sent to reliable persons to be paid for after selling. W. H. Palmer, Glasgow, Ct., has sold 1,000 belts, and as high as 20 in one day. The electricity from the batteries will turn a needle through your table or hand. No one but what can wear them. Cures Rheumatism, Liver and Kidney Disease, Weak and Lame Back and other diseases. Prevents Cold Feet and taking Cold. Gives a comfortable glow of warmth all over the body, which shows it is acting on the circulation. For advertising purposes we will give one Belt Free of any Cost to one person in each locality. Address **E. J. SNEAD & CO.,** Department No. 410, Vineland, New Jersey.

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Learn Telegraphy Positions guaranteed. Write for circulars. **TELEGRAPH SCHOOL,** Sta. O, Chicago.

HOUSEHOLD

[CONTINUED FROM PAGE 13]

LIFE'S BURDENS DIVIDED

BY ELLA HOUGHTON

To bear life's burdens day by day,
And not by years
Brimmed o'er with tears,
Was God's benevolent and all-wise plan.
Years thus divided into days
Have made life's struggles light in ways.
And if it were not so
Our feet had faltered long ago.
One's future pathway strewn too deep,
Had looked too hilly, and too steep
For heart of mortal life to scan
With courage strong enough to bear
The weight of sorrow and of care
That seemly into every heart must creep,
Respecter not of birth, nor yet of clan.
But when woe is met with face to face,
With but allotted portion in each place,
The soul doth seem prepared to meet with grace,
By God's sweet power,
E'en to the very depths of grief,
The sun eventually shines forth and brings relief
Where light had seemed past all belief.
The heart has borne the burden hour by hour.

HINTS TO HOUSEKEEPERS

FROM an old colored "auntie" I have learned something about dressing fish that is certainly an improvement over the usual method. This is her way: Hold the fish by the tail under water in a deep pan, and with a small knife held slanting scrape the scales from the tail toward the head. The scales will not only come off easier under water, but they will fall to the bottom of the pan instead of flying in every direction, as they will do when the fish is scaled without being under water. After the scales are all off, wipe the fish with a soft cloth, and lay it on a board. If it is to be baked, cut from the vent far enough to remove the entrails. Wash well, and wipe again. If the fish is to be fried or broiled, cut off the head and tail, and if small remove the entrails and leave the fish whole; if it is larger or is to be broiled, split it down the back by passing a sharp knife on the side of and close to the backbone, from the head to the tail, cutting carefully until the entrails are reached and removed. Wipe the fish inside and outside with a cloth after washing it thoroughly; lay it on a plate, and keep in a cool place until ready to cook it.

One of the best ways to use up left-overs of beef, veal or mutton is to make a curry. All three kinds of meat may be used together if you haven't enough of one. Cut the meat into small squares. Put one or two tablespoonfuls of butter into a stew-pan, and put in one onion cut very fine. Let the onion fry in the butter until it is a light brown, then add one tablespoonful of flour and one teaspoonful of curry-powder. Stir this together for two or three minutes, and then add a cupful of stock or cold water and a pint of tomatoes. When it comes to a boil add the meat, and set it where it will gently simmer for an hour. Serve the curry on a platter, with boiled rice around it.

If an early breakfast is necessary, as at our house, where three of the family take an early train into the city, much can be done by a little forethought the night before. Any cereal that is used for breakfast may be cooked when getting dinner, left in the double boiler and simply heated in the morning. Shredded-wheat biscuit or grape-nuts may take the place of oatmeal, etc., occasionally, as these require no preparation except pouring hot milk over them five minutes before they are to be eaten. Set the table, slice potatoes to fry or heat in cream, chop hash, put the butter on the plate, set the cream and water pitchers on the kitchen table ready to fill, slice bacon, and put the eggs on the kitchen table. All these are things that may be done at night and save not only time but temper in the morning. If you want to make biscuit for breakfast, sift the flour with the salt and baking-powder, and put everything you will need on the kitchen table at night; then it will not take more than five minutes to have them ready for the oven. The same with corn-bread; in fact, I think it better to wet the meal the night before, and only have to add the eggs and baking-powder in the morning. Planning ahead and mixing plenty of brains with the work will help more than anything else to save strength, prevent worry and make a successful housekeeper.

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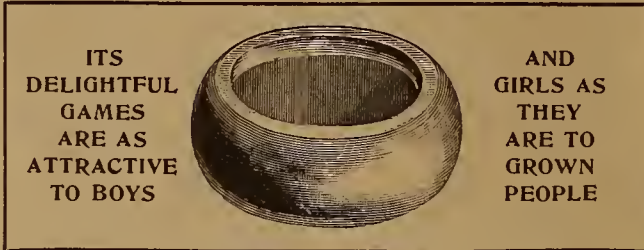
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CURIOUS RAT-TRAPS

A TWO-horse load of tin clippings was being transferred to the rear basement of a prominent hotel. It had come from a can-factory, and the narrow, curling strips had become so twisted and intertwined as to form a conglomerate mass that was moved with the greatest difficulty by two sturdy fellows with stable-forks. A bystander who was curious enough to inquire what use a swell hotel had for such truck was answered by an attache of the house: "We use it for rats. I mean the big gray fellows with whiskers. The hotel rat is bigger, bolder and wiser than any other rat. He laughs at traps, fattens on poison, and the killing or chasing of dogs, cats and ferrets is his pet diversion. Even when energetic measures have rid us of the pests they are with us again in augmented force within a day or two. They will tunnel through almost anything for incredible distances. It is their boring ability that has given us so much trouble hitherto. No matter how we closed up their passageways, the routes were promptly reopened. Filling the holes with broken glass was considered a good scheme until we found that with marvelous patience they removed the glass piece by piece.

"But we think we've got them now. With this tangled-up tin we construct a sort of ahatis, covering all places where the heasts are likely to enter our cellars. They can't get through it. They can't chew it, and they can't carry it away as they do broken bottles, for when Mr. Rat takes hold of a single strip of the tin he finds it an inseparable part of a network weighing many pounds."—Philadelphia Record.

WORTH REMEMBERING

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- One hushel of charcoal made from hard wood weighs about 30 pounds.
- Bituminous coal averages in weight from 47 to 50, and from 40 to 45 cubic feet in a ton.
- One cubic foot of anthracite coal weighs from 53 to 55 pounds, and about 38 cubic feet in one ton.
- The average quantity of coal burned to the square foot of firebar an hour in marine engines is about 15½ pounds.
- For the circumference of a circle multiply diameter by 3.1416.
- For the diameter of a circle multiply circumference by .31831.
- For the area of a circle multiply square of diameter by .7854.
- For the side of an equal square multiply diameter by .8862.
- For the surface of a ball multiply square of diameter by 3.1416.
- For the cubic inches in a ball multiply cube of diameter by .5236.

A GLORIOUS CALLING

The easiest of all Parisian callings, as registered at the office of the chief of police, is that of the pipe-colorer. This member of the social system devotes his whole time to the careful coloring of meerschaum pipes and fancy clays for their owners. His work is scarcely arduous, as he merely sits and smokes day after day. And his charges are very small—from eighty centimes to a franc a day, and a supply of tobacco to smoke.—Collier's Weekly.

QUARTO

A quarto is a book or pamphlet whose pages are of the size of the fourth of a sheet; a size made by twice folding a sheet, which then makes four leaves. According to present usages the page of a quarto is from seven by eight and one-half to ten by thirteen inches, the name being understood to denote a shape broad in proportion to its length and approaching the square rather than an exact size. 2. An eight-page newspaper of any size.—Standard Dictionary.

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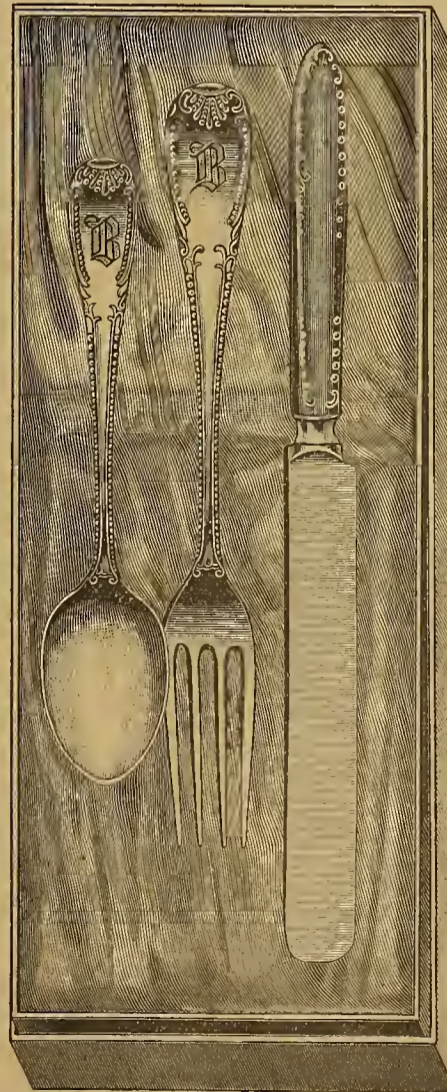
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BED-WETTING CURED. Sample FREE. Dr. F. E. May, Bloomington, Ill.

Christmas Not Complete

WITHOUT A CHILD'S SET .. ELEGANT .. SILVER-PLATED



Premium No. 87

DESCRIPTION

This Silver-plated Child's Set is of the same pattern and same quality as our other silver-plated tableware fully described elsewhere. The base of the ware (except the knife) is a hard white metal, which makes it strong. It is plated with the full STANDARD amount of pure coin-silver.

THE SPOON AND FORK will be engraved with any one initial in an Old English letter.

THE KNIFE is made of steel, very heavily plated with silver.

The set of three pieces will be packed in a box lined with pink satin, which makes them a very showy present. The length of knife is 7½ inches, fork 6 inches, spoon 5 inches. Guaranteed to give entire satisfaction or money refunded.

Last season we sent out nearly 200,000 pieces of our silverware as premiums. It is good and a bargain.

This Silver-plated Child's Set given for a club of only THREE yearly subscriptions to the Farm and Fireside.

We Will Send the Farm and Fireside One Year and the Silver-plated Child's Set for 60 Cents

(When this offer is accepted the club-raiser may have either the regular cash commission or the name may be counted in a club.)

Address FARM AND FIRESIDE, Springfield, Ohio

ARE YOU WITH US?



THE DEALER IS AGAINST US because we sell you wire fence direct from the factory at wholesale prices.

The dealer does not give you a better fence than we do, but he charges you more for it. You can buy the

ADVANCE FENCE

direct from us just as cheap as the dealer can. That makes a saving that will amount to something nice. A postal card will bring you circulars and prices.

ADVANCE FENCE COMPANY,
116 Old Street, Peoria, Ill.

ALL WOOL SUIT \$5.95

Man's Suit made from rich Black Cheviot, woven by America's Best Woolen Mill from fine picked wool yarn, dyed by a new process and cannot fade—famous everywhere for its perfect weave and deep black color.

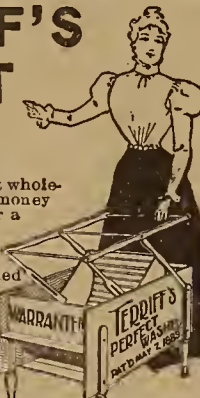
SKILLED SUIT TAILORS will make the suit in latest snick style to fit perfect, line it with fine heavy Farmer's satin and sew it with pure silk and linen thread, guaranteed for better in quality, style and looks than others best \$10 suit.

SEND NO MONEY but send this adv. and sample of this beautiful Cheviot and our big book of cloth samples of other suits from \$5.95 up and overcoats from \$5.95 up, or send us your Height, Weight, Chest, Waist and Crotch measure with \$1.00 deposit and we'll express the suit to you C.O.D., subject to examination; examine it carefully, try it on, see that it fits perfect, then pay the express agent the balance (\$4.95) and expressage, only after you find it exactly as represented, a perfect fit and far better than others best \$10.00 suits. Send today quick for suit or free sample book.

REFERENCES The Royal Trust Co. Bank, Chicago—any wholesale house in Chicago or any express Company in America.

THE LOUISZ. YEHON CO., 157 W. Jackson St., Chicago, Ill.

TERRIFF'S PERFECT WASHER



SENT ON TRIAL at wholesale price. If not satisfactory money will be refunded. **SOLD** under a **POSITIVE GUARANTEE** to wash as clean as can be done on the washboard, even to the wrist- and neckbands of the most soiled shirt, and with far greater ease. Does not wear out the clothes. Economizes soap, labor and time. **AGENTS WANTED.** Express and freight extra. Big money made. For terms and prices Address,

Portland Mfg. Co. Box 27, Portland, Mich.

WANTED MAN

with horse and buggy, to sell Pasture Stock Food. Salary \$15.00 per week and 10 per cent on sales. Farmer preferred. Previous experience not essential. Pasture Stock Food is the greatest discovery ever made in practical and scientific feeding, and is sold on an absolute guarantee. Steady, permanent trade established. Sample bag sufficient for two week's feeding, free by express, or send 25 cents in stamps or silver to cover express charges, and we will send the same prepaid. **Pasture Stock Food Co., 301 Boyce Bldg., CHICAGO, ILL.**

THROW AWAY YOUR HAT PINS

The Ideal Hat Fastener is a perfect device for holding the hat on the head without a pin, no matter how hard the wind blows. Just the thing for cyclists. In fact, every lady, young or old. Price 25 cents, by mail. Agents wanted. **IDEAL FASTENER CO., Station N, CHICAGO.**

ORCHARD PROFIT

depends upon working all the fruit into a salable product. Cider, for instance. If good, clear and pure it sells readily at a profit. The best is produced by a **HYDRAULIC CIDER PRESS**. Made in varying sizes; hand and power. Get our free catalogue before you buy. **HYDRAULIC PRESS MFG. CO., 6 Main Street, Mt. Gilend, Ohio.**

FARMERS

Send for a large Catalogue of the celebrated "DeLoach" VARIABLE FRICTION FEED Saw-Mills, Shingle-Mills, Planers, Hay-Presses, Grinding-Mills, Water-Wheels, etc. Our Saw-Mill is warranted to cut over 2,000 feet of board lumber in ten hours with 4-horse power. Prices low, and we pay the freight. **DELOACH MILL MANUFACTURING CO., 300 Highland Avenue, Atlanta, Georgia.**

SAVE 1/2 Your FUEL

wasted up chimney. **BY USING THE ROCHESTER RADIATOR.** COST \$2.00 AND UP. Money refunded if not satisfactory. Write for booklet on economy in heating homes. **ROCHESTER RADIATOR CO., 3 Furnace Street, Rochester, N. Y.**

SEE AND WONDER

CREAM SEPARATOR Simple; easy to operate; durable; saves half the labor. Butter-making simplified. More and better butter. Farmers' and Agents' Gold-mine. Price \$2.50; worth \$100. Send stamp for particulars. Agents wanted. Automatic Cream Separator Co., Quincy, Ill.

Sewing-Machines \$5 and Up

Quality First-Class, 20-year guarantee. First-class new large-sized Planer \$125.00. Sent subject to approval. Address **BROWN-LEWIS CO., Dept. 11, Chicago, U. S. A.**

FARM SELECTIONS

MAKING BUTTER

THE milk should be removed from the stable as quickly as possible after milking, while possessing its natural warmth, to avoid the dust, bacteria germs and stable odors. It should be at once thoroughly strained through a metal strainer with fine mesh and several thicknesses of cheese-cloth. It is then best separated immediately, while still possessing a natural warmth of from about seventy-five to ninety degrees. The separator should be so adjusted as to take from one sixth to one eighth of the volume of whole milk as cream, that the cream may contain from thirty to thirty-five per cent of butter-fat. Cream of such thickness churns at a lower temperature, and hence more evenly and thoroughly than when run thinner.

On coming from the separator the cream should be immediately and thoroughly cooled down to as near fifty degrees as practicable. It should be cooled over a specially made cream cooler, or else stirred very slowly while cooling to cool through quickly. It should be held at such temperature, of about fifty degrees, for from six to forty-eight hours, according to individual judgment and taste in butter-making. The purpose of thus holding is its ripening or development of lactic acid, which gives the butter its flavor and texture and makes the cream more thoroughly churnable. From two to eight hours before churning (according to the degree of previous ripening) the temperature should be raised to between sixty and seventy degrees to better complete the ripening. It should then be lowered in temperature again to between fifty and sixty degrees, and churned at such temperature.

Some butter-makers are now using artificial ferments or "starters" in place of natural lactic acid development, aiming thus to save time, to secure more even ripening, and to guard against the development to high standing of undesirable bacteria. Such lactic ferments or bacilli starters are commercially obtainable in powder form, or may be home-developed, and their use is meeting with increasing favor, but it should not be attempted without understanding of proper handling.

There are all kinds of good churns and all kinds of opinions respecting a choice. The churn should be so constructed as to be easy to keep clean and sweet, and to bring the butter together thoroughly within from thirty to sixty minutes. Exhaustive churning is seldom possible under thirty minutes, and should not be attempted. It is a common mistake to use too small a churn. It should never be more than half full of cream. It should be rinsed with cold water before using.

The churn should be stopped when the butter granules are like mustard-seed or a trifle larger, the buttermilk drained off as completely as possible, and the butter rinsed with water of from forty-five to fifty-five degrees. The salt used should be of the best quality, of uniform grain, and about three fourths of an ounce to the pound of butter. The butter is better worked twice, first lightly in salting, and then allowed to stand for two or three hours at a temperature of from forty-five to fifty-five degrees and reworked.—From "Keeping Cows for Profit."

CALIFORNIA RAISINS

It is not generally known, but is nevertheless true, that the California raisin is possessed of valuable aperient qualities. Grape-growers are, as a rule, familiar with the laxative element of the grape, but rarely attribute the same quality to the raisin. The absence of this characteristic in the raisin as it is generally used is due chiefly to improper methods in cooking just as fruit is. To preserve the vinous and aperient qualities of the raisin it should be cooked in water just short of boiling. Thus treated the delicate flavor is brought out and the result is an appetizing and wholesome article of diet of which even a dyspeptic may eat freely with no danger of ill results. It is to the "processing" of the California seeded raisin, whereby it is subjected to a dry heat of one hundred and forty degrees, with a sudden chilling thereafter, that the high nutritive value and digestive quality of this delicious article is due. When these valuable qualities of the raisin are as thoroughly understood by the housewife as they should be, there will be no fear of overproduction of the raisin-grape in this state—Bulletin of Cal.

GOLD DUST

The Best Washing Powder.

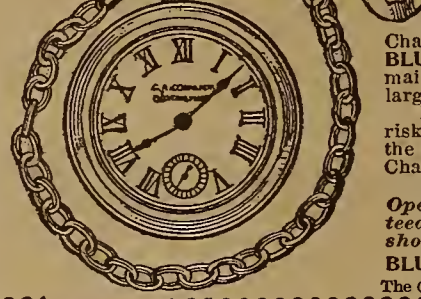
Cleans Everything from Cellar to Garret.



DO NOT SEND US ANY MONEY

LOOK FREE YOU CANNOT AFFORD TO MISS THIS GRAND OFFER. A Magnificent Solid Gold-Plated Initial Bracelet or Ring. Our Rings are all set with a carefully selected Ruby or Emerald Stone, mounted in a Tiffany setting. The Bracelets are in the latest style, popular Curb Link; the lock and key being exquisitely engraved. They present a beautiful appearance and will wear a lifetime. Over 100,000 young ladies are now wearing our rings and bracelets. We guarantee every thing just as we advertise. Just send us your name and address (letter or postal), that's all. We will send you 10 large handsome stamped doilies, ready for embroidering (Carnations, Roses, Chrysanthemums, Pansies, Holly). Each pattern a prize-selected design. Sell these to your friends at 10c each, send us the one dollar collected and we will promptly send you the bracelet with your initial engraved on it, or a ring; take your choice. Our reliability is established. We refer to any National Bank in this city. Write sure to-day for the doilies; your success is certain; sell at sight and wanted in every home. Write to Box 65, STERLING JEWELRY CO., Wilkes-Barre, Pa.

Watch and Chain FOR ONE DAY'S WORK.



We send this Nickel-Plated Watch, also a Chain and Charm to Boys and Girls for selling 1 1/2 dozen packages of BLUINE at 10c. each. Send your full address by return mail and we will forward the Blaine, postpaid, and a large Premium List. No money required. We send the Blaine at our own risk. You go among your neighbors and sell it. Send us the money that you get for it and we send you the Watch, Chain and Charm, prepaid. This is an American Watch, Nickel-Plated Case, Open Face, Heavy Bevelled Crystal. It is Guaranteed to keep Accurate Time, and with Proper Care should last ten years. **BLUINE CO., Box 392 CONCORD JUNCTION, MASS.** The Old Reliable firm who sell honest goods and give Valuable Premiums.

LACE CURTAINS FREE

These beautiful Royal Lace Parlor Curtains are of the newest Savoy design, three yards long, 36 inches wide, and will last a life time. You can get two pairs of these choice curtains, (same design as in cut), and four beautiful. Sash Curtains (one yard square each) FREE by selling our GREAT COLD REMEDY and HEADACHE CURE. Cures Cold in One Day! Relieves Headache at Once! We will give the curtains absolutely free to anyone taking advantage of the great offer, we send to every person selling six boxes of our Tablets. If you agree to sell only six boxes at 25 cents a box, write to-day and we will send the Tablets by mail postpaid. When sold, send us the money and we will send four Sash Curtains, unhemmed, so they may be made to fit any window, together with our offer of two complete pairs of Royal Lace Parlor Curtains, enough to furnish a room, same day money is received. This is a grand opportunity for ladies to beautify their homes with fine Lace Curtains of exquisite design. All who have earned them are delighted. Address: **NATIONAL MEDICINE CO., 1010 Chapel St., New Haven, Conn. Box 59 M.**

DOUBLE THE FOOD VALUE

can be secured from grain fed to live stock if it is cooked. It is more easily digested and assimilated by the animal stomach. **ELECTRIC FEED COOKERS** These cook feed in the quickest and best way and with the least amount of fuel. Made of cast iron, lined with steel. Boilers made of heavy galvanized steel, made in 12 sizes. Capacity from 25 to 100 gals. Strong, well made and will last indefinitely. Order before the cold weather catches you. Write at once for free circulars and prices. **Electric Wheel Co., Box 96 Quincy, Ill.**

Protect Your Feet From The Cold and Wet. All Knit "BALL-BAND" WOOL BOOTS are the best.

They are the most comfortable and will wear twice as long as others. "Ball-Band" Socks and Rubbers are the same high quality as the All-Knit Boots. They have superior features not found in others. Be sure that the trade-mark "Ball-Band" is on every pair. There are more imitations and counterfeits this season than ever before. We make all our own rubbers and are not connected in any way with any Trust. Insist upon getting "Ball-Band" goods from your dealer and take no others said to be "As good as," etc. **Mishawaka Woolen Mfg. Co., Mishawaka, Ind.**

HIGH GRADE. GUITARS, WATCHES, FREE CAMERAS, MANDOLINS, BICYCLES, FREE You can quickly earn a premium by selling a few boxes of our high-grade Toilet Soap to your friends and neighbors. **NO MONEY REQUIRED IN ADVANCE.** Our plan the best even Boys and Girls do well. Our premiums as good as money will buy. Large illustrated List including Sewing Machines, Dress Skirts, Jackets, Capes, Mackintoshes, Guns, etc., mailed FREE. Write today for full particulars. **DAWSON SOAP CO., 56 FIFTH AVE., DEPT. 139, CHICAGO, ILL.**

Stock Thrives Best

on feed ground on a **FRENCH BUHR STONE MILL** because it is better ground. Our mills grind ear corn and all kinds of grain into the best feed, and also grind table corn meal, buckwheat, rye and graham flour. Run light, large capacity, easy to care for, last a life time. Send for Book on Mills. **NORDYKE & MARION CO., Flour Mill Builders, (Estab. 1851) 15 Day St., Indianapolis, Ind.**

NEW INVENTION—A \$12 BATH CABINET FOR ONLY \$5.00

Our new 1902 style Square Quaker guaranteed best of all cabinets at any price. Has real door on hinges, steel frame, best materials, rubber lined, folds flat, lasts 20 years. Turb. Jet and Vapor bath at home 8c. each. Opens the millions of pores, sweats poisons out of the blood, keeps you clean and healthy, beautifies the complexion. Physicians recommend it for Colds, La Grippe, Rheumatism, Neuralgia, Obesity, Female Ills, all Blood, Skin, Nerve or Kidney troubles. Money refunded after 30 days' use if not as represented. Price \$5.00, extra. Order to-day. Write us. Valuable Book FREE. **AGENTS WANTED. Big Wages. Splendid Seller.**

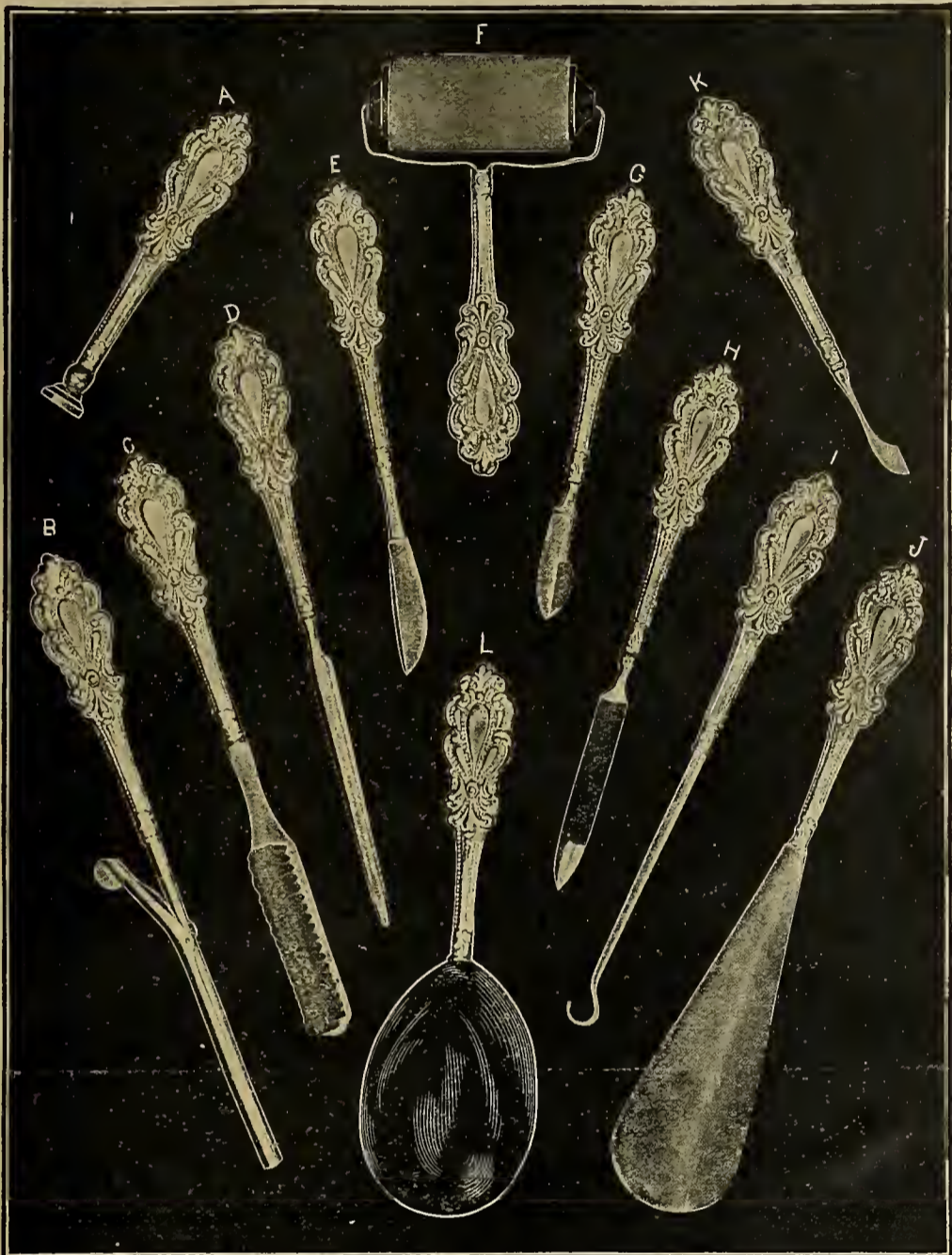
\$1,000 SALARY PER YEAR!

Ladies or Gentlemen We have shared the general prosperity of the country, and we now need one or two permanent representatives in each state to look after our interests, manage our agents, and attend to collections. This position involves no canvassing and is a bona fide weekly salaried position, with all expenses paid, to the right party. It is mainly office work conducted at your own home, with an occasional trip out among the agents. No investment required. Also three salaried vacancies in the traveling department. Enclose references and self-addressed stamped envelope to **PROVIDENCE CO., 27, Caxton Bldg., CHICAGO.**

\$7.50 BUYS A High PERFECTION Family Knits everything. Hosiery, mittens and all fancy stitches from homespun or factory yarns. Send for free catalogue and samples of work describing hosiery and underwear knitters. Address,

CHOICE OF THESE STERLING SILVER NOVELTIES

The novelties here illustrated are of good size, have genuine sterling silver handles, and the steel parts are of the best quality and well made. Satisfaction guaranteed or money refunded. The pieces are twice as long and twice as wide as shown.



- A—Seal
- B—Curling-iron
- C—Tooth-brush
- D—Letter-opener or Bodkin
- E—Corn-knife
- F—Roll-blotter
- G—Eraser
- H—Nail-file
- I—Button-hook
- J—Shoe-spoon
- K—Cuticle
- L—Darning-ball

We Will Send Any ONE of These Sterling Silver Novelties, and Farm and Fireside One Year, for **75 Cents**

(When this offer is accepted the club-raiser may have either the regular cash commission or the name may be counted in a club)

Any ONE given for a club of only FOUR yearly subscribers to the Farm and Fireside. In this offer your own name can be counted for one subscriber.

Order by Premium No. 775 ; indicate choice by letter, as No. 775 A, No. 775 B, etc.

Seven Dolls FREE

A happy family of seven charming lifelike little people will be presented to every one who subscribes to the Farm and Fireside before JANUARY 1, 1900, at the regular clubbing price, 35 cents.

This is a special offer and one which will be made for a limited time only



These dolls are a real ornament to any home. The children will be delighted with them. The family consists of three generations—Grandfather George and Grandmother Martha, in colonial costumes; Papa and Mamma, and three bright-faced children, aged fifteen, twelve and three years respectively. They are made of cardboard, and will all stand alone. They range in size from five to ten inches, and are dressed in brilliantly colored costumes of artistic patterns.

A Christmas Morning Surprise

Think of the make-believe weddings, parties, visits and all the delightful combinations that can be arranged. Remember, this set contains an entire Family of Seven Separate Dolls, which formerly sold at 50 cents a set. This is the only set of dolls ever made with a Grandpa George and Grandma Martha Washington.



OUR SPECIAL HOLIDAY OFFER.....

The clubbing rate of the Farm and Fireside without a premium is 35 cents, but as a Special Holiday Offer

We Will Give One Complete Set of These Dolls FREE

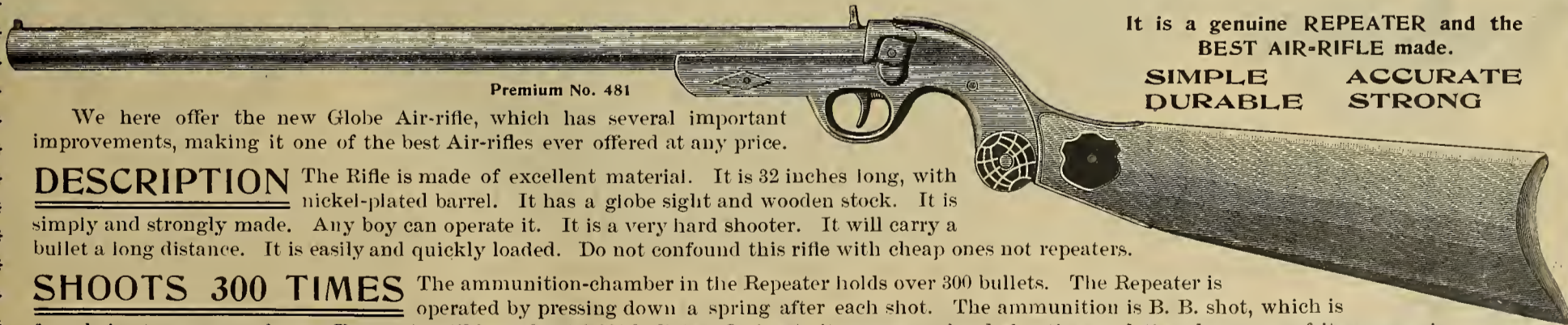
TO EVERY ONE WHO SENDS 35 CENTS FOR ONE YEAR'S SUBSCRIPTION TO THE FARM AND FIRESIDE..... **35 Cents**

Provided the dolls are chosen when the subscription is sent in.

(When this offer is accepted no commission will be allowed and the name will not count in a club)

Order by Premium Number 35

A BARGAIN FOR BOYS---A NEW REPEATING AIR-RIFLE



Premium No. 481

We here offer the new Globe Air-rifle, which has several important improvements, making it one of the best Air-rifles ever offered at any price.

DESCRIPTION The Rifle is made of excellent material. It is 32 inches long, with nickel-plated barrel. It has a globe sight and wooden stock. It is simply and strongly made. Any boy can operate it. It is a very hard shooter. It will carry a bullet a long distance. It is easily and quickly loaded. Do not confound this rifle with cheap ones not repeaters.

SHOOTS 300 TIMES The ammunition-chamber in the Repeater holds over 300 bullets. The Repeater is operated by pressing down a spring after each shot. The ammunition is B. B. shot, which is for sale in stores everywhere. Ten cents will buy about 1,000 bullets. Owing to its accuracy, hard shooting and the cheapness of its ammunition, this new Globe Air-rifle is very popular alike with grown-up people and boys. By practice remarkable skill in marksmanship can be attained.

We guarantee each and every Rifle to arrive safely and in perfect condition and to be as described and to give entire satisfaction or money refunded.

We Will Send This Air-rifle, and the Farm and Fireside One Year, for only **\$1.50**

(When this offer is accepted the club-raiser may have either the regular cash commission or the name may be counted in a club)

Given as a premium for a club of SIX yearly subscribers to the Farm and Fireside.

SHIPPING DIRECTIONS.—The rifle must be sent by express, charges to be paid by receiver in each case. The express charges will be from 25 to 50 cents—generally 25 to 35 cents, according to the distance. When packed ready for shipping each Rifle weighs a little less than four pounds. In ordering do not fail to give express office if different from post-office address.

NOTE.—THIRTY-FIVE cents is the clubbing price for yearly subscriptions to the Farm and Fireside without a premium to the subscriber. And members of clubs may accept any of our offers at the advertised prices and their names can be counted in clubs (unless otherwise stated in the advertisement). RENEWALS and new names, including a club-raiser's own subscription, can be counted in clubs. No reduction allowed in the clubbing prices.

Order by the premium number

Address **FARM AND FIRESIDE, Springfield, Ohio**

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AND SIGNS OF OUR TIMES

Over 1,000 Pages a Year

Full of Bright Pictures

Published Every Wednesday, 52 Times a Year, at the Bible House, New York City, at \$1.50 per Annum

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T. DE WITT TALMAGE, D.D., EDITOR-IN-CHIEF



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The Brightest and the Best

Family Weekly of its Day and Generation, and so Great is its Popularity among the Best People in All the Various Walks of Life, that its Sales this Year (1899) will exceed FIFTEEN MILLION Copies—a net Gain of nearly 5,000,000 Copies over 1898.

For the Coming Year, an almost bewildering Profusion of Literary and Artistic Attractions has been Provided. The World's Greatest Living Evangelist, DWIGHT L. MOODY, will Picture Familiar Bible Characters as though they were Living in the Present Day. Mrs. FRANCIS E. CLARK, The COUNTESS SCHIMMELMANN, Mrs. HARRIET PRESCOTT SPOFFORD, and MARION HARLAND will discuss "Young Men who will make the Best Husbands;" and BISHOP VINCENT, Dr. JOSEPH PARKER, and THOMAS SPURGEON will consider "Young Women who will make the Best Wives." The stirring controversy, "SHALL THE CHURCH ACCEPT SALOON MONEY?" now Nearing Fever Heat, and growing daily in Intensity of Interest, will Continue without Interruption for Many Weeks yet to Come.

A Grand Tour Around the World free!

Here is, indeed, a Most Remarkable Treat, as Unique and Original as it is Entertaining and Instructive. "JOSIAH ALLEN'S WIFE," Author of "Samantha at the World's Fair," will Arrange for our Columns a PERSONALLY CONDUCTED TOUR OF THE WORLD. Her party will embrace a Charming Variety of Characters, including a Bride and Groom on their WEDDING TRIP. Of course all THE CHRISTIAN HERALD Subscribers will join and Take their Families with them, but the Chief Interest will naturally centre in the Particular Party of AUNT SAMANTHA'S Own Creation, and all that they See, and Hear, and Say, and Do, and even what they Think Aloud, will be faithfully Chronicled and Profusely and Beautifully Illustrated. It will take a Whole Year to make this trip—which will include a



MARY LOWE DICKINSON, REGULAR CONTRIBUTOR



MARIETTA HOLLEY, "JOSIAH ALLEN'S WIFE"

Month at the Paris Exposition

A Yearly Subscription to THE CHRISTIAN HERALD will constitute a ROUND-TRIP TICKET, entitling you to join the party from Start to Finish. Aunt Samantha's party leaves early in December and will Spend the Christmas Holidays in Honolulu. Hence, you must Act Quickly and send your Subscription to-day. This Notable Tour will Include a call at Our Hawaiian Colony, a

Visit to the Philippines, a Glimpse of Buddha's Tooth in its Jewelled Shrine at Kandy, Ceylon, and a Ceremonious Audience with the Grand Turk at Constantinople. We reach home on Thursday, November 29, 1900 (Thanksgiving Day), and before we sit down to the Bountiful Thanksgiving Feast, we all Join heartily in Payne's Immortal Lines: "Mid pleasures and palaces though I may roam, Be it ever so humble there's no place like home."

A Proposition that Tells its Own Story!

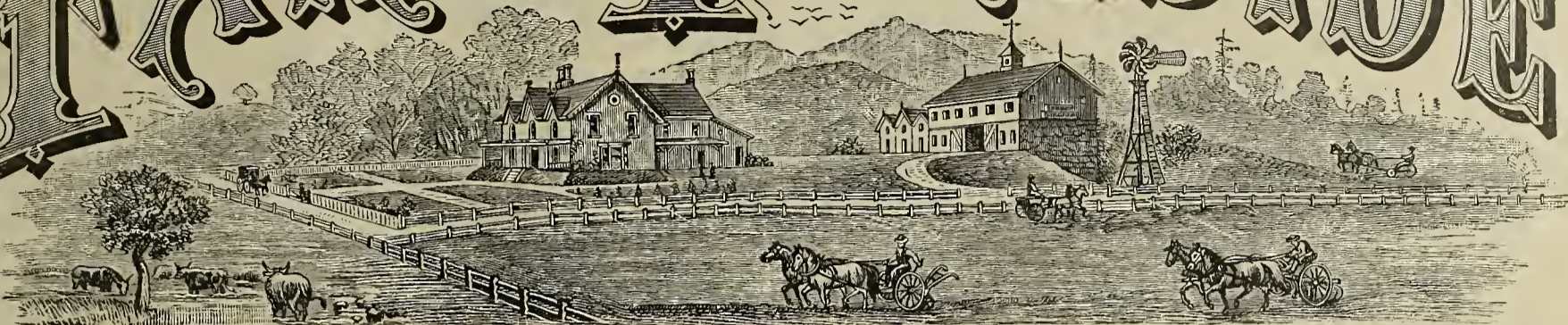
We know that you would Greatly Enjoy THE CHRISTIAN HERALD, and that if once Interested, you would soon become a Permanent Subscriber. Now, in Order to get you Personally Acquainted with THE CHRISTIAN HERALD, we submit the Following Unprecedentedly Liberal Proposition:

<p>Red Letter New Testament</p> <p>THUMB-INDEXED—Price \$1.75</p> <p>Large, New Type, with every Word Spoken by Our Lord Printed in Red. Bound in Rich Levant, Divinity Circuit. Red under Gold Edges, Silk Book-mark, and Thumb-Indexed - - PRICE, \$1.75</p> <p>Sent FREE with THE CHRISTIAN HERALD to January 1, 1901, on receipt of only \$2</p>	<ol style="list-style-type: none"> 1. You Send us \$1.50 (or \$2 if the Red Letter Testament is Wanted). 2. We Send you THE CHRISTIAN HERALD from date to JANUARY 1, 1901. 3. We also Send you our Home Sunshine Calendar (Worth \$1) FREE. 4. If not fully satisfied send us word any time before January 1, next. 5. We will immediately REFUND the WHOLE AMOUNT paid by You. 6. And You Keep the Home Sunshine Calendar for your Trouble. 	<p>"Home Sunshine" Calendar</p> <p>FOR 1900—PRICE \$1.00</p> <p>Whoever Subscribes or Renews for One Year before Dec. 1st, 1899, Will Receive FREE, one</p> <p>Home Sunshine Wall Calendar for 1900</p> <p>Printed in Ten Colors, on SIX Fancy Egg-shelled Cards, each 10 x 12 inches, neatly gathered by a silk cord. Worth \$1.00, but Given FREE as above</p>
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FARM & FIRESIDE

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SOME FAMOUS PICTURES

And the Artists Who Painted Them

PHARAOH'S HORSES (Painted by Herring)—A decidedly well-known and popular painting, of which we present a fine reproduction, preserving the great merits of the original. The artist, John Frederick Herring, was not only a good painter, but was also a judge of horse-flesh, consequently he was able to put on canvas just what horse-lovers see in a horse. The heads here depicted speak of many years of careful breeding. The eyes, large and understanding, the mobile nostrils, the short chin, the clean-cut, pointed ears, the arched neck, the full, silky mane, the thin skin, as shown by the veins, the breadth between the eyes and the width of chest all speak plainer than words of the high-bred horse—the perfect horse.

The title—Pharaoh's Horses—indicates the artist's intention that they should be regarded as models of perfect horses, such horses as Pharaoh would have chosen for his own chariot when such important business as the pursuit of the fleeing Israelites was on hand. The artist, with admirable tact, has painted merely horses' heads, thus binding the attention to the intelligent and characteristic part of the horse and leaving imagination to construct the remainder.

The artist, John Frederick Herring, was born in Surrey, England, and resided for the first ~~of his~~ years of his life in London, where his father, an American of Dutch descent, was engaged as a fringe-maker. He was by inclination a lover of horses and an artist. In 1814 he attended the races at Doncaster. This inspired him to try animal-painting, at which he was not at first successful. Having done some satisfactory work as a coach-painter, and being attached to horses, he became a coach-driver, in which position he continued until he set up as an animal-painter. For years he painted the winners of England's famous races. Without any education in art, he by natural ability attained much prominence, and was finally elected to membership in the Society of British Artists. He painted several horses for the Queen, and was appointed animal-painter to the Duchess of Kent. Many of his pictures are in the National Gallery, and all are highly prized. But none surpass "Pharaoh's Horses," and none are so popular.

The artist, Michael Munkacsy (real name Michael Lieb), was born at Munkacs, in Hungary, from the name of which place he took his art name. After studying at Gyula, Vienna, Munich and Dusseldorf, he removed to Paris in 1872. In 1878 he received the Grand Medal of Honor, and in 1882 the Vienna Medal. In 1886 Munkacsy came to New York, being then at the height of his brilliant career. The "Christ Before Pilate" was painted by him in 1881, and brought both fame and fortune. He always considered it his greatest production; thus in it we present the greatest production of the most illustrious modern painter of religious subjects. (For illustration see last page.)

WATERFALL BY MOONLIGHT (Painted by Rieger)—This landscape, by Alb. Rieger, expresses nearly or quite all the qualities within the range of such paintings. Beauty is in every line of the picture. Aside from the scene itself, the harmony displayed by the use of graceful curves is pleasing. It does not require an art critic to discern the exceptional merit in the original painting.

Grandeur is characteristic of the whole place—the grandeur of nature. Romance whispers from every branch. The gnarled oak speaks of age and firmness, while the fallen trunk in the foreground plainly declares the prevalence of decay. The water, dashing into foam against the unyielding rocks, impresses one with its unremitting turmoil. The single speck of animal life is the lone bird in the distance, which serves to emphasize the vastness of the scene stretched about it. The moon lends her mild radiance to the whole, serving to bring the silvery waters into strong relief.

By the variety of ideas expressed, and the general excellence of the painting, the picture is stamped with genius, and is both an interesting and artistic landscape study of an unusual kind. It is such that the eye never tires in its study, and new beauties are constantly revealed. It is distinctly a thing of beauty, to be studied and admired more and more the better one learns to know it. It brings the beholder in touch with nature, and its influence is refreshing and inspiring. The reproduction of this elegant painting, offered on the following page, faithfully preserves the beauty of the original and is a fitting ornament to any home. Read the publishers' announcement below. (For illustration see last page.)

CAN'T YOU TALK? (Painted by Holmes)—This pictured conversation between the little tot and his four-footed friend is at once touching, humorous and full of interest. The little one is troubled. He is just beginning to talk well and to observe things about him. He notices that his play-fellow does not answer his chatter. This worries him, and so in his childish, direct way he relieves his mind by asking of his friend, "Can't you talk?" Perplexity, interrogation and intense interest are expressed in his pose and features. The answer is plainly indicated in the intelligent eye of the dog. He is saying just as plainly as words, "No, I can't talk, but I understand you just the same." Puss peers out with wondering eyes to learn what the conversation is about. The scene is intensified by the fact that the two principal characters are clearly oblivious of her presence. The conversation, the understanding, is altogether between them; they are interested only in each other. That mutual friendship and sympathy existing between children and dogs was never more clearly expressed. The picture is full of interest, and one of the best ever painted by the artist G. A. Holmes. (For illustration see last page.)



Premium No. 785 Pharaoh's Horses Size 20 by 25 inches

CHRIST BEFORE PILATE (Painted by Munkacsy)—One of the most valuable pictures owned in the United States. Purchased for \$100,000.00 The scene chosen for the painting is the "Judgment Hall" in the palace of Pilate, and the hour "early in the morning." Around the Governor the priests are gathered, and the high-priest, Caiaphas, is accusing Christ and demanding his death. The proud and furious bigot is all alive with excitement. There is a majesty about his pose, the consciousness of power in his look and gesture, and something of dignity in the superb audacity with which he draws Pilate's attention to the execrations of the mob (who are crying out, "Crucify him!") as expressive of the national will, which the Governor is bound to respect, at the same time artfully insinuating that to let this man go will be treason to Cæsar, as well as a violation of the Jewish law which demands the prisoner's death for "making himself the Son of God."

The central figure, and the most impressive of all, is Christ himself, clad in white, with flowing hair and bound wrists. He stands alone in the simple majesty of his own personality, without sign or symbol save his individual greatness. A heavenly submission is on his face. Never before in any painting of the Messiah has anything of his personality in pose or figure been seen. The face has been that of Jesus, the form that of other men; but here the figure is of Christ himself.

PUBLISHERS' ANNOUNCEMENT—It is with pleasure that we announce that we have arranged to reproduce these celebrated paintings, also the masterpieces of such famous painters as Murillo, Landseer, Koller, Stuart, Schopin, Lefler and others, and offer them upon exceedingly liberal terms to our subscribers and club-raisers. The pictures as reproduced are veritable works of art and worthy a place in any home. They are twenty by twenty-five inches in size, including margins, and are suitable for framing. Excluding margins the pictures are about sixteen by twenty inches in size, varying somewhat according to the subject. They are all high-class pictures reproduced in the very latest style with especial regard to preserving all the beauties of the originals. They are not only beautiful and pleasing, but are also artistic and sure to delight all who receive them. They are not cheap attempts at color reproductions, but in monotints they bring out all the delicate effects of the originals. They have the exactness and good taste of steel engravings without the great expense. We are offering these pictures to our readers on decidedly favorable terms, the details of which will be found upon the last page, and will well repay your careful reading, as the pictures are to be had without the expenditure of any money. (For further illustrations see last page.)

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Free to Readers of the
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conditions see last page

JUST AMONG OURSELVES

A Chat With Subscribers and Club-raisers

A Word of Explanation

Some of our subscribers have written us concerning the addition of five cents to the clubbing rate of the FARM AND FIRESIDE, making it thirty-five cents instead of thirty cents, as last year.

It was done as a matter of necessity. Prices in all lines are on the advance. Paper costs more; labor costs more; in fact, everything costs more than last year. This increased cost became so great that an addition to the price was imperative.

Turn About is Fair Play

If you have been a subscriber for any length of time you will easily recall that formerly we got a much higher price for the FARM AND FIRESIDE, but when prices went down, labor became cheap and farm products were a drug on the market, we reduced the price—reduced it, in fact, to a hard-time, bed-rock level. We gave you the benefit of lower cost during hard times, and now that the times are prosperous and prices higher, is it not fair play that you should share the increased cost with us? We feel sure you will agree that it is.

About Clubs

Any one can be a club-raiser for the FARM AND FIRESIDE, and every one should be. If you send in two or more subscriptions you are a club-raiser and entitled to all the profits coming from getting up a club.

The FARM AND FIRESIDE is alive to the interests of its subscribers, and always endeavors to deserve their support. You who subscribe for it do not need to be told what a useful paper it is. It speaks for itself, because you give it a chance.

But how about your neighbor who does not take it and who does not know what he is missing? Do you not think he would appreciate it if you should make him acquainted with the merits of the paper? We are sure he would.

We also assure you that we will appreciate it if you will interest him, and we are willing to show our appreciation in a substantial way. To do this is the object of the premiums we offer. We do not desire to sell premiums. There is no profit in them at the prices at which they are offered in connection with the paper. Our sole object is to get subscriptions in clubs or singles, and since we can buy such things as are used for premiums at low prices, and give our subscribers and club-raisers the benefit, we take that method of rewarding you for what you do for us.

Premium-List

Have you received our new 1899-1900 Premium-List? If not, write for it at once. It is FREE, and we feel sure there are many things in it which you want and can get by merely a few hours' visiting among friends.

Cash Commission

If you prefer a cash commission for getting up a club, we will freely give it. Just write us that you want the cash-commission rates on the FARM AND FIRESIDE and we will be pleased to quote you such rates.

Renewals count toward premiums or cash commission the same as new subscriptions, and as the subscriptions of many who live right around you will expire during the next month or two, it will pay you to look after them and have them renew promptly.

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Have you written for the elegant circular illustrating and describing the beautiful reproductions of famous paintings which we offer? If not, it will pay you to write for it to-day. It is FREE for the asking.

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No. 955. The Scarlet Letter. By Nathaniel Hawthorne, one of the greatest authors America has produced. It is a romance of intense interest, exhibiting Hawthorne's extraordinary power of mental analysis and graphic description. The entire book is of a high moral character, and can be read with profit by every member of every family.

No. 973. Æsop's Fables. These fables were written during the glory of the Greeks, and though old, they are even more popular to-day than ever before. Many of the wise sayings that are repeated on all occasions are from these fables, yet not one out of a thousand knows who first wrote them, as "He killed the goose that lays the golden eggs." Æsop was a slave, but by his mother-wit gained fame that will endure as long as any of the "Seven Wise Men of Greece." But the great beauty of these fables lies in the fact that they are so very simple that all children will read them with delight, all the time unconsciously learning the greatest and best lessons of an upright, unselfish life. Every person should have a copy of "Æsop's Fables." There are about 200 of the best fables given in this book, with forty-nine illustrations and six pages devoted to the life and times of Æsopus.

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She went to the barber's, To get him a wig. And when she came back He was dancing a jig.

There are seven more pictures and fourteen verses similar to the above to the story of Old Mother Hubbard. The book contains one hundred and thirty-nine stories and over seventy pictures and illustrations. This is one of the best books for children in the entire list.

No. 956. The Courtship of Widow Bedott and Mr. Crane. If there is any truth in the old saying, "Laugh and grow fat," then the Widow Bedott hooks will help to make lots of fat. Mr. Crane was a neighbor, and a widower. He frequently called at the Widow's house, and she naturally thought he was courting her, so she tried to encourage him and get his courage up to the point of proposing. She succeeded, but he asked the Widow for the hand of her daughter Malissy. Then the Widow saw her predicament, and how she did storm! If you want a hearty laugh, try the Widow Bedott books.

No. 966. Outdoor Sports. A book of games and healthful recreation for outdoor sports of every description, with rules for playing and marking off the grounds, or making the bats, ropes, balls, etc. It contains forty-four illustrations, showing proper positions in swimming, boating, cricket, foot-hall, dumb-bells, Indian clubs, etc. Among the many games given in this book the following are a few: Foot-ball, Baseball, Marbles, Hopscotch, Prisoner's Base, Duck on the Rock, Tops, Flying and Making Kites, Cricket, Shiny, Croquet, Tennis, etc. Oftentimes boys are at a loss what to play, but with this book they will always have something new.

No. 958. The Merry Men. By R. L. Stevenson. When an author's works live after him, they are, as a rule, worth reading. The stories by Stevenson have stood this test, and are now widely read. "The Merry Men" is a story that you will not forget soon after reading it.

No. 960. A Bird of Passage. By Beatrice Harraden, author of "Ships that Pass in the Night," which had a wonderful sale through America and England. Few ladies have written more popular stories than Miss Harraden. "A Bird of Passage" is original and interesting.

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Below we offer five popular books by Charles Dickens, one of the greatest novelists who ever lived. These books abound in wit, humor, pathos, masterly delineation of character, vivid description of places and incidents. They are intensely interesting to children as well as grown persons.



No. 953. The Cricket on the Hearth. By Charles Dickens. This is a simple tale of home life, and being a fairy tale, is sure to interest the children. The story opens about dusk, with Mrs. Perrybingle putting on the tea-kettle, which soon begins to have gurgles in the throat, and indulge in vocal snorts.

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No. 997. Two Ghost Stories. Dickens.
No. 954. A Goblin Story. Dickens.
No. 981. Great Expectations. Dickens.

No. 990. On Her Wedding Morn. By Bertha M. Clay. In the world of fiction there have been but few characters to whom the sympathies of the reader goes out with more tenderness than Hulda Vaue, the heroine. This is the companion novel to "Her Only Sin," and will be read with the same intensity of feeling, with mingled joy and sadness as the characters in the book have cause for tears or laughter. It is a love-story that must appeal to every reader.

No. 986. A Bartered Birthright. By Franklin Fitts. This story tells the struggle between justice and injustice, in the author's entertaining style. A man occupying a prominent position in a leading hanking-house becomes addicted to the gambling habit and takes money from the bank. The blame is attached to a young man recently discharged by this man for paying attention to his daughter. The story ends with a victory for justice and the offender sighing in vain for squandered honor and a forfeited birthright.

No. 976. Noble and Heroic Deeds. Compiled by A. D. Hosterman. This book consists of sketches from the lives of men and women who became famous for noble and heroic deeds, with incidents in their lives.

No. 985. Anecdotes of the Rebellion is a grand collection of war-stories and camp-fire yarns. Every anecdote is a true story of some incident connected with the late war. Every one will be glad to own this book. By telling these stories, a speaker can keep an audience in laughter or tears at will. It gives anecdotes of Foragers, Raiders, Scouts, Stories of Prison Life, Union and Confederate Spies, of the Generals, Lincoln's jokes, etc., etc.



No. 989. Her Only Sin. By Bertha M. Clay, author of "The Shattered Idol," "On Her Wedding Morn," and other noted books. For stories of love, adventure and romance, delightfully told, replete with stirring incidents that will hold the reader from the beginning to the end, there are few better than those of Bertha M. Clay. "Her Only Sin" is fine. It is just the novel to read in a single evening, for once you begin you can't lay it down till you know the end.

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THE FARM AND FIRESIDE

A LETTER FROM PUERTO RICO

BY CHARLES F. HILL

THE storm was the worst, it is claimed, which has passed over the island in fifty years. Yet the destruction and devastation reported in the papers in a great many cases is grossly exaggerated. I was at the time on a surveying trip in the northwestern end of the island, and had just arrived at the little town of Barceloneta the evening before

the storm came on. We went to the town in an ox-cart from the place of our last survey, and expected to make Barceloneta our headquarters for some time, as we had several surveys in the vicinity. A number of the properties belonged to a resident Spanish gentleman we had never met before. Imagine our surprise, when we endeavored to secure accommodations in the little third-class hotel, to find that the Spanish gentleman had sent word for us to come to his house. A few minutes later he came, and insisted upon taking us to his house, although we had no claim whatever upon his hospitality. In vain we told him that we probably would have to remain several weeks. This was true Spanish hospitality which, all reports to the contrary, is found only among the pure-blooded Spaniards who have come from the "Peninsula," as they affectionately call their home-country. During the old regime a person born in Cuba or Puerto Rico, even if of pure-blooded Spanish parentage, was not a Spaniard, but a "Provincial," and therefore of a lower rank. Strange as it sounds, it seems that people degenerate in the tropics, for without exception when one finds here a perfect gentleman, one who has an education, or one who will do a favor to others, he is either a native Spaniard or his parents have come from Spain. The native Puerto Rican is a very poor specimen of humanity.

Class lines are very sharply drawn here, though, of course, it cannot always be seen at once to which class an inhabitant of this island belongs. As a general rule, however, the wearing of shoes on week-days is a very good sign. It is a common expression among the poorer classes to say of one who "has made a raise," "He can now wear shoes every day."

Our host was one of the prominent men in town. He owns the largest "tienda," or general merchandise store, in town, and some sugar-plantations and "haciendas," or farms, in the country. He is a true type of a Spanish country gentleman living in Puerto Rico. His welcome to us was as cordial as it might have been to brothers whom he had not seen for years. The best rooms in the house were ours; dinner, served in regular Spanish style, was ready when "los Senores" wished to dine, and throughout our stay we were treated with all possible courtesy. As a general thing, living away from the largest cities is not up to an American standard; even the well-to-do have only rice and beans and a cheap grade of codfish for their daily bill of fare. Even if able to buy better food they save their money to waste it in useless extravagances. Here we found an exception. Our host remembered

his early training and believed in good living. As we sat at the table one of the clerks of the store came to the house to report that a telegram had been received giving warning of the approach of a hurricane from the southeast. The family did not seem alarmed, and our host merely remarked that small storms were common during the summer months and comparatively harmless. When we retired, about ten o'clock, there did not seem to be any cause for alarm, although a slight wind had sprung up from the northeast and a bank of black clouds appeared

on the horizon. When we awoke in the morning a considerable gale was blowing, and some of the weaker trees were losing their branches. By this time the town had become thoroughly alarmed, and crowds were rushing about in a distracted manner, but were doing nothing to make their houses more secure. Our host wore an anxious look, but still thought it would pass off like others before, for though he had lived there fifteen years, he had never seen a storm that amounted to much, the last serious one having occurred twenty-three years ago. After

northwest to the southeast, still blowing a stiff gale, however. As soon as we could we walked around the town to see what damage had been done. We found the railway station a total wreck, and every house in town not built of stone or brick either wholly or partially destroyed. The grass and palm-leaf huts of the poor were strewn over the poorer quarters in hopeless confusion. The poor, lovable and unfortunate Puerto Ricans, as General Henry has called them, were crowded in the streets bent on robbery. The wind had hardly calmed down

water rose seven feet, and for awhile it looked as if the house would go. The walls of the lower story, built of a kind of composition material, were somewhat damaged, and a portion of the tin roof had been blown off by the wind. The ceiling, therefore, leaked in streams, so that it became necessary to carry out water to prevent things inside from being washed away. In consequence we did not have a very pleasant night.

Next morning the flood had very much subsided, but it was still two feet high around the house, and we could not get out until late in the afternoon. The town presented a pathetic appearance—mud, drift and desolation everywhere. The house of our host had suffered the least of all, yet the lower story looked like the Augean stables, so full was it of mud and all kinds of drift. The family was in comparative comfort, and the good lady of the house, our host's sister, worked all day long caring for the poor who had sought and found shelter in the house. A number of these same people, as she told us later, had sought to kill the whole family a year before when the Americans came. The general impression was that to kill a Spaniard would further the American cause, and the family was in serious danger of being murdered until the American troops arrived in town and protected them against the fury of unreasoning natives. It is a phase of the character of the low class of negroes and Puerto Ricans to set out to commit crime the instant anything happens to temporarily free them from fear of punishment. We were told that as soon as the Americans landed, and the Spaniards were devoting all their energies to the war, brigandage became a common thing. It was considered to be in perfect order to steal from a Spaniard who was unable to protect himself.

The attitude of the poor after the storm would not impress any one very favorably. It is true they lost their all, but they had been too indolent to accumulate anything, and in most cases their possession consisted of a straw-roofed hut worth about five pesos (Spanish dollars). Inside of their huts they have few chairs and seldom a table, and they live on half-ripe plantains, and coconuts which have fallen from the trees. Only when they have nothing they reluctantly do some work on some near-by plantation, but work just long enough to get a little rice and beans and some cheap codfish, when they quit work and will not come back until their supplies are gone. It is true their condition is miserable, but they themselves alone are responsible for it. If some of the hard-working farmers of the United States, Germany or Holland would settle here the island would soon be a veritable garden. Even the severe storm did not hurt the agricultural possibilities; the cane suffered very little, tobacco was not hurt, and although this year's coffee crop was ruined, the trees will bear better next year. All this island needs is some one to tickle it with a hoe to make it exceedingly productive, but the people who exist—I do not say live—on it are too lazy to do the tickling. It is to be hoped that American capital—a small amount of capital is all that is required—will soon develop the island so

abundantly favored by Nature. It is safe to predict that the future of the island as a fruit-growing center will be beyond the dreams of the most optimistic. When the American farmer with a little capital begins to realize the golden opportunities existing in fruit-raising, especially of fruits which cannot stand the northern winters, then Puerto Rico will be the finest spot on earth in which to live. Its fine climate makes it incomparable, and when settled by industrious and thrifty people its one drawback will be removed.



COUNTRY SCHOOL NEAR PONCE

an early morning breakfast we went out on the street, where crowds of excited natives were already bent on mischief. The wind began to increase in fury, pieces of tin roofing began to fly from the roofs, and the grass-thatched native huts began to sway and tremble. Soon huts and even fair-sized houses began to fall in all directions, and it became evident that unless something was done to save them some of the poorer people would be hurt in their falling houses. The wind by this time had reached such a velocity that it was almost impossible to stand up against it. In spite of this the cavalymen made their way up the streets, and entering the huts, threatening to fall at any moment, brought out a number of women and children who had retreated

when they broke open one of the stores and commenced to loot everything. The insular police, composed of natives, were not to be seen, and crimes were committed without restraint. The soldiers were still engaged in rescue work when they learned what was going on. The sergeant in command immediately ordered his men under arms and started them on a run for the business part of the town. They arrived just in time to prevent a second store from being plundered. The crowd had become intoxicated with rum found in the first store and was fast becoming dangerous. The sergeant by prompt action quelled the incipient riot, while two native policemen stood by without offering any assistance. About 2 P. M. it began to rain in torrents, and the river,



FARM-HOUSE ON MILITARY ROAD NEAR AYBONITO

from huts destroyed by the wind to others behind them. The soldiers brought the people down like ships towing barges. When they reached the corner of the large house affording shelter, other soldiers formed a "foot-ball breastwork" to catch them as the wind hurled them around the corner. During this a misty rain had been driving fiercely against our faces, and getting some of it in my mouth I found that it was salty. It had been swept up from the sea and been driven two miles inland. About noon the wind calmed down and changed from the

which flows parallel to the main street along the edge of the town, began to rise rapidly. At 4 P. M. the town was five feet deep in a swiftly flowing current. Animals of all kinds were seen struggling in the flood, but quite a number were rescued. The river spread from the bluffs, half a mile away, to the large swamp on the other side of the town. The water still kept rising, and the cavalymen were forced to make a dash along one of the side streets to get out their horses. They lost all their personal belongings. Around the house of our host the

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IN THE annual report of Secretary of the Interior Hitchcock it is estimated that the irrigable area of the United States is 74,000,000 acres, capable of comfortably supporting under a proper irrigation system fifty million people. Reasonable expenditures both by federal and state governments, looking to a well-defined irrigation system are urged. Nearly fifty proposed new forest reserves, or additions to those already established, are under consideration.

As a comprehensive irrigation system for the arid regions of the West is an interstate affair, it will be necessary and proper for the federal government to take a hand in it. The establishment of forest reserves, the disposition of public lands in the irrigable area, the enactment of general laws providing for a fair distribution and use of interstate waters in order to prevent conflict between states and get the most perfect system of irrigation, and such things belong properly to the federal government.

But there are serious objections to all propositions that the federal government should expend public funds for the construction of storage reservoirs and extensive irrigation works. The promoters of such schemes must expect vigorous opposition. If the people of a state wish to expend their own money on public works of this kind it is their privilege. The objection is against efforts to get the federal government to build them for their own benefit.

IN A recent address before the National Conservative Conference Arthur J. Balfour, government leader in the House of Commons, said:

"I have now come to the conclusion that the declaration of war by the Transvaal and the Free State was not any despairing struggle for liberty, but a bold bid for empire, a bid to make themselves the nucleus of a Dutch-speaking, paramount power in South Africa, and to exclude forever the hated Britisher from a dominating influence in that

part of the world. These people have risked their lives all upon the stake of war, and it is incredible that such a risk would be run merely to prevent the Uitlander getting a vote. Their dream may be madness, but it is intelligent madness when we consider the whole situation and the military difficulties that beset Great Britain in a South African campaign. They have vainly counted on the British party system, and another reason may be found in their profound contempt for British arms."

Mr. Balfour said that the future of South Africa was enveloped in darkness; that he would not attempt to lift the veil; but that he thought the war had proved the country's determination that British power should be paramount, and Englishmen might look forward to the permanent quieting of the hostile elements. The war would bring in its train freedom, justice and equality for the whites in South Africa; and he expressed the hope that the Boers themselves would eventually realize it was the beginning of an era of prosperity that would have been unattainable under their scarcely civilized rule.

PRESIDENT J. W. STODDARD at the recent convention of the National Association of Implement and Vehicle Manufacturers said, in the course of his annual address:

"The American farmers, by reason of their constituting so large a proportion of our population, and because they are engaged at the threshold of production, bear the lion's share of the losses effected by trade discrimination. We say that our success is dependent upon the prosperity of our agricultural classes. If so, shall we remain inactive while our customers are being 'held up' by burdensome laws made at the call of special interests? That would be to abandon the declared objects of this association. In Article II. of our constitution we have said to the world that it is one of our guiding purposes to foster and promote the interests of American agriculture and agriculturists.

"The American farmer is the foundation of our house; and that foundation we are compelled by every business consideration to steadfastly protect, and nothing could come more clearly within the scope of the interests and purposes of this association than our active co-operation with our agricultural customers in the enactment of such laws as would insure them economic justice and continual prosperity."

These are the words of a clear-headed business man. The prosperity of the manufacturing industries represented in this association depends on the prosperity of the American farmers. Self-interest compels them to protect their best customers and work with them along lines that will secure justice and prosperity for all. Whenever farmers unite in just movements to improve their condition they have the earnest support of the broad-minded business men of the country.

IN HIS annual report Postmaster-General Charles Emory Smith advocates the extension of the rural free-delivery system. He points to the fact that the appropriation has been increased from \$150,000 to \$300,000 during the past year, and that this amount will practically be absorbed by the continuance to the end of the fiscal year of the service already established. Rural free delivery is now in operation from three hundred distributing-points scattered among forty states and one territory, giving service to 179,131 people at an annual cost of eighty-four cents per capita.

The annual report of the first assistant postmaster-general, Perry S. Heath, devotes many pages with a number of fine illustrations to rural delivery. Introducing the subject Mr. Heath says:

"There has been nothing in the history of the postal service of the United States so remarkable as the growth of the rural free-delivery system. Within the past two years, largely by the aid of the people themselves, who, in appreciation of the helping hand which the government extended to them, have met these advances half way, it has implanted itself so firmly upon postal administration that it can no longer be considered in the light of an experiment, but has to be dealt with as an established agency of progress, awaiting only the action of Congress to determine how rapidly it shall be developed.

"The facts herinafter set forth, with some elaboration of detail which the importance of the subject seems to me to warrant, will, I think, demonstrate that the free delivery of mails in rural communities can be widely extended with great benefit to the people and with little cost to the revenue.

"That whenever the system has been judiciously inaugurated, with a sincere purpose to make it a success, it has been followed by these beneficial results:

"First—Increased postal receipts. More letters are written and received. More newspapers and magazines are subscribed for. So marked is this advancement that quite a number of rural routes already pay for themselves by the additional business they bring.

"Second—Enhancement of the value of farm-lands reached by rural free delivery. This increase of value has been estimated at as high as five dollars an acre in some states. A moderate estimate is from two to three dollars an acre.

"Third—A general improvement of the condition of the roads traversed by the rural carrier. In the Western states especially the construction of good roads has been a prerequisite to the establishment of rural free-delivery service. In one county in Indiana a special agent reports that the farmers incurred an expense of over \$2,600 to grade and gravel a road in order to obtain rural free delivery.

"Fourth—Better prices obtained for farm products, the producers being brought into daily touch with the state of the markets, and thus being enabled to take advantage of information heretofore unattainable.

"Fifth—To these material advantages may be added the educational benefits conferred by relieving the monotony of farm life through ready access to wholesome literature, and the keeping of all rural residents, the young people as well as their elders, fully informed as to the stirring events of the day. The moral value of these civilizing influences cannot be too highly rated."

The department is making a very promising experiment with the "traveling rural post-office," described as follows: "On Easter Monday, April 3, 1899, a rural free delivery experiment was inaugurated upon an entirely new basis. The county of Carroll, Md., within a convenient distance of Washington City, was selected as the field for the experiment, the chief purpose of which was to test the possibility of putting a post-office on wheels and carrying it to the doors of the people in a well-settled agricultural country, instead of requiring the people to drop their avocations and to travel to the post-office. For this purpose a postal wagon was specially built, after the designs of Mr. Edwin W. Shriver, postal clerk of the Westminster post-office, who originated the idea.

"The vehicle is eight feet long, with sliding door in the center, handsomely painted in blue and gold, and lettered 'U. S. Postal Wagon.' Its interior is fitted up with counter, drawers and letter-boxes—sixteen large letter-boxes in front, forty-two behind—all zinc-lined. It carries a driver and a postal clerk, the latter of whom is authorized to receive, cancel, collect and deliver all mails; to receipt for applications for money-orders and registered letters, and, in short, to perform all the functions of a stationary postmaster. This traveling post-office, drawn by a pair of strong horses, started over a carefully laid-out route of thirty miles, and has since performed this service daily in all weather, collecting mail from sixty United States letter-boxes, placed at intervals of every half mile, and delivering to all the houses on the route.

"From the first the service was remarkably successful. Its cost to the government to operate is \$1,375 a year, including pay of postal clerk and driver, and care of horses and wagon. It performs the service heretofore rendered by eight fourth-class post-offices and four star-route carriers, the cost of which to the United States was about \$1,600 a year.

"The progress of this experiment has been watched with great eagerness by agricultural communities all over the United States, and within a few months of its initiation one hundred and thirty-three applications for the establishment of similar postal-wagon service were received from twenty-one different states. To each of these inquiries reply was made that the department desired to test thoroughly the economy and efficiency of the service in the county where it originated before venturing upon further experiments. It is believed that with four additional postal-wagon routes and auxiliary

carriers circulating from the wagons at different points the entire county of Carroll can be covered by the traveling post-offices as its southern half is now partially covered, and at a less aggregate cost than the present service by fourth-class post-offices and star-route carriers. Whether similar service can be successfully maintained elsewhere must necessarily depend upon various considerations, chief among which will be the character of the country and the roads, the density of the population, the avocations of the people and the number of existing post-offices."

THE following is a brief summary of Secretary Wilson's annual report of the Department of Agriculture:

"The extension of the weather bureau service around the Caribbean sea gave timely storm warnings to the vessels of the navy and merchant marine.

"The division of entomology has done valuable work this year in showing fruit-growers on the Pacific coast the proper method of fertilizing Smyrna figs. It is believed that in a few years the Pacific coast will be able to produce as fine figs as are now imported from the Mediterranean.

"The department has gathered much information regarding the plants which supply India rubber and gutta-percha, and expects during the coming year to locate in our island possessions zones suitable for the culture of these plants. The United States now imports about \$30,000,000 worth of rubber annually, and it is thought that a large portion of this supply can be raised in our new possessions. The same is true of Egyptian cotton, of which we import \$5,000,000 worth annually, while he thinks that \$200,000,000 worth of tropical products which we now import can be raised in Porto Rico, Hawaii and the Philippines.

"Much work has been done in the hybridizing of grains to secure varieties which will resist drought, rust and cold.

"The same methods are being used to produce hardy orange-trees and sea island cotton, which will be immune to the fungous disease now attacking that staple.

"Practical forestry work is being done on a large scale among the lumbermen of several states.

"Irrigation work in the West has been carried on, and much alkali land has been reclaimed. The secretary's recommendations in this line include irrigation experiments in the East and South outside of the arid region. He thinks that Congressional action also may be necessary in the West on the subject of water rights and reservoir sites.

"The experiment-station work of the department has been extended to Alaska, and will be extended to Hawaii, Porto Rico and the Philippines, so that they may be enabled to supply the United States with tropical products, of which our importations are now \$200,000,000 annually.

"Extensive experiments are being carried on in road construction in connection with the local authorities of several states, including the building of sample roads from the materials found in different localities and laying of steel-track wagon-roads.

"The third year of experimentation with hog-cholera shows that from seventy-five to eighty per cent of the hogs injected with serum are saved.

"The secretary strongly recommends a more rigid inspection of our export dairy products, to counteract the injury that has been done to this trade by unscrupulous dealers in the past.

"Regarding seed distribution, the secretary says there is no need for the department to come into competition with the sales of the seedsmen, but that there is room for valuable work in the collection and distribution of such foreign seeds and plants as are adapted to this country, but would not be secured by private enterprise.

"Tea-growing experiments in South Carolina are commended, and he notes that 3,600 pounds of good tea were raised in the gardens of Summerville in the past season.

"Turkestan alfalfa, introduced by the department, has been found a valuable forage-plant in the Northwest for resisting both cold and drought. Its introduction, it is said, probably will add millions of dollars to the annual hay product of the country. A valuable quality of rice has been introduced from Japan. It is superior to the domestic product, and should it succeed in Louisiana, hundreds of thousands of dollars will be added yearly to the rice-growing industry.

"The secretary asks for \$10,000 to prosecute a technical and scientific investigation of native drug-plants in co-operation with the Pan-American congress."



ABOUT RURAL AFFAIRS

The Canning Business A good deal of fruit is grown in this vicinity even in an off year. Hundreds of acres within a few miles of where I write this are covered with apple and pear trees. I said "covered" advisedly, for in the majority of older orchards the trees were planted so thickly that there is hardly a chance for a ray of sunlight to reach the ground under and between the trees. For many years past the Bartlett pear crop in the town has been bought up by one or two canning-houses near Rochester, New York, and for the past two years most of our apples (except cider-apples) were also taken and worked up by one of these firms. We find this the easiest possible method of disposing of our fruit. Pears are always picked by hand; the apples are sometimes shaken off into a canvas held underneath the tree by several men; the culls are then sorted out, and the balance put in crates and delivered at the railroad station. We are thus relieved of the task of finding barrels or packages of any kind for our fruit, and of hunting up buyers, and after the fruit is delivered we have the money for it in our pockets. It will be seen from this that we must appreciate our chances and value the services of the canneries as they deserve. A few days ago I made a trip to Fairport, New York, for the very purpose of seeing how fruit and vegetables are handled in one of the mammoth canning institutions.

That the Cobb Preserving Company is a business concern of gigantic proportions may be inferred from the fact that they are working up this year over 80,000 bushels of apples, many thousands of bushels of Bartlett pears, and large quantities of other stuff, especially corn and tomatoes. Their daily output of sweet-corn during the season exceeded 7,000 cans. The canning season begins about June 12th, with peas, cherries, etc., and winds up in December with apples. Of course, these people manufacture their own cans, using up tin by the car-load, and the can-making machines are kept busy the year round. A style of can much in use now is the Ems, top and bottom of which are put on entirely without solder.

Value of Proper Location My main object in visiting the factory was to learn; and one can pick up a good many valuable lessons on such a trip. One of these lessons showed me the need of being very careful in selecting a proper location for any business. I found the Cobb factory nearly half a mile distant from the railroad (New York Central and Hudson River), but right on the banks of the Erie canal, and I was told that most of the shipping is done by boat, thus securing lower freight rates than are charged by the railroads. I believe that even in the selection of a farm the nearness to a good shipping-point—shipping and marketing facilities, in short—should be one of our first considerations. It is a big task and a big expense to cart bulky goods, such as apples, pears, potatoes, cabbage, etc., to the station or boat when the shipping-point is a number of miles off. If the distance is eight or ten miles, we can make only one trip a day. My team makes eight trips a day to the station during the pear and apple shipping season. Here we usually charge \$3.50 a day for man and team. Thus the cost of delivering eight loads to the station is \$3.50; if we had to haul the goods eight miles, the cost of hauling the eight loads would amount to \$28. A person can afford to pay a good deal more an acre for a farm near a railroad station or boat-landing than for one miles away from a shipping-point.

Economy in Handling and Storing Another lesson that one can learn from the Cobb canning-works is that thoughtfulness and foresight will save steps, work, expense. The visitor will find in this factory a very judicious use of automatic carriers and chutes, saving a good deal of work in conveying materials to the work-hands. Steam is cheaper than hand-labor, and the latter must be saved for use where steam-power cannot be substituted. There are many and immense buildings, but everything is arranged with the special object of having things handy and yet saving room. I could hardly find a vacant spot anywhere. Everything is filled

up either with fruit to be worked up or with goods in cans ready to be labeled and shipped. Most of the labeling is done by automatic machinery, and the boxes are filled for shipment in the same way. A little saving here and a little saving there swell the profit side of the ledger in these gigantic operations to the extent of a big aggregate amount. A little of this same care and thought in saving steps to the working forces on the farm will surely pay well and add to the profits of our business even in our more modest operations. Gates where man and team now pass through fences that have to be laid down every time, and then put up again, chutes and carriers in the barn and feeding-pens and stalls, water conduits, windmills, sharp tools in the place of old dull ones—all these and many others are ways of saving; they are trifling matters each by themselves, but count up big in the aggregate.

The Help Problem Fairport has other canning-works besides the Cobb institutions, and a lot of fruit-drying establishments besides. All of these employ female help, and to secure a full supply of such help is not always an easy task. In a similar way the berry-grower is often sorely puzzled about where to get his pickers. I found about three hundred women and girls in the Cobb factory, all getting apples ready for doing up in gallon cans. Boys are employed to operate the parers. The women just put on the finishing touches in paring, then quarter and core the apples, and put the pieces into the cans. To fill forty-five gallon cans is a big day's work for a quick-fingered female. A large share of these female helpers are Polish people picked up in Buffalo and taken to Fairport by the car-load. They receive seventy cents a day, and board themselves in the "barracks" assigned to them as a lodging-house. They are doing good work and seem to have a good time, and finally take most of their earnings back with them to their homes in Buffalo. This employment during several months in the fall means a good deal to them and their families in increased home comforts during the winter. Undoubtedly the same class of labor might often be employed by growers of small fruits. Most of these people are fast and willing workers, and like the Italians, love to be busy among fruits. I remember having heard J. H. Hale, of Connecticut, tell of his satisfactory experience in employing a colony of Italians of both sexes and all ages in gathering his immense berry crops.

Canning Sweet-corn I was very much interested in examining Mr. Cobb's corn-canning plant, and in hopes of getting some points that might be of help both to the grower of that vegetable and to the housewife who desires to can a home supply. The ears as fast as husked are conveyed by means of an automatic carrier to the machines which cut the corn off the ears, and deliver the cut corn to the big drum-sieves, which separate the silks from the corn. Salt is always added, and sugar when necessary. The corn then goes into a retort or tank, where it is partially cooked, and is then filled into the cans, all, of course, by machinery, and sealed. Next it goes into an iron cage-like cylinder, which is lowered down into another iron retort, in which it is exposed to steam under high pressure. The Cobb people assure me that no chemical preservatives are used in canning their corn. My question, how long the cans are exposed to high heat, remained unanswered. The corn is grown to some extent by the farmers in the vicinity, on sandy loam; but the factory prefers corn grown on somewhat heavier and richer soil. I had an idea that sandy soil produces the sweetest corn. At least I never had a sweeter and more tender article than I grew on sandy loam in New Jersey. The guide who accompanied me through the factory, however, described the high quality of my New Jersey corn to the free use of commercial fertilizers, which increased both yield and quality. Perhaps he is not far from the truth.

Canning Peas The Cobb factory buys the peas in the pod, then shells and sifts them by machinery, and cans in the same manner as corn. Most of the modern canning-factories have the peas de-

livered to them vine and all. The crop is cut and gathered when most of the pods are well filled. The factory threshes the peas out and separates them into the various grades by sifting. The Cobb factory's way is perhaps more expensive, but it insures a more even grade of canned products.

A Good Location The farmers in the vicinity of Fairport are fortunate in having these canneries in their midst. They furnish them a ready market for their products. I think we here, although seventy or eighty miles away, are fortunate in having the Cobb people come to us, year after year, for our pears and apples. Yet why does not somebody put up a big cannery right in the center of this great fruit belt? There is hardly any kind of fruit which could not be furnished right at the door of a factory located say here in LaSalle. The farmers would gladly grow the tomatoes, the sweet-corn, beets, or any other vegetable that might be in demand. Power could be cheaply furnished from the Niagara Falls powerhouse, and the shipping facilities, both by water and rail, could not possibly be better. It seems that there is every element here to make a canning establishment successful. If capitalists do not take hold of such a chance, why can't farmers themselves organize a stock company and put up a plant that will furnish a market for all the stuff that could be raised around here, and give work for hundreds of hands besides? Should such a thing ever come to pass, it would be advisable to imitate the Cobb factory in one thing more; namely, in catering to a fancy trade. The Cobb people desire to put up A No. 1 goods. To do that they try to buy A No. 1 fruit and vegetables, and they are willing to pay an extra price for quality. This has made a reputation for their goods, and they cannot fill orders fast enough, even at higher figures than are usual.

T. GREINER.

2

SALIENT FARM NOTES

Christmas How rapidly the years roll by when one is busy all the time! Christmas is almost here again, and we find ourselves wrestling with the same old problem, What shall we get for the little tots? And the grown-ups, too, for whatever people may say, they do love to be remembered at the merry Christmas-time, when the excitement and hopes of the little ones recalls the olden days. A few days ago my little three-year-old came into the room where I was writing, and asked, "Papa, do you know what I have?" I did not. "I have the pictures of all the things I want Santa Claus to bring me, and I'm going to put them in a little box and set them on the porch where he can find them. Then he will know what to get for me." She had cut the pictures out of newspapers and an old catalogue, and she showed them to me. There was a little rocking-chair, a doll-carriage, a tricycle, a patent swing, a little wagon, a rocking-horse and a box of little dishes. She said if she saw Santa Claus before Christmas she was going to tell him that she must have the doll-carriage, rocking-chair and tricycle anyway, and if he couldn't carry the other things he might bring them some other time.

Who can attend a Christmas-tree entertainment and witness the intense excitement of the little ones as they gaze on the hundreds of pretty things hanging there without wishing he had a great fortune so that he could make every little child in his locality thoroughly happy just once. In every locality there are people to whom a nice fat chicken or duck would be almost a godsend. There are children to whom a pair of warm mittens or stockings would be a veritable blessing. There are tillers of the soil to whom a year's subscription to a good agricultural paper would mean the dawn of a new era. Can we not spare enough from our reserve fund to make Christmas brighter for one? Suppose we all try it this once, and see how it affects both giver and receiver? A good old farmer once said to me, "When I make some poor fellow a Christmas present of something he never expected I kill two birds with one stone—I make him happy and make myself feel kinder good!"

Corn-meal Mush From the number of letters I have received I judge the corn-meal mush question is a real live one. One writer living in Illinois and another in Alabama say that they first wet the meal with cold water, then pour it into the boiling water, stirring rapidly. This prevents the formation of dry lumps. A farmer in Wisconsin says that a bowl of

mush and milk has constituted his supper from about the first of November to the middle of March for twenty-six years, and in all that time he has been sick but two days. A lady in southern Indiana says corn-meal mush is pig food, and fit only for pigs! A Kansas man says, "You are just right on the mush question. Mush is the stuff for breakfast in winter, you bet!" The wife of an Iowa corn-grower says many people do not care for mush because they never ate any that was properly cooked. She makes it thin, and then covers it closely and sets it on the back part of the stove, where it just bubbles for two hours. She says it is then soft and creamy and delicious. A gentleman in Mississippi says he "dearly loves mush and milk." Another in Georgia says, "I like good corn-pone mighty well, but I never go back on mush and milk."

Some have asked where we get the finely ground meal I mentioned. Our local miller informs me that it can be obtained in any city almost in the central West. He says any good miller can make it, but it must be kiln-dried after it is made. It is so fine that it will not keep unless made perfectly dry before being sacked. I think it makes an excellent mush, but for corn-bread it is not so good as that which is ground somewhat coarser. All expert cooks agree that mush must be thoroughly cooked to be good. If the meal is coarse the mush should be made thin, covered closely and set where it will just bubble. In one and one half to two hours it will be ready for the table. The fine "cream meal" cooks quicker, and mush made from it will be ready for eating in thirty to forty minutes.

Sound Seed-corn A few days ago I met a farmer returning from town with a load of corn. I asked him why he didn't sell it. He replied that the grain-dealers wouldn't buy it. It was white corn and appeared to be all right on the outside, but on shelling off a few grains I quickly saw why it was not wanted. Every grain was moldy—I might say rotten—half its length next the cob. The sharp freeze in September caught it just passing the milk stage, then followed a week of wet weather, and the crop was ruined. The farmer is a renter and poor, hard-working man. Last year his corn was not very good. During the winter his landlord asked him if he had procured good seed for this year. He had not, but a relative of his had some good two-year-old corn and he had decided to plant that because he could get it for forty cents a bushel. The landlord suggested that it might be safer in the end to pay a dollar a bushel and get good, sound, new corn. The tenant thought otherwise, and planted the old corn. About three fourths of it failed to come up, and he was compelled to replant after the soil had been packed by several heavy rains, and the crop he has and can't sell is the result. He has forty acres. Five dollars' worth of good, sound, live seed would have planted it, and he would have raised about 1,600 bushels of good, marketable corn. But he preferred to save three dollars and run a risk, which proved a losing one. After he had started home with his load a man standing by said, "Poor fellow; he's a hard worker, but terribly unlucky!" "Unlucky!" exclaimed the grain-dealer; "do you call tom-fool management 'unlucky?' If he had planted live seed he would have raised a crop of sound corn. But he wouldn't do that, because live seed costs money! He preferred to save a dime, and lost fifty dollars. And then you say he is 'unlucky!' I'll bet ten dollars he hasn't a grain of seed saved up for next spring, and then he'll be 'unlucky' again!"

It is a fact. He has not an ear of corn that is fit for seed, nor has he bought any, though he could get it right now for twenty-five cents a bushel. There is a whole lot of such "unlucky" farmers in the country. One of them wanted to borrow five dollars from me a few days ago to buy coal with. I didn't let him have it because a heavy rain had been falling for eight hours and I knew he would go straight to town and buy 800 pounds of coal and 200 pounds of water. I suggested that he would better cut up some of the old rails and trash about his yard and use them for fuel until the weather settled and he could buy dry coal. When a man is unlucky because of "tom-fool" management he doesn't need sympathy. He needs instruction! If a man is unlucky because of pure ignorance he needs gentle admonition. If he is unlucky because of common pig-headedness he needs vigorous manual persuasion.

FRED GRUNDY.

OUR FARM

FARM THEORY AND PRACTICE

PHYSICAL CONDITION OF THE SOIL.—The practice of fall plowing was once so severely condemned that I hesitated to confess that sod-land for spring crops was often broken on my farm in the late fall and in open weather during the winter. Then I studied carefully the causes that led me to continue breaking land in the fall and winter despite all that was urged against the practice, and I found that the sum of them was the fear that yields would be lessened by delaying the plowing until spring. Experience had led to such belief. I reasoned, therefore, that if fall plowing was profitable for my soil in my farming, it was right, despite all theories to the contrary, so far as my land was concerned, and what was right needs no apologies. Why is there so much difference of opinion concerning the advisability of fall and winter plowing? Simply because there is great difference in the physical character of soils. Some farmers of influence who had leachy soils, or those that would run or wash badly in heavy rains, condemned this early plowing without reservation. It was had for their soils, no doubt. But there is a big area of soils that need the action of frost to improve their mechanical condition. Such land should be exposed as fully as possible to the weathering influences of winter. It is a question of physical condition. Yields of crops depend largely upon the condition of the soil. Just as the leachy, sandy soil requires spring plowing, just so may the tough soil require the weathering made possible by fall plowing. The physical condition is of first importance; if it is improved by early plowing it is folly to delay the work.

WHERE SPRING PLOWING FAILS.—I have some acquaintance with a valley noted for its fertility and the prosperity of its farmers. The soil is a tough limestone. When the sod has been broken in the fall, and the furrow-slices have been left on edge for fullest exposure to the weather, this land produces great crops of corn. In November there is a rush to finish the work of breaking sod for spring crops. The renter who would fail to do this work at this time could not secure a farm the second year. Experience has shown that no amount of culture in the spring can take the place of frost-action in the winter. What waste of time for men to preach to these farmers about the loss of fertility resulting from exposure of land during the winter! Those farmers are wanting income from their land, and they know that the tough soil will yield up its plant-food to summer crops only when in good physical condition. So it is all over the country. Every farmer must settle this question for his own farm. Fine-spun theories insure no income. The soil that runs together badly during rains, and the one that is leachy, needs its covering of sod until near planting-time. The soil that "works" better as a result of fall or winter plowing is benefited by such plowing. Most soils have a fair supply of fertility in them, while much land is in poor physical condition. Whatever makes a soil mellow and capable of holding moisture during drought is in line with good farming. I like a sod covering for all land that mellows easily in the spring, but full exposure to winter frosts is just as essential to the land that requires such exposure to reduce it to a mellow and productive condition.

CONCERNING PLOWS.—Professor Roberts well says: "One of the chief objects of plowing is to pulverize the soil. The plow may invert it in the most perfect manner and bury surface vegetation, but if it fails to do the greater part of the fining of the soil as well, and leave it in such a condition that the harrow and cultivator cannot complete the work in the cheapest and best manner, it is seriously defective." This applies to spring and summer plowing, when the land is to be immediately prepared for seeding. In plow tests it has been found that "fifty-five per cent of the total draft is consumed in cutting the furrow-slice, and thirty-three per cent by the friction of the sole and land-slide." The weight of the plow on the bottom of the furrow and the cutting of the furrow cause the major part of the draft, and that added by a mold-board sufficiently crooked to break the furrow-slice into pieces is not comparatively great. Of course, the plow whose mold-board has a considerable

twist draws somewhat harder than the one with straight mold-board, because it does more work, but the gain in fining the soil is greater than the increase in draft. But while the crooked mold-board, or the long one with a good twist in it, does the best work in spring plowing, a different plow is needed in fall and winter work. The short, straight mold-board that is easiest on the team is best for the land at this time of the year, the chief object in plowing being to give the soil the maximum amount of exposure to the action of the weather. The furrow-slice should be left well on edge. This cannot be done with the long, curved mold-board that does such excellent work in spring plowing, when all the pulverizing must be done by mechanical means and not by the action of frost.

HIGH PRICES OF STEEL.—The great rise in price of steel forces manufacturers of farm implements to raise their prices. The result will be a decreased demand that will be unfortunate all around. There will be a tendency on the part of farmers to use the old implements a year longer, and the use of worn-out tools rarely pays.

Repairs for farm implements are always comparatively costly, and will now be even more so. The amount of repair needed by an implement depends much upon the care employed in its use, but it depends also upon the material that goes into the implement and the form of construction. The cheap implement is not always the low-priced one. Take plows for example. The points of some plows are of such cheap material that the bill for new points in a few years' use equals the first cost of the plow. If one unfortunately has such a plow, the best way is to have a steel point made by a blacksmith.

To prolong the life of farm implements keep all nuts on bolts tight, keep journals clean and well oiled, keep cutting surfaces sharp, use oil to prevent rust, and house on a board floor. When huying, choose a "make" that is giving satisfaction on your own or a neighbor's farm, buy strictly for cash and secure all the discount allowed to cash purchasers.

DAVID.

THE BUYING OF PLANT-FOOD

There are only three kinds of plant-food which the farmer buys in the multitude of different brands of commercial fertilizers which are on the market—nitrogen, phosphoric acid and potash. He can judge a little what his soil needs; what is required in one section may be already sufficient in the soil in another section. If he raises clover or other nitrogen-gathering crops he will not need to buy nitrogen in the bag. If he has plenty of barn-yard manure he will not use the same ingredients which he could otherwise do. Clay soils are apt to contain enough potash, especially if there is thorough tillage to make it available. Some crops do best on food from some particular source; for instance, potatoes and tobacco are found to do best with potash derived from the sulphate of potash. Nitrogen in the form of nitrate of soda is quick-acting and is useful in quick-growing crops or crops planted early in the spring, while nitrogen from fish-scrap and tankage is preferred for orchards and wheat. Phosphoric acid from ground bone may show no effects on an oats crop, while if it be derived from acid phosphate it will quickly show itself.

This subject of the action of the different kinds of plant-foods upon crops is an important one to farmers, and can be merely touched upon in this place, but it should be investigated by him if he would use fertilizers with the greatest profit.

There are several hundred brands of mixed fertilizers on the market practically all of the same general composition; that is, they are mixed from a few forms of raw material. So many men or companies engaged in this mixing business, with their buildings, agents, state and local, advertising, etc., seem to show that it must be very profitable, and leads the inquiring farmer to ask why he cannot buy these raw materials himself and apply them to his crops singly or mix them according to his needs.

As was said, the elements of the soil which are subject to loss, and which the farmer may find need to replenish, are only three—nitrogen, phosphoric acid and potash. Nitrogen can be purchased in nitrate of soda, which contains sixteen per cent of nitrogen; dried blood contains about ten per cent of nitrogen; fish-scrap, five to seven per cent; tankage is very variable, and may contain as high as nine per cent. Nitrogen in these raw materials is available in the order named. Nitrate of soda unless quickly taken up will leach out of the soil by rains.

In the other forms of nitrogen the material must decompose before the nitrogen is available. In most analyses by the manufacturers the nitrogen is given under the name of ammonia, which is a compound of nitrogen. This is done in order to make the figures appear larger, four per cent of ammonia being equal to about three per cent of nitrogen.

The basis of phosphoric acid is bone, which contains an average of twenty-two per cent of the phosphoric acid, being in most part slowly available. Acid phosphate is a rock treated with sulphuric acid to make its phosphoric acid available, of which it contains from twelve to fourteen per cent. Acid phosphate is the cheapest form of phosphoric acid, and is all right when properly used. Tankage contains phosphoric acid as well as nitrogen; it is slow-acting and useful for wheat and seeding down. Muriate of potash, a salt dug from the ground in Germany, is mostly used to supply the potash. It contains fifty per cent actual potash, which is often designated in analyses by the symbol K_2O .

Now these raw materials, or others which may be at hand, are mixed in various proportions, making whatever percentages that are required of nitrogen, phosphoric acid and potash. If all are present it is called a complete fertilizer. If mixed for some particular crop it is a special fertilizer. If the better class of ingredients are used and no filler is added it is styled a high-grade fertilizer, while in the low-grade filler or "make weight" in the form of land-plaster or some cheap inert substance is added to bring down the cost.

I have before me a fertilizer-sack on which is the following analysis:

Ammonia	2.3	per cent
Soluble phosphoric acid....	9.11	per cent
Reverted phosphoric acid..	1.2	per cent
Insoluble phosphoric acid..	1.2	per cent
Total phosphoric acid.....	12.14	per cent
Bone phosphate.....	23.26	per cent
Potash (K_2O).....	3.4	per cent
Potash (muriate).....	4.8	per cent

This analysis is put in the shape it is in order to puzzle the farmer and make it appear that there is more in it than there really is. There should be a law in every state compelling the manufacturers to state in definite figures the percentages of plant-food. When two figures are given, the lowest is the one to be taken, for they are not apt to make the goods better than the guarantee. The law should also direct them to give the analysis in simpler shape. They should give the percentages of nitrogen, phosphoric acid, total and available, and potash (K_2O), and these only, as it is for these that the farmer is paying his money. Revise the above analysis so as to conform to the above requirements and it will read:

Nitrogen	1½	per cent
Phosphoric acid (available)...	10	per cent
Phosphoric acid (total)....	12	per cent
Potash	3	per cent

After reading the analysis and translating it to plain terms in this manner, the farmer should be able to tell quickly just about what he ought to pay for the goods. No simpler plan has been devised for this than the unit system, and it will before long become the basis on which fertilizers are purchased. Professor Voorhees, of the New Jersey experiment station, says that for 1898 the unit values based on market prices were as follows: Nitrogen from nitrate of soda, \$2.47; from dried blood, \$2.30; available phosphoric acid, 67 cents, and potash, 76 cents. Any one can work it out for himself according to prevailing prices, freight rates, etc. In the above fertilizer there are said to be three units of potash. To obtain this 120 pounds of muriate of potash were used, and if you have to give \$40 a ton for muriate, the three units will cost \$2.40, or 80 cents a unit. Assuming the liberal estimate that a unit of nitrogen is worth \$2.50, phosphoric acid (available) 70 cents, and potash 80 cents, the above fertilizer is worth

1½ by \$2.50 equals	\$ 3.75
10 by .70 equals	7.00
3 by .80 equals	2.40

\$13.15

Add to this a reasonable amount for mixing and bagging and you have what you ought to pay for it. I am not necessarily an advocate of the home mixing of fertilizers—they undoubtedly have better facilities and can do it more cheaply at the factories. But all fertilizers should be purchased according to the amount of plant-food they contain and at a stated price a unit. Then a price should be fixed for mixing and bagging at so much a ton. To pay nearly as much for the mixing and bagging as the plant-food is worth, as is often the case with ready-mixed brands on the market, is certainly ruinous to farmers' pockets.

GRANT DAVIS.

THE FARMER WHO READS, AND THE FARMER WHO DOES NOT

At the Kansas experiment station recently inquiries were made of the patrons of the creamery where the station disposed of its surplus milk as to the farmers who read and those who did not. The object was to determine the relation of the supply of milk with regard to the owners of the cows keeping themselves in touch with their business by studying farm and dairy papers. Those furnishing most were the men who made a special effort to study dairying; those next took a number of the best farm papers in the country, while the men who lagged at the foot of the list were invariably the men who took no farm papers, "for want of time to read them." The result of the inquiry was no surprise to those who are acquainted with the farming class. It is just the same in stock-raising, horticulture and agriculture and gardening as in dairying. The man who makes it pay best is the man who informs himself by reading the best journals devoted to his business.

Go where you will and find a successful farmer, and you will find that he keeps abreast of the times. His stock is of the best breeds, his animals the best cared for, his buildings are arranged with a view of economy in space and time in doing chores as well as handiness. His farm tools are adapted to his farm and needs; his crops are the best his land and weather conditions will permit; his orchard is made up of the fruit best adapted to his locality, and everything about the farm is kept up and running smoothly. Go to that man's sitting-room and you will find a number of agricultural papers on the reading-table. Go to his library and you will find works by the best writers upon farm and farming topics. The papers will show the marks of careful reading, as will also the hooks. The papers will show many clippings, and the hooks much marking and marginal notes.

Talk to him, and you will find there are few things about the farm in which he cannot bear a creditable examination. His views are sound, and where he speaks from actual experience it is the result of intelligent observation and of intelligently applied theories. He is a valuable man in the neighborhood, as his less diligent and studious neighbors can learn of him. He is always willing to share his knowledge and the results of his experiments with his neighbors. He knows that the upbuilding of the neighborhood is to his advantage as well as theirs.

The man whose farm and buildings and stock show the mark of failure indelibly stamped upon them is the man who does not read. He may make spasmodic efforts to emulate his successful neighbor, but on account of his limited knowledge these efforts prove vain, and he falls back into his old shiftless habits. He may be a hard worker—work is a prime necessity to him—but work alone cannot bring even a small degree of success.

A farmer must study and learn every day, and no help can be of more value to him than a good farm paper whose columns are filled by intelligent writers who understand farming thoroughly.

J. L. IRWIN.

MILLET DISEASE OF HORSES

In many sections where millet is largely grown for fodder and hay horses are troubled with a so-called disease that is characterized by a derangement of the urinary organs and symptoms resembling rheumatism. The action of the kidneys is increased, often being accompanied by a suppression of the urine. The joints, particularly of the hind legs, are swollen and infused with blood, the texture of the bone is destroyed, becoming soft and less tenacious, in consequence of which the muscles and the ligaments are easily torn loose. In all cases lameness, and in many instances fever, also occur, and a considerable number result fatally.

That the trouble is caused by millet has been proved beyond question by many experiments, such as changing the animal's diet from millet to hay and then back to millet after a few weeks. In every case, unless too far advanced, the symptoms disappeared when ordinary hay was fed, and returned when the change was made back to millet. The specific property that causes the trouble has not yet been discovered. But experiments show that the affliction is not due, as in the case of crimson clover hair-halls, to the age of the crop when cut, since the symptoms appear as often when the plants are harvested mature as when immature. The only recommendation that can be made is to feed millet sparingly, either in alternation with other hay or mixed with them.

M. G. KAINS.

NOTES FROM GARDEN AND FIELD

FLOWERS FOR PROFIT.—All women and not a few of the men-folks are lovers of flowers. There are not many farm homes in this country which cannot boast of possessing at least a few flowering plants, either inside the house or in beds in the front yard during summer. But what I admire most is a nice display of showy annuals in masses. I like to see big beds or mounds all covered with gay-colored bloom; and if the flowers have a sweet scent they please all the more. For that reason the ten-weeks' stock is one of my favorites. It gives both color effect and fragrance, the latter being of the kind that pleases almost everybody. It is a flower, too, that can be had in full bloom in a reasonably short time (say ten weeks, as its name indicates) from sowing the seed. We can sow the seed in open ground in early spring, or start the plants under glass a few weeks sooner. The great trouble with this flower, however, is that so many of the plants come single. Often we find only one plant in four or five that will give us the desired double bloom. The only safe way to manage is to set the plants very close, and as soon as they begin to bloom to pull up the single ones where sufficient double ones are found to cover the ground. In some places this flower may find demand as a cut flower. It is certainly handsome, and it delights with its delicate fragrance. But it does not yield the continuous bloom that some of our annuals do, and this is a great drawback.

CHINA ASTERS.—One of the most thankful of annuals is the aster. It is an easy thing to grow. In fact, if you have a bed one year it is sure to be covered with young plants next year. The plant is about half hardy, so that there is little danger of its being injured by a late frost. There are dwarf forms (Dwarf Bouquet and others) which grow close and compact and give bloom reasonably early. The tall forms are a little late. Indeed, the aster is usually considered to be a fall flower. But by sowing seed early in open ground, or by starting the plants under glass in February or March, we can have them in full bloom in mid-summer. From that time on we can have them bearing blossoms in profusion almost until snow flies, especially if the bloom is freely out. An acquaintance of mine living in the suburbs of Buffalo, whom I met in the city the other day, told me that he has sold over fifty dollars' worth of aster-blossoms this summer, all grown in open ground on a very few square rods of land. He tells me that there is a steady demand for such flowers, and that the average prices are such as to leave to the grower a good profit. The aster has peculiar advantages for a cut flower. It seems to be the nature of the flowers to have long stems, and long stems are wanted. This flower can be had in all colors and shades. It is a beauty and a joy forever. And what is of particular value, the bloom will keep for a long time in its natural condition. It never wilts. The stem is woody, and no part of the plant is watery.

A TULIP-ASTER COMBINATION.—For making a display of color in early spring the tulip has great merits. Prepare a bed or mound of rich soil once in the fall, put in a lot of tulip-bulbs, and you can have tulips in plenty year after year with little trouble. The bulbs increase rapidly. If not taken up the flowers will make their appearance every spring anyway. Of course, the bulbs should be gathered after the blooming season (when the tops have dried down), and replanted in the same way as the first time. This is the better way: After planting, put on a good coat of old compost. October is a good time for planting tulip-bulbs. It can be done earlier, and it may be done much later. I would rather plant even in December if the ground is not yet frozen than not plant at all. Sometimes tulips in their regular season are much in demand for cut flowers. It may be possible to make them a paying crop. In spring when the tulip-bloom is over one has a chance to plant asters (or perhaps other annual-flowering plants) on the same ground, and raise a later crop of flowers for cutting. I believe there are great possibilities of profit in some of these flowers, at least to people who live in the vicinity of cities and larger villages.

THE VERBENA.—Another flower which is often grown as an annual, and which I

find most satisfactory to make a display of color that will be in evidence almost all season long, is the verbenas. It is even hardier than the aster. My bed of verbenas is producing flowers even at this date (end of November). It is readily propagated from cuttings as well as from seed, and it has value even for the grower of vegetable-plants, for there is hardly a locality where a reasonable number of verbenas-plants grown under glass could not be sold along with vegetable-plants at much better prices and a much greater profit than the other. The seed-ordering season will soon be here again. By all means include some packages of asters, ten-weeks' stock, verbenas and some others in your order.

STRAWBERRIES FOR MARKET.—I am going to plant more heavily of strawberries next spring. That is what I will do. It has always been a profitable fruit here, indeed, much more so than any of the other small fruits, and I have more faith in it now than ever. For a year or two, it is true, the prices were low, but the returns from really good berries have never yet failed to leave a margin of profit. This last season demand and prices were exceptionally good. The careful grower (I mean the one who grows fine large berries) runs no risk in planting strawberries. He can always make them pay. The only thing which I had to regret for some years is that I did not have a larger patch. I do not care to plant by the acre or acres. I have many other things to look after just about the time that strawberries are ripe, and I do not wish to have to get a big lot of pickers and spend much time to look after them. But I can devote half an acre of very rich land to the crop, and have the berries gathered quite readily with my own available forces and with the help of some youngsters in the vicinity. I can grow about as many quarts, and these of very large berries, on my quarter or half of an acre than many growers would get from an acre or more, and my berries will bring a better price. Yet there is one thing that puzzles me. What varieties shall I plant? Have I to fall back on our old sorts, the Wilson, Haverland, Wood, Bubach? Or are any of the newer ones more reliable? In my near markets I can sell any large berry. The Wilson I want for canning. What have my readers to say about strawberry varieties? Please speak up. With the varieties named I know that here an acre well tended is good for several hundred dollars income a year.

LATE CAULIFLOWERS.—Just at this time I have some very fine, very white, very tender cauliflowers from open ground. They were grown on my new plan of sowing the seed where the plant is to remain to make a head. At time of sowing it was very dry, and the seed did not sprout until rains came several weeks later. It has made the crop very late, and the heads are small, but delicious, as already stated. The season, freaky right along, remained so to the end, in so far as we have had good growing weather when we could have expected to see the ground more or less frozen solid. I have to say, however, that this newer way of raising cauliflowers and cabbages has been so regularly successful with me that I propose to do away with the old plan of raising plants in beds or under glass for transplanting almost entirely. I have for some years grown a large share of even my early cabbages, such as Jersey Wakefield, Eureka, Early Summer, etc., by sowing seed directly in open ground, and I have found these cabbages (and cauliflowers, too) only so very little later than those grown from plants started under glass that I began to think it is a waste of energy and effort to grow more than a very small portion of the crop in the orthodox and old-fashioned way. I can save room in the greenhouse and cold-frames for things that are more pronouncedly benefited by an early start under glass. The new way simplifies the task of growing early cabbages and cauliflowers in a remarkable degree.

T. GREINER.

EXPERIENCE WITH FUNGUS DISEASES

Last year I had a field of 30,000 celery-plants that up to July 1st were so promising that I thought I would surely realize several hundred dollars from the crop. A wet May and June was followed by a drought in July, and to keep the plants growing I began to irrigate them. Instead of running the water between the rows, as had been my former practice, I applied the water overhead with a revolving-sprinkler attached to the hose. The result of this was that the foliage was kept almost constantly wet. The latter part of July I noticed that the celery in places

was rusting, and that the blight was the worst where I had used the most water on the celery. I had in former years noticed these rust-spots on the leaves, but as they never increased so as to do much injury to the plants I gave the matter but little attention. In August there was so much rain that the foliage was kept wet most of the time, and I found the blight was spreading over the entire field. The leaves and stalks began to decay in spite of all the remedies I used, and in two or three weeks nearly the whole field of celery—which was of the White Plume and Golden Self-blanching varieties—was ruined. It is evident that the cause of the rapid increase of the blight so that I could not check it with remedies was too much moisture coming in contact with the foliage, making the conditions favorable for the increase of the fungus. I had made a mistake when irrigating the celery in applying so much water to the foliage, and then the wet weather which followed completed the destruction of the crop. In this instance the blight developed into a bacterial disease that soon consumed the core of the plants. From a bulletin issued from the New Jersey experiment station we learn that the most common fungous disease which attacks celery is the blight.

I have learned that the best way to treat all of these diseases is to watch for the first appearance of the yellow or brown spots on the leaves of the celery, and if they appear, cut them off and burn them, and immediately spray the plants with Bordeaux mixture, and repeat the spraying once a week until the celery is ready for use, carefully removing all diseased parts as they appear. In an ordinary season my experiments have shown that this treatment will save the crop. I have also learned not to apply the water overhead when irrigating celery.

Last year one field of strawberries was nearly ruined by the rust or blight. The cause, as with the celery, seems to have been an excess of moisture on the foliage. The frequent rains furnished the conditions favorable for their development. In an ordinary season I could have saved the crop of strawberries by using the Bordeaux mixture or ammoniacal solutions, but I could do but little good in so much rainy weather. In the parts of the field where the soil was the richest the plants were better able to withstand the blight, and yielded very good berries, so I learned that one way to combat plant diseases is to feed the plants well. Sometimes there is an inherent weakness in the plant that predisposed it to disease, as with the Golden Self-blanching celery and some varieties of strawberries. But some of these are so desirable that I retain them, and the only way I can succeed with them is to give them the best culture possible. When a plant stops growing for lack of food or water it is likely to be attacked by its parasite enemies.

W. H. JENKINS.

ORCHARD AND SMALL FRUITS

CONDUCTED BY SAMUEL B. GREEN

INQUIRIES ANSWERED

Influence of Stock on Graft.—J. F. Goldendale, Wash., writes: "It is well known that the stock exerts some influence on the graft, and that the fruit differs in different combinations. Is it known whether or not a hither-almond stock would materially influence for the worse the fruit on peach or prune tops? I want to plant many acres, and my soil being 'almond soil' strictly almonds would be far preferable for stocks."

REPLY:—It is a well-known fact that the stock that trees are grafted on influences the scion and the fruit to some extent. I have, for instance, in my collection a photograph of a Duchess apple grown on a Transcendent crab. The result is that the stem of the Duchess was much longer than normal, and in shape also the fruit seemed to differ; but while it was so in this particular case, yet as a rule the Duchess grafted on crab stock is the same Duchess that we have always known, and this variation that I have referred to may not have come as the effect of the stock. Of course, there are many other effects of grafting. In regard to the use of hither almond as a stock for peach or prune I would say that the experience of the Pacific coast has seemed to show that Myrohalan is the best stock for plums for high or low lands. The peach has been used to quite an extent for plums, but some varieties (Yellow Egg and Washington, for instance) do not do well upon them. The same is true of the hither almond. The French prune, however, does very well upon this stock. The effect upon the fruit is not especially noticeable in either case, but it makes a poor union, and in that way affects the whole tree.

Scoring Bark of Plum-trees.—F. A. R., Peun Yan, Md., writes: "Several years ago I bought a place that had no fruit on it except three old but thrifty plum-trees. One of my neighbors said he guessed I would not get any fruit from them; they were full of blossoms each year, but never had any plums get ripe; they all fell off. I at once took my knife and scored the trees from the bottom up to the limbs four times, and the limbs once as high as I could reach, and the trees were full of as nice large sugar-plums as any one could wish. After the first year I scored them twice, and they ripened their fruit."

REPLY:—I cannot believe that the above note explains the true reason for the plum-trees not bearing fruit. There are too many authenticated cases to show that other causes are more likely to prevent fruitfulness than bark-hinding. But it is interesting to have such facts before us. In this connection it may interest you to know that while at Luther Burhank's place in California this summer—and he, as you know, is the originator of more good fruits and other plants than any other living man—I found all his plum-trees had the bark scored on the trunk. I asked him the reason for it, and he said he did not know, and laughingly said that when he first came to Santa Rosa he did not practise it, but that it was the general practice of his neighbors, and he now was of the opinion that it did some good; anyway, it did no harm. I am not ready yet to endorse this practice, but it is interesting to know that such a keen observer as he is has taken it up.

Whitewashing Fruit-trees—Trimming Apple-trees.—J. A. E., Clayton, Ga., writes: "Do you think it does any good to whitewash apple-trees?—Would you advise trimming apple-trees so a man or a horse can walk around under them? Some trees are like the North Carolina man's pear-tree—don't want to grow up at all. The Winesap, for one, is a very fine apple, but the limbs want to curve over like the weeping-willow."

REPLY:—The exact good that whitewashing the trunks of trees may do is not known. This much is certain, however, that it deters some kinds of insects from working on them, and it certainly does no harm to the tree. Recent experiments have shown, too, that the temperature of trees that were whitewashed was considerably lower during the warm days of early spring than that of those that were not whitewashed, and as a result the buds of the whitewashed trees did not start as early as those of the trees that were not whitewashed, and in case of peaches the buds of the whitewashed trees seemed to be the hardest. If I were going to whitewash my trees I should prefer to do it about the first of June, except, possibly, in the case of peaches.—I would not recommend one to trim apple-trees so that a man or horse could walk around under them, as a general proposition; but if I owned an orchard in a mild climate, and especially if it was somewhat shut in, so that the wind did not have a full circulation through it, I would like to have it trimmed high up, for the apples that grow in the sunlight are of far better quality than those that grow in the shade, and where there is a fair circulation of air there is less danger of diseases attacking the fruit and foliage than where the trees do not dry off quickly after rains. As a rule, in the eastern states apple-trees should be pruned higher than in the western states, for the reason given in the following answer.

Pruning Old Fruit-trees.—C. E. W., Mt. Pisgah, Ohio, writes: "I have just taken possession of a farm, and the trees—apples, pears and plums—look as though they never had been trimmed, being very husky, and large limbs hanging very near the ground. Would it hurt the apple and pear trees to cut off the lower limbs? The apple-tree limbs are three to four inches thick. When is the best time to trim apple and pear trees? It is an old orchard, and needs trimming badly. Not knowing the best time I write to you for information."

REPLY:—As a rule it is not well to prune off very large limbs from apple-trees, and I think it would be well to cut off as few as is necessary in order to make it practicable to cultivate near the trees. It often happens that large limbs may have a branch or two cut off, and in this way make room for a chance to cultivate under the trees, and it is not necessary to take off the whole limb. I would avoid pruning as much as is practicable and at the same time be able to cultivate the ground well. I would make a special point of keeping the ground well worked, and would manure it either with stable manure or with some green crop. The best time to prune these trees would be in the latter part of the winter, or early in the spring before the buds have commenced to swell. All wounds over one inch in diameter should have a good heavy coat of white lead and oil. It is much more necessary to prune trees in the eastern and central states than it is in the West, where the summers are hotter and drier and there is more light. As a rule, in the West the best orchardists prefer to prune very little, and like to have their trees branch near the ground; while in the eastern states most growers prefer to have their trees branch higher up, so they can be worked under more easily, and there is more of a disposition to prune. I think, however, that even in the eastern states many orchards are seriously injured by too much pruning.

OUR FARM

THE BOY'S PATRIMONY

WHEN I came on the farm, some ten years ago, I had a boy about seven years of age. His grandfather, who was a thorough-going farmer, gave the lad a lamh. This had been his practice with all his boy grandchildren. I had a few other sheep, and the boy's was put in with the rest. We had an understanding that no matter what might happen, that lamh and all its progeny should be the sole property of the boy. If any were sold from his flock, he was to have the money and use it for some good purpose. The proceeds of the wool when disposed of should be equally divided between the boy and myself, as a return for the hay and grain which might be consumed by his sheep.

This contract was religiously lived up to. It will be seen at once that any live boy would have an interest in the welfare of his sheep under such circumstances. And my boy did have such an interest that I never needed to ask whether the sheep had been cared for or not. If he was at home I knew they had been fed and otherwise looked after. When the first lamh came it met with a most tender greeting. And when once one of the lambs was caught in the fence and killed, the boy's own hands dug the grave and buried it with most reverential grief. A slab was erected at the head of the grave, and an inscription fitly carved in boyish characters upon it.

Now, it may be interesting to know how the boy used the money which came from his flock. For some years he bought his own clothes with it. This was his own idea. I did not think it wise to discourage it, although I was always ready to provide all such articles as he might need. After awhile there was a little more than enough to get the clothes, and the boy turned into a banker on his own account. The surplus receipts were carefully put away, and to-day the boy is away at school using, so far as it will go, the money saved from his sheep and accumulated in other ways.

No highland shepherd could have watched over his flock with greater care than my boy did over his little yard. And it was not his own alone that he was interested in. The same care extended to the entire flock. He really loved the sheep, and they would follow him anywhere.

When the lad became large enough to ride the rake in haying, and do work of a nature suited to his age and strength, after the season's work was over I would put in his purse a few dollars for his own. He did not expect this. It was not given him as wages. I do not like to see a boy grow up thinking that he must be paid for everything he does. I not infrequently have seen boys made extremely selfish in that way. My plan was to keep my boy in mind of the fact that I considered him a partner in the farm.

I have been well satisfied with the result of this way of creating and fostering my boy's interest in the farm. It may be I shall be accused of speaking with a father's prejudice when I say that I never knew of a boy who worked more faithfully for the interest of the farm than he always has. I never have been obliged to say, "Go and do this or do that." My way has been to say, "I think we will do this work to-day." That was sufficient. The boy is now seventeen, and I know of no man I could hire who would attend to the details of the farm as well as he does. He can and does do all kinds of work from milking the cows to running the drill, the mower and reaper and the grain-drill. Until fifteen I kept him in school during the school terms. After that his mother helped him at home. For two years business called me away in the winter, and I never had any fear that all would not be done properly and in order. Now the time has come when he should be in school. I cannot tell whether he will think best to come back to the farm or not. That time must decide; but I know his love for the farm and its interests will never die out. If there were no other compensations than this I would feel well repaid for treating the boy as I have.

EDGAR L. VINCENT.

THE FALL ARMY-WORM

Very similar in its destructive habits to the true army-worm is the fall army-worm, or grass-worm (*Laphygma frugiperda*). At first glance the worms have much the same general appearance, but upon closer examina-

tion considerable difference in the markings is noticeable. Along each side of the body is a longitudinal pitch-colored stripe, and in the middle, between them, is a yellowish-gray stripe about twice as wide, which includes four black dots arranged in pairs. These worms assume the habit of working in armies, but usually do not feed in such large bodies as those of the true army-worm, and are thus even more difficult to combat. They appear later in the season, the other species rarely being destructive after August 1st, and have thus been termed the fall army-worm; and while the army-worm proper rarely feeds upon anything but grasses and cereals, this species feeds upon a large variety of cultivated crops, including alfalfa—on account of which it has been styled the alfalfa-worm in Nebraska—sugar-beets, cow-peas, sweet-potatoes, vines, millet and other general and truck crops. It is also sometimes very destructive to city lawns, as it has been in Chicago during the past season (1899). Indeed, the past season has witnessed an unusual outbreak of this species in widely distant localities, it having been exceptionally destructive in the Carolinas and Virginia, Illinois and Nebraska, as well as other districts.

The parent moth is very dissimilar to that of the army-worm. It is of a "general yellowish, ash-gray color, with the second pair of wings almost transparent, but with a purplish reflection. In extent of wings it measures about one and one quarter inches, and when these are closed the length of the insect is about three quarters of an inch. The front wings are mottled, or marbled, especially near the central area, and usually there is visible a fine white line a short distance from the edge and parallel to it. The hind wings have a fringe of darker hair as well as veins, that contrast somewhat with the lighter portion."

The life history also differs, in that this insect passes the winter in the chrysalis stage. The chrysalids are about one half of an inch long, and may be found in small cells from one to two inches beneath the surface of the soil. As before stated, this species is even more difficult to combat than the true army-worm, on account of the fact that its attacks are scattered over a wider area, the individuals being more scattered. The same methods of combating it will be found profitable, however, and especially that of deep fall plowing and harrowing, which in this case will bury the chrysalids, or pupae, preventing their development or hurrying them so deeply that the moths will be unable to reach the surface.

E. DWIGHT SANDERSON.

CORRESPONDENCE

FROM NEBRASKA—ALFALFA.—Red Willow county is a great place for alfalfa. It is first to start in the spring, and is green to the middle of November. It yields four to six tons to the acre a year. If cut as soon as ready it makes four crops a year, and pasture six weeks in the fall. Cows on it give as much milk in October as in June on clover. I had three big loads to the acre at one cutting; thirty-five acres made one hundred and thirteen big loads at one cutting. The hay is worth \$5 a ton; this year's crop is worth \$20 to \$30 an acre. The worst drought was in 1894, and it made four to five tons to the acre without irrigation; eight acres kept 22 head of cattle all season; twenty acres were cut twice and kept 57 to November 15th. Five acres kept 158 hogs and shoats; in July 50 fat ones went to market. A two-hundred-acre field was cut twice, and made 1,713 bushels of seed, worth \$5 a hushel. Twenty acres were cut twice; made 234 hushels of seed. Six to eight bushels to the acre is a good yield, still it has made ten to twelve bushels. It stands twenty years without reseeding. It is rightly named "the mortgage-lifter," for if it can't do it, nothing can. Bottom is alfalfa land. This county has over 60,000 acres of bottom-land. I have farmed fifty years, fed nearly all kinds of hay, but like alfalfa best. I have farmed here eighteen years, and have not fed cattle, except milk-cows, two months in any year. Wheat was light this year; still some had 1,000 to 1,500 bushels. Corn is light; not much to go over 40 hushels an acre, some not 20. In 1897 and 1898 crops were good. Several paid for 160 acres with crops those years—some with one crop. One paid for 160 acres with the crop on 100 acres, and has over \$200 left. In 1897 one sowed 70 acres to wheat and got 1,937 bushels as his share, which more than paid for 150 acres. In 1898 a young man had only a team; he rented, sowed wheat, and got 1,823 bushels as his share, which more than paid for 160 acres. He had over 1,600 bushels this year. Some have rented for ten years, and will always rent and never own a home. In 1897 and 1898 two brothers had 16,000 bushels of wheat each year. Corn made 40 to 60 bushels an acre. The coldest day of last winter was February 12th; on the 16th farmers were seeding. For eighteen years seeding began in January or February every year except one.

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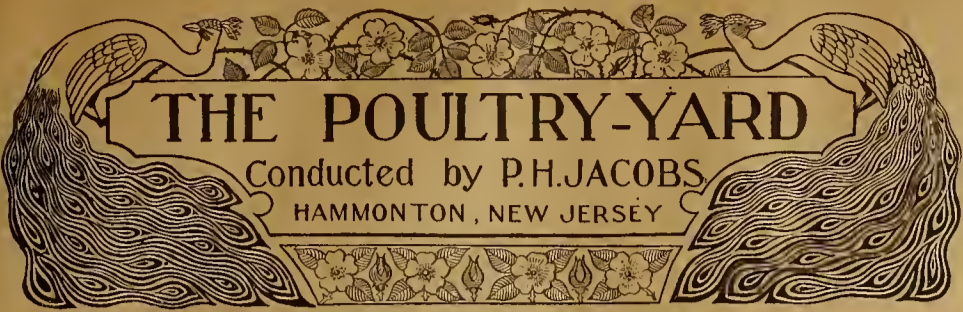
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THE POULTRY-YARD

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THE FLOCK AND THE QUARTERS

THE greatest of all temptations to resist is that of crowding in the poultry-house. The majority of poultrymen, in order to save expense of buildings and yards, usually put too many hens together in one flock. It is false economy, for what is gained in space is lost in product. The smaller the number of hens together the larger the number of eggs obtained proportionately, although it is not advisable to have the flocks smaller than ten hens and one cock. The size of the flock should depend upon what may be the object of the breeder. If eggs only are desired, as many as thirty hens may be kept together in a building ten by twenty feet, and they will lay if rightly managed, while no cocks at all will be necessary. The eggs from hens not in company with cocks will keep twice as long as those that are fertile. If the eggs are intended for hatching purposes, ten or twelve hens and one cock may be kept in a building ten by ten feet. There is another difficulty in the evil of overcrowding, which is that in all flocks there are cross or domineering hens, and they compel the more timid ones to keep at a distance to the rear, the consequence being that when feed is given some of the hens will secure more than their share, while others will not derive enough. Disease also often results from overcrowding, and in summer the animal heat renders the poultry-house uncomfortable, while lice will certainly appear unless the sanitary regulations in regard to cleanliness are strictly observed. A roomy, not too large nest having a bottom of rather soft material, resting on dirt, with plenty of straw well packed about the sides, should be used. Such a nest, especially at this season, is very desirable, retaining as it does the heat for a much longer time than a carelessly made one of loose hay in a box. The best receptacle for a nest, where one has plenty of room, is an ordinary flour-barrel. Cut in the side a hole large enough for one hen to pass through, and then hinge a small door to open or shut at pleasure. The advantages of such a nest are that nothing can be more secluded. There are no drafts of cold air through cracks into the nest, and they are easily inspected if not made too deep, while there is ample space for any hen within the barrel. A door that prevents the hen from seeing out is much better than a wire screen. The former prevents the hen you wish to keep in from seeing the others when they are eating and exercising, and she is consequently less restless than if she saw all that was going on outside.

SHIPPING CHICKS

After Christmas is the time to begin selling chicks, the one-pound ones being in demand. If of larger size they will not command a ready sale, and they must be sold just when that particular size is desired, as the demand for larger fowls follows rapidly. It is best to write to a commission-merchant and become well posted before shipping. By shipping them dressed weight they will bring better prices and the loss of the larger ones avoided. Little chicks cannot very well be shipped alive in cold weather, as they are liable to perish. Many of the sizes in demand early in the season will be those chicks that are very small or still with hens, and hence to take them away from their dams and send them on a cold journey is sure to result in a loss. Kill and dry pick them. Leave heads and feet on. Do not take out entrails. Have crops empty. Pack in clean barrels and in an attractive condition.

THE THREE PRINCIPAL BREEDS OF DUCKS

The Pekin, Aylesbury and Rouen are the three leading breeds of ducks, being large in size, good layers and possessing excellent market qualities. Among the other recognized breeds are the Black Cayuga, Gray Call, White Call, Black East Indian, Colored Muscovy, White Muscovy and Crested White. The Cayuga is an excellent breed, but is too black in color to find favor. The Call ducks are bantam, while the others are not bred very extensively.

A TROUGH FOR WINTER

To make a convenient trough in which to keep the water for the poultry nice and clean, use the following plan: Select end pieces of two-inch plank six inches wide and eighteen inches long; the side pieces should be of one-inch boards six inches wide and three feet long; the bottom of two-inch plank. Be particular to have good tight joints, and smear them with pitch on the inside. Take a piece of two-inch plank ten inches wide and two feet four inches long. Drive tenpenny nails thickly into one side of it, so that the chickens will not walk over it, and in holes bored at the corners insert pins eight and one half inches long. Set this table in the center of the trough, and you will have an arrangement that will hold quite an amount of water and have a place four inches wide all around the ledge from which fowls may drink without having a chance to get into the trough. It is better than fountains which become cracked in winter when the water freezes.

BURNING SULPHUR AS A DISINFECTANT

When sulphur is burned in a dry atmosphere where the vapor combines with the oxygen of the air and forms sulphurous oxide a substance is formed which will destroy, by contact, bacteria and all animal life that breeds, but has no effect upon microbes or animal life that does not depend for life upon the breathing of air. From this it is claimed that dry sulphur vapor will kill lice and bacteria, but will not destroy the eggs of the lice or the microbes or germs of disease. Supply moisture to the sulphur vapor and sulphurous acid is formed, which is destructive to all forms of animal and vegetable life with which it comes in contact. For the practical application of sulphur fumes it would be well to first spray well the poultry-house, thereby supplying moisture; then burn the sulphur, and all the lice, their eggs and disease germs will be destroyed.

MOLTING AND FEEDING

The earlier the birds are out of their molt and in full plumage the sooner they will begin to lay in the autumn. Pullets usually begin to lay as soon as they are completely plumed and become adult fowls. It is worth while, therefore, to encourage molting in every way, giving them exercise, insect food, meat in their ration, with ground bone or oyster-shell and sound grain. A teaspoonful of fine salt in the soft foods given daily to a flock of twenty hens should be allowed. Fowls do not depend upon this for the salt which their bodies and feathers contain, for either the material itself or the elements of which it is composed exists to a greater or less extent in almost all the food they eat, but what we do by giving them the salt is simply to increase the supply.

FEEDING SUNFLOWER-SEEDS

If the hens are not at first accustomed to sunflower-seeds they will at first refuse them. If so, give them nothing else until they eat them. Do not feed the seeds every day; twice a week is sufficient. The difficulty is in separating the seeds from the heads. To do this, have them in a dry place until they are thoroughly cured, then place them on the barn floor and flail them, when they will easily fall off. They may be ground if preferred, and the meal fed in the soft food. The mistake made with the sunflower-seeds is in feeding them too often, as they are laxative.

FOOD FOR FATTENING

Always fatten a fowl as quickly as possible. Ten days is long enough to get a fowl fat, and it should be confined either in a coop or a number in a small yard. Give plenty of fresh water, and feed four times a day, beginning early and giving the last meal late. A mixture of corn-meal, three parts, ground oats, one part, shorts, one part, crude tallow, one part, scalded, is the best for the first three meals, with all the corn and wheat that can be eaten up clean at night. Weigh the articles given, and do not feed by measure.

ARIZONA OSTRICHES

Mr. H. W. Berryman is secretary of a company that owns the largest ostrich-farm in America, and finds a ready market in the East. Ostrich-farming is very interesting as well as profitable. It requires forty-two days for an egg to hatch, and the young bird is very delicate in early life. A bird is plucked every eight months from the time it is hatched, though it requires three years to reach maturity, when it will weigh between four hundred and five hundred pounds. The male bird furnishes the most valuable plumes, which bring as high as twenty-five dollars a pound in their raw state. Ostriches pair off and offer a moral example, inasmuch as they are never attentive when sitting, and it is then that they are most dangerous. The male bird sits at night and relieves the female during the day for meals. The average life of an ostrich is one hundred years, and they live almost entirely on green alfalfa, from which three to five crops a year are cut.—American Fancier.

A LAY OF AN ANCIENT HEN

Yes, I am a lazy, fat old hen,
The pet of the farmer's wife;
I've never reared a family
Or laid but one egg in my life.
I never get up in the morning till ten,
And I go to roost at four,
With a crop choke-full of the finest corn—
Now, what could a hen want more?
There's some of my sisters get up with the dawn,
While the grass with the dew is still wet,
And come home with some very marvelous tales
Of the wonderful worms they get;
But once when I tried the plan-myself
(It was foolish to be so bold),
Why, all that I got for three hours' work
Was a horrible, nasty cold.

But now I wait till the air is warm
And the ground all nice and dry,
So if you notice an early bird
You can bet that it is not I.
They may call me a lazy, fat old hen,
But I know when I give up the ghost
They will bury my body decently,
For I am far too tough to roast.

So take my advice, young hens and old,
And don't get up too soon;
Just follow my plan—eat all you can,
And go to roost at noon.
It is only a common, ignorant hen
That is scraping about all day;
Just act like me, and you'll very soon see
Why keeping old hens don't pay.
—Arthur Chitty, in Feathered World, England.

CORRESPONDENCE

LICE ON CAGE-BIRDS.—In the FARM AND FIRESIDE I noticed that some one inquires how to destroy lice on cage-birds. If you think it is worth giving in your paper I will inform you of an easy way to kill them, as we did in Sweden, and I do the same here. I take a straight elderberry branch the length of the cage, push the heart out with a wire, or burn it out, so that it is smooth inside. The bird must roost on it at night. In the morning I take the perch out and go to the hot stove, tap it, and if there are lice on the birds they will be in the stick. In a week the birds will be free from lice. It is better and surer than insect-powder. I have thirty-five cage-birds, but they have no lice.
Lorraine. C. A. E.

GAPES.—I differ from that writer in the October number about "gapes." I do not think it is dampness, but lice—those big, gray kind; keep them off by dusting the sitting hens with insect-powder several times while on the nest. To cure them take a horsehair doubled, insert in the wind-pipe, twist, and draw out. If there are two or three, always take them just as soon as you see them gape.
Winchester, Va. Mrs. T. M. S.

INQUIRIES ANSWERED

Blindness.—Mrs. F. C., Trinidad, Cal., writes: "Please tell me in your next issue the cause of chickens going blind. They do not appear to be sick, and they eat heartily. I feed them wheat."
REPLY:—It is probably due to exposure to cold drafts of air at night. Give a variety of food, feeding sparingly. Bathe the eyes once a day with a solution of boracic acid, and anoint eyes with vaseline.

Poultry-house.—A. L. Algansee, Mich., writes: "1. Please give the best plan for interior of the hen-house. For perches, is it best to have them on the level or to have them elevated? 2. How shall I arrange to catch the droppings? 3. Is it best to have ventilation? 4. If turkeys are raised on the farm year after year, will they thrive as long as the gobbler is changed, or would it be better to change the turkey-hens occasionally?"
REPLY:—1. It is better to have the roosts all on the same level. 2. Use a droppings-board under the roosts. 3. Yes, if drafts can be avoided. 4. If the gobblers are changed yearly it is not necessary to change the hens.

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QUERIES

READ THIS NOTICE

Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Tanning Hides.—F. G., Eprata, Pa., and others. To tan hides with the hair on, for rugs or robes, first thoroughly wash the skin and remove all fleshy matter from the inner side; then clean the hair with warm water and soft soap, and rinse well. Take one fourth of a pound each of salt and ground alum, and one half of an ounce of borax; dissolve in hot water, and add sufficient rye-meal to make a thick paste, which spread on the flesh side of the skin. Fold it lengthwise, the flesh side in, the skin being quite moist, and let it remain for ten or fifteen days in an airy and shady place; then shake out and remove the paste from the surface, and wash and dry. For a heavy skin a second application may be made. Afterward pull and stretch the skin with the hands or over a beam, and work on the flesh side with a blunt knife. To tan for thongs, scrape all the flesh and fat off the skin; bury it, well spread out, in wet ashes or soft soap for a day or two, or until the hair starts readily. Remove the hair, and wash thoroughly. Make a tanning solution by dissolving a large handful of pulverized alum and two handfuls of common salt in a gallon of water. Soak the skin in this solution for two weeks, then rinse thoroughly and pull; rub and stretch while drying. The leather will be soft and will make good lashes as long as kept dry.

VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Veterinary queries should be sent directly to Dr. H. J. DETMERS, 1315 Neil Avenue, Columbus, Ohio.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

A Barren Heifer.—C. C. R., Prescott, Arizona. Barrenness may be the result of various different causes, and can be removed only where the cause is found and is such that it can be removed. The bare fact that your heifer is unproductive conveys no information of what the cause may be in your case.

Contraction of the Flexor Tendons.—H. H. C., Winchester, Kan. Your horse is incurable unless it be that the contraction of the tendons is such that relief by a surgical operation is feasible and probable, something which can be determined only by a close examination of the case. Such a contraction in the tendons of a hind leg is comparatively rare.

Probably a Case of Dog-distemper.—E. L. G., Ocala, Fla. What you describe appears to be a case of dog-distemper in an advanced stage, in which it has come to a development of nervous and paralytic complications. In such cases it is very seldom that it pays to subject the sick animal to medical treatment. In other words, it is usually too late to do anything with a reasonable prospect of success after such complications have set in.

Lame.—E. A. E., Adams Center, N. Y. You say in the same sentence that your horse is lame in the hip (hip-joint) and in the knee (whirl-bone or knee-paw), which shows that you do not know where, and have blistered the animal without knowing what for. The few symptoms you give, though of very slight significance, rather point toward spavin; therefore, I advise you to consult the FARM AND FIRESIDE of November 15th. Five feet is too wide for a single stall, unless the horse is a big Norman or Clydesdale, and rousing in the pasture is no rest whatever for a horse that is lame.

Had Distemper.—M. A. H., Moro Bay, Ark. The treatment which you applied to your four-year-old horse, of which you say that he had distemper and had a terrible hard cough—namely, smoking the sick animal with pine-tar, feathers, leather, rags, etc.—might have killed a healthy horse, and to me it is a wonder that your horse, affected with a severe disorder of the respiratory organs, has survived the compulsory inhalation of such irrespirable gases as are produced by the burning of such substances as you mention. There would have been some excuse, and possibly it might have done some good, in so

far as it might have accelerated the loosening and discharge of the morbid products accumulated in the respiratory passages, if the animal had been compelled to inhale the steam of hot water contained in a wooden bucket. If your horse is yet alive when this reaches you probably no more treatment may be required, and if it is I cannot advise you because I have no means of knowing what changes may have been produced in the meantime.

Shakes Her Head When Hitched Up.—H. K. R., Oakfield, Wis. According to your description of the actions of your mare there must be something wrong either with her ears and the immediate surroundings of the same, or with the head-stall of the bridle, or possibly with the check-reins. Make a close examination and you will probably find the cause, provided your description is accurate and essential symptoms, such as twitchings and spasms and a staring look of the eyes, have not been omitted, and the symptoms you described always present themselves when the mare has a bridle on, and not only at uncertain intervals. If this is the case it may be vertigo or epileptiform fits that cause the queer actions of the animal.

Probably a Case of Arrested Development.—A. W. H., Blandinsville, Ill. Since your calf reeled and staggered when walking since birth, and gets epileptic fits when excited, it must be supposed that the defective condition of the brain (in the motory centers of the cortical substance) is either due to an imperfect or arrested development of that organ during the fetal life, or that the skull was broken or caved in by some external violence when the calf was born. If the former is the case a remedy is out of the question, while in the latter case a surgical operation may possibly effect relief, but it will hardly pay to have it performed. Since the calf has as good an appetite as a healthy calf I think it would be best to feed it and convert it into veal.

Prolapsus of the Vagina.—J. B., Kiowa, Colo. What you describe is not a prolapsus of the uterus, but simply a prolapsus of the vagina. Keep your cow as much as possible on level ground, and do not feed too much voluminous food, but more concentrated food in the shape of grain. Besides this, you may wash the external genitals once a day with something astringent; for instance, a decoction of oak-bark or a solution of alum. Such a prolapsus is much less dangerous than annoying, but when the cow comes in again she will need close watching and perhaps some help. Whenever the cow is kept in the stable, see to it that she stands and lies down fully as high with the hind quarters as with the fore quarters, and it will do no harm if the floor is a little higher behind than in front.

Bloody Milk.—M. G., Neligh, Neb. In your case the cause of the bloody milk is obvious. The dog when chasing the cow got hold of the lower part of the now diseased quarter, and although not perhaps wounding the skin, pinched hard enough to cause a bruising of the tissue and a rupture of some capillary blood-vessels. When the bleeding ceased the morbid changes were not removed and the swelling, now probably indurated, obstructs the passage. Unless the passage can be gradually widened by vigorous milking I cannot advise you, and it may be best to dry up the affected quarter. If you should decide to do this, repeated applications of an ointment composed of camphor and soft soap, about one to twelve, but, of course, only to that quarter, will essentially decrease the secretion of the milk in the yet intact portion of the affected quarter.

Habitual Luxation of the Patella.—J. C. O., Dakota City, Iowa. It is very difficult to keep the patella, or knee-pan, in its place in an animal like yours, in which the patella slips out and in at the least provocation, or every time the horse gets up or down. There is but one way often successful. It consists in keeping the animal standing for several weeks and in applying at the same time a swelling-producing blister below and at the sides of the knee-pan, but not above the same. As such a blister, oil of cantharides (prepared by heating for an hour in a water-bath one part of cantharides and four parts of olive-oil, and then pressing out the oil through a piece of flannel or muslin), to be rubbed in every four or five days, will answer perhaps better than anything else, because it is very prompt in its action and leaves no blemishes behind.

Heaves.—C. S., LaMonte, Mo. The symptoms you give are not characteristic of anything, and may occur in any respiratory disorder; but the statement that your mare was fed with musty hay last winter makes it probable that the same is affected with so-called "heaves," or, in other words, with a chronic, feverless and incurable difficulty of breathing. Still, although the combination of morbid changes which causes the respiratory disorder denominated heaves cannot be removed, the animal can be considerably relieved by complying with the following dietetic rules: 1. No hunky food, particularly no timothy and clover hay, must be fed—small quantities of wild hay are not objectionable, and may be given—and some clean and bright oat-straw be fed instead of it, while the deficit in nutritious elements must be made good by feeding increased quantities of grain, good sound oats in particular. 2. All

the food given must be easy of digestion. 3. The animal must not be allowed to become costive, and if any indications of costiveness should present themselves the same must at once be removed by giving a good bran-mash. This means bran, and not shorts or middlings. 4. It must be seen to that the animal under all conditions is not kept too warm and has pure and fresh air to breathe. Moderate work does not do any harm, provided, of course, the difficulty of breathing is not so excessive as to make any exercise distressing. If that is the case the animal is worthless.

Attacks of Colic.—W. L. C., Maunie, Ill. What you describe are attacks of colic, and the attack you describe would have passed off just as soon if nothing had been done. The fellow who pronounced it kidney trouble undoubtedly is a fraud, and not knowing what to do, did something to get some money out of you. In cases like yours, in which the attacks are of frequent occurrence, the single attacks are usually of short duration and at first at least not dangerous, but gradually they become more severe and more dangerous until finally one of them will become fatal. The only thing you can do to make the attacks less frequent and thus delay as much as possible the fatal termination is to keep the animal on a very regular diet of sound and easily digested food, to give only good and pure water from a deep well or good spring, and to employ the horse at regular but never excessive work. If a severe attack makes its appearance I advise you to call a regular veterinarian and not permit any kind of hocus-pocus.

Chest-plague.—R. L. J., Ames, S. D. What you describe appears to be chest-plague, or, in other words, epizootic and infectious pneumopleuritis of horses. The disease, as you have already found out, is a dangerous one, particularly if too much treatment is applied and if the sanitary conditions are not what they ought to be. Besides this, the disease does not in all cases present the same features. Therefore it is impossible to map out a specified treatment for prospective cases, and doing so may possibly do much more harm than good. Consequently, the best that can be done will be to give a few general directions applicable to all cases. 1. The premises where the patients are kept must be scrupulously clean, and those that have been occupied by diseased animals or in which deaths have occurred must be thoroughly cleaned and disinfected, and then for some time be efficiently ventilated and he exposed to fresh air before they are occupied by other horses. 2. Animals showing the least symptoms of being affected must be exempted from any kind of work or exercise, and he kept on a light diet in a well-ventilated stall in which they have absolutely fresh air to breathe. 3. Blanketing must be strictly avoided. 4. The disease usually begins with a very high fever, indicating its presence by a high temperature, to be ascertained by inserting a clinical thermometer into the rectum and keeping it there for four minutes. The temperature, if high fever is present, according to the case, may vary from 104 to 107 degrees, Fahrenheit. If such a temperature is found, and no other symptoms have as yet developed, the following medicine, to be given in the shape of pills or bolus, will often produce quick relief and prevent a further development of the morbid process. Receipt: Fluid extract of digitalis, three or four drams, according to the size and age of the horse, tartar emetic, also three to four drams, powdered marshmallow-root, one ounce, and distilled water, just enough to unite the powders to a stiff dough suitable to shape the same into two cartridge-shaped pills, each to be wrapped up in a piece of tissue-paper. One of these pills should be given at once, and the other eight hours later. The pills wrapped up in the piece of paper are to be given by shoving them in with the hand over the root of the tongue. This is easily done if the operator, who has first seen to it that the nose-band of the halter is not too tight, places himself in front of the horse, grasps the tongue of the horse with his left hand, pulls it to the left so as to get it out of the way, and then while holding it turns his left hand in such a way as to support with his extended thumb the toothless border of the upper jaw and resting the opposite edge of his hand upon the toothless border of the lower jaw of the horse. He will thus be able to keep the horse's mouth open wide enough for a sufficient length of time to shove in the pill held on one end with the tips of his index, middle and gold finger of his right hand. If this medicine is administered in due time, pulse and temperature will soon decrease in most cases to such an extent that the horse in about forty-eight hours will have far enough recovered to be able to get along without any further treatment. I must, however, explicitly caution not to give under any circumstances any more digitalis than the three to four drams (the latter for full-sized horses) contained in the two pills. 5. Blanketing and blood-letting must be strictly avoided, because wherever resorted to the result almost invariably is fatal. 6. If the sick horse has any appetite, the food offered must be easy of digestion and otherwise absolutely faultless. For reasons already stated it will be of no use to prescribe any further treatment without an examination of the patient. Therefore, if any further treatment is required a veterinarian must be called.

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THE GRANGE

Conducted by MRS. MARY E. LEE, New Plymouth, Ohio

Ever desirous of making the FARM AND FIRESIDE the best home paper for the farm, the publishers have decided to add to its many attractions a grange department. It will depend on the grangers whether or not this department will be a success. With subscribers in every state in the Union and in Canada, it will form an excellent medium for the exchange of grange thought all along the line. Here the East and the West, the North and the South, can meet and discuss the matters of particular interest to each state. I doubt not but that the interest of each will be identical with the other. "Let us come together and talk." The winter is the season for energetic grange work. Never were the prospects brighter; never have the farmers had so splendid an opportunity as now to make their voice heard. Let them unite as never before. The opportunity is theirs to do a mighty work for truth and right. If they neglect it, the opportunity, and the blessing accompanying it, will pass away. Patrons, let us make 1900 a banner year in our history. Fraternaly,
MRS. MARY E. LEE.

THE NATIONAL GRANGE

THE thirty-third annual session of the National Grange convened at Springfield, Ohio, November 15th at 11 A. M., with Worthy Master Aaron Jones, of Indiana, in the chair.

Mr. Jones delivered an admirable address, dealing in an able and a comprehensive manner with the problems that confront the farmer. Every one, whether in or out of the order, should read the entire address. Following are Mr. Jones' recommendations to the national body, upon all of which favorable action was taken:

- 1st. Free delivery of mail in the rural districts; and that the service be placed on the same permanent footing as the delivery of mail in the cities, and that the appropriation therefor be commensurate with the benefits and demands for the service.
- 2d. Providing for postal savings banks.
- 3d. Submitting an amendment to the Constitution providing for the election of United States senators by direct vote of the people.
- 4th. Enlarging the powers and duties of the Interstate Commerce Commission, giving it power and charging it with the duty of fixing maximum rates of fare and freight on all interstate railways.
- 5th. Regulating use of shoddy.
- 6th. Enacting pure-food laws.
- 7th. Providing for the extension of the markets for farm products, making it the duty of the United States consuls to aid in the extending of markets for farm products as for manufactured articles.
- 8th. The enactment of an anti-trust law clearly defining what acts on the part of any corporation would be against public policy.
- 9th. The speedy construction of the Nicaragua canal by the United States.
- 10th. The speedy construction of a ship canal connecting the Mississippi river with the Great Lakes, and the Great Lakes with the Atlantic ocean.
- 11th. Revising the fees and salaries of all federal officers and placing them on a basis of similar service in private business.

We also recommend to the several state granges that they urge on their respective state legislatures appropriate legislation on the following important matters:

- 1st. Anti-trust law and provide for state inspection of corporations.
- 2d. Equalizing taxation as will cause all property to bear its just proportion of the cost of government.
- 3d. The passage of pure-food laws.
- 4th. Providing a state commission charged with the duty and power to fix maximum rates of freight and passengers on all railways subject to their jurisdiction.
- 5th. The revision of all fees and salaries, placing them on an equitable basis.

The principal topics of conversation were trusts; their usual abuse and the unjust discrimination in freight rates. Knots of men earnestly discussing these questions in an informal way, and continuing the discussion in the convention hall, showed how carefully they were considering these vexing problems. A special committee of thirteen, with Aaron Jones as chairman, drafted the following resolutions. We would ask every reader to study the subject carefully and to preserve the report for reference. Prominent sen-

ators and representatives had asked the grange to suggest some remedy, and the report embodies the sentiment of the committee:

We, your special committee on trusts, submit the following report:

The National Grange express their approval of the address of our Worthy Master Aaron Jones regarding trusts, and demand the enactment by Congress of such laws as will protect the people against all combinations of men and capital inimical to public policy.

We are not opposed to associations of interest which merely lessen the cost of production, but we are decidedly opposed to the misuse of the power which large combinations of capital give for the purpose of destroying competition, controlling production, and arbitrarily dictating prices of commodities. Associations as opposed to legislation are one thing; combination as opposed to isolation is another.

We are opposed to all corporations or trusts which control the source of supply, and, like the Standard Oil Company, reach out their arms and embrace all competition. Special favors are granted them by railroads, thus enabling them to undersell and force to the wall smaller dealers who might otherwise compete with them.

We encourage the investment of capital in every branch of legitimate industry, and demand fair play.

The construction of the Erie canal benefited the farmer. Competition has reduced the price of transportation in New York eighty per cent during the past twenty-five years. The expansion of our territory and commerce tends to increase the number of capitalized associations. The greed and selfishness which too often actuate men has become an element of danger, and must be controlled.

It must be made impossible for so-called trusts to accumulate millions by selling watered stock without adding to the wealth of the country.

- Therefore, we recommend:
- 1st. Official inspection of all corporations, as in the case of national banks. No corporation should be tolerated whose books cannot bear such inspection.
 - 2d. Prohibition of all rebates or discriminations by public carriers.
 - 3d. Taxation of all capital stock.
 - 4th. All capital stock should be paid up in full.
 - 5th. Severe penalties for violation of law.

- (a)—By forfeiture of charter, fine and imprisonment.
- (b)—By impeachment, fine and imprisonment of all public officials whose duty it may be to enforce the law and who fail to perform that duty.

Suggestions:
We would suggest many petitions to Congress to pass remedial legislation along the lines above suggested.

We ask the members of our body to secure state legislation not in conflict with national laws, but suited to the peculiar requirements of their respective states.

One of the greatest evils of trusts is their power to control elections and corrupt officials. This can be remedied by educating the people. Meanwhile we must control by the strong arm of authority.

One principle worthy of consideration has been thus stated: "Whenever monopolies are based upon the acquisition of nearly the entire supply of natural treasures of any sort, or upon exclusive ownership of raw material of any kind, government ownership of the source of supply is called for."

The National Grange of the Patrons of Husbandry pledges its best efforts for the suppression of such dangerous associations, and we invite the earnest co-operation of every liberty-loving, self-respecting citizen of the republic.

- AARON JONES, Indiana,
G. W. WORTHEN, California,
OLIVER WILSON, Illinois,
A. B. JUDSON, Iowa,
OBADIAH GARDINER, Maine,
GEORGE B. HORTON, Michigan,
J. J. WOODMAN, Michigan,
E. B. NORRIS, New York,
S. H. ELLIS, Ohio,
J. H. BRIGHAM, Ohio,
W. F. HILL, Pennsylvania,
W. K. THOMPSON, South Carolina,
H. E. HUXLEY, Wisconsin,
Committee.

The reports of the masters of state granges indicate not only a hopeful growth numerically, but also a healthy sentiment in favor of a closer unity on matters of particular interest to the farmer.

The appearance of Dr. John Trimble was greeted with prolonged and enthusiastic applause. Though his head is silvered with the snows of many winters, his heart is as young and his belief in the best there is in human nature as strong as when, more than a third of a century ago, he met as one of the "immortal seven" to found our noble order.

The state lecturer's conference, called by Alpha Messer, national lecturer, held several interesting sessions. Methods of work were discussed, views exchanged regarding the work in various states, and plans formulated for putting the lecture-work on a systematic basis. The lecturers expressed themselves being well paid for the time consumed in coming to this conference. The following lecturers were present: Alpha Messer, national lecturer; Mrs. L. Sanders, of Michigan; E. B. Cole, New York; W. R. Bell, Illinois; S. E. Strode, Ohio. Others who were present and participated in the meeting were Mrs. B. B. Lord, of New York; Miss Jennie Buell, secretary Michigan State Grange; L. O. Berry, steward New York State Grange; C. M. Freeman, of Ohio, and ye editor.

No mention of the National Grange would be complete without paying especial tribute to R. L. Holman, the Commercial Club of Springfield, and S. H. Ellis, for courtesies extended. Some of the most profitable hours spent were those at the Lagonda works, and the mammoth industrial exposition, gotten up in honor of and for the special benefit of the national and state granges. Friday was devoted to a visit to the Ohio State University. Every courtesy was extended to the visiting Patrons by the faculty and students. Many were the expressions of commendation concerning the Ohio State University, especially the departments of agriculture and domestic culture. The Commercial Club of Springfield secured a special train to take the visiting Patrons, more than five hundred in number, to Columbus, Ohio. A public reception was given by the university, after which lunch was served. The hours spent in viewing the buildings and investigating the work of the various departments will increase the interest in this, one of the best universities in the United States.

OHIO STATE GRANGE

The twenty-seventh annual session of the Ohio State Grange was held at Springfield, November 13th to 16th. The excellent address of Worthy Master Ellis was helpful and encouraging. The meetings were enthusiastic, and the delegates went home with a determination to do better work during the coming year.

Hon. F. A. Derthick was re-elected chairman of the executive committee. This is a just recognition of Mr. Derthick's splendid work on the executive committee, which is also the legislative committee. It is also a compliment to the state grange that it has the foresight to keep an able and conscientious man in a place of trust.

The deputy master's meetings were interesting and well attended throughout. The efficient president, J. D. Martz, was re-elected; T. B. Tiernan, vice-president; I. B. Reed, secretary. Acting upon the suggestion of Mrs. J. N. Hogsett, past ceres of state grange, a constitution was framed. The organization is in better shape than ever for doing good work during the coming year.

NOTES

We must organize, not only to overcome abuses, but to prevent them.

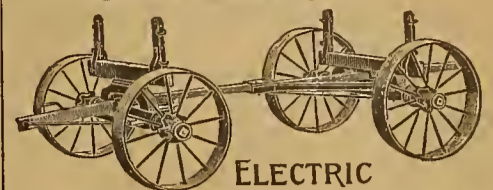
Intelligent, concentrated, persistent effort, united with a strict integrity, is sure to bring success.

David Harum says: "A reasonable amount of fleas is good for a dog—they keep him f'm broodin' over bein' a dog." David's philosophy is applicable to farmers. A certain amount of adverse conditions keeps the wheel of thought from getting into ruts.

Have you a traveling library? Several states have made appropriations for these circulating libraries, and in all cases are more than repaid for the expenditures. Heretofore the state libraries were available only for a few who were in close proximity to the capital, while those who needed them most and who paid for them were deprived of the advantages. By the system of traveling libraries any community can obtain the best books on every conceivable subject. In our next issue we will give an extended account of the workings of the system in various states.

FARM WAGON ECONOMY

The economy of this proposition is not all found in the very reasonable price of the wagon itself, but in the great amount of labor it will save, and its great durability. The Electric Wheel Co., who make this Electric Handy Wagon and the now famous Electric Wheels, have solved the problem of a successful and durable low down wagon at a reasonable price.



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CHRISTMAS IN OTHER LANDS

THE CHILDREN'S DAY



CHRISTMAS is recognized the world over as the children's day, and it is very appropriate that on this day of general rejoicing over the birthday of the Christ-child that baby hearts rule over the households.

In every nation the chubby and dimpled darlings of the homes prattle in their mother-tongue about the little Christ-child, and from babyhood days down the path of Father Time, until the form is bent, the hair silvered, the eye dimmed and the voice faltering, one and all look forward with rapturous delight to that sweet day of all the year when families and friends are again united by tender words and loving deeds.

Many will repeat or chant the following lines and tenderly remember days of the past when those dear to them joined in the chant; but to-day the absent ones sing the Christmas carol in the presence of the Christ-child.

"Glory to God in the highest,
And on earth
Peace, good-will to men."

When midnight draws near on Christmas eve the little children of Jerusalem are to be seen standing with upturned faces watching earnestly for a glimpse of the angels as they come to sing over the spot where the infant Christ lay in the manger.



In Russia before Christmas the entire nation observes a fast. Meats, eggs and cream are forbidden. The days preceding Christmas are busily devoted to decorating houses and churches, for at no place in the world is this merry time of peace and good-will ushered in with such magnificence.

As St. Wassil (Christmas eve) approaches the people all repair to the churches. This is the time of all times for the adoration of the icons. The cathedral is brilliant; the air heavy with odors of sweet incense; each saint resplendent in costly robes and glittering jewels; the priests in heavy robes of satin, stiff with gold and silver embroideries, and with miniatures of Christ, the Virgin and the saints set in precious stones adorning the front of their flowing robes, all make the scene one of magnificence and splendor.

In the body of the church are the worshippers, young and old; nobles and serfs are this night equal. Side by side they kneel, and shoulder to shoulder they stand. Together they pass on, bowing and crossing before the jeweled icons, and falling prostrate before statues of Christ and the Madonna. They cross themselves on their brows and breasts in the form of a Greek cross.

Near the midnight hour all eyes turn eagerly to watch for the first glimpse of the iconostas, which to the Russian is the holy of holies. When finally the costly golden screen is withdrawn a statue of Christ is revealed in its place of honor, the center. On one side is an icon of the saint for whom the church was named. On the other side of the holy statue is one of the Virgin. These statues are loaded with jewels that glitter and sparkle in the light of hundreds of waxed candles and flaming torches. The silvery purple smoke arising from the jeweled censers placed before the door of gold curls and wreaths around the priceless statues. In a spirit of awe the surging mass of worshippers prostrate themselves before this most sacred spot. They cross and recross until it would seem as though from sheer exhaustion they would cease.

As midnight draws near the air becomes more oppressive as the precious censers swaying to and fro throw out the heavy perfume. The full choirs alternate in chanting, "Gospodi, Gospodi, pamilu" (Lord, Lord, have mercy upon us), and as the rich music

rolls with majestic grandeur over the worshippers, or dies away in solemn whisper, the dense crowd sways and bows. At midnight the holy mass is ended; then all the bells in St. Petersburg ring out in joyful peals, carrying abroad the joyful news that the Feast of Philponki, or Advent, has ended, and now commences "Welikijdenji," or Feast of the Great Day. At every peal of the bell the enraptured people bow and cross. Hastening homeward greetings are heard on every hand of "A happy feast to you."

This they commence by eating a portion of rice, plums and raisins molded in the shape of a pyramid, previously blessed by the priest. Then follows such a mixture of soups, fish (some of it putrid), spiced meats, hotly peppered vegetables, garlic and oils, pickles, sweets and fruits that would kill any one but those having a Russian's stomach.

On Christmas morning the children find the house decorated with candles of red, and a tree loaded with gifts and illuminated with tiny candles, also of red. As they receive their gifts they bow their little heads and thank good St. Nicholas for remembering them, for he is the saint to whom all the Russian children pray.

Christmas-time is celebrated by the people of Norway and Sweden in a more simple manner. The day preceding "Jalkatide" (Yule-tide) finds every one polishing ancient silverware, the loving-cups, carved horns, the pewter plates, and, above all, in cleaning up the shoes.

Norway is the home of the holly and the yule. Families vie with each other at Christmas-time to see which one can secure the best holly and scatter the finest fir-needles over the floor. This last is to prevent the witches from entering. Over each door is hung a full sheaf of grain for the birds' feast. A great yule-log is brought in, and lighted, with much ceremony, by a piece of last year's yule. After supper the head of the family reads an account of Christ's birth from the Scripture. Later on all assemble in the churches to welcome in the holy day.

Every window is lighted up and left open. Gifts are wrapped in numerous layers of rags and straw, accompanied by an original verse, and thrown in at the open window. Early Christmas morning the families are heard singing together the hymn:

"A child is born in Bethlehem, Bethlehem.
This is the joy of Jerusalem.
Halle—Hallelujah!"

While the birds daintily pick their breakfast from the full sheaves the cattle receive a double portion of food from the hands of their master.

Out in the country a great table is abundantly spread with all the good food that "Jalkatide" brings. The family go to church, leaving the doors wide open, and any one passing may enter and partake of the hospitality, and depart.

After presents have been distributed from the trees, and each shoe carefully examined to see what it contains (for the children place their shoes in front of the fireplace instead of hanging up their stockings), the boys of the various homes start out to make calls. They are attired in pure white and have high-peaked hats. The leader carries a tall pole with a star lantern. Following him comes a boy with a glass box, in which is to be seen a cradle occupied by a tiny baby-doll, and sitting close beside it is the mother-doll. The rest of the boys have star-pointed poles. They all sing carols. Just before leaving the house of their hostess she presents them with frosted cakes on which has been stamped a boar's head.

On Christmas eve the Norwegian children dream of the Christ-child who on that night will pass through the vast forests of pure snow and leave a sign before each shoe for the good St. Nicholas to remember that the owner is a friend of the babe of the manger.

Next door to Norway and Sweden is Denmark. On Christmas eve the children grave-

ly lay down their shoes in front of the fireplace for the good brownie "Nison" to fill with the desired gifts. This real true brownie is a woman who lives underground, and only makes her appearance once a year. Nison always fills the shoes of good children, and in return she expects them to be very kind to the birds and cattle.

Early Christmas morning you will hear them greet one another with "Glagelig Jul"—Happy Christmas. Their homes are decorated with sheaves of grain and sprays of holly and fir boughs, and look very cheery.

Down in sunny Italy the children assemble in the public squares and watch for "Befana" riding a broom-stick and sweeping the heavens. Each year the little folks of golden Italy hear about the old woman who was so busy sweeping her house that she declined to accompany the three kings of the East when they went to worship the babe of Bethlehem. She promised to follow as soon as her house was in order. Alas for her good intentions! Befana never found the wise men. Ever since then she has wandered over the earth searching for the Christ-child and his three wise guests. On Christmas eve she descends the chimneys with broom and bell. This is to warn the children not to watch what she is giving them. Only the good receive presents; the rest find ashes and rods in their stockings. Sometime Befana hopes to find the stocking of the Christ-child.

In France, as in all the countries of Europe, parents and children are found in the churches at midnight. During the afternoon of the day preceding Christmas the churches have wax representations of Bethlehem on exhibition. As soon as the church is ready for inspection the children come trooping in with gifts of fruit, toys, books and flowers for the "Babe of Bethlehem's Garden." Smiling attendants are kept busy clearing out the garden and replacing the numerous tiny candles as they are knocked over on the little trees. Sometimes the gifts are so large that they even overturn the trees, but it is in a good cause, and every one is happy. On Christmas day many little sufferers in the hospitals will for a time forget their pain in the delight of receiving gifts from the "Holy Child's Garden."

On Christmas morning, when the children waken, they start out very soon to hunt for a lighted room. Father Noel always leaves presents for good children in their clean slippers, which are laid in a row in front of the fireplace. Only one of the presents is placed in the slipper, the rest being on the tree. After the dignity of thirteen years has been attained, gifts are presented on New-Year's morning in a formal manner.

In Germany, if the Christmas tree is to be displayed on Christmas eve the small cherubs of the home are hurriedly sent into a dark room. Soon they hear the welcome call, "The Christ-child has visited you!" They rush out, to find a room brilliantly illuminated and a beautiful tree twinkling with lights. In other parts of Germany the children hang up their thick home-knitted stockings, and go to sleep early, because Krist Kindlein will not visit any who watch to see if he will come.

In some districts of Germany, in order to drive out evil spirits the family march through the house led by the youngest member of the family as a drummer-boy, who beats the tiny drum with chicken drumsticks. From one room to another the merry music of the drum and the shouting of the children is heard, to drive away the evil spirits. This being ended they return to the starting-point, and unite in singing merry carols to welcome in the good spirits.

In North Germany a table is covered with evergreen boughs, and on Christmas morning the parents find gifts from their children



snugly hidden away under the fragrant green needles.

On Christmas eve the school-boys and choristers of Germany march through the streets in different processions singing Christmas carols. Some of them represent "The Star Singers," others "Three Kings," and another set "Angel Gabriel." Italy, Spain and France also have music rendered in the same manner by juvenile bands.

In Spain the children have their attention about equally divided in watching for the

"King of Sarda, Belthasar," in his gorgeous attire and gay turban, followed by many camels bearing presents to the Christ-child, and in waiting for the midnight mass, when the priests carry out a white and gold image of the holy child. Any one failing to attend this most holy mass on Christmas eve must attend three times on Christmas before forgiveness is granted.

On Christmas morn the children run to hunt for their shoes and slippers, which were placed under the bushes the evening before, to be filled with sugar-plums. After this celebration is ended the tenants proceed to pay their landlord a visit and pay their rent for the year. The smiling landlord accepts payments and in return presents some token to each of his tenants. After gay-spirited music is rendered they depart for their homes, where a smoking dinner is served, and such a dinner! The various soups are flavored with spices, peppers, garlic and onions, and thickened with powdered almonds and roasted chestnuts. The meats are heavily spiced, while the cakes have also their share of the same sweet flavor. Sugar-plums, dates and nuts vie with each other in attracting the children's attention, while wines flow as plentifully as water.

In Scotland scarcely any attention in the past was paid to Christmas on account of the Covenanters, who objected to any commemoration of an event recognized by pagans. To-day, however, the little ones of Scottish homes enjoy the day in a manner similar to that of their little English cousins.

Over in Ireland the small Irish children hunt for a yule-log of ash, and draw it into the fireplace just as their ancestors did. At midnight they, too, assemble in the churches for mass and wait for the Christmas-tide to be ushered in with ringing of bells, softly sweet music and lighted candles. In homes where all observances are carefully followed you will find that all the men have started out for a hunt. During their search they sing:

"Come huntin' the wren, says Robin to Robln;
Come huntin' the wren, says Robln to Richard;
Come huntin' the wren, says Jack to Tidaone;
Come huntin' the wren, says every one."

They search until the bird is found, and then it is carried home in triumph and hung in a cage of rushes or one decked with Christmas greens. Then they all sing again:

"We hunted the wren through frost and snow,
We hunted the wren seven miles or more,
We knocked him down, and we could not see,
And we brought him home in a holly-tree."

An old tradition states that a mermaid once lured a young noble who was greatly loved by all to his death in the waves by appearing as a wren and singing sweetly. Ever since then the people try to capture the wicked wren that caused so much sorrow.

The children of Belgium are very thoughtful, and each Christmas eve they carefully clean their wooden shoes and then fill them with carrots and grain, so that the reindeers of good St. Nicholas may not become hungry during their long midnight journey.

Swiss mothers put their children to bed early on Christmas eve, although the little ones beg hard to sit up and watch for the "Weihnachts Kind" (Holy-Night Child). When the rosy sunlight wakens the bright little Swiss patriots, they get up instantly, but must wait for the trumpet to sound before leaving their rooms. Soon they hear the joyful blast, and come trooping into the gaily decorated room lighted with many candles. In the center of the room is the Christmas tree sparkling with tiny candles, and from the top of the tree the tiny Christ-child looks down and smiles. Before receiving

their gifts the children march around the tree and sing carols, then they kneel in prayer.

At Lucerne a pretty sight is when "Songs of the Stars" is rendered by groups of small children carrying staffs with a white star suspended from the point. In the center of each star is a picture representing the "Magi." From

house to house the sweet singers go, caroling out their Christmas melodies, and at each place they receive gifts of gaily covered frosted cakes and sugared fruits.

The Mexican children commence to celebrate Christmas nine days before it arrives. They march through the house, crying out mournfully, "Possada" (lodgings). This is to commemorate the time when Joseph failed to secure lodgings for Mary. At midnight on Christmas eve they all attend midnight mass. The next morning in the Christmas room,

suspended from the ceiling by gay ribbons, is a large water-jar filled with presents. All are blindfolded and handed a stick, and they take turns in endeavoring to knock the jar loose, and when it finally falls they all pick up some gift, still blindfolded. Much merriment is expressed when the gifts are seen, for in nearly every case the gifts should have belonged to some one else.

In Australia it is too warm to remain indoors to celebrate, so they have a great picnic out in the open air. Their dinner is just the same as they would have had back in the mother-country.

In Bohemia the tiny dark-eyed children watch for a beautiful chariot drawn by white horses and bearing the Christ-child as he passes through the country on his mission of love.

VIRG WILLOSLEY.

CHRISTMAS DOLLS

If there is one thing in all the world that a girl loves above everything else it is a doll; and if there is one feature of Christmas-time gift-giving to be commended above all others it is the making of children happy to the greatest possible extent. To make a child inexpressibly happy requires but a small expenditure of money. Boys as naturally love dolls as do girls, until some one has made them disgusted with dolls, and almost with girls, too, even to sisters. Freddie loved a doll as well as Mattie did. He could not quite give over the love, though some one had suggested to him that it was only girls that played with dollies. He wrote a letter to Santa Claus, putting in a plea for a "great big nice doll for Christmas." But he wished Santa to distinctly understand the situation, so added, "But I ain't no girl, I want you to know!"

I shall never forget the distribution of dolls that took place four winters ago at Christmas-time in a great metropolis of the West. It had been suggested that something unusual be done to make glad hundreds of children's hearts that had never known the warmth and joy and peace of Christmas-time. The suggestion met with favor and was eagerly taken up and responded to by people all over the city who had dollars and dimes to spare and hearts sufficiently large to open to an enjoyment of childish pleasures. It was in due time announced that at a certain large building on Christmas day a great free distribution of dolls would take place, and among the waifs from poverty-rows all over the city the magic news spread like wild-fire. A large sum of money was first given by a large newspaper concern, and to this contributions were added in varying sums until a large amount of money had been obtained for the purchase of dolls. For it was in dolls that the money was to be expended—so well does the world understand the heart-hunger for dolls in the hearts of girls and certain large numbers of small lads that goes even beyond the often great hunger for food that so many tots experience from day to day down in the city haunts where poverty and cold and vice and misery reign supreme.

Early on Christmas morning the elfins began to arrive, though it was understood that not until three in the afternoon would the distribution begin. Thousands of children went gladly hungry all day for the pleasure before them of gazing upon the rows upon rows of beautiful dolls dressed in all the splendor of laces and satins and ribbons and in uniforms of various descriptions. Each child cherished in its little heart the hope of possessing a doll before they should all be gone, but each fearing that its fate would be not to receive one. They eagerly questioned and requested the men and women who were connected with the affair of the day as to the probability of their being remembered with a doll. And shouts of joy were given at each promise of assuring nature, for they were told that not a single child should go home that day without carrying with it a doll. "If there are not dolls enough here we know where there are more, and you shall each own one," they heard.

More than three thousand boys and girls gathered in that large building that day. Music was furnished to add a gala appearance and sound to the festivities, and all that could be done to add comfort and pleasure to the scene was attended to by a concourse of interested people. Some two weeks or more before Christmas it had been announced through dailies and weeklies that such a distribution of dolls was intended for the pleasure of the tots from poverty places, and hundreds of beautiful dolls were sent on for the purpose of distribution as far west as the Rocky mountains, and as far east as Boston, and there were cash contributions received to the amount of \$600. More than three thousand dolls were given away that

day, costing in all more than \$2,000, and not a child went home without a doll. Even the boys who wanted them were given dolls. And there were a great many of them who evidently did want dolls as badly as did the girls. One little fellow, who had been given a boy-doll, asked shyly if they would not exchange with him and give him a "lady-doll." Being asked why he preferred a lady-



FIG. 1 FIG. 2

doll, he blushing answered, with head hung down, "'Cause I likes to kiss 'em." And why shouldn't he "love to kiss 'em," bless his manly little heart!

A little lame boy whose face was pinched with cold and hunger and misery begged for a big doll with a bright red dress and real pretty face. He, too, received what he desired.

The experiments in pleasure-giving have not ended with that first-day attempt at making children happy. And the thought and plan is quite worth passing on. In every city there is a great field in which to work at all seasons of the year. Let Christmas-time be one of the greatest of these seasons for doing good.

ELLA HOUGHTON.

COURTESY AND GOOD MANNERS

We often pity the children of seventy-five and a hundred years ago who were subjected to such rigid discipline that they hardly dared to speak in the presence of their elders. At that time the saying "Children should be seen, but not heard" was often quoted and strictly enforced. It is possible that at the present time the pendulum has swung too far in the other direction, and everything is being made subservient to a false idea of what makes for the happiness and well-being of the child. Lyman Abbott, in discussing this question, said: "In early life we saw school-boys doff their caps, and school-girls modestly courtesy to the passing judge, pastor or professor; while now eminent men come off well if they escape with, 'Go up, thou baldhead.'"

Children are not to blame for their ill manners. It is the foolish parents who pamper and spoil their children with an idea that they are carrying out advanced methods, that it is old-fashioned to require obedience; in fact, they sometimes act as if the words of holy writ should be changed to read, "Parents, obey your children." Reverence for the aged is becoming an old-fashioned, outgrown idea.

Not long ago I read of an incident which occurred at a summer resort. An elderly man, a general who had been wounded in the Civil War, and was quite lame, was sitting on the veranda of the hotel. Several boys, from six to ten years old, were running back and forth on the veranda. The general attempted to go to the door of the hotel, when the boys in their mad race ran against him and threw him violently to one side. He said, gently, "You should be more careful, boys." "Oh," was the reply from one little fellow, "when people are too old to keep out of the way they ought not to be at hotels." The mother of this boy was sitting near and heard the remark, but instead of reproving him she turned to a friend and,

with a smile, said, "Jack is so bright. He always has a retort ready."

I was on an excursion-steamer not long ago. It began to rain, and the wind blew so coldly that many were obliged to take refuge in the cabin. An elderly gentleman and his wife were sitting near one of the windows when two little girls, ten or twelve years old, came and crowded in between them and the window, opened it, and stood looking out. The wind blew in directly on the old gentleman. He tried to move away, but there was such a crowd that he could not do so without leaving his chair and being obliged to stand. At last he politely asked the girls to close the window. The children's father stood near and overheard the request. "These children don't want that window closed," he said. "If you don't like it, why don't you move?" The old gentleman made no reply, but turned up his collar and tried to shield himself from the wind with a newspaper until the children tired of looking out of the window and went out on deck again. I thought what a lesson in politeness and respect for their elders that father is giving his girls.

Are children happier when they behave in this way than when they show a proper respect for their elders, and are thoughtful for the comfort of others as well as themselves? I do not think so. Children are happiest when they have learned to obey. If we would have them grow up to be law-abiding citizens they must be taught to obey when children. If we would have them grow into a noble manhood and womanhood, with hearts full of love for their fellows, and strong to work for the uplifting of humanity, is it not necessary that a reverence for things holy, a respect for the rights of others, a love for the good and the true, be early inculcated into their minds?

For the sake of the children let us think of this seriously, and not because of our own weak yielding and lack of firm discipline wreck all their future lives, helping them to grow into selfish, ill-mannered, irreverent men and women who are not fitted to either enjoy the best there is in life or make any one the better or happier for their having lived.

MAIDA MCL.

APRONS

To be well equipped for all occasions the housekeeper should have aprons suited to her work. Not ugly ones of dark materials, but tasty ones made of stuffs that are pleasant to look at.

If one is only superintending the meal, an apron of light material, made after the style of Fig. 1, which completely envelops the dress, will be found the best. Bands of another material used with some of the patent laces serve as a trimming. A dress-skirt pattern for the front, with straight breadths at the sides, can be utilized from which to cut the skirt, while the bib and bretelles can be cut upon the person with very little trouble.

Fig. 2, for church fairs, is made of pretty China silk, and trimmed with lace and insertion. The front is shirred onto a ribbon, which passes around the waist and fastens under the rosette at the side.

Fig. 3 is of China silk, and is trimmed with a band of white cashmere edged with narrow black velvet. Or this can be of blue linen, with a band of white linen outlined with black braid.

Fig. 4 can be of black silk, brilliantine or dark cottons, and can be used with or without bodice.

Half-bleached muslin trimmed with bands of Turkey-red or Dutch-blue cottons make serviceable aprons that stand boiling and always launder well.

B. K.

BATTENBERG COLLAR AND CUFFS

This set of collar and cuffs is a handsome addition to any lady's wardrobe. It is made from fine narrow Battenberg braid with suitable thread. The set requires seven yards of braid—three yards for the collar, and four yards for the pair of cuffs. The stitches are easy and effective.

MAY LONARD.

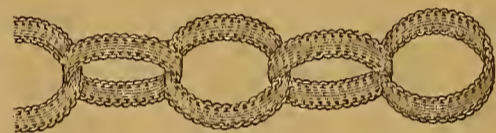
BURY THY SORROW

BY ELLA HOUGHTON

When thy hopes seem all forsaking,
And thy very heart seems breaking,
Look beyond the cloud of darkness with its
gleaming, silvery sheen;
Newer hope take for the morrow,
God will help thee bear thy sorrow,
Go bury it so deeply that 'twill never come
between
Thy plans for future gladness.
For 'twere folly verged on madness
To grope in hopeless darkness. There is sun-
shine to be seen.

HAIR-CHAINS

Watch-chains are lovely made either of horsehair or human hair, though, of course, horsehair is more generally used, as it is easier to obtain. A chain made of white horsehair at a short distance looks like the little links have been carved from bone. A chain made of fine black horsehair is much prettier than the white. A guard-chain made of small links of glossy black horsehair with a gold slide is also very pretty. To make a chain a person must provide themselves with quite a little wisp of hair. Tie it tight at the upper end with a thread, wash clean in soap-suds, rinse, and let it dry, then pull out three long hairs of even length. Take one hair, double it together at the middle, and tie a knot at the end. Take the other two and tie together, being very careful that you get them even, so they will not break. Now take a lead-



pencil (that is the best size, although they are very pretty made on a slate-pencil) and lay the two long hairs along the length of the pencil. Take the one hair that is doubled together and put the "loop end" on the end of the pencil, and wrap it around both the pencil and the two hairs. Draw the two long hairs even and tie them in the middle around the hair on the pencil. Now very carefully slip the ring of hair off the pencil and pin it to your knee. You must be sure to have the ends of the knots as shown in the illustration. One knot must be short, the other longer. Put the hair with the short knot through the ring, and the other hair through that loop. (See illustration.) Draw tight, and now you may see how the stitch



FIG. 3.

FIG. 4

will look. Be sure to keep the hair wet; then they cannot break so easily. When the ring is finished thread a needle with the end of the hair, and securely fasten. Links can be made in a different way, but are not quite so pretty. Take one hair, wrap it around the pencil, and tie. Very carefully slip it off, thread a needle with another hair, and make a common buttonhole-stitch. This is quite an amusement for the children. The hairs for working should be only about eighteen or twenty inches in length.

NELLIE A. MARRIOTT.

[HOUSEHOLD CONCLUDED ON PAGE 19]

THE STORY OF AN OVERFLOW

By Pauline Shackelford Colyar

CHAPTER I.

THE levee system along the lower Mississippi is attended with many difficulties and much danger, but as yet no more effective method has been devised for confining the waters of the mighty river within proper limits. The name "levee" is one given by the French of Louisiana to a dike, and literally translated means "raised." These levees, or artificial banks, are constructed of clay and sand, solidly packed, about eight feet broad, and built up two or three feet above high-water mark.

The flood of 1882 was one of the most disastrous chronicled in many years, and although the people had been warned by the signal-service office of its coming, the loss of life and property was enormous.

Early in the spring of that year the Missonri and Ohio rivers, augmented by their tributaries, were full to their banks, and began pouring a resistless torrent into the upper Mississippi. Danger threatened at every point, and the low-lying country was soon submerged. In many towns business was practically suspended, and not only the men, but women and children, lent their mite of aid toward resisting the relentless invader.

Nowhere was the fight more persistent than upon the river front of the Dupont plantation. The levee there was regarded as one of the strongest in the state, and had successfully resisted all previous overflows. A shot-gun patrol was established to guard against it being cut, and every foot of encroachment by the water was stubbornly contested.

No one doubted the efficacy of the defense, but the outlook was not encouraging. To add to the gloom of the situation, a steady rain had been falling for a week, accompanied by frequent wind-storms. The Dupont residence stood upon an elevation two miles inland, but the houses of the tenants were dotted about indiscriminately over the broad acres of the plantation.

At the beginning of the year the Dupont heirs engaged John Lofton (a young man of some experience and much energy) to manage their estate, and he, together with his wife and six-months-old baby, occupied a trim little white cottage in sight of the river. Since the commencement of high water he had been untiring in his efforts to avert an overflow, and when the peril increased he worked ankle-deep in mud, shoulder to shoulder with his men.

Day and night the work went on, one force relieving another, while like some insatiate monster the white-capped breakers licked at the rain-soaked levee. At intervals the shriek of a steam-whistle announced some new break in the levee elsewhere, but the driving of stakes and the throwing of sacks filled with earth went monotonously on. The superstructure was now almost as high as the levee itself, but do what they might, the sodden earth was beginning to show the strain upon it, and at each onslaught of the driving waves it quaked under the blow. Several leaks had already occurred, but were stopped before they gained any headway.

Since early morning, on the twentieth day of April, there had been no pause in the work, and the men now stood knee-deep in mud. At noon John Lofton glanced toward the little white cottage that held his two loved ones, and wondered if Maggie would understand why he did not come home to dinner.

His child-wife (she was only eighteen) had left a comfortable home to share the fortunes of her struggling young husband, and during the first few months of their married life, when he worked as a mere day-laborer, her heart was often heavy; but she gave no sign, and always met him with a smiling face. Later on his merit won recognition, and through the recommendation of a neighboring planter he secured his present place of trust. Both he and his wife felt that their future binged upon the success or failure of his management of the Dupont plantation, and the threatened overflow had spurred him to exertion almost beyond his strength.

"Maggie says she never gets lonesome any more since the baby come," was his next mental comment, as the small white house came once more within his line of vision. "Well, she certainly is a dandy little chap and company enough for a dozen."

The sky was still leaden and overcast, and the rain continued without ceasing. As the day wore on Mrs. Lofton grew restless and uneasy. She could see the men at work along the river front, but feared her husband's protracted absence meant that the levee was more seriously threatened than hitherto. His dinner was still waiting for him in the warmer of the range, and though it was now after sundown, he had not been home since breakfast. Little Mary was asleep in her cradle, and for a time the young mother sat beside

her in the broad hall sewing. The air was warm and sultry (more like summer than spring), and the garden at the back of the house teemed with green, succulent vegetables.

"It would be relief to go out and work in my flowers," she said presently, throwing aside her basket. "This suspense makes me so nervous that I can't settle down to anything."

Her impatience finally culminated in a resolve to go and learn for herself what had happened.

"If it wasn't raining I would take her with me, bless her precious little heart!" she murmured, leaning over to kiss her darling. "But I won't be gone long."

She drew the cradle close to the open door, threw a water-proof cloak around her, and after another kiss ran off toward the river. She carried John's dinner in a little Indian basket, and a pot of coffee, steaming hot.

"This is no place for you, little girl," said her husband, looking at her with troubled eyes, as she reached the levee.



THE POWERFUL SEARCH-LIGHT HAD REVEALED THEIR PRESENCE

HE LIFTED THE WEE STRANGER INTO THE BOAT

"But, John," she remonstrated, "I came to beg you to drink some coffee and eat your dinner. You will be sick if you go on like this."

"Not if we win the fight," he replied, with the ghost of his accustomed cheery smile.

"It won't take long, dear," she urged, laying her hand upon his arm. "Do it for my sake." And unable to withstand her gentle pleading, he snatched a moment to do her bidding.

"Where is the little one, Maggie?" he asked, looking toward the house.

"Right by the hall door," came the answer. "I left her fast asleep in her cradle, and will be back before she knows I have been gone."

A group of negro women who had come to bring their husbands' dinners had been pressed into service, and were working with a will. Among the number was Aunt Rindy, a portly mulatress, who washed and ironed for the Loftons. At sight of the young wife she shook her head disapprovingly.

"Honey, you better run 'long home to dat sweet baby," she admonished. "Dis hyah ain't no place for white ladies."

She was a gauntess in stature, and did double the execution of the other women in filling the sacks with sand and lifting them to the shoulders of the men.

"Oh, you needn't worry about me, Aunt Rindy," said Maggie, taking the reproof in the spirit in which it was given. "I am going in a minute, but I can't help feeling anxious when John stays away all day like—"

Even while she spoke there was a sudden outcry from the men, accentuated by the shrill treble of the women, and there, not

twenty yards below where they stood, the roaring, foaming torrent, freed from its limitations, was rushing through a yawning crevasse with the force of a Niagara.

But the agonized shriek of the young mother rose above the din and tumult of the flood. "My baby! My baby! Oh, God, my baby!" Her cry was still ringing in their ears when her husband plunged into the seething water.

For one dread moment the little group stood mute and panic-stricken over the rash act; the next they saw Lofton borne swiftly away by the muddy, surging current, as powerless to steer his own course or to resist its mighty power as the other pieces of debris scattered over its surface.

Great trees that had withstood the storms of ages swayed and tottered to their fall, while others, denuded of their limbs and foliage, stood like gaunt specters in the waste of the grim destroyer.

With straining eyes and drawn, white face—even whiter by contrast with the dusky ones about her—the young wife waited and watched, her every breath a silent prayer to God for the safety of her husband and child.

True to the maternal instinct which forms so important a factor in the character of the Southern "black mammy," Aunt Rindy put forth all her powers to comfort the frantic young wife, buoying her up with false hopes of her husband's speedy return, and caressing her and crooning over her as tenderly as though she were a baby.

"Tain't no use to search for him out dar, honey," she would announce from time to

time, quick succession by another, and yet another. The terrible nervous tension under which they had spent the past few hours was relaxed at last, and in proportion to the depression had come the rebound.

Already the powerful search-light had revealed their presence, and with each throb of the engine the big boat was speeding their way. As though moved by a single impulse, the negroes burst forth with their popular hymn, "The Good Ship of Zion."

The quaint air was soon floating across the water, rising and falling, swelling and dying away, with that weird cadence, that lilting rhythm, which lends to negro melodies their peculiar charm. The roustabouts caught up the refrain, and sent it ringing back over the waves with a vim.

Oh, the good ship of Zion
Is a sailin' on the sea;
Childun of Isrul, don't you lose heart!
She's a-rockin' an' a-reelin',
An' her golden bells is pealin';
Childun of Isrul, git ready to start!

Oh, rock along, Zion, rock along,
We ain't got time to tarry no more;
So rock along, Zion, rock along,
An' land us safe on Canaan's shore.

But amid all this rejoicing the rescue brought no gladness to the heart of the desolate white woman. She obstinately refused to desert her post. Neither argument nor entreaty availed, and Aunt Rindy, with characteristic decision, caught her up in her own strong arms, and despite struggles and remonstrance, bore her safely aboard the boat.

CHAPTER II.

"Well, Ellen," announced Taylor Buford, entering the dining-room with a letter in his hand, "I have done it at last, and Wigham will get this by the next down packet."

Mrs. Buford looked up from her place at the foot of the table, where she sat pouring coffee, and demanded, with a start:

"You don't mean you have written him to take back the plantation for what we owe on it?"

"That's just exactly what I do mean," retorted Buford, doggedly.

"But, Taylor, I wouldn't give up yet. We paid something on the debt last year, and if we shouldn't have an overflow this spring—"

"Overflow!" thundered the man, throwing back his head as a restive horse might have done. "It's a fine time to talk about not having an overflow. Why, in another ten days there will hardly be a dry parish in the state."

"But there hasn't been any break in our levee yet," the wife added, quietly, looking at him with her big, serious eyes.

"Oh, no; not yet," admitted Buford, grudgingly, "but it is only a question of a few days—maybe hours. I tell you, my dear, this accursed country is doomed, and for my part I should like to pull out to-day, lock, stock and gun-barrel, and go where I would never even hear of high water again."

"When are we going to move?" queried Mrs. Buford presently, with a catch in her voice which she struggled to hide.

"Just as soon as we can get off," came the answer. "My life here for the last eight years has been slavery—nothing short of it—and this," indicating with a gesture the envelope which lay on the table-cloth near his plate, "is my emancipation proclamation."

There was a ring of almost savage triumph in his voice as he uttered these words, which seemed strangely at variance with the look of settled melancholy that had grown habitual with him.

"Oh, no; it hasn't been quite so bad as that, Taylor," was his wife's soft rejoinder; "we have had our troubles since we came here, and have lost money besides, but it has been a happy home for us both."

Mrs. Buford accepted life as it came, calmly and uncomplainingly, and her placid nature acted as a curb upon the impetuosity of her husband.

"It seems a hard thing to do after a dozen years spent here," said Buford, thrusting back his chair, though the breakfast had gone almost untouched; "but things have about come to the point where they can't be worsted." And he sat for a moment in dreary abstraction, running his fingers through his hair.

"Oh, I reckon we will get along somehow," was his wife's comforting rejoinder. "It might be different if we had a houseful of children to care for, but—"

"Yes, thank God! there's nobody to suffer except us two," supplemented the husband, sighing; "and if you were not the brave woman that you are, Ellen, I don't believe I'd have heart to take hold again."

"Never mind, Taylor," she said, cheerfully, "we are not yet too old to make a new start. The little home over in the hills may not be so bad after all, for as long as we have each other nothing else ought to matter much." And the smile she gave him was almost a caress.

It was at the beginning of 1870 that the Bufords took possession of their river plantation. They bought it at a bargain, on time, and after the requisite first payment expected to make the place pay for itself. They were bride and groom at the time, full of hope and ambition, and all went well until the overflow of 1874. After the subsidence of the flood that year it was too late to plant corn,

and the cotton crop was more than half cut short. Then the fencing and ditching had all to be done over again, and new cabins built in place of the ones washed away. This was the beginning of their ill luck, and afterward misfortune seemed relentlessly to pursue them.

The overflow of 1882 came as the last straw to their already heavy burden, and Buford's strength suddenly failed him. The small farm over in the Gulf hills of Mississippi, which had been the wife's childhood home, still belonged to them, and it was to it that they decided to go.

The few days prior to their departure were gloomy ones for the little household, but the packing went on energetically, and the pretty rooms were soon bare and dismantled.

Their belongings were shipped by the steamer Mary Belle on the nineteenth of April, but with the pride of a thrifty housewife Mrs. Buford insisted upon remaining a day longer in order to superintend the thorough house-cleaning which she had ordered begun.

"It will be such a satisfaction, Taylor, to know I have done the best I could for whoever comes after us," she urged, in extenuation of her desire to stay, "and we can make out very well until the Annu Lec comes by to-morrow."

A heavy rain-storm, accompanied by frequent fierce gusts of wind, deepened the melancholy of the last night in their loved home—now theirs no longer.

The big two-story house was so far inland that they heard nothing of the rush and roar of the torrent, but the next morning they found themselves upon a tiny island in a great restless sea, and knew that the much-dreaded break in the levee had at last occurred. Fortunately, they had slept up-stairs, and from the windows there they watched and waited in vain until noon that day for the coming of the steamboat that was already overdue. The whole of the first floor was flooded, and the skiff moored to the back gallery was (unless help came to them soon) their only means of escape. The cold lunch left down in the dining-room was, of course, now lost, and the pangs of hunger were being added to their other discomfort.

The flower-garden, which but yesterday had been a fragrant mosaic of bright colors, was now deep buried beneath the muddy water, and over in the orchard only the tops of the blossoming trees were visible, tossing and swaying in the wind.

"We must get away from here somehow, Ellen," said Buford, in desperation, as the afternoon wore on; and suiting the action to the words, he climbed out upon the roof of the back porch, where, by the aid of a long fishing-pole which he had found up in the attic, he, after repeated failures, finally succeeded in catching the rope which held the boat. But even now his difficulties were by no means at an end, for fully five feet intervened between him and the water, and there was not a cord or rope obtainable by which to make the descent. A sudden leap into the skiff would in all probability upset it, besides insuring him a thorough wetting. A steady downpour of rain still continued without intermission, and a chorus of frogs croaked dismally.

"Ellen," said Buford, with quiet decision in his tone, "if we expect to leave here to-night I've got to catch the limb of that live-oak over yonder, and let myself down by it. It will take something of a jump to reach it from the window, but I used to be pretty active in my younger days, and I believe I can do it."

"Suppose you don't catch it, Taylor?" she suggested, tremulously, while he prepared for the leap.

"Then I'll get a good ducking for certain," said Buford, with a grim smile, and in another moment he had sprung from the window ledge, seized the overhanging limb, and with a sudden, dexterous turn, swung himself into the skiff.

He was a skilful oarsman, and as soon as the boat was cut from its mooring he had it under perfect control. After the manner of Southern homes, the doors were seldom closed in summer, so without let or hindrance the flood had swept through the entire lower floor. When Buford rowed into the spacious hall he found his wife waiting for him on the stairway, and together they were soon speeding under the forest trees of their front grove, over cotton and corn fields, on, on, out of the old life into a new one. With long, swinging strokes Buford sent the skiff swiftly over the waves, while, like some hideous panorama, traces of death and destruction floated by them as they went. Here a chicken-coop with its two forlorn occupants hurried along; there a dead mule, swollen and ghastly, with unseeing, upturned eyes, swirled by; on a hit of levee, hardly large enough for two, half a dozen starving cattle were crowded, patiently awaiting their doom, and clinging to the comb of a roof, just visible above the water, a cat mewed pitifully.

"Look, Taylor, what is that?" demanded Mrs. Buford, breaking a long silence. "Over to the right—yonder! Is it—but it can't be a—"

"Please God, a baby in its cradle!" exclaimed Buford, veering quickly and bearing down upon the tiny craft.

"And it's alive! I saw it move!" cried the woman, clasping her hands in tense excitement. "Oh, Taylor, hurry! hurry!"

"As sturdy a little chap as ever I saw, and wet to the skin," said Buford, smiling, as he lifted the wee stranger into the boat, and deposited it in his wife's outstretched arms.

"Oh, Taylor," said she, with the baby clasped close to her heart, "only think of this blessed little one coming to us like this. It would almost seem that the age of miracles was not yet past."

"Not quite so wonderful as that," came the matter-of-fact reply, "for the mattress kept it afloat. But it's well we came across it when we did. It might have died of exposure if we had not found it."

Meantime the baby made a great show of sucking its chubby pink fists, while Mrs. Buford wrapped it in a woolen shawl taken from one of the valises, and fondled it and crooned over it with maternal anxiety.

"I'm afraid it will be a lot of trouble to-night," said Buford. "The first day I can leave after we get settled again I'll take the youngster to the orphan asylum in Natchez."

"You don't mean that we are not to keep it ourselves?" cried Mrs. Buford, with the echo of a sob in her throat.

"Now look here, Ellen," admonished the husband, almost sternly, "don't commence that sort of nonsense. 'It's going to be all we can do to keep the wolf from the door with just us two, and rearing somebody else's child is out of the question.'"

"It is all well enough for a man to talk like that, Taylor," the woman rejoined, "but the little thing has crept into my heart already, and I feel as though it were my own."

"Suppose its mother should turn up to claim it," ventured Buford.

"That would altogether alter the case," came the quiet response. "I would never dispute her claim."

"Not much danger from that quarter, I reckon, for she is doubtless dead herself, and for all we know, this little mite may be the sole survivor of the family." And Buford rowed on toward the Mississippi shore.

It was too late to begin their journey overland when they reached Rodney, so they spent the night at a small hotel there. The baby fulfilled Buford's worst predictions, and wailed fitfully until dawn; but his wife was untiring in her patient care, and promised better conduct when she could have plenty of fresh sweet milk for it.

"But don't forget what I told you, Ellen," warned the husband. "I am going to take it to the orphan asylum, so don't get to loving it too much."

The former occupant of the little cottage on the farm had left work to be done at every turn, but it was such a happy change to be here, out of reach of an overflow, that despite Buford's gloomy forebodings, he felt a new impulse to succeed stir within him. Each day he expected to find leisure for his trip to Natchez, but something even more urgent than hitherto constantly demanded his attention, so two weeks slipped by, and the baby grew and thrived.

She did not look to be more than six or seven months old, but was fat and strong, with big blue eyes, no hair worth mentioning, and roguish dimples from head to foot. Even Buford (who had persistently steeled his heart against the tiny waif) was careful to be very quiet while she slept, and once his wife came in unexpectedly and found her in his arms.

"It seems almost like sewing doll clothes," said Mrs. Buford one evening, holding up a garment she had just finished.

"Seems to me that's a waste of time and money, too," said her husband.

"Well, it is all I can do for the little darling," she replied, with a sigh, "and as to the expense, this is some nainsook I bought to make me house-sacks. I want to keep the clothes she had on when we found her—I reckon you can't urge any objection to that," and there was a suspicious moisture in her eyes.

"Well, you ladies get sentiment down to a fine point," laughed Buford, taking his pipe from his lips. "What comfort could anybody find in a lot of baby clothes?"

He was sitting on the front gallery, with his feet upon the balustrade, and his chair tilted back at a comfortable angle, enjoying a smoke after the day's work was over. Mrs. Buford vouchsafed no reply, and soon afterward he heard her rocking the baby and singing it to sleep.

"Ellen," said Buford the next morning at breakfast, "can you get the child ready by half-past eleven? I have about decided to go to Natchez to-day."

For an instant she sat as though galvanized; then, with a sudden rallying of her forces, she replied in a voice that sounded strange and unnatural even to her own ears:

"Yes, she will be ready. There is very little to do."

The baby had just waked from a nap, and lay in his wife's arms finishing her bottle of milk when Buford went for her.

"That's right," he remarked, with careless unconcern, "fix her up the best you can. I don't want any caterwauling on the train."

Mrs. Buford held out a protesting hand as he drew near, and with long-drawn pauses between her words, as though afraid to risk herself in speech, she said:

"Since you think it best to take her away, I will have to submit; but promise to bring me back a picture of her. It won't be much trouble to get it, and—and—you know she has been mine—my very own—these two short

weeks." And hursting into a passion of sobs, she strained the baby to her breast.

"Don't, don't, Ellen!" protested the husband, his voice husky with emotion. "I have acted a fool, but I thought it was for the best. Couldn't you see how my own heart was ready to break all the while, in spite of the game of bluff I was playing? I felt too poor to keep her, but come what may, she's ours now—our baby, God bless her!" And with yearning tenderness, he caught the little one in his arms, while she hurried her pink fingers in his beard, and laughed and gurgled in toothless glee.

[TO BE CONTINUED]

LUTHER'S CRADLE HYMN

[Composed by Martin Luther for his children, and still sung by German mothers to their little ones.]

Away in a manger,
No crib for a bed,
The little Lord Jesus
Laid down his sweet head.
The stars in the sky
Looked down where he lay,
The little Lord Jesus
Asleep on the hay.

The cattle are lowing,
The poor babe awakes,
But little Lord Jesus
No crying he makes.
I love thee, Lord Jesus,
Look down from the sky,
And stay by my cradle
To watch me lullaby.

CHRISTMAS AT A PUEBLO

The joys of the Christmas season in the United States are by no means confined to the communities of palefaces. The red people down in the ancient pueblos of New Mexico and Arizona are having a pretty large share in the good things of the holidays, claims a writer in the New York "Sun."

Of course, there is a wide difference between the Christmas of the white people and that of the pueblo. The pueblo Indians have never so much as heard of Kris Kringle and his span of reindeers, there is no shopping to be done by the squaws for their Christmas, no Christmas trees, and not a chimney in the whole pueblo for any one to descend. But every one has a season of comparative leisure when Christmas comes in sight. As for the black-eyed, solemn-faced youths, they are overwhelmed with ease. In these days the young man may hunt all the time, and the fat antelope or mountain-sheep or catamount with which he comes trudging back to the pueblo attests his prowess as a sportsman.

The pueblo Indians anticipate the gastronomy of Christmas week with most zeal. Usually they are indifferent to what they eat and drink, but at Christmas-time it is another thing. For weeks and months the red people get ready for the Christmas week. There is care that the store of grain and vegetables is ample, that the boys know where the juiciest antelope range, and how many wild pigeons and ducks may be counted on. The children are frequently shampooed, and the little stone houses are swept and made ready for a week of fun. The fat sheep are driven from the range and kept ready for the roasting, while jerked beef dries on the line day by day in the warm sunshine. As the great day approaches the red women and girls get out their ancestral shawls and serapes of gaudy colors and polish their wealth of agate and shell necklaces and their clumsy metal bracelets and anklets.

On Christmas eve tiny bonfires of mesquit brush and dry grasses and hemlock from the mountains are lighted by the dozen up and down the crooked streets. Everybody is out of doors, and people go about town singly and in groups greeting one another. The great event is a dance in the ancient church. For several centuries the dance has begun at the dying out of the bonfires and has continued until exactly midnight. Then the dancing suddenly ceases and the revelers how their heads while the mass is celebrated. Each year the governor or chief appoints twoscore men and women, the handsomest, most vivacious and athletic of the young Indians, to perform the dance.

It should be said that the dancing in the church is not a social function nor an empty frolic. The Indians look upon it as a pious duty. They dance to their pagan deities on half a dozen occasions in the year, and when they conform to the religion of the missionaries they do not see why the deity of the missionaries should not be as pleased with their ceremonies as the moon gods, the sun father and the rain spirit. So they gather in the old church.

An old man with long white hair rises, and in the native tongue orders a space made in the center of the church for the ceremonies. The orchestra and singers start up. There is a hoarse drum, made of dry sheepskin stretched over half a barrel. A squaw beats on that. Four young men have stringed instruments made of mesquit wood, similar to violins. When a space ten feet wide has been cleared, at a signal the dancers come trooping in. The men are bare to the waist. Their chests and backs are painted in half a dozen startling colors; huge bracelets of silver and brass encircle their upper arms; their heavy shocks of hair hang to the shoulders, and their faces are a ghostly white. They

wear embroidered kilts of red; yellowish leggings are fastened about their calves, and headed moccasins, generally heirlooms, are on their feet. Behind each kilt dangles the skin of a wildcat or a fox. Some of these decorations have been used in these dances for fully a century, a few for longer periods. Each male dancer holds a sacred gourd filled with pebbles, like a rattle, in one hand, and a bunch of long eagle-feathers in the other.

The dresses of the women dancers are more gaudy and generous. Each wears a bright red or blue overgown, reaching from her shoulders to her knees. It is the product of weeks of labor and plauing, with all its variegated embroidery. From the knees to the ankles are white buckskin affairs like boot-legs, and on the feet are red moccasins embroidered with serpents' heads. A bunch of feathers dyed in red and blue is in one hand, and a showy silk handkerchief is in the other. Heavy earrings, a score of bracelets, and turquoise and shell necklaces complete the toilet.

A picture never to be forgotten is formed by the adobe white walls a yard thick, with deep recessed windows and many crude pictures representing scenes in the Passion; the little altar at the further end, adorned with candles, huge bouquets of paper flowers, a wealth of tinsel and several wooden crosses; the logs that support the roof; the perspiring, painted Indian men, whirling about as if in delirium; the dark-visaged women in garments of vivid colors, and with now disheveled hair over their faces, moving about with upraised hands, waving feathers and silk handkerchiefs in perfect time to the rapid chorus; the hundreds of black-eyed, excited, shouting spectators, the wrinkled and bent old men, the children, clad in blankets and strange garments of barbaric fancy, the young women who hold lighted candles above their swart faces and ebony hair. The long, wide room resounds with the shouts of the Indians, and the altar shakes with the stamping of the feet on the floor. For three and four hours this strange ceremony continues. At exactly midnight the bells on the roof are jangled vigorously. The chorus ceases and the dancers stop. A sudden hush comes over all. In a few minutes the assemblage participates in the celebration of the mass by the priest.

Many an Indian family sits up all Christmas night feasting, smoking and drinking. It is the most glorious period in the whole year. Every afternoon for a week dancing takes place on the little plaza. The more sociable people from the neighboring tribes come and join in the festivity. Half a dozen sheepskin and barrel drums are brought into use, and several score of singers assemble every day to add their voices to the music. The dances are all substantially the same. Sometimes a band of Navajos, moved by the spirit of the occasion to show their dexterity and staying powers of long-distance dancers, may entertain the Isleta people by marvelous hoppings and whirlings, accompanied by ear-splitting whoops for an hour or two without cessation. No wild-west show ever had such an attraction as Isleta presents.

Christmas week means a good deal to the juvenile part of the population of the pueblo. The white person who thinks the Indians are devoid of humor and are a silent race ought to be out here in the holiday season and observe the Indian boys. The teacher at the government school says she never knew such roguish fellows, and in holiday week they are as loquacious as any quilting-bee ever was. They plan surprises for their elders by throwing a crotchety hen in through the open door, by concealing the all-essential family store of tobacco and secretly watching with roguish eyes while a grandparent goes hunting for it. At night bands of a dozen little fellows and girls wander about the pueblo, making noise with gourd rattles and hits of metal or stone, and visiting friendly homes. They give the occupants a brief serenade and attempt dancing like the men and women. As a reward these childish serenaders get a hit of corn-cake or a sweet drink. They are excellent mimics.

Every day for a week the feasting continues. Almost hourly pueblo squaws, dressed in startling combinations of blue, red, green and black, may be seen bearing carefully prepared heau pies to the homes of friends. There is a wealth of black cake throughout the village, and breadstuffs seasoned with chiles are on every table. Wine is to be found here also. A decoction squeezed from the juice of the Zinfandel grapes and toned by an ingredient from the cactus will set any man's blood tingling. Every night in the holiday week there are several hundred thick tongues and shining eyes in the ancient pueblo.

HOW TO WALK UP-STAIRS

In walking up-stairs your feet should be placed squarely down on the step, heel and all, and then the work should be performed slowly and deliberately. In this way there is no strain upon any particular muscle, but each one is doing its duty in a natural manner. The woman who goes up-stairs with a spring is no philosopher, or at least she is not making a proper use of her reasoning faculties. The habit, too, of heading over half double when ascending a flight of stairs is exceedingly reprehensible. In any exertion of this kind, when the heart is naturally excited to a more rapid action, it is desirable that the lungs should have full play.

REAL CHRISTMAS CHEER

"In the backwoods of Pennsylvania there are many odd Christmas customs," said a traveling man. "I once saw a Christmas tree in a blacksmith-shop. It was trimmed with a lot of ginger-cakes cut in shapes to represent fish, horses and dogs. The smith had also cut out a lot of pink-paper birds and flowers, and with three pounds of red and yellow clear candy his tree was well filled. Every farmer boy who brought a horse or mule to be shod received a gift from the tree. The wayside inns all have Christmas trees behind their dingy bars. During Christmas week the landlords have raffling-matches and euchre parties for anything from a half dozen caps and saucers to a pair of chickens or a turkey.

"Bell-snickles still make merry on the highways for the country children in these districts. Grown folks in tattered gowns and clothes, wearing grotesque masks, go from house to house with bags of nuts on their backs and slender poles in their hands. The children are tempted to pick up the nuts thrown on the floor before them, when they are rapped gently over the fingers. Naughty children are punished, but as a general thing the visit of the bell-snickles is pleasant enough and affords much fun where there is so very little going on to amuse the people. Candy and small ginger-cakes also form a part of the stock in trade of these mountain imitators of Santa Claus. Some bell-snickles trudge through the snow from ten to fifteen miles to make their rounds on Christmas eve, blowing their horns upon arriving at each house. No matter what time of night they come they are admitted and the children are aroused. The bell-snickles are refreshed, and they then depart, sometimes not making themselves known. That is part of the fun, as it keeps their hosts guessing for months as to the identity of the visitors.

"The oldest Christmas tree I ever saw was in the winter camp of a gipsy party in a cedar copse. Near their camp-fire was growing a small cedar bush, and this was gaily decorated with colored ribbons, papers and candies. There were five children in the closed wagons, and they had a merry Christmas around the tree.

"Along the base of the Blue mountains in Pennsylvania there is a custom on Christmas which is somewhat biblical. Farmers' sons are sent out in wagons on the highways to gather in all the stragglers—that is, tramps—they can find. Peddlers or homeless men come in this category. They are taken to the farm-house, fed, and sent on their way rejoicing. The first day Christmas is a religious holiday among many mountaineers. The second day Christmas is for worldly merriment. The horses, cows, sheep, pigs, in fact, all live stock, chickens and dogs and cats, get extra feed, and no poor family is neglected. Apples and cider is the common set-out. For luncheon the bell-snickles get cold pudding, cold ham, bread and butter, and hot coffee. Apple-jack is furnished, but with care. The charcoal burners on the mountains on Christmas eve have a walk around impelled with considerable old rye, especially if it snows.

"The grandest Christmas spectacle I ever saw was ten miles of wide-spreading pines trees just after a wet snow. The branches were like ten thousand nodding plumes of white. It was a Christmas scene of weird purity I shall never forget. At one log school-house about five miles below the Mollie Maguire country of Pennsylvania I found the entire interior hung with pine branches. The teacher said he did not believe in cutting down trees. He simply cut off branches in the forest, that did not harm the trees, and the children hung them on nails, hooks and the blackboards. The branches were trimmed with colored papers, cakes, candies, walnuts, apples, pears and I know not what all.

One time a poor sexton of a mountain graveyard buried his wife. The man was helpless. He had a son who was not promising. Christmas promised to be bleak. His neighbors took the son into their confidence, and on Christmas eve a dozen went home with the son and prepared a surprise. On Christmas morning, when the family came down, there was a beautiful Christmas tree for the motherless children, and many substantial gifts for the old sexton. It was on one of my back-country trips on a Christmas day that I met a middle-aged woman, with a dashing span of horses, in a sleigh. She had visited thirty-three farm-houses in as many miles, and was a good Santa Claus for thirty-five poor city orphans for whom she had found good homes. Each Christmas she visits them, taking them gifts.

"One Christmas I spent at a mountain tavern near the Pennsylvania coal regions. The mountain was covered with snow. The dinner was served piping hot in front of a blazing hearth fire. We had haasempfeffer to begin with, which is pickled rabbit toasted in brown German sauce; then came partridges broiled on hickory coals, with hot waffles; then a fat wild turkey shot in the clearing not a quarter of a mile away; in fact, it was a game dinner, with herbs and vegetables, pipes and tobacco, home-made wine and a variety of food, all from the mountain."

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OUR SUNDAY AFTERNOON

A CHRISTMAS CAROL

God rest ye, merry gentlemen, let nothing you dismay,
For Jesus Christ, our Savior, was born on Christmas day.

The dawn rose red o'er Bethlehem, the stars shone through the gray,
When Jesus Christ, our Savior, was born on Christmas day.

God rest ye, little children, let nothing you affright,
For Jesus Christ, your Savior, was born this happy night;

Along the hills of Galilee the white flocks sleeping lay
When Christ, the Child of Nazareth, was born on Christmas day.

God rest ye, all good Christians, upon this blessed morn
The Lord of all good Christians was of a woman born;

Now all your sorrows He doth heal, your sins He takes away;
For Jesus Christ, our Savior, was born on Christmas day.

—Dinah Marla Muloch Craik.

EXCUSE-MAKING

THE disposition to seek excuses and "make allowances" for everything is the mischievous exaggeration of that spirit of humanity and sympathy which laudably characterizes our time. As in so many other cases, the pendulum which once was swung too far toward severity in judgment is in danger of swinging as much too far toward a maudlin pity for great offenders against right. We set ourselves to right the harsh judgments of the past, and end in obliterating all lines of moral distinction. Even Judas Iscariot finds an apologist in De Quincey. The Borgias have been defended by some overzealous champions of the papacy, although wiser scholars of that communion decline the undertaking. Benedict Arnold has found an apologist in an American citizen.

The outcome of such writing of history is to obscure all moral standards and to make a study which should be truly ethical in its influence exactly the reverse. History sorely needs a return to the model set by the prophets and prophetic historians of Israel, who never feared to give a scoundrel his right name. The spirit of moral judgment which pervades these Hebrew annals is that of the Ten Words of Sinai. Good men are rebuked for their faithlessness, and bad men are pilloried for their iniquity, in a way which satisfies the conscience. Lord Acton says that the revival of such a spirit is the crying need of modern historical literature.

Worse even than this reduction of the villains of the past to a tolerable and neutral gray by whitewash is the habit of excusing ourselves for our moral delinquencies. "They all, with one consent, began to make excuse," the Gospel says. Their excuse-making is emphasized as the index of a spiritual condition utterly alien from that of the kingdom of God. They had such excellent, solid and grave reasons for not heeding the summons. They were serious people, those of the parable, with a sense of life's responsibilities and an eye on its important affairs. It was, in truth, no wonder they could not come, when they had so many things of greater importance than feasting to give attention to. But their excuses shut them out, and not one of them is to be allowed a place in the kingdom. For the spirit of the kingdom is to lay stress on the claims of others upon us, while excuse-making does exactly the opposite. It puts forward the comfort, the convenience or the whim of the individual as a reason for counting him exempt from some duty he does not like. It gives to such reasons for neglect of duty a force we never would give them for a neglect of pleasure. It keeps a man from church because of slight indispositions and disturbances of the weather which would not detain him from business. On a plea of needful economy it shuts purses against claims of benevolence or religion which open quickly enough to outlay on social follies. It finds much fault in teachers and preachers, and little but what is admirable in actors and singers. In fact, it is a mental habit, which amounts to seeing with one set of eyes the pleasures which draw us, and with quite another the duties which disturb or weary us.

The worst of all habits is the making of ex-

cuses for ourselves to ourselves. We resolve our faults, and even our sins, into the effect of bad influences on us, or a bad heredity from our forefathers. Or we set them over against the virtues we credit ourselves with possessing, and find a comfortable balance in our favor. Or we regard our evil act or our neglect as an isolated fact, which stands in no real relation to our character. Or we compare ourselves with our neighbors, and find we are "no worse than other people," but perhaps a trifle better.

Blessed is the man who has not acquired the excuse habit! He must be one who has learned to live in the presence of the divine holiness, and to feel its constant summons to come nearer perfection. He must be one who realizes that a single cherished and unconquered evil keeps us in touch with the whole body of evil, so that he "who stumbles on one point is become guilty of all." And he must have learned that the whole energy of divine grace is at his service, to overcome his innate or acquired disposition to evil, and to remake him in the image of the Son of God. The humility that comes of self-knowledge and the hope that comes of experience will keep us from the excuse-making habit.—Sunday-school Times.

FAMILY INFLUENCE

This family influence is a powerful thing between husband and wife. If a husband has any strength of character he is sure to bring his wife to his way of looking at things. If this was not the case what a wall of separation there would often be between married couples. But as a general thing the young wife nestles comfortably in her husband's beliefs. It is not his arguments that work her to this voluntary agreement, but the silent force of a stronger or wiser character acting upon her daily life; and there is really something very fine and sweet in this adaptability and unconscious acceptance of a superior influence.

Much has been said and written about the duty of "setting a good example" in the family; but there is no necessity to worry about our example, for the only example worth anything is that shown by being really ourselves. If a father is upright, a mother loving, a brother brave and truthful, a sister gentle and tender, those who live with them know it, and are influenced by these virtues. Parents and kindred who deserve to be honored and loved are honored and loved as a matter of course. For when every other anchor drags, the one that binds us to home and family holds firm.—Amelia E. Barr, in Christian Herald.

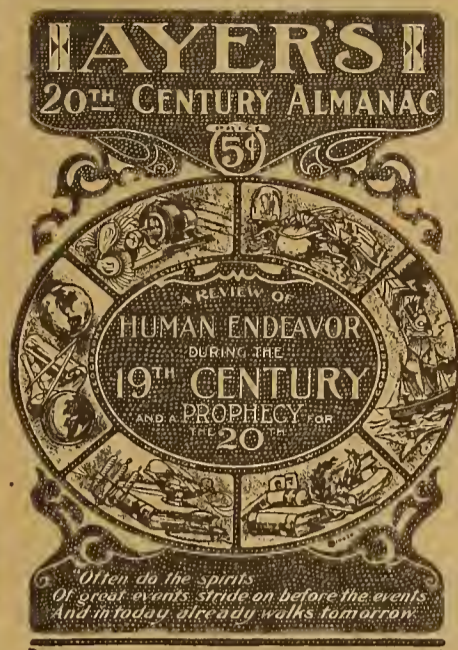
DO A LITTLE

Many a Christian destroys his peace and usefulness because he is not willing to do little things. He wants to speak and pray well, eloquently, edifyingly, or not at all. Because he cannot do some great thing he won't do anything. He must sit in the highest seat or nowhere. Now no one is fit to do great things unless he is willing to do little things. He must be faithful in the least or he will never be useful in the greatest. If all were willing to add a little to the interest of a meeting, a Sabbath-school, or to the strength and influence of the church, there would not be so many praying to be excused. Happy is the man who is willing to do a little, the servant of all, a door-keeper, bell-ringer, fire-lighter, anything that will serve Christ in the house of God.—Standard.

ALL ARE WORSHIPERS

Every human being worships something, because worship is a part of his nature. One man worships his horse. That is good so far as it goes, and is accounted to him for righteousness—a merciful man is merciful to his beast. Another man worships his family, which is very good so far as it goes, and is accounted to him as a higher type of righteousness than horse worship. Colonel Ingersoll is canonized as a saint in this range of religion. These religions are circumscribed and very narrow. The worship of God takes everything that is morally admirable in the universe as an object of homage, and causes God and all goodness to contribute to the purity, elevation, expansion and nobility of the worshiper's character.

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We have purchased, at recent wholesale auction sales several large lots of Remnants of Silk Ribbons, at prices which will enable our lady customers to secure splendid bargains. These remnants are all from one to two and three yards in length, and many of them are the finest quality of Ribbons in the market, of different widths, in a variety of fashionable shades; in fact, nearly all colors are represented; also different kinds of Ribbons adapted for bonnet strings, neckwear, trimming for hats and dresses, bows, scarfs, etc., etc. No lady can purchase such fine Ribbons as these at any store in the land for many times our price, so that the bargains offered by us should be taken advantage of by our customers.

Our stock of Silk Ribbons, from which we put up these 35-cent packages, consists of Crown Edge, Gros Grain, Moire, Picot Edge, Satin Edge, Silk Brocade, Striped Ottoman, and various other styles of Plain and Fancy Silk Ribbons suited to the wants of our lady friends.

We put up carefully assorted packages of these Ribbons, assorted colors. No remnants less than one yard long, and all first-class, useful goods.

We will send 1 package for 35 cents, silver, or 36 cents in 2-cent stamps. Carefully packed in boxes, postpaid, upon receipt of price. Address **PARIS RIBBON CO., Box 3045, New York City, N. Y.**

SOLID GOLD RINGS FREE!
Send full name and address and we furnish you 12 fast-selling Scarf Pins, Heavy Gold Plate, different styles, set with Precious Gems. Experts can't tell them from the genuine. You sell them at 10c each, return us \$1.20, and we give you FREE either of these **SOLID GOLD RINGS**. We make them. You can't get them elsewhere. We take back pins not sold.

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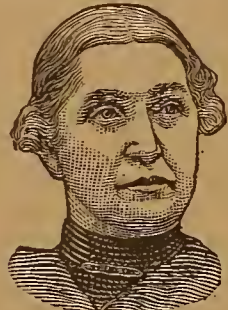
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Diseases, Rheumatism, etc.

Disorders of the Kidneys and Bladder cause Bright's Disease, Rheumatism, Gravel, Pain in the Back, Bladder Disorders, Difficult or Too Frequent Passing Water, Dropsy, etc. For these diseases a Positive Specific Cure is found in a new botanical discovery, the wonderful Kava-Kava Shrub, called by botanists the *Piper methysticum*, from the Ganges River, East India. It has the great record of 1,200 hospital cures in 30 days. It acts directly on the Kidneys, and cures by draining from the Blood the poisonous Uric Acid, Lithates, etc., which cause disease.

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That you may judge of the value of this Great Discovery for yourself, we will send you one Large Case by mail free, only asking that when cured yourself you will recommend it to others. It is a Sure Specific and cannot fail. Address The Church Kidney Cure Company, No. 425 Fourth Avenue, New York City.

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Goods sent to reliable persons to be paid for after selling. W. H. Palmer, Glasgow, Ct., has sold 1,000 belts, and as high as 20 in one day. The electricity from the batteries will turn a needle through your table or hand. No one but what can wear them. Cures Rheumatism, Liver and Kidney Disease, Weak and Lame Back and other diseases. Prevents Cold Feet and taking Cold. Gives a comfortable glow of warmth all over the body, which shows it is acting on the circulation. For advertising purposes we will give one Belt Free of any Cost to one person in each locality. Address E. J. SMEAD & CO., Dept. 434, VINELAND, N. J.

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To place our best \$10.00 TOLEDO BATH CABINET in every home we send it complete for 30 days with best alcohol stove, directions, formula to any address upon receipt of \$4.50. Face Steamer 75c extra. Order today. Ours heat of all Cabinets, has real door, steel frame, top curtains, rubber lined, folds flat 1 in. space. Money refunded after 30 days use if not just as represented. It's a home necessity. Turkish and vapor baths so each prevent disease, cure without drugs colds, la grippe, rheumatism, female ills, all blood, skin, kidney, nervous troubles. WRITE FOR CATALOGUE FREE. We make Cabinets from \$2.25 up. Agents Wanted. Easy terms. Exclusive territory. TOLEDO BATH CABINET CO., 614 Cherry St., TOLEDO, OHIO.



Solid GOLD or SILVER plated Bracelet sent free to any one for selling 5 sets of our LADIES for 25c. a set; (each pin jewel.) Simply send we will send you the gold, send us the money Bracelet. The chain is the lock opens with a dainty little key. We trust you & will take back all the pins you cannot sell. Write to-day. The Maxwell Co., Box 555, St. Louis, Mo.

THE YANKEE FIRE-KINDLER Length 15 inches. Weight 1/2 pound. Builds 100 fires with 3c worth of oil. No kindlings. Pile the fuel over the blazing kindler and the fire is built. Saves hours of time and gallons of oil. Warranted 3 years. Greatest yields agent \$100 profit. Sell for agents ever invited. Customers everywhere. An average country yields agent \$100 profit. Act quick if interested. Sample prepaid with terms 25 cents. Yankee Kindler Co., Block 19 Olney, Illinois.

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1427 Silk Fringe Cards, Love, Transparent, Escort & Acquaintance Cards, New Postals, New Oases, Premium Articles, &c. Finest Sample Book of Visiting & Hidden Name Cards, Biggest Catalogue. Send 2c stamp for all. OHIO CARD CO., CANTON, OHIO.



SMILES

THE CLOD AND THE GENIUS

A genius and a clod one day Raked the meadows sweet with hay. The genius said, "I plainly see That hay-seed's not the thing for me." And he said, as his hay-rake forth he hurled, "I'll go snatch laurels from the world." The clod opined that good, green hay Was better than laurel any day. So the genius traveled wide and soared, And hocked sweet sonnets for his hoard. The clod's dad died and left a will— Gave him a farm and a good grist-mill. He sold young pigs and cows and beeves, And never pined for laurel-leaves. The genius came to the farm one day, And the clod in the meadow raked the hay. The genius had seen some right hard knocks, And at the time he was on the rocks. He had taken his meals, it was plain to see, With great irregularity. And a good old-fashioned mutton stew Would heat all the laurel, he thought, that grew. The clod embraced his long-lost twin. Straightway to the kitchen took him in. And he said, as he watched his brother's greed, That he didn't think laurel was much for feed. Next day the genius raked the hay For the clod at a dollar ten per day. And he said, as he mopped his sweating brow, "Three 'squares' beat laurel anyhow." J. W. Foley, Jr., in Bismarck Tribune.

BILL'S LUCK

A CHICAGO hotel manager employed a haudy man going by the name of "Bill" to do his window-washing. One morning Bill, instead of doing his work, was amusing himself by reading the paper, and, as bad luck would have it, the manager looked in. "What's this?" he said. Bill was dumfounded. "Pack up your things and go," said the manager. So poor Bill went to the office, drew the money which was owing to him, and then went up-stairs and put on his good clothes. Coming down, he went to say "good-by" to some of the other servants, and there he happened to run across the manager, who did not recognize him in his black coat. "Do you want a job?" asked the manager. "Yes, sir," said Bill. "Can you clean windows?" "Yes, sir." "You look like a handy sort of fellow. I only gave the last man five dollars, but I'll give you seven." "Thank you, sir," said Bill; and in half an hour he was back in the same old room—cleaning the windows this time, and not reading the paper.—Collier's Weekly.

INFORMATION WANTED

Papa—"Yes, there are a great many parrots in the South American forests." Johnny—"In the forests, papa? How do they get crackers?"—Puck.

A STUDIED PROPOSAL

A young lady was acting temporarily as hostess, and her time was much occupied. One of her admirers, a nervous and absent-minded lover, perceived that this would be the case, and to facilitate matters he determined to bring affairs to a point. He didn't get a chance. "Afterward," says the object of his ill-starred devotion, "I found this memorandum on the floor, where he had dropped it in his agitation. It read thus: "Mention rise in salary. Mention loneliness. Mention pleasure and her society. Mention prospects from Uncle Jim. Never loved before. Propose.'" ♪

GENIUS AT CLOSE RANGE

"How is this, John; what made you put the children to bed so soon?" asked his wife, on her return home. "Because they disturbed me in my writing, my dear." "And did they allow you to undress them quietly?" "No. That one in the corner screamed dreadfully." "That one in the corner?" She goes and peeps. "Why, bless me, what have you done, John? That's Freddie Squall, from next door!" ♪

PAT'S HEADACHE CURE

An Irishman one day went to a chemist to get something to cure a headache. The druggist reached down a bottle of smelling-salts, and asked Pat to take a good sniff at it. Pat did; but he stood there for half an hour speechless. When he recovered himself the druggist asked him if his headache was better. "Begorra," said Pat, "it wasn't for me; it was for my wife!" ♪

HIS QUIETUS

The vegetable-peddler opened his mouth wide, and threw back his head. "Ahpoo! Ahpoo-oo-oo, nice ahpoo!" he yelled. "Petatio, ah melone! Fine melone! Ahpoo! Ahpoo-oo-oo!" The housekeeper opened her window, and put out her head. "For the land's sake, don't holler like that," she remonstrated, "you'll make my cake fall." ♪

NOT SO BAD

A little boy with an interest in the meaning of familiar words said to his mother: "What is the meaning of 'civil'?" "Kind and polite," answered the mother. A puzzled look hooded for a second on the boy's face. Then he said: "Was it a kind and polite war that was in this country once?" ♪

HIS DIAGNOSIS

Winslow (whose wife, who is always on the alert for bargains, has been taken suddenly ill)—"I'm sure I don't know what ails her, unless she's shop-worn." ♪

THE SCHOOL-BOY'S VERSION

"Let me make the legal holidays of the nation and I care not who makes the rest of the laws."—Puck.



THE DAY BEFORE CHRISTMAS

The turkey—"I'm sure something awful is going to happen. I feel it in my bones." The dog—"Well, I'll probably have a chance to examine your bones to-morrow."—Judge.

Personally Conducted California Excursions

Via the Santa Fe Route.

Three times a week from Chicago and Kansas City. Twice a week from St. Paul and Minneapolis. Once a week from St. Louis and Boston. In improved wide-vestibuled Pullman tourist sleeping-cars. Better than ever before, at lowest possible rates. Experienced excursion conductors. Also daily service between Chicago and California. Correspondence solicited.

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BEST FOR THE BOWELS

If you haven't a regular, healthy movement of the bowels every day, you're sick, or will be. Keep your bowels open, and be well. Force, in the shape of violent physic or pill poison, is dangerous. The smoothest, easiest, most perfect way of keeping the bowels clear and clean is to take

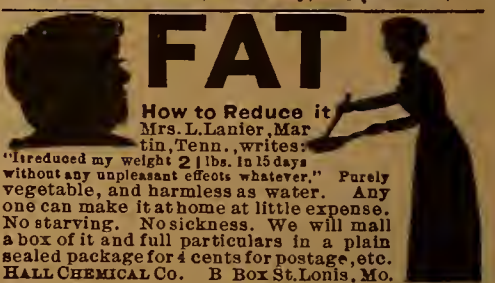


Pleasant, Palatable, Potent, Taste Good, Do Good, Never Sicken, Weaken, or Grip, 10c, 20c, 50c. Write for free sample, and booklet on health. Address Sterling Remedy Company, Chicago, Montreal, New York. 322a

KEEP YOUR BLOOD CLEAN

FREE TO BOYS, GIRLS

AND LADIES, FOR ONE DAY'S WORK. Watch, chain and charm, stem wind, sunk second dial, nickel, by selling 20 pkg. XXX Bluing at 10c per pkg. Every pkg. makes 50c worth of Bluing. You can have choice of many other valuable premiums: solid gold rings, cameras, tea sets, musical instruments, bicycles, etc. For styles of watches, chains, charms, etc., see premium list. We ask no money in advance; send name and address, we will forward Bluing and premium list prepaid. When Bluing is sold, send us the money and select your premium. An honest offer by a reliable house. Write to-day. BROCKSTEDT MERCANTILE HOUSE, 806 N. 4thwy, B 88, St. Louis, Mo.



A Good Home 160-ACRE FARM

10 miles east of Wichita, Kan., and 2 miles from Iowaville. Nearly all under cultivation, a good alfalfa hog pasture, small orchard and vineyard; small house, good barn, granary, a corn-crib, and plenty of good water raised by a windmill; price \$3,000. Buy direct from me. If you buy through the land agents of Wichita this farm will cost you \$5,000 or more. I wish to sell, as I accepted the superintendency of an Indian school last July. Address J. H. BRATLEY, CANTONMENT, OKLAHOMA.

A BEAUTIFUL XMAS GIFT

This elegant 10-karat gold shell ring with brilliant setting for 50c. Worth many times this price. Order at once. A. L. Porter, Muscatine, Iowa

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CATARRH INHALER FREE. Dr. Worst his new scientific Catarrh Inhaler with medicine for a year, on three days' trial, Free. If satisfactory, send him \$1.00; if not, return it. AGENTS WANTED. Dr. Worst, 285 Main St., Ashland, Ohio.

If afflicted with SORE EYES USE Dr. ISAAC THOMPSON'S EYE WATER

HOUSEHOLD

[CONTINUED FROM PAGE 13]

THREE WISHES

It was down at the orphan asylum one day That three little maids sat 'round the fire, Each telling the thing she wished for most If she only could have her heart's desire.

"I'd like a pony as white as snow," Said Maude; "and I'd ride it each day, of course.

And people would stop as I rode along, And say, 'Look at that child on the snow-white horse.'"

Said Alice, "I'd like to own a ship, And I'd sail clear 'round the world, I guess, And bring back presents for all the girls, And a beautiful crutch for dear little Bess."

Then lame little Bess, with her gentle voice, Said, looking 'round from one to the other, "I'll wish for the loveliest thing in the world— That every one of us might have a mother." —Little Folks.

MAKING PIES

TO AN old housekeeper this seems a trivial matter, but to a new beginner, even with the best receipt, the task of accomplishing a nice-looking and toothsome pie is attended with anything but success. This is because the details of the process are not included in the receipt.

Lemon pie seemed almost a failure until some one explained the way step by step, and now it seems easy enough. The secret lay in making the two parts of the pie—crust and filling—separately. A rich puff-paste was made and rolled out and put on the outside of the pan, which was turned upside down in the oven, and baked first. While this was going on the filling was made as follows: Two lemons, thinly peeled, the thick white part and all the seeds removed, and the pulp grated. To this add one cupful of water, one and one half cupfuls of sugar, a large lump of butter and one tablespoonful of corn-starch. Cook slowly until it thickens, then remove the shell from the outside of the pan and put it inside the pan, pour in the filling, add the beaten whites of two eggs with one tablespoonful of powdered sugar to the top, and set in the oven until it is a delicate brown. If you wish it particularly ornamental put split marshmallows upon the top before putting it back into the oven.

In cold weather it is a great saving of time to bake up several of these shells all at one time, which can be readily filled shortly before dinner with some kind of fruit, such as cranberries, peaches, apple butter or apple sauce; place in the oven a short time to warm, then pie for dinner will not seem such a trial. If some of the dough remains over it can be set in a cold place and readily utilized in strips or for tops, and when baked will freshen up the pie.

A revival of the old-fashioned dried-apple and peach pies will be acceptable frequently after the use of custards and mince pies. Good, wholesome apple pie is always good, either hot or cold, and among the Pennsylvania people appears on the table at breakfast, dinner and supper. For hard workers pie does not seem to be an unhealthy diet, and if the paste is tender and light it is as nutritious as any other article of food.

E. B. R.

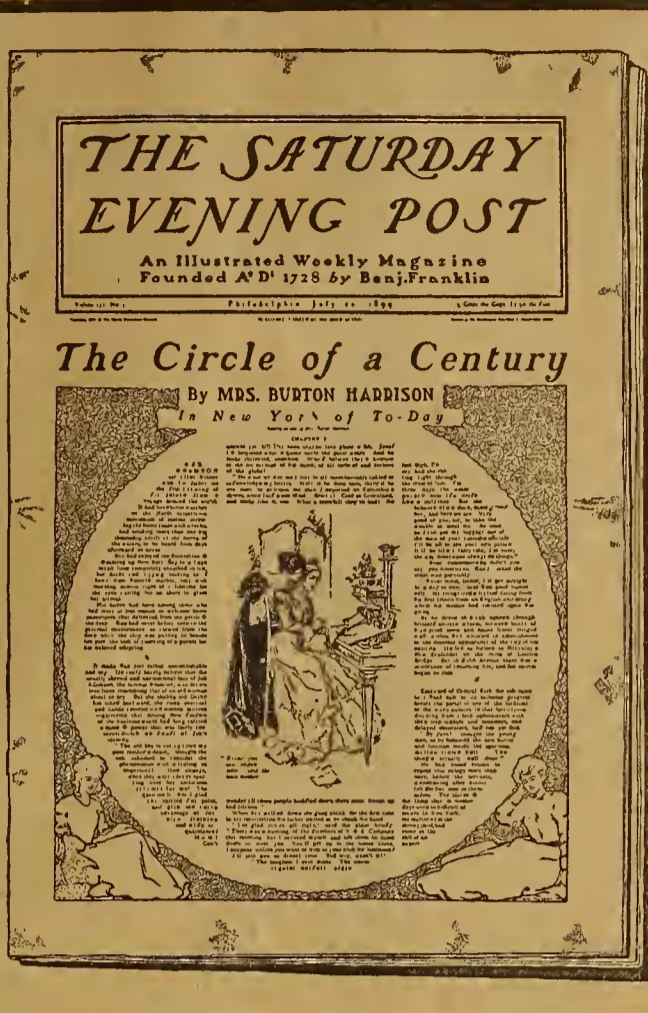
FASHION HINTS FROM THE METROPOLIS

The shirt-waist has not died out with the summer. No, indeed! Everywhere do we see it—of silk, satin, velvet or corduroy for dressy occasions. For afternoon and home wear, however, the French flannel leads the list.

Very beautiful indeed are the many colors and various shades, the color effects in some cases being little short of exquisite. Some very beautiful combinations are pale blue with tiny white polka-dots, mauve with cherry dots, delicate lavender with white dots, robin's-egg blue with pale pink dots. The plain colors and the stripes are also very dainty.

The prevailing style for the shirt-waist seems to be the plain French back, with or without fullness (but very little) at the bottom, yoke effect; some fronts are gathered just below the shoulder, while others have five backward-turning plaits at the throat, Forsythe style.

The shirt-waist, while unlined, must fit beautifully, no wrinkles being allowed to mar the effect. As the French flannel is givable in texture this perfect fitting is less difficult to produce than with silk or other goods. EMMA LOUISE HAUCK ROWE.



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Every Week for Five Months

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Every true American takes a keen interest in the politics—past and present—of his own land; and if they be discussed by a writer of trenchant style he likes them doubly well.

RUDYARD KIPLING RICHARD HARDING DAVIS

Notable stories by these notable authors will appear in early numbers of the Post. To enumerate the Post's list of contributors would be simply to catalogue the famous writers of America and England.

JEROME K. JEROME

"Three Men on a Bicycle" (by far Mr. Jerome's most humorous production) will begin in January. Each of the papers is practically independent of those that precede it.

CYRUS T. BRADY

A short, rousing serial soon to follow is C. T. Brady's "Paul Jones," an historical romance of even greater and more general interest than his "For the Freedom of the Sea."

FOR YOUR SON, HUSBAND OR BROTHER

THE SATURDAY EVENING POST will print, the coming year, a succession of valuable papers by and about the most prominent business men of the day. The best writers on educational subjects and college work will contribute. Open-air recreation, Golf, Football, Tennis, Winter Sports, and general amateur athletics, will be thoroughly covered by specialists in their special line.

FRANK G. CARPENTER is investigating for THE SATURDAY EVENING POST

The Chances for Young Men in the Far East

COL. WILLIAM A. CHANLER has written an article on A Young Man's Duty to the State WILLIAM H. MAHER will continue his papers. The next one is on The Clerk Who Reads Through Harvard on Fifty Cents. By a man who did it and graduated with high honors.

THE CURTIS PUBLISHING COMPANY, PHILADELPHIA, PA.

THE Pennsylvania GAZETTE.

Containing the freshest Advances Foreign and Domestic.

From Thursday, September 25, to Thursday, October 2, 1759.

THE Pennsylvania Gazette, being now in its 172nd year, has long been a favorite with the people of this State, and we hope that its circulation will be increased by the new issue. It is a valuable paper, and we hope that its circulation will be increased by the new issue. It is a valuable paper, and we hope that its circulation will be increased by the new issue.

The following is the last message sent by the Pennsylvania Gazette to the House of Representatives in 1759. It is a valuable paper, and we hope that its circulation will be increased by the new issue.

\$3 a Day Sure

Send us your address and we will show you how to make \$3 a day absolutely sure; we furnish the work and teach you free; you work in the locality where you live. Send us your address and we will explain the business fully; remember we guarantee a clear profit of \$3 for every day's work, absolutely sure, write at once. ROYAL MANUFACTURING CO., Box 64, DETROIT, MICH.

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102 Fulton St., New York, sell all makes under half price. Don't buy before writing them for unprejudiced advice and prices. Exchanges. Immense stock for selection. Shipped for trial. Guaranteed first-class. Dealers supplied. 52-page illustrated catalogue free.

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WITH SOOTHING, BALMY OILS. Cancer, Tumor, Catarrh, Piles, Fistula, Ulcer and all Skin and Womb Diseases. Write for Illustrated Book. Sent free. Address DR. E. BYE, Kansas City, Mo.

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Trial Package of three special medicines Free. DR. W. K. WALRATH, Box 608 ADAMS, N. Y.

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For Afflicted with SORE EYES. DR. ISAAC THOMPSON'S EYE WATER.

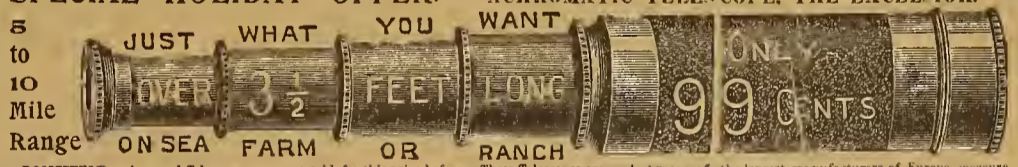
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SILK REMNANTS, enough for quilt, 50c. Large package handsome colors 10c. JERSEY SILK MILL, Box 32, JERSEY CITY, N. J.

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Sample FREE. Dr. F. E. May, Bloomington, Ill.

SPECIAL HOLIDAY OFFER. TO INTRODUCE OUR LATEST LARGE, POWERFUL ACHROMATIC TELESCOPE, THE EXCELSIOR.



POSITIVELY such a good Telescope was never sold for this price before. These Telescopes are made by one of the largest manufacturers of Europe, measure closed 12 inches and open over 31-2 feet in 5 sections. They are BRASS BOUND, BRASS SAFETY CAP on each end to exclude dust, etc., with POWERFUL LENSES, scientifically ground and adjusted. GUARANTEED BY THE MAKER. Heretofore, Telescopes of this size have been sold for from \$5.00 to \$8.00. Every sojourner in the country or at seaside resorts should certainly secure one of these instruments, and no farmer should be without one. Objects miles away are brought to view with astonishing clearness. Sent by mail or express, safely packed, prepaid for only 99 cts. Our new catalogue of Watches, etc., sent with each order. This is a grand offer and you should not miss it. We WARRANT each Telescope JUST AS REPRESENTED or money refunded. WANTS ANOTHER, Brandy, Va. GENTS.—Please send another Telescope, money enclosed. Other was a bargain, a good as instruments costing many times the money.—R. C. ALLEN, Sent 99 CENTS by Registered Letter, Post-Office Money Order, Express Money Order, or Bank Draft payable to our order, or have your storekeeper or newsdealer order for you. EXCELSIOR IMPORTING CO., Department M, 296 Broadway, New York.

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FARM SELECTIONS

AWNLESS BROME GRASS

THE experiment station of the Kansas Agricultural College has received numerous inquiries from various localities in the state as to the value of Awlless Brome grass as a forage-grass. This grass is receiving so much notice in the agricultural press that a short account of it is here given for the benefit of our readers.

Awlless Brome grass, or Hungarian Brome grass (*Bromus inermis*), is a native of the dry, sandy regions of Europe and western Asia. It is a perennial about the size and somewhat the general appearance of Meadow Fescue, or English Bluegrass. It spreads by creeping underground stems or root-stocks. It has been tested by many of the experiment stations from Canada and North Carolina to Mississippi and California. All recommend it highly for dry, sterile, light or sandy soil. It will not succeed well on wet land, but is one of the best grasses for resisting drought. Its chief value is for permanent pasture, though at many of the stations it has yielded a good crop of hay. In the South it is sown in the fall for winter pasture, but in the North it is sown in the spring. This experiment station now has in progress an experiment testing the relative merits of spring and fall sowing at Manhattan. At present we are unable to state positively the value of Brome grass for pasture in eastern Kansas, but from the experience in surrounding states we can recommend it for trial. The Garden City grass station reported very favorably upon it when tried there a few years ago. At a future time we will give the results of our trials, and we should be pleased to have our correspondents inform us as to the results of their own trials.

Much of the seed upon the market at present is imported from Europe, and has not proven as satisfactory as that grown in this country, as it is not so pure; but home-grown seed is not now available for general use. With good seed the amount sufficient to sow an acre is from fifteen to twenty pounds. It frequently happens that an apparently poor stand allows the weeds to flourish the first year, but that nevertheless the second year's growth is favorable. For this reason judgment should not be passed upon the success of the trial until the second season. Ordinarily it is not best to pasture the grass the first season. A weedy field should be mowed in the summer.—Kansas Experiment Station.

WAGONS ON A TROLLEY-ROAD

In some of the agricultural sections of the United States country electric roads are in operation and have been for some time, but Toledo, Ohio, has a trolley-road that is doing unique work for the farmers by hauling the farm-wagons themselves, and it is the only railroad of the sort in the world. The promoters of the idea wanted a trolley conveyance of such a nature that it would no longer be necessary to load the farm produce on the wagon in the field, and then unload it again when the highway was reached, and finally a truck was devised that would carry a loaded wagon just as the wagon carried the produce. These trucks are now used in great numbers on the Toledo road. The truck simply consists of a steel frame, strongly built and well braced, and mounted on four wheels of the ordinary street-railway type. The axles of the farm-wagons are received in a socket, where movable grips hold them firmly on the car, the wagon being run onto the truck by means of inclined planes. As soon as the wagon is loaded upon the truck (and that is an operation requiring but a very few seconds) off it goes at a high rate of speed for Toledo.—Des Moines (Iowa) Register.

PROGRESS IN BREEDING

A man need not be very old to remember when a 1,400 to 1,500 pound horse was a heavy draft-horse, or a three-minute trotter a speedy roadster. Times have changed, however, and the heavy draft-horse must weigh 300 to 500 pounds more and the roadster go a good many seconds faster to be classed as good ones of their kind. It takes a better horse to be a good one nowadays than it did ten or twenty or thirty years ago. The ideals of those days will not serve. The breeder must aim to get the kind that ranks high to-day, and this is the only kind that is going to pay for his oats hereafter.—The National Stockman and Farmer.

WANTED—AGENTS FOR CREAM SEPARATORS

During the next six months—in conjunction with the introduction of the improved "NEW CENTURY" De Laval Cream Separators—we shall thoroughly reorganize our system of Dairy or "Baby" separator local agencies. Out of 2,000 existing agencies and sub-agencies 1,500 will be changed, and as many additional new ones created. 1900 promises to be the greatest of separator years. Centrifugal separation and clarification must soon become universal. Machines may be sold in every township. The conceded superiority of the "Alpha" De Laval machines should give them 85 per cent. of the total trade. But live aggressive agents are equally essential to getting it. We have the machines and require more good agents. Successful separator agents are confined to no particular class. Applications should give full details.

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Setting posts, 5 cents each	3.05	Setting posts, @ 5 cents each	6.05
No Top or Bottom Rail Required.		1,320 sq. ft. in top and bot. rail, @ 20.00 per M	26.40
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No Nails to Attach Rails Required.		8 hours labor putting up rail, @ 25c. per hour	2.00
5 lbs. staples, @ 7 cents	.35	10 hours labor stretching netting, @ 25c pr hour	2.50
4 hours labor stretching up fence, @ 25 cents	1.00	10 lbs. staples, @ 7 cents	.70
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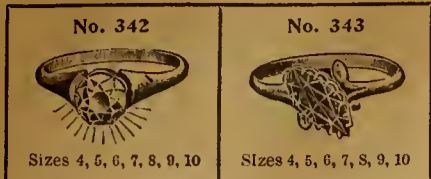
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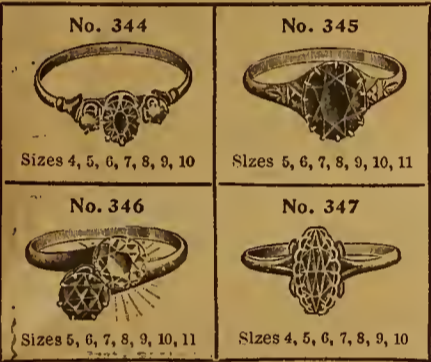


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MISCELLANY

THE production of coal in the Transvaal in 1898 was 1,907,808 tons.

PUERTO RICO's tobacco crop is thrice as valuable as the sugar crop.

ABOUT one German woman in every twenty-seven works in a factory.

LAND in England is three hundred times as valuable now as it was two hundred years ago.

IT is estimated that the consumption of beer in the entire world amounts to \$1,080,000,000 per annum.

THERE is a district in Liverpool inhabited by 60,000 people where intoxicating liquor cannot be bought.

A MARYLAND law prohibits Baltimore policemen from doing mechanical work for the department or for hire.

THE total value of the lumber annually manufactured in the Northwest, including Michigan, Wisconsin and Minnesota, is \$80,000,000.

THE Atlanta "Journal" instances some queer claims against the government. A Chicago man Taylor asked Congress for several sessions to give him \$100,000 for having suggested to President Lincoln the idea of issuing greenbacks. One Colonel de Arnaud made repeated demands for \$50,000 for having shown General Grant how to capture the town of Paducah, Ky. An Iowa man wanted \$350 for cutting corns of sailors and soldiers during the rebellion. Another from New York wanted \$25 for a pair of trousers which were eaten off a clothes-line by a government goat. A fellow in Minnesota requested the sum of \$550 for a sky-blue horse taken by the soldiers. The sum of \$50 would satisfy an Illinois man for a calf which he says the cattle inspector killed by putting a brass tag through his nose, causing blood-poison.

GRIP, ANCIENT AND MODERN

It has been generally supposed that the epidemic of grip is something entirely new, but scientific men are now pointing out the fact that it is not new, but very old. The "British Medical Journal" shows that epidemics of the disease not only broke out so long as fifty years ago, such as that one in 1837, but that they occurred at least 600 years ago. Hirsch's Handbook, which gives a list of the epidemics from 1173 to 1874, says that in 1427 it was called the mure ore murre in Italy; in 1510 it was called coccoluche throughout Europe; in 1562 the English called it catarrhal fever; in 1675 it was called epidemic cough, and still later Huxham named it feveret. The "Philadelphia Medical Journal" says that the relief is gaining ground that not only influenza, but also the ordinary cold is not due to a common germ, but to different germs.—Normal Instructor.

AN EDITORIAL DILEMMA

An editor of a little country paper in this state runs an inquiry department in connection with his journal, and it has proven to be quite a popular feature with the subscribers. Recently, however, he got his answers mixed, with disastrous results.

Two subscribers asked the following questions:

1. How can an orchard be protected from a plague of grasshoppers?
 2. What is the best method for getting twigs safely through the trouble of teetbug?
- To the horror of the editor the numbers denoting the answers became mixed, and appeared in the paper like this:
1. Give a little castor-oil, and rub their gums with honeysuckles.
 2. Cover them with straw, and set fire to them. The little pests, after jumping about in the flames a few minutes, will not be in condition to cause any further trouble.—Spokane (Washington) Outburst.

A GLORIOUS CALLING

The easiest of all Parisian callings, as registered at the office of the chief of police, is that of the pipe-colorer. This member of the social system devotes his whole time to the careful coloring of meerschaum pipes and fancy clays for their owners. His work is scarcely arduous, as he merely sits and smokes day after day. And his charges are very small—from eighty centimes to a franc a day, and a supply of tobacco to smoke.—Collier's Weekly.

FIRST ENVELOPE EVER MADE

One of the odd exhibits in the British museum, London, is the first envelope ever made. It is a crude, hand-made affair, but constructed on lines similar to those in use today. Up to the middle of the present century modern envelopes were unknown. Correspondents folded their sheets into little squares, sealing the flap with wax and writing the subscription on the blank back.

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No.	Music for Piano or Organ.	No.	Music for Voice, and Piano or Organ.
1000	American Liberty March	1001	Annie's Love. For Soprano and Tenor
1002	Ancients Abroad. March—Two Step	1003	Ave Maria. Cavalleria Rusticana
1004	Auld Lang Syne. Variations	1005	Beacon Light of Home
1006	Austrian Song. Op. 69, 1	1007	Beautiful Face of Jennie. The
1008	Battle of Waterloo. Descriptive	1009	Beautiful Moonlight. Duet
1010	Beauties of Paradise Waltz. 4 hands	1011	Best Holl. of "Tribly" Fame
1012	Beautiful Blue Danube Waltzes	1013	Blue Eyes
1014	Bells of Corneville. Potpourri	1015	Bridge, The. Words by Longfellow
1016	Black Hawk Waltzes	1017	By Normandie's Blue Hills
1018	Bluebird Echo Polka	1019	Can You, Sweetheart, Keep a Secret?
1020	Boston Commandery March	1021	Changeless
1022	Bridal March from Lohengrin	1023	Childhood's Happy Hours
1024	Bryan and Sewall March	1025	Christmas Carol
1026	Calceles and Seales in All Keys	1027	Come When the Soft Twilight Falls
1028	Catherine Waltzes	1029	Coon's Breach of Promise. Cake Walk
1030	Clayton (Adjutant) March—Two Step	1031	Cow Bells, The. Boyhood's Recollection
1032	Cleveland's March	1033	Darling Nellie Gray
1034	Coming from the Races Galop	1035	Dear Heart, We're Growing Old
1036	Constasy. Romance	1037	Don't Drink, My Boy, To-night
1038	Black Flower Waltzes	1039	Easter Eve. Sacred
1040	Crack Four March	1041	Ever Sweet is Thy Memory
1042	Crystal Dew Waltz	1043	E. Dunno Where 'E Are. Comic
1044	Dewey's Grand Triumphant March	1045	Ellaline. Waltz Song
1046	Echoing Trumpets March	1047	Far Away
1048	Electric Light Galop	1049	Father is Drinking Again. Temperance
1050	Estella. Air de Ballet. Very fine	1051	Far from the Heartstone
1052	Ethel Polka	1053	Flag of Our Country. Patriotic
1054	Evergreen Waltz	1055	Flora. Ballad
1056	Faust's Selections	1057	Flirting in the Starlight
1058	Fifth Nocturne	1059	Flossie. Waltz Song
1060	Flirting in the Starlight Waltz	1061	For a Dream's Sake
1062	Fresh Life	1063	For the Colors. Patriotic
1064	Frolic of the Frogs	1065	For You We are Praying at Home
1066	Full of Ginger. March Galop	1067	From Our Home the Loved are Going
1068	Golden Balm. Nocturne	1069	Give a Kiss to Me
1070	Grand Commandery March—Two Step	1071	God Bless My Kind Old Mother
1072	Greeting of Spring. Op. 21	1073	Golden Moon
1074	Her Bright Smile. Minnie's Me Still	1075	Gypsy Countess. Duet
1076	Hobson of the Merrimac Waltzes	1077	Heart of My Heart
1078	Home, Sweet Home. Transcription	1079	I Can't Forget the Happy Past
1080	Impassioned Dream Waltzes	1081	In Sweet September
1082	Jenny Lind Polka. Four Hands	1083	In the Starlight. Duet
1084	Last Hope. Meditation	1085	Janita. Ballad
1086	Leap for Schottische	1087	Kathleen Mavourneen
1088	Lee's (Gen'l) "On to Cuba" Galop	1089	Keep the Horseshoe Over the Door
1090	London March—Two Step	1091	Killarney
1092	Maiden's Prayer. The	1093	Kiss Me, but Don't Say Good-by
1094	March Winds Galop	1095	Kiss that Bounded My Heart to Thine
1096	May Breezes. Four Hands	1097	Larboard Watch. Duet
1098	McKinley and Hobart March	1099	Listen to the Mocking-Bird
1100	Memorial Day March	1101	Little Boy Blue. Solo or Duet
1102	Monastery Bells. Nocturne	1103	Little Voices at the Door
1104	Morning Dew. Op. 18	1105	Lost Chord, The
1106	Morning Star Waltz	1107	Lottie Bell
1108	Music Box, The. Caprice	1109	Love Ever Faithful
1110	My Love Polka	1111	Lovely Little Nellie Dwyer
1112	My Old Kentucky Home. Variations	1113	Lurline, Do You Think of Me Now?
1114	National Anthems of Eight Great Nations	1115	Massa's Sleeping in de Churchyard
1116	National Songs of America	1117	Memories of my Mother. Chorus
1118	Nightingale's Trill. Op. 81	1119	Mission of a Rose, The. Song
1120	Old Folks at Home. Transcription	1121	Mother's Cry, A. Salvation Army
1122	Old Oaken Bucket, The. Variations	1123	Mother's Welcome at the Door
1124	On the Wave Waltz	1125	Musical Dialogue. Duet
1126	Oregon, Queen of the Sea. Two Step	1127	My First Wife's Departed. Bluebird
1128	Orvetta Waltz	1129	My Home by the Old Mill
1130	Parade Day March	1131	My Little Lost Home
1132	Over the Waves Waltz	1133	My Old Kentucky Home
1134	Please Do Waltz	1135	Oh Sing Again that Gentle Strain
1136	Poet and Peasant Overture (Suppe)	1137	Old Folks at Home. Swanee Ribber
1138	Red, White and Blue Forever. March	1139	Old Glory. National
1140	Richmond March—Two Step	1141	Old Sexton, The
1142	Rustle Waltz	1143	On the Banks of the Beautiful River
1144	Rustling Leaves. Idylle	1145	On the Beach. Most Beautiful Ballad
1146	Ruth, Esther and Marion Schottische	1147	Our Song
1148	Salem Witches March—Two Step	1149	Parted from Our Dear One
1150	Scherzettino. Op. 48	1151	Picture of My Mother, The
1152	Schubert's Serenade. Transcription	1153	Poor Girl Didn't Know. Comic
1154	Silvery Waves. Variations	1155	Precious Treasure. Song and Dance
1156	Smith's (General) March	1157	Request. Sacred
1158	Song of the Voyager	1159	Rocked in the Cradle of the Deep
1160	Souvenir March Song of 1895 K.T. Parade	1161	Rosennade
1162	Spirit Lake Waltz	1163	See Those Living Pictures
1164	Storm, The. Imitation of Nature	1165	Shall I Ever See Mother's Face Ag'n
1166	Storm Mazurka	1167	She Sleeps Among the Daisies
1168	Sultan's Band March	1169	Softly Shine the Stars of Evening
1170	Sweet Long Ago. Transcription	1171	Son's Return, The
1172	Tornado Galop	1173	Storm at Sea. Descriptive
1174	Trifet's Grand March. Op. 182	1175	Sweetest Song, The
1176	Twilight Echoes. Song without words	1177	Sweet Long Ago, The
1178	Under the Double Eagle March	1179	That Word Was Hope. Waltz Song
1180	Venetian Waltz	1181	There's a Rainbow in the Clouds
1182	Village Parade Quickstep	1183	There's Sure to be a Way
1184	Visions of Light Waltz	1185	Thinking of Home and Mother
1186	Warblings at Eve	1187	'Tis True, Dear Heart, We're Fading
1188	Waves of the Ocean March	1189	Tread Softly, the Angels are Calling
1190	Wedding March	1191	True to the Last
1192	Winsome Grace. A perfect gem	1193	Year of Brax, The. Old English Song
1194	Woodland Whispers Waltzes	1195	Your Mother's Love for You
1196	Zephyr Waltz	1197	What Are the Wild Waves Saying? Duet
		1199	When the Roses are Blooming Again
		1201	When Winter Days Have Gone
		1203	Whistling Wife, The. Comic
		1205	Why Am I Ever Watching
		1207	Why Do Summer Roses Fade

Order by numbers (not names), and not fewer than 10 pieces.

DON'T FORGET that the quality is the best; that it is sent to any address, post-paid; that all the little details are up to the standard; that the vocal pieces have full piano accompaniments; that the instrumental pieces give the bass as well as the melody; that this sheet-music is equal to any published. Also, don't forget to tell your friends about this great sheet-music offer. We will send

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WE OFFER EXCEPTIONALLY LIBERAL TERMS TO CLUB-RAISERS

FARM AND FIRESIDE is the most popular and best-known farm journal published, and it does not require any effort to get subscribers for it. See our "Liberal Picture Offers" on page 2 and start a list to-day. Write for our Premium-List.

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40 Cent Patterns for 10 Cents

We Will Send Any TWO PATTERNS, and This Paper One Year, for 40 CENTS

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These patterns retail in fashion bazaars and stores for twenty-five to forty cents each, but in order to increase the demand for our paper among strangers, and to make it more valuable than ever to our old friends, we offer them to the lady readers of our paper for the low price of only 10 Cents Each.

Full descriptions and directions—as the number of yards of material required, the number and names of the different pieces in the pattern, how to cut and fit and put the garment together—are sent with each pattern, with a picture of the garment to go by. These patterns are complete in every particular, there being a separate pattern

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For ladies, give BUST measure in inches. For SKIRT pattern, give WAIST measure in inches. For misses, boys, girls or children, give both BREAD measure in inches and age in years. Order patterns by their numbers.

Satisfaction guaranteed or money refunded. To get BUST and BREAD measure, put the tape-measure ALL of the way around the body, over the dress, close under the arms.

Special price of each pattern 10 cents. Postage one cent EXTRA on skirt, tea-gown and other heavy patterns.

FREE We will give any THREE of these patterns for FREE

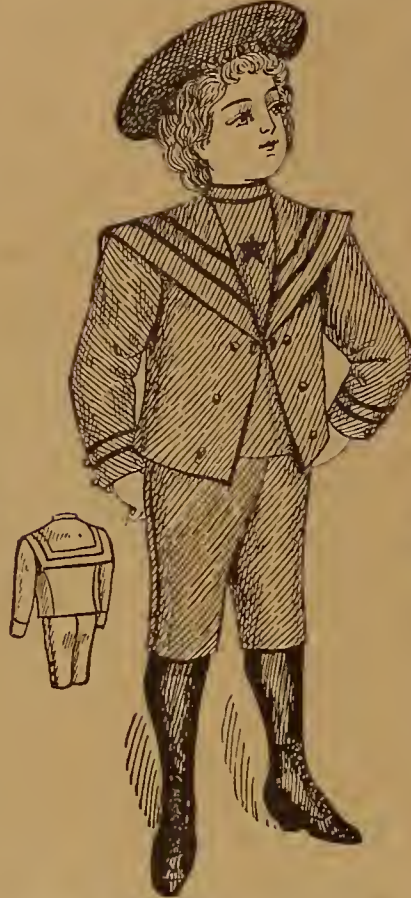
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No. 7792.—LADIES' GOLF CAPE WITH CIRCULAR FLOUNCE. 10 cents. Sizes, 34, 38 and 42 inches bust.



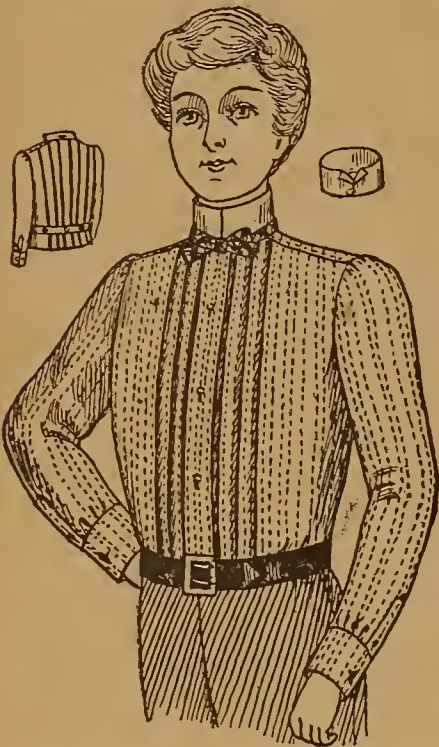
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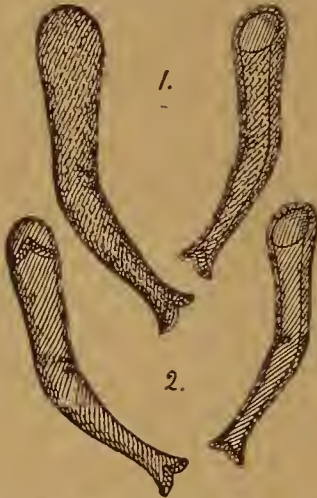
No. 7821.—GIRLS' COSTUME. 10 cents. Sizes, 6, 8, 10 and 12 years.



No. 7799.—LADIES' SEVEN-GORED SKIRT. 11 cents. Sizes, 22, 24, 26, 28, 30, 32, 34 and 36 inches waist.



No. 7853.—BOYS' SHIRT WAIST WITH REMOVABLE COLLAR. Sizes, 4, 6, 8, 10 and 12 years. 10 cents.



No. 7835.—LADIES' COAT AND DRESS SLEEVES. 10 cents. Sizes, 32, 36 and 40 inches bust.



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No. 7733.—MISSSES' ETON JACKET. 10 cents. Sizes, 12, 14 and 16 years.



No. 7789.—LADIES' JACKET. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



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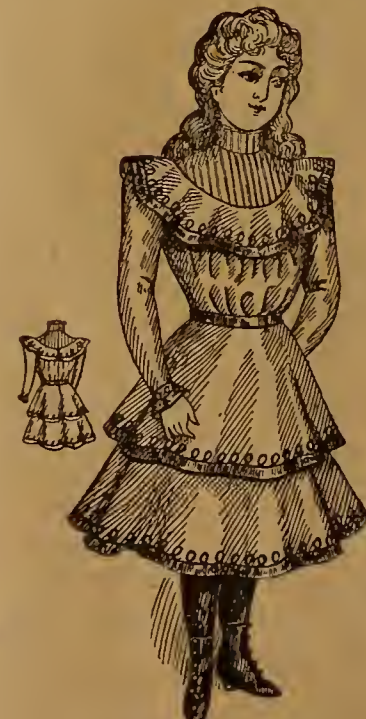
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No. 7813.—MISSSES' CIRCULAR SKIRT. 11 cents. Sizes, 12, 14 and 16 years.



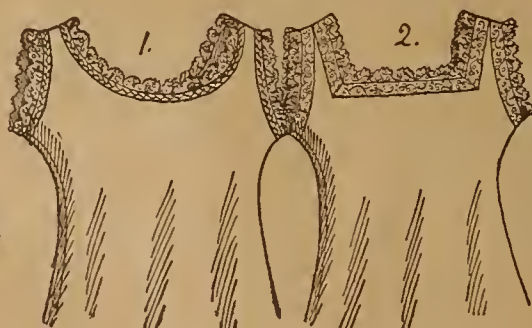
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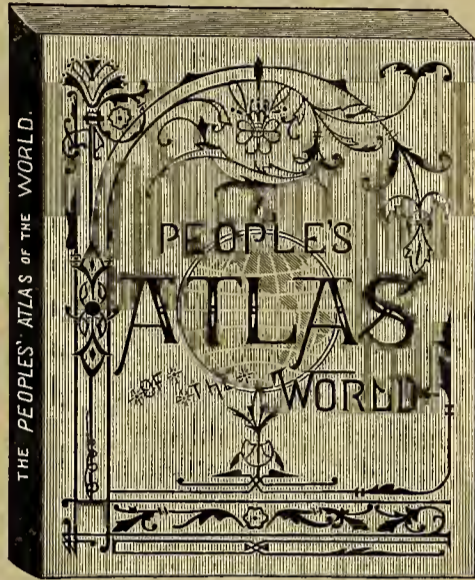
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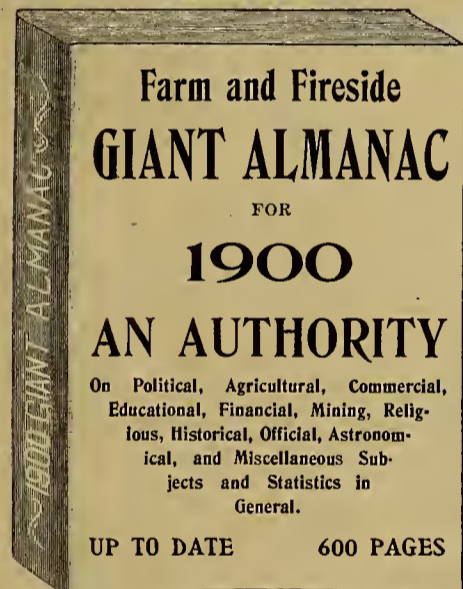
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Premium No. 155



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Here is a Hint of Its Contents

A complete Record of Political Information, as Popular and Electoral votes by states and counties for President, Congressmen, State Officers, etc.; party platforms, and other political facts. Statistics of all recent state elections, including the fall elections of 1899. Complete Monetary Statistics, including those on Silver and Gold. Tariff History and Laws and Rates in United States and Foreign countries. Government Statistics, Officers, Salaries, Names of Congressmen, etc. Population Statistics, States, Counties, Cities, etc. Educational and Religious Statistics. Immigration Statistics. Manufacturing, Commercial and Railroad Statistics. Postal Information, etc. A complete Calendar and Almanac for 1900, and other facts and information too numerous to mention in ten times this much space.

Seven Dolls FREE

A Happy Family of Seven Charming Lifelike Little People Will be Presented to Every One Who Subscribes for the Farm and Fireside at the clubbing price, 35 Cents.

These dolls are real ornaments to any home. The children will be delighted with them. The family consists of three generations—Grandfather George and Grandmother Martha, in colonial costumes; Papa and Mamma, and three bright-faced children, aged fifteen, twelve and three years respectively. They are made of cardboard, and **WILL ALL STAND ALONE**. They are dressed in brilliantly colored costumes of artistic patterns, and range in size from five to ten inches.



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Think of the make-believe weddings, parties, visits and all the delightful combinations that can be arranged. Remember, this set contains an entire Family of Seven Separate Dolls, which formerly sold at 50 cents a set. This is the only set of dolls ever made with a **GRANDPA GEORGE AND GRANDMA MARTHA WASHINGTON**.



OUR SPECIAL HOLIDAY OFFER.....

The clubbing rate of the Farm and Fireside without a premium is 35 cents, but as a Special Holiday Offer we will give **ONE Complete Set of these Dolls** to every one who sends 35 cents for one year's subscription to the Farm and Fireside, provided **FREE** the dolls are chosen when subscription is sent. **FREE**

(When this offer is accepted no commission will be allowed and the name will not count in a club)

We have but a limited number of these dolls, and when they are gone we can get no more at a price which will enable us to repeat this offer. **ORDER AT ONCE** and get a set of the dolls while the offer is open. Order by Premium No. 35.

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The Giant Almanac for 1900 Given as a Premium for a Club of TWO Yearly Subscriptions to the Farm and Fireside

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Also any *THREE* of the Twelve Pictures listed below given as a reward for sending *TWO* yearly subscriptions. The subscriptions may be new or renewals.



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- "CAN'T YOU TALK" Holmes . . . Premium No. 794
- "WATERFALL BY MOONLIGHT" Rieger . . . Premium No. 795

SPECIAL NOTICE By mistake, in the issues of November 15th and December 1st, **THREE** pictures, and the Farm and Fireside one year, were offered for 50 cents. In view of this fact all orders received during December will be filled at that rate, but after January 1, 1900, the above rate, **TWO** pictures, and Farm and Fireside one year, for 50 cents will be in force.



Premium No. 788

Christ Before Pilate

[Size 20 by 25 inches]

The clubbing rate for yearly subscriptions to the Farm and Fireside without a premium is **THIRTY-FIVE** cents, but as a **SPECIAL METHOD** of introducing these magnificent pictures we will give any **ONE** of these pictures **FREE** to every one who sends

35 Cents

for one year's subscription to the Farm and Fireside, provided the picture is selected when the subscription is sent.

(When this offer is accepted no commission will be allowed and the name will not count in a club)

The Farm and Fireside One Year and Any **TWO** of These Pictures for

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(When the above offer is accepted the club-raiser may have either the regular cash commission or the name may be counted in a club)

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The pictures will be sent by mail, securely packed and postage paid. Entire satisfaction guaranteed. A beautiful twelve-page circular giving illustrations and descriptions of the twelve pictures sent **FREE** on request. Write to-day.

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