

FARM AND GARDEN.

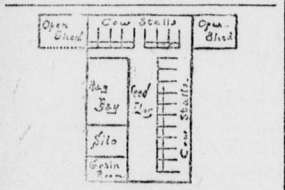
Results of Careful Selection of Seed.
The importance of good seed cannot be too strongly urged. A grower of wheat in several years' experiments found that it paid well to hand-pick his seed wheat. The first year he planted seven and a half pounds of hand-picked wheat on one acre in rows eighteen inches apart, and at harvest he threshed out sixty-seven bushels. The next year the yield was seventy-two bushels, using a little more seed. On a trial row he planted seventy-six extra fine kernels of seed (weighing forty-five grains), and the product was ten and a quarter pounds, or at the rate of 199 bushels of wheat per acre. The experiments were made many years ago by Professor Blount, of the Colorado Experiment Station, the seed being in rows eighteen inches apart, and twelve inches apart in the rows, a wheel hoe being used for cultivating between the rows. In Belgium all seeds are carefully hand-picked and the wheat crop cultivated, with the result that from sixty to seventy-five bushels of wheat per acre may be found on nearly all farms.

When the Hackle is Gone.
The accompanying illustrations show how to join the ends of the driving reins together when the hackle has been lost. With a pocket knife cut the end of each rein, as shown at a, then by slipping the extreme end of each

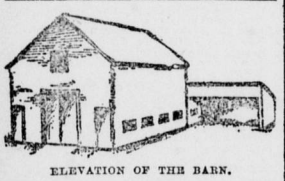


through the tack-shaped opening of the other, a reasonably firm union is effected. The necessity of always keeping the reins fastened together cannot be too strongly emphasized. If a horse becomes frightened, and on rein is dropped, there is no possible way of recovering it, if it is not fastened to the other. Many a runaway has resulted from a failure to observe this precaution.—Orange Judd Farmer.

Added Stable Room.
The illustrations show the elevation of the ordinary farm barn, and also the floor plan, as it appears when the addition that is shown has been built



to give increased room for the accommodation of cow, or other stalls. The addition is across one end of the barn, each end projecting to form an open manure shed. The shed on the left hand can be boarded in and used for



calves or other young stock, or for a place to store tools and farm machines if desired. The shed on the right is convenient to both lines of stalls, the manure being hauled out to the shed each day. Such an addition costs but little, having a simple shed roof, and freshes added room that is often exceedingly valuable—the extra stalls, and the covered place in which to store the manure.—American Agriculturist.

Use and Value of Cut Green Bone.
What the silo has done for the dairyman the green-bone cutter is doing for the poultryman. Each in its field has solved the problem of supplying a food that will be eagerly relished, and will force production at a season when nature is against us, and at a minimum of cost.

The important constituent of animal food for poultry is protein, which produces flesh and feathers and the albumen of the egg. When given a free range the fowls will supply themselves with animal food by catching bugs and worms when they are obtainable. The trouble is, nature does not always supply this food in sufficient quantities even in summer, and during the winter months it is not to be had at all. Some seasons there will be plenty of grasshoppers and crickets, and after a shower the ground will be covered with angle-worms, but during a dry season worms are scarce, and if the grasshoppers fail to appear, the poultryman must supply something to take their place. Nothing answers this purpose as well as green bone.

Fresh bones contain a large percentage of protein. The same can be said of the several brands of meat meal on the market, but the fresh product is more palatable, more wholesome, easier to feed and cheaper. Hens have to acquire a taste for meat meal. It sometimes takes several days to get them accustomed to eating the mixed feed containing it. In all my experience as a poultry-raiser I never saw the hen or chick that looked twice before eating fresh-cut bone. Meat meal is liable to become tainted before use, especially in hot weather. It is some-

times made of scraps and refuse that have reached such a stage of ripeness that no poultryman who caters to first-class trade would think of feeding it. If fed in too large quantities, the strong odor which always accompanies it is likely to impart a disagreeable odor to the eggs or flesh. There are several good, pure brands of meat meal on the market, and they are certainly better than no animal food at all, but are to fresh green bone what dried beef is to beefsteak. Feed the meat when you cannot get bones.

Fresh bone is easier to feed. It does not have to be mixed with ground feed and stirred up with water, but can be fed just as it comes from the mill, and may be scattered in the litter, thus affording exercise for the hens in scratching for it. Every year more poultrymen are giving up the use of ground feed and are giving a whole grain diet, reducing the work of feeding considerably. The green bone can be cut in less time than it takes to mix soft feed.

The cost of bones for a small flock is generally nothing; the butcher will supply them. When a large quantity is used they can be obtained from the large butcher shops and slaughter houses at a very moderate price. No matter what the price is, nothing will start hens laying and keep them at it, or make young chicks grow large frames and feather out well, hasten the moult or fit a bird for the show pen, like fresh-cut green bone, when fed in conjunction with a proper grain, grit and green-food ration.—J. Franklin Miller, in The Country Gentleman.

Progress in Farming.

Farmers are becoming more progressive and are also beginning to work on more scientific lines. At many of the experiment stations the sons of farmers are taking special courses in agriculture, with the result that they become largely instrumental in improving farm methods in their communities when they return to their homes. The period has passed for expressions of contempt for the theoretical farmer, as theory and practice have demonstrated by actual tests that no advance can be made by practical effort alone. The theoretical farmer may have been lacking in skill when handling the plow or in the use of other implements, and his theories may also have failed, but he aimed for something better and became an educator of others. The most progressive agriculturists are those who are not satisfied with present methods. They are willing to experiment, to learn and to teach, and they bring into the community better breeds, improved fruits and superior varieties of grasses, grains and vegetables. Some of them have gone into bankruptcy because of unwise expenditure in their efforts to do more than others, but they left their neighbors better off and also better supplied with live stock and more fertile farms.

No farmer can progress unless he is willing to study and learn. In all occupations theory is a mighty factor, for education is considered essential to success. The farmer of to-day who maintains that only practical farming is worthy of his consideration, and who believes that his sons can learn all that is necessary about farming on the farm itself, daily witnesses the sons of those outside of farming deriving knowledge at institutes in which instruction in mechanics is imparted. The best engineers, machinists and wood workers endeavor to enter their sons in schools or colleges at which they can be taught all that is possible from a theoretical standpoint. The farmer has kept himself back by his opposition to theoretical farming, the "book farmer" being, to him, one utterly destitute of knowing anything except to expend his money foolishly in the effort to accomplish an impossibility. The farmer, however, is a close observer of operations, for, while he will not become a pioneer and gives no encouragement to those working out of practical lines, he quickly secures the benefits derived through the efforts of the experimenter. Of course all farmers are not alike, for many of them are progressive, but many prefer to wait for developments, and when they become convinced that a change in their methods of farming is necessary will accept the inevitable and endeavor to improve.

The class known as "breeders" has made many sacrifices in the effort to improve the breeds of live stock, the greatest obstacle to progress being the indifference of farmers. But the breeders went on with their work, every year witnessing an advance in the improvement of horses, cattle, sheep and swine. Records were made and live stock went up in price. Where before an animal was sold at only a nominal sum prices rose ten or a hundred fold. While the farmers were oblivious to the work of the breeders the latter class was making rapid headway. To-day hundreds of farmers are breeders, and their farms are operated on the most scientific methods known. The result of the combination of practice and theory has increased the value of live stock in the United States to thousands where formerly the figures were given in hundreds, while the increase in the yields of crops has been very marked. What is more important, however, is that the fertility of the farms is now much greater than before. "Abandoned" farms are fewer, "worn out" soils are brought again under cultivation, a larger and more selected variety of fruits has been introduced and the general condition of the farmer has been greatly improved.

Much of the advance made by the farming class is due to the heretofore despised theoretical farmer, who has always led the way, even if years were required after his decease to demonstrate that he was right, though during his time unsuccessful and unfortunate.—Philadelphia Record.

OUR BUDGET OF HUMOR.

Haunted.
As I sit at fall of evening,
Musing 'fore the open fire,
Joking thoughts as light and fitting
As the blazes of the pyre,
Lo! appears to me a figure
Standing in the flickering light,
And I say in trembling accents,
"Art thou come again to-night?"
"Speak! who art thou? what time errand?"
"Answer comes without delay:
"I'm Jim Brown, the tailor's son, sir;
Here's that bill. Pa wants his pay!"
—Detroit Free Press.

As It Is Done.
"Yes, I am going to write a play."
"Ah, indeed! Have you picked out the novel yet?"—Chicago Post.

Upright.
Customer—"Why, you've got all your best apples at the top of the basket."
Fruit Dealer—"Yes, I go on the principle that there is always room at the top."—New York Times.

A Discriminating Intelligence.
"Surely you are not afraid of the dark?"
"No," said the small boy, "but I'm a little scared of the things that might be in it that I can't see."—Washington Star.

Quite Common.
Bacon—"Who is that insignificant looking little man on the other side of the street?"
Egbert—"Why, that's one of our most prominent citizens!"—Yonkers Statesman.

She Admitted.
He—"You will admit that man is the most sensible of all animals?"
She—"I'll admit that he thinks he is. It is for that reason it is so easy for a woman to make a fool of him."—Boston Transcript.

Fortune's Favorite.
Mrs. Newlywed—"You remember Bob Bigfoot, whom I refused last year? Well, he's just struck an oil well worth five million dollars."
Mr. Newlywed—"Gosh! Some men have all sorts of luck!"—Puck.

The Quarrel.
Mrs. B. (sobbing)—"When we were first married you used to take me on your knee and tickle me under the chin."
Mr. B.—"Yes, but, gee whizz! Julia, then you only had one chin."—Judge.

Silence is Gain.
He—"Darling, my salary has been raised \$500 a year, but you mustn't tell your father."
She—"Why not?"
He—"He might get the idea that I could support you."—Town and Country.

A Narrow Escape.
Miss Fisher—"Quite a confidential chat you were having with Miss Kuehler. I fear you'll find me dull by comparison."
Mr. Blunt—"Not at all. It's a relief to talk to a girl who isn't clever—that is—er—not at all!"—Philadelphia Press.

Only One Theory.
"Now look here," said the lawyer, shaking his fist at the witness, "I want you to understand that you can't bamboozle me in this court simply because you are a woman."
"Why?" she asked in her sweetest tones. "Is your wife present?"—Chicago Record-Herald.

How Things Usually Come.
"Do you believe that all things come to him who waits?"
"No," answered the hustler, decisively. "Pretty nearly everything that a man doesn't want comes to him who waits, but the things worth having come to him who gets up and humps himself."—Chicago Post.

An Advantage.
"How do you like your new cook?"
"Very much, indeed," answered the youthful housewife.
"I must say she doesn't look very strong."
"That's why we like her. She can't do so much damage if she gets angry."—Washington Star.

A Pleasure of Memory.
Drolicion bought a phonograph and insisted upon his mother-in-law having her voice registered by the instrument.
As the good woman refused, he added, maliciously:
"Oh, come now, just a few words. You can't think how much pleasure it will give me to hear your voice—when you are gone."—Le Figaro.

A Similar Experience.
"Have you ever tried to write a novel?" asked the young woman.
"Yes, indeed," answered the young man; "I wrote several."
"What were they like?"
"They remind me somewhat of a few of Dickens' works."
"Which ones?"
"Those that weren't appreciated until after he was dead."—Washington Star.

Fun in the Parlor.
When you see a young man sitting in a parlor with the ugliest four-year-old boy that ever frightened himself in a mirror clambering over his knees, jerking his necktie out of place, ruffling his shirt front, pulling his hair, kicking his shins, feeling in all his pockets for coppers, while the unresisting victim smiles all the time like the cover of a comic paper, you may safely say that the howling boy has a sister who is in a room not twenty feet away, and that the young man doesn't come there just for the fun of playing with her brother.—Tit-Bits.

Employees Take an Oath.

The recent attempts of a gang of American swindlers to victimize the London banks have drawn attention to the remarkable precautions which banking houses take against fraud, says the London Daily Mail. Every employe, from the office boy to the manager, has to take an oath on entering the bank that he will not divulge the business of the establishment, except under compulsion of law. And he is not allowed to forget this oath, for every year the entire staff is assembled in the board room to hear the oath read over. The effect of this precaution has been admirable.

There is also very great care exercised to prevent fraud by means of worthless securities and promissory notes. In almost every bank there is a department devoted to scrutinizing all notes which may be deposited for this purpose. These records, which have been compiled after years of collections, show the standing of almost every firm in London. Many a business house would be dismayed if it knew that practically all its most cherished secrets were known to the bank. Reference to these records will indicate at once whether the firm concerned has at any time dishonored a bill, and so the bank is able to gauge the value of the securities offered, say, for a loan for three months.

These are merely a few precautions adopted, but they will serve to give some idea of the constant and unremitting care taken to prevent fraud.

Horse Market of the United States.

The United States has a herd of 13,500,000 horses, representing a value over \$600,000,000, and more than 2,000,000 mules besides. The mules are valued at about \$115,000,000. Texas has 1,125,000 horses and Illinois and Iowa almost a million each. The average price of horses is, in Rhode Island, \$90; in Nevada, about \$17. Since 1875 horses of the best breeds have been introduced—English, French, Percherons, Normans, etc. There are eight principal types in the market, to-wit: The cob, the carriage horse, the English saddle horse, the American saddle horse, the roadster, the draft horse, the range horse of the West, the Southern horse. There are many young horses, but at present hardly more than 100,000 four or five-year-olds are available for the market. The St. Louis market sold 119,000 horses and mules in 1899; Chicago, 110,000; Buffalo, 62,000; New York, 52,000. The export of horse was 2967 head in 1893, 25,126 in 1896, 45,778 in 1899, 64,772 in 1900. The cost of transportation across the Atlantic never exceeds \$40. The British have lately purchased many thousand animals for use in the Transvaal, Germany purchased 6000 for use in China, and Belgium has just bought 1500 cavalry horses at an average price of \$180. Horse flesh is exported to Norway, Sweden and Germany for food.

People With Artificial Limbs.

They are making artificial limbs so cleverly these days that the people who wear them forget they ever suffered the trifling embarrassment of losing a leg or two or even an arm. They put in such flexible joints and such charming rubber feet that the wearers of these improved legs dance gayly at balls and cotillions without raising a question as to the makeup of their limbs. There is a man in a downtown office wearing an artificial leg and foot—his own having been amputated four inches below the knee—who jumps six feet forward in a sprightly manner just to show what he can do when the subject of wooden legs is mentioned. He can pick up a two hundred pound man in his arms and hold him easily and dance a jig with his rubber foot and willow limb. He would just as soon have an artificial leg and foot as not. There is one advantage, he says. He never has rheumatism, and he never suffers with corns or chilblains. He can quit a game at any stage without being accused of having "cold feet." He is as happy as a grig, though just why a grig should be happy is one of the things no fellow can find out.—Chicago Chronicle.

Queen Maria Keeps Her Son Busy.
The young King of Spain in May, 1902, will attain his majority. He will reach the age of sixteen, when the duties of the State will pass from the Queen Regent, Maria Christina, his mother, into his hands.

So that he shall be fit for his high calling his education is being carried on without stint, and with little pauses for recreation. French, German and English he speaks well; indeed, legends declare that at the early age of two, when he was decorated with the Black Eagle by the German Emperor, he entered into conversation in German with Prince Albert of Prussia, who was a messenger from one court to the other. The King spends several hours weekly in military pursuits, and is an accomplished rider. He also studies history, literature, geography, mathematics, and various other subjects. If the wishes of his royal mother be carried out, he will assuredly be a model monarch.—London Times.

Front Door Mirrors.

Recently, in passing through possibly the prettiest village in the Cotswolds, says a writer in the London Graphic, I saw an excellent idea that might with advantage be introduced in London and elsewhere. Within the knocker on the front door—which, in this case was about on a level with the face of the visitor—was placed a small convex mirror. Supposing the visitor is paying a call of either congratulation or condolence, how advantageous must it be to put the right expression on his countenance—either festive or doleful—before he knocks at the door!

FOUND IN PORTO RICO.

Interesting Field For Students of Natural History.

Porto Rico is proving to be an interesting field for the scientists in the employ of the Government. They have already discovered much that is new in plant and animal life on this island. The United States Fish Commission has been particularly forward in the work, and as a result has just issued a series of five bulletins on the subject of some Porto Rican fishes until recently unknown to science.

One of these bulletins describes two new fresh water leeches from Porto Rico, one of them, "Blanchard's leech," being of a bright crimson on the back and a light orange color on the under surface. This leech is short and thick, measuring about fifty-three millimetres in length.

The second, which has thus far received no name, is very large, nearly four inches in length. The colors of this leech are arranged in stripes of yellow, red, ash, black, olive and brown.

Another bulletin deals with 150 or more sea crabs, shrimps, etc., many of which are new, and ranging in color from a screaming crimson to a dull gray. One of the new crabs is of a bright turquoise blue, another of pale rose pink, while a third reminds one of a majolica pitcher. Others bear calico patterns, which are simply stunning.

Bulletin number 461 is perhaps the most interesting, as it describes a certain class of crustaceans which seem to be intermediate between shrimps and lobsters. The eyes of these little crayfish are not set in their heads, but grow on the end of long stalks sprouting forth from either side of the head. The limbs of these strange creatures resemble toothbrushes, being covered with a growth something akin to hair.

The last two of the series to be mentioned describe a world of new and strange life, gathered from the sea lagoons around the island. The Smithsonian Institution received recently a number of specimens of bird and animal life from Mona Island, a strange rock-bound island off the coast of Porto Rico, on which the Government has just erected a light-house.

Mona Island is of limestone formation, and is literally honeycombed with caves, some of which are almost as large as the Mammoth Cave of Kentucky, and full of the most wonderful stalagmites and stalactites. The island has a peculiar fauna of its own.—Washington Star.

Johnny on the Whale.

The whale is an enormous creature which inhabits large bodies of salt water. We should not speak of the whale as a fish, for he is an animal, only he can't crawl on land, having nothing but a tall and some fins to push himself along. Doubtless you have all read about whalebone. In comes from the whale in large quantities, which it carries in its mouth, as you can see by looking at any suitable picture of the whale. Whalebones are useful to put in sun bonnets, to keep them from flapping about your face, and many things besides. A whale has other bones, which it uses in its skeleton. You can catch a whale by getting into a small boat in the Arctic regions, rowing close up to the animal, and hurling a harpoon into it with all your strength, after which you haul it alongside the ship and cut out its blubber. Whale's blubber is made into codliver oil and other things, but it is dangerous to hunt the whale, and many persons have perished while in the act. We should always live so as to be ready for death. There was a man once who captured a large whale and put him on the cars and took him all over the country, and you had to pay twenty-five cents to see him. When the weather got warm the people did not care to see the whale, and the man got kind of tired and quit. The whale had previously died. Whales have small ears, but their hearing is exceedingly good. Johnny—Chicago Tribune.

Heaviest of Cups.

America's Cup is probably the heaviest bit of silverware in the world. Sir Thomas Lipton, that prince of sportsmen and genial gentleman, has not been able to raise that cup or tilt it the least bit in his direction. It is estimated that he has spent about \$1,300,000 to lift it and get it firmly maintained its level of the last half century. He has spent enough to lift Westminster Abbey an entire story and still is unable to move that cup the smallest fraction of an inch nearer the British Islands.

If he had put that money into coal, and by its combustion converted a small portion of the water he has sailed over into steam, he would have power enough to life the great pyramid. Yet all of this power directed against that little cup not been able to even shake it on its foundation. Surely this is a wonderful exhibition of gravity.

The Oak and Vine.

Once upon a time there was a sturdy oak that supported a firmly clinging vine.
"You are very beautiful," said the oak to the vine, "and this clinging business is extremely poetic and quite touching, but it has its drawbacks. True, you are not very heavy, but you hold me back by keeping the sunlight and air from my trunk, and you absorb much of the richness of the soil that is needed in my circulation. In fact, it costs me considerable to support you, even if you do contribute adornment and add a little sentiment to the situation."
Moral—Beauty, poetry and sentiment may be too exacting.—New York Her-ald.

POPULAR SCIENCE.

A writer states that the difference in susceptibility to electric shock between horses and men is largely a question of shoes. The sole of a man's shoe has a very high resistance, but a horse, with his four iron shoes, fastened on with iron nails, is apt to get the full benefit of the current.

The dragon-fly is the natural enemy of the mosquito. The Department of Agriculture has discovered that the English sparrow, among its other offensive traits, is fond of young dragon-flies, called "nymphs." When these emerge from the water and come out with wings, the sparrows catch them by the thousand and destroy them. This, it is believed, results in a greater prevalence of mosquitoes, which carry malaria, and so inflict great injury.

A research institute has been opened by the government of the Malay States at Kuala Lumpur, near Singapore. The medical department is fully equipped for special and general pathological work for the scientific study of clinical medicine, experimental physiology and bacteriology. The chemical department is also arranged for all sorts of research. There are, in addition, a well-stocked photographic department, facilities for biological research and a good library. The institute is open to all workers, irrespective of nationality.

A new and time-saving appliance for the embarkation and discharge of mails and baggage at Dover, England, and Calais, France, the terminal points of one of the cross-channel mailboat services, has been installed. It is an electrical gangway, and is constructed upon the system of an endless platform. It conveys packages of any weight ashore at the rate of one in fifteen seconds when working at normal speed. Even the heaviest sacks of mail and baggage are brought ashore with remarkable celerity and facility. The saving in transshipment is more than half the ordinary time.

The aqueducts and reservoirs of Jerusalem show that there was abundant provision for running water in the ancient city. Within the last few weeks they have been brought again into the service of the city, which for many centuries has been dependent upon small accumulations of rainwater. The water is piped from Solomon's Pools, nine miles south of the city, drawing water from the sealed fountain mentioned in the Song of Solomon. It is a deep subterranean spring, which flows through an arched channel to a distributing chamber. This increase in the city's water supply will enable twelve ancient fountains in the city to be used.

A project is now under consideration by the municipality of Vienna for the more profitable disposal of the sewage of the city, which at present is discharged into the Danube. The scheme consists in the application of a method developed by Herr Noebel, of Posen, for the utilization of the liquid part of the sewage for the double purpose of irrigation and enrichment. It is intended to convey the sewage in pipes to an extensive plain of poor land which suffers from lack of water, due to inadequate rainfall, over which it is not to be carried in trenches, as is done in England, but the surface of the land is to be irrigated by sprinkling the sewage water over it. It is said that by this plan the land will not be over-saturated, as it frequently is on the sewage farms at Berlin and Paris. The system is stated to have been already in use at Posen with satisfactory results.

Tribute to American Press.

A lengthy article in the London Times by a special correspondent who was lately in America, undoubtedly Moberly Bell, manager of the paper, describes his experience with interviewers and their capacity to provide interesting copy, whether the person interviewed contributes thereto or not.

The correspondent pays a high tribute to the American press as follows: "But that the American press is improving and is bound to improve cannot, I think, be doubted by anyone who has come in contact, as I have done, with the men who have made it. However one may differ from their standpoints or depreciate their methods, it is impossible to deny their quick intelligence and breadth of view or the thorough earnestness and uprightness of purpose by which the conductors of the press are actuated, while in that which makes a press greater in independence and incorruptibility, financial, political or social, the American can compare on equal terms with the English press."

Mahogany Hunting.

Mahogany hunting is precarious work. In Central and South America the mahogany trees do not grow in groups, much less are there whole forests of them. They are scattered, usually concealed in thickets. It requires skill and experience to find them. To fell a tree involves the work of two men for a whole day. On account of a thick, horny growth near the base of the tree a scaffold is erected around it, and above this, at a height of from ten feet to fifteen feet the tree is cut, so that the best part is really lost. The felled tree is then freed of branches, and hauled on a rough wagon by oxen to the nearest river, where rafts are made and floated down.

The city of Metz not only has no debts, but it has a surplus of \$216,550.