AGRICULTURAL.

Getting the Manure Under Cover.

How one farmer keeps his manure out of the way of rains and melting snows, and yet has it perfectly accessible for hauling to the fields, is shown in our illustration. It may not be the best plan, but the very best plan is not always among the possibilities on the average farm. The cattle stalls are simply

ARRANGEMENT FOR SHELTERING MANURE.

moved further in toward the middle of the barn—a plan that can be followed when building a barn and quite easily followed when remodeling an old barn. Such an arrangement makes the wide driving floor through the entire centre of the barn impossible, but such a wide and long feeding and driving floor is really a waste of very valuable space. With a hay fork it is no longer necessary to drive the hay-rack so that one can pitch hay from it into any part of the barn. The protection of the manure from the weather is of the highest importance,—an importance, unfortunately, too little realized. The manure pile is the mainspring of the farm, and a very weak mainspring when two-thirds of its value has leached out and disappeared down some brook or river.

Management Of Heifers.

Probably one of the most common and expensive blunders made on the farm is in the management of the heifer, writes a correspondent. Many well bred cows turn ut to be veritable scrubs simply because they were not properly developed in to cowhood. It is common to give little attention to cows, young or old, about to calve. A heifer should be well fed before calving. First, because there is a greater demand made on the system; second, the heavy feeding of a ration rich in protein will cause a much greater growth of the udder. Here is the fatal point. There is no danger from fever when fed up to calving time if such food as bran, clover, hay, silage and the like are used. It is corn that does most of the mischief. The cases are very rare where any attempt at milking should be done up to time of calving The udder should be made to grow as large as possible. The blood being filled with milk-producing elements seems to cause a great growth of the glands and udder.

After calving, put the calf in a stall adjoining the mother. Milk a half gallon and give to the mother. John Gould first gave me this hint and I find it works admirably. Cows that will not drink milk or slop will drink this, seemingly as nature's remedy. Never allow the calf to follow the cow, as it keeps the udder milked out, and distention is prevented. Feed very light on hay and a little bran for a few days, gradually coming to full feed in a week. There is no danger of fever with the first calf, it is said. I have never seen a case. I think it is not necessary to mention warm stables, for those who would profit by this will have them, but $3 invested in building paper for lining stables will pay more than 100 per cent. profit in milk returns. Those who can not take so much trouble to develop the milking qualities of the heifer would better have her come in in the spring that she may be supplied with abundance of proper food. This is just the opposite of my practice, but I say for those who will not give the best care to the heifer in fall or winter they should not allow her to come fresh at that time. This is the only means of maintaining or raising the standard of good cows.

Women and Poultry Dressing.

Among the newest avocations which the country woman has taken up is dressing poultry for the market, and a very profitable one it has proved in some instances. At this season of the year live fowls are being disposed of in large quantities by every one who raises poultry, to make room for the growing pullets who are to become the winter layers. A few dealers may caponize the cockerels and keep them till early spring, but by far the larger number will find their way into the markets between now and New Year's day.

The live birds can be bought at prices that will afford a nice margin of profit when dressed. The loss on the bird in dressing is not heavy, averaging only about one half a pound for a five-pound bird, as the heads, feet and intestines are not removed for market at this season. If the birds are free from pinfeathers, or comparatively so, an expert picker will prepare four birds an hour. The feathers will sell for about ten cents per pound, if not assorted. If care is taken in assorting them a much better price may be obtained for the choice ones.

There is nothing whatever in this work that a woman may not easily do. The price paid for picking varies in different localities, but averages about fifteen cents per pair. Young women may be hired to assist at this rate and a fair profit made on their work, or they may be hired to do the pinfeathering by the hour. Poultry should be thoroughly cold before being packed, and then packed neatly and so closely as not to jar in the box or barrel during transportation. The paper used in packing poultry should be what is known among produce dealers as butter paper. Never use newspapers for the purpose.

To Make the Dairy Pay.

Determine in your own mind the amount of butter a cow should produce weekly to pay for her food and the labor of caring for her. Subject each animal to an individual test and dispose of all those failing to come up to the mark. Let the trial be a fair one and see that proper rations are given. Equal parts of wheat, oats and corn makes a fairly good milk ration. If a small root ration can be added, the yield of milk will be more satisfactory as a rule. Shelter the animals from the cold and wet by battening the cracks or lining the stable with tarred paper. Make a good article of butter, put it up in attractive shape and brand it so that it may be easily recognized.

Pip and its Treatment.

This formerly much dreaded complaint is rapidly dying out. But few cases are now heard of, while but a few years ago it was quite common. It is caused by a dry, scaly substance on the tongues of the fowls, which soon spreads to the air-passage, causing heavy breathing and frequent sneezing—from which comes the name. A good remedy is to apply chloride of lime to the tongue daily, but we doubt the advisability of removing the scale. Two or three grains of black pepper in the shape of a butter pill is also very good. Some recommend spongia. Probably warm, dry quarters will do as much good as anything.

NEW WORK FOR THE HORSE.

The Doctors Have Taken Him in Hand for Medical Uses.

Between the steam engine, the bicycle, the trolley car and the storage battery, it began to look as if the horse would lose his job. Just in the nick of time, however, when scientists were wondering whether the friend of man would be allowed to relapse into wildness, or whether he would be turned over to the Western packers and made into extract of beef, a new occupation rises up before him. This is the manufacture of serum for the treatment of diphtheria.

There ought to be quite a field of usefulness for the horse in this capacity. The manufacture of serum is a slow process, and it is likely a good many horses will be needed for it. A correspondent writes from Berlin that the establishment at Schering has forty horses under treatment, yet the demand for the serum has been so great that the hospitals ran out of it in September. The remedy takes a long time to prepare and must be comparatively fresh. At least nine months, and sometimes a year, are required to get the animals into condition. One animal does not furnish much blood at a time—only two quarts. The horse must be carefully fed between the dates of tapping, and as in time the strength of its blood as a means of cure gives out, it is necessary to repeat the process of cultivating the bacillus.

Altogether the indications are that this new field of usefulness for the horse will be a wide one. Whether he will like his new occupation is doubtful. Even hauling a heavy stage is preferable in some respects to being fed high for a time only to have your blood then drawn off for medicine. There is something ogreish about it, and the horse may well object. But it is hardly likely that humanity will spare him. The benefits of the serum treatment appear to be too evident to allow of any compunctions. Thus another change is impending in the status of the horse, and the image of the proud animal which was once idealized as Pegasus and bore poets flying through the air, may yet be seen adorned with spectacles and holding out a bottle in his hoof, upon the label of a medicine bottle.

COMPRESSED WOOD.

Experiments with Substitutes for Expensive Hard Lumber.

The enormous advance which has o late taken place in the price of some of the hard woods required in various special branches of trade has directed attention to the possibility of producing some less expensive material as a substitute, and in one branch of trade this has been carried out with very successful results. For the manufacture of loom shuttles boxwood has hitherto been very largely used; but the price of this description of wood has become almost prohibitive, and it has been found that by compression of cheaper classes of timber—teak being about the most suitable for this purpose—a substitute meeting all the requirements can be obtained. For carrying out this purpose, Sir Joseph Whitworth & Co., of Manchester, have just completed for Mr. Robert Pickles, of Burnley, a powerful hydraulic press to be used in compressing timber for loom shuttles. This press consists of a strong cast iron top and bottom, with four steel columns and steel cylinder, with a large ram. In the centre of this ram is fitted a smaller ram, with a rectangular head, fitting into a die which is placed on the top of the large ram. The timber in put into this die, and a pressure of fourteen tons per square inch is applied. The pressure is then relieved, and the large ram descends. The top pressure block, which fits the die, is then removed, and the small ram rising pushes the timber out at the top of the die. The timber so treated is made very dense and uniform, and so close grained, that it is capable of taking a very high finish. For the manufacture of shuttles it has been found as good as boxwood, and there is no doubt it might be applied to other branches of industry where expensive hard woods have to be used.

Love is a Pain.

"Do you think your sister will be down soon Willie?"

"Yes. She said she was coming down as soon as she could, so as to have it over with."

British and Foreign.

Right Hon. Sir Julian Pauncefote he is now. He has just been presented to the Queen as a member of the Privy Council.

Savorgnan de Brazza has obtained leave to return to France after a residence of three years and a half on the Congo, as administrator.

Mrs. Keeley, the English actress, recently celebrated her ninetieth birthday. She first appeared in London in 1825 as Rosina in "Love in a Village." Her famous parts were Smike, in "Nicholas Nickleby," and Mrs. Peerybingle.

French Deputies are no better than other representatives. The library of the Palais Bourbon contains 150,000 volumes, but the historical and political are never opened, while there is a constant demand for the works of the elder Dumas, Flaubert, Daudet, Zola, and even for Ponson du Terrail's long stories.

Here is an appeal sent to Mr. Labouchere. "We, Moses Bird and wife, in following the Divine commands, find ourselves unable to buy a preambulator for our twin offspring. Therefore we take this liberty of asking you to help us in our time of need."

Russian Engineers are studying the route for the waterway to connect the White Sea with the Baltic. The total distance is about 180 miles, in part already navigable. A uniform depth of thirty feet can be obtained for the whole canal it is estimated, at a cost of only $6,000,000.

Compressed air has been applied to sweeping railroad cars in France. A rubber tube, through which is applied a pressure of ten or fifteen pounds to the square inch, removes the dust far more effectively than any brush and in half the time.

Emile Ollivier, the Minister of Napoleon III. in 1870, who entered into the war with Prussia, "le cœur leger," is on the point of publishing his account of the fall of the empire in "L'empire liberal" in seven volumes. The preface has just been printed in the Figaro.

Baring Brothers & Co. will soon be ready for business again. The great liquidation is ended, a syndicate having taken the last block of securities, amounting to $7,500,000, held by the Bank of England. It is thought that about $3,000,000 will be left over from the settlement for the Baring family to divide.

Two facts of interest were announced at the recent meeting of the Paris University Council. At all the lycees the number of boarders is diminishing and that of day scholars increasing, which shows that the value of home influence on the education of boys is felt more in France. In the faculty of medicine there are 1,002 foreign students to 4,142 Frenchmen, while of 195 women students only 26 are French.

Seventeen wills, each representing personally above $2,500,000, have been offered for probate so far this year in England, being the largest number in seven years. The third Duke of Sutherland left the largest estate, six and a third million dollars, and four others were of more than five millions each. Of the seventeen fortunes, five were left by brewers, one by a wine merchant, three by bankers, one each by a colliery owner, a thread manufacturer (Clark of Paisley), a silk mercer (Marshall of Marshall and Snelgrove), an iron merchant (the Earl of Bective), a cotton spinner, a dyer, and a merchant. The late Lord Tweedmouth appears as a brewer. Together their sworn value was over sixty-six million dollars.

Oxford's plan for regulating advanced study and research is the establishment of two new degrees, Bachelor of Letters and Bachelor of Science, which will take precedence of the Bachelor of Arts, and holders of which may be candidates for Master of Arts. Candidates for the new degrees, if they are not Bachelors of Arts, must be 21 years of age, give evidence of a good general education, and of fitness for a special study, which may be pursued profitably at the university. These, by the way, are identical with the qualifications of special students at Harvard. Residences for twelve terms, as for the B. A., or for two years at least, is required. The outline of the plan was recently adopted in convocation by a vote of 89 to 20. Women are not to be included. When carried out this plan will give the Oxford M.A. to men who know not a word of Greek.

Wood Going Out of Use.

The enormous increase in the capacity of iron and steel works has its justification and warrant in the wide variety of new employments found for those metals as substitutes for wood. The German Iron Trade Association has lately taken the pains to point out, at great expense, for the benefit of all concerned, the many advantages to be gained by the resort to steel; and it would seem that there is barely a single use left for wood in constructive detail and not much in ornamental finish, except genuine carving. The modern edifice is nearest perfection in point of durability and safety according to the proportion in which metal has excluded wood. It is now proposed tha wood shall be dispensed with entirely in the framework of railway rolling stock, and this means something when we remember that there are about 2,500,000 railway vehicles exclusive of locomotives. In mines metal is doing away with wood, and the use of iron-pit props in France has shown that they need to be renewed only half as often as those of wood. At the same time, metal has its own special risks, and it is suggested, for example, that unless carefully insulated, a large building full of steel and iron might be as susceptible to electrolytic action by stray currents eating it up as though it were rail, forming part of an electric railway circuit, or gas or water pipes adjacent thereto. If this new danger exists, its remedy should be readily discoverable.

Why a Bull Hates Red.

The reason why red infuriates members of the ox family is because red is the complementary color of green, and the eyes of cattle being long fixed on herbage while feeding, when they espy anything red it impresses their sight with greatly increased intensity.

CANALS OF THE FUTURE.

They Will be Large Enough for the Rapid Handling of a Heavy Business.

The history of the struggle between canals of small dimensions and of railroads has been the same in all countries. The fight raged bitterly for a number of years; the canals acting on the defensive, although they had as allies the States under whose patronage they were built and operated. The result has been the same in all cases, the unconditional surrender of the canals to the railroads. This, however, is not so much the fault of the system as of their management. The railroads have great advantages over canals. They are better able to abridge distances both by reason of superior speed and of facilities for overcoming elevations, spanning streams, free from danger of destructive floods and piercing through the highest mountains; but their great success is mainly due to the fact that they have kept pace with the progress of the world.

Waterways built from the beginning of the eighteenth century to the first quarter of the nineteenth century were regarded ample to meet the requirements of trade at the time they were constructed, and there was in many instances a progressive improvement in their dimensions and appurtenances. But while the industrial, agricultural and commercial developments of the world have advanced to proportions not dreamed of a century ago, canals have remained stationary. They are now obsolete and can no longer fulfil the requirements of cheap transportation in competition with railroads. The canals of the future must have the dimensions and the facilities for rapid transport to adapt them to the new conditions of commerce. They must not be barge or boat canals, but ample waterways for the free passage of such ships as are now engaged in carrying the world's trade. Of such canals we have now some important types in successful operation, and others in process of construction or in completion.

THE CZAR'S BODYGUARD.

A Regiment Which Saved the Life of Peter the Great in Infancy.

It may have been observed by readers that a most prominent part was taken in the funeral of Czar Alexander III. by the Preobrajinski Regiment, which since the days of Peter the Great has been the bodyguard of the Emperor, and, in consequence, the crack regiment of the empire.

It is well known that a stormy time preceded the accession of Peter the Great to the throne. He was persecuted from his very infancy by his sister, Sophia, who acted as regent, and only escaped miraculously from death. The hired assassins of his sister were about to kill him on the altar of a Moscow church, where his mother had placed him, having fled thither from the Kremlin, when a number of young noblemen snatched him away and carried him to a place of safety. Four years later Sophia, fearing to have him killed outright, decided to try to end his days in another way. She sent him to Preobrajinski, a village fifty or more miles from Moscow. Fifty young noblemen were sent as his companions, with the understanding that they were to try to debauch him as much as possible. She hoped in this way he would become unfit to reign. But she was disappointed.

Peter had taken with him an officer named Lefort, a French adventurer, who had served in the Belgian army. Lefort, true to his military instincts, formed a regiment at Preobrajinski and began to train the fifty companions of Peter to become its officers. Peter and his friends soon became deeply interested in the military exercises and gave up the life which Sophia had wished them to lead. Peter studied hard and passed from grade to grade, just as his comrades, who became extremely attached to him. When he decided to proclaim himself Emperor later it was they—the Preobrajinski Corps—which stood by him and enabled him to do so. Sophia then sent her soldiers to seize him, but the Preobrajinski repulsed them, and the ambitious Princess had to renounce the throne.

All the Czars since that day, mindful of the fidelity of the Preobrajinski Corps, have kept up the regiment and made it their bodyguard. It has thus the proudest traditions in the Russian army—and has always lived up to them.

A Vow Never to Lie Down.

Woldeman Friedrich, of Leipsic, who has lately made a prolonged tour of India, during which he has gathered valuable data and made graphic sketches of the nomads on and in the vicinity of the Cutch Steppes, says that in the harbor city of Mandri, fanaticism reigns supreme. The Brahman religion has here twice as many representatives as the Mohammedan. The disciples of one sect tie a gauze cloth around mouth and nose to prevent any insect or particle of dust from entering their sacred bodies.

But most wonderful of all of Prof. Friedrich's experiences was a saint he met in the neighborhood who had made a solemn vow never to sit or lie down for sleep or rest. Rao had refused to grant him a boon, therefore there was something in his life that kept him in disgrace with the divine powers and he determined to propitiate his diety with his martyrdom of a life-long abstinence from sitting or lying. In order to be able to keep his vow he has been compelled to construct a kind of hanging mat for his back and shoulders in which he hangs the livelong day reciting his penitential chants and prayers. Thus he sleeps at night, and in this position he must also eat and drink, as he has grown too weak to either walk or stand.

Curiosity.

"What are you standing so close to me for?" demanded Satan.

"Oh, nothing," rejoined the latest arrival, "only people said I looked like the devil in this red tie, and I merely wished to satisfy myself."

Tit-Bits.

Perserverance.

She (severely)—How many more times are you going to ask me to marry you? He (calinly)—How many more times are you going to refuse me?

Safe Enough.

Grocer—Well, my little boy, what will you have?

"Fifteen cents' worth of molasses."

Grocer—(as he hands the pitcher over the counter)—Where is your money?

"In the pitcher. I put it there so as to be sure not to lose it."

A Description.

Judge—"Please describe the man you saw talking to the prisoner."

Witness—"I don't know how to do it, yer honor."

"Can't describe him? Did he look like any of these lawyers? Did he look like me?"

"No, yer honor, he looked like an intelligent gentleman."

Just Like a Bird.

Mrs. Gusher—"There's my daughter Edith. What a creature she is! Just like a bird."

Uncle George—"Like a bird? Yes; always saying the same things over and over from morning till night."

Temptations Removed.

"Your husband has given up swearing?"

"Yes."

"Do you think he will adhere to his resolution?"

"Oh, yes. I've made it possible for him to do away with collar buttons by sewing buttons on his shirts."

Combined.

Although the pretty girl be poor,
Why she is not to blame;
But the pretty girl who's rich is one
Who gets there just the same.

An Obstruction.

"Gentlemen," said the conductor, "before leaving this station there is likely to be a delay of several hours."

"What's the matter?" cried the passengers in chorus.

"Nothing that the company can help," replied the conductor, "but a piece of steak from the restaurant is lodged in the track just ahead of the engine."

The Old Man's Grief.

Miss Scraper (amateur violinist.)—"Did you notice that old man crying while I was playing my sonata?"

Friend—"Yes, and I spoke to him. He said your playing reminded him of the old days when he was happy."

"Was he a violinist?"

"No, he was a piano-tuner."

Ought to Sympathize.

Jinks—"Why are you forever bothering me about that bill I owe you?"

Minks—"I need the money."

Jinks—"Then you ought to be able to sympathize with me. I need the money too."

He Made Her Drowsy.

The burglar came and stood beside the couch of the beautiful girl.

"I am after your money," he hoarsely whispered, thrusting a polished pistol barre against her blue-veined temple.

She sighed wearily.

"I'm pretty nearly tired," she said, "of telling men that I am in no hurry to marry."

Drawing the silken draperies more closely about her, she fell into a serene slumber.

A Professional.

Tramp—"No'm, I am not a wood-sawer, mum. I draw. Gimme a square meal and I'll show you."

Housekeeper—"Well, it's worth it to see a man like you do anything at all."

Tramp (after the meal)—"Thankee, mum. Now I'll go and lie down in the sun."

"But you promised to draw."

"Yes'm. I draw flies."

In No Danger.

Mr. Nicefello—"Dr. Knowitt says that kissing conveys microbes."

Sweet Girl—"I—I have some carbolic acid up stairs."

Reputation Saved.

Dealer—"Where are you going now?"

Driver—"To take this barrel of apples, around to Mr. Bickrow's."

"Good Lands! You'll ruin me. That barrel hasn't been opened."

"Do you want it opened, sir?"

"Of course, you dunce. If we leave him to do it himself, he may open it at the wrong end."

Not News.

Jimson (proudly)—"I never deceive my wife—no, sir; I tell her everything."

Bilson—"Yes. I knew that long ago."

"Wha—how?"

"She tells it all to my wife and my wife tells it to me."

How French Women Keep Young.

Canadian women might learn an advantageous lesson of their French sisters in the art of keeping young. But it is no recipe for cosmetics that they would acquire. First of all, French dames do not worry, or, if they do, they conceal the fact admirably. They are apparently on the crest of the wave of good fortune perpetually. Next, and almost equally important, they decline to hurry. They take life moderately, perform their duties without haste and linger over their pleasures. And in these two simple rules lies a mine of wealth for her who is wise enough to appropriate it.

An English vicar has improved upon the parish mothers' meetings by a meeting of "lady mothers."