

## AGRICULTURAL.

### Farm Work in August.

August is a season of comparative leisure with farmers over a large portion of the country. On its advent the severe labors of haying and harvesting are mainly ended, while other farm duties are not pressing, so that soil tillers can easily take a vacation for much needed rest, recuperation, and recreation. After months of hard toil under trying conditions, the weary workers are entitled to a play-spell, and may obtain pleasure and knowledge by going somewhere—visiting friends, or making excursions to places of interest. And this they can best secure and most enjoy between the season of grass and grain garnering and that for fall seeding and securing the late crops. Let the farmer and his wife take a trip by carriage, rail, or otherwise, and see their friends and a little of the outside world—perhaps visiting famous farms, or the seashore, or mountains—leaving the young people to care for homestead matters. This is one of the "farm duties for August," and those who discharge it properly will be gainers in health and wisdom. Any ruralists who may fail of securing a vacation during August should aim to make amends later, in some way—by attending one or more of the agricultural exhibitions to be held during the ensuing two months, with as many members of their families as convenient. And this suggests the timely topic of preparing for the rural fairs. It is now in order for all progressive farmers, horticulturists, and stockmen to arrange for becoming not only spectators, but exhibitors at one or more rural and industrial fairs—giving preference to the nearest, if only one can be attended. Whoever desires to make a prize-winning display should take special pains to properly prepare whatever is to be offered in competition. Animals to be shown should be put in the most presentable condition, while fruits, grains, and vegetables ought to receive the care and attention calculated to render them superior in quality and attractive in appearance. And the feminines of the farmer's family should also be painstaking in preparing whatever they contribute to the fair, so that their industry, skill, and taste may be properly appreciated. Village and suburban residents (who are usually amateur cultivators) and their families ought also to exhibit choice fruits, vegetables, plants, and flowers, as well as other meritorious products.

Note that intending exhibitors at any prominent fair should not only give early attention to preparing articles and animals, but also to making proper entries in due season. The entry books of many fairs are closed some days or even weeks in advance of opening and hence the necessity of promptness on the part of would-be competitors and prize winners. Those wishing to make exhibits at large fairs are advised to at once procure copies of rules and regulations, so that they may comply with requirements.

In many parts of the country the corn crop is in a similar condition to what it was at this time last year, and hence some of the suggestions then offered are now appropriate. As we then advised, corn usually needs little attention in August; but it is very late this season in many sections and not too large to run the cultivator between the rows, thus stirring the surface soil and killing the weeds. This may save the crop in some instances, but it was planted so late in various localities, on account of the backward spring, that the grain will hardly ripen before frost. Where corn does not mature, the easiest way to save it will be to put it into the silo, and it is probable that much of the crop will thus be utilized this fall. It is certainly a contingency for which provision should be made by those interested. Many a corn grower might find it for his interest to build a cheap silo in advance, and thus be prepared to avoid any material loss, by silaging the crop. Silage makes an excellent supplementary feed for hay, and many farmers feed it with grain to advantage. Farmers who are pretty sure that their corn is too late to escape the frost should take time by the forelock and at once make arrangements for silaging, if necessary.

August, with us of the North, will draw to a close all planting and seeding for the year. Still there is yet time for planting some things. Any time during the month celery may be planted with profit, the smallest in growth when winter comes, is the best to bury and reserve for spring use. Celery thoroughly bleached is then ready for the table, and does not improve in flavor by leaving in the ground. Another crop just in season for sowing is the turnip. A good crop of the strap-leaf kind may be expected, if sown any time up to the middle of August. A part of these are good enough, while the remainder can be pitted or placed in a cellar for winter use. Always sow in drills; for small gardens these may be fifteen inches apart and left finally six inches in the rows. It is well to sow thick enough to allow thinning as quite often the turnip florets get at them. They may be easily kept off, however, by a dusting over of wood ashes. Once they get into the rough leaf, this pest leaves them alone; it is the young stages that are the most troublesome. A dish of spinach may be provided for, sown at any time during the month; that intended to be left over winter is usually sown in September. The salad crops, as radishes, lettuce and endive are something that can be sown continuously up to the end of August as it takes but five or six weeks to be ready for the table.

### Dairymen Should Grow Peas.

A farmer who handles a large herd of cows writes that he has spent from \$500 to \$600 a year for several years past in the purchase of bran and other grain feed for his cows. Being a reader of a dairy journal he was greatly interested when that paper took up the question of growing field peas as a substitute for bran. This the paper did two years ago, but did the same work more energetically last winter. He had always accepted the notion which prevailed among the farmers of his neighborhood that peas could not be successfully grown. The journal took the ground that this notion was a mistake; that the difficulty with the average farmer was that he did not understand how to grow peas. In the field the pea roots deeply; yet almost every farmer pays no attention to this law or principle, and sows the peas broadcast, with oats maybe, and harrows them in, rarely covering them more than a quarter to a half inch deep.

The paper farther advised the sowing of peas more than ever, but insisted that the

seed must be covered at least two to four inches deep. This can be done with a deep running grindmill when the soil is in good tilth, but where the farmer has no drill he can do the work just as well by plowing the seed under not to exceed the depth of four inches. The farmer says he tried the latter plan. His neighbors all ridiculed him for trying some book-farming notion, but the peas are looking the finest ever seen in that section. It will prove a great blessing to dairy farmers if they ever get in the way of growing an abundance of peas for the use of their cows. Two pounds of pea meal is considered nearly the equivalent of six pounds of ordinary bran. A good crop will produce 2,600 pounds of pea meal to the acre. Further comment is unnecessary.

### Effects of Food on Butter.

An Experiment Station just issued a very useful bulletin (No. 13) on the effect of food on butter and the effect of food on quality of milk.

The experiments in No. 13 were made to show the relative value of cornmeal, gluten-meal, and middlings, and the proportions in which they should be mixed.

The work in this direction is not yet extensive enough to justify the drawing of conclusions, but our experiments thus far indicate:

1 That gluten-meal tends to produce a much softer quality of butter than cornmeal or cotton-seed meal, and, other things being equal, tends to lessen the churnability of the butter fat.

2 That with the same cows the hardness of butter depends much more upon the character of the food than upon the nutritive ratio.

3 That ensilage produces a somewhat softer butter than does good hay, but is also favorable to the flavor and texture of the butter product.

4 That skim milk has a very favorable effect upon the churnability and quality of the butter fat, and in a single trial apparently reversed the general rule that the volatile fatty acids decrease as the period of lactation advances.

5 That cotton-seed meal tends to produce an unusually hard quality of butter, and that cotton-seed meal and gluten-meal might be used together with excellent results.

6 That contrary to general belief the melting point of butter fat is not a good index of the commercial hardness of butter. That while in general a soft butter melts at lower temperature than a hard butter, there is no definite relation between melting point and actual hardness.

7 That no relation can be traced between foods and volatile fatty acids, except in case of skim-milk. That usually hardness and volatile acids vary inversely, hardness generally increasing and volatile acids decreasing, as the period of lactation advances.

8 That the iodine absorption of butter from gluten ration is greater than that of butters from cotton-seed or corn-meal rations, and that so far as tried, the iodine absorption number follows very closely the hardness of butters.

The following conclusions seem fully warranted, namely:

The proportion of albuminoids to non-albuminoids for the production of milk should not be much wider than 1:6.

A nutritious ratio of 1:52 produced 7 per cent more milk than a ratio of 1:9.

A ratio of 1:57 produced 9 per cent more milk than one of 1:8, and a ratio of 1:6 produced 13 per cent more than a ratio of 17.

### THE CZAR'S SHOT-PROOF CAR.

How the Emperor of Russia Travels Among His Loving Subjects.

When the Czar travels in Russia the precaution taken for his safety could not be greater if he were in the enemy's country. A battalion of infantry is detailed for every two miles of distance, and, allowing 500 men as the effective force of each battalion, every spot of ground on both sides of the track is covered by sentinels within easy distance of each other. The Czar is suddenly whirled off to the station, accompanied by the chosen twelve of his bodyguard, without pomp or circumstance, swiftly and silently. The Czar always travels in a train of five carriages. His carriage is built in a peculiar style. The windows, while ample for light, are high, so that a person sitting down is invisible from the outside, and the sides of the car are fortified with plates of steel concealed in the ornamental woodwork, but amply strong to resist a bullet. There are two sentry-boxes in the carriage, one at each end, and each looking out at an opposite side from the other. The guardsmen on duty in these apartments are shut in from any observation of the interior of the carriage, but at intervals of about two feet, the whole length of the saloon, are electric buttons communicating with the guard chambers, as well as with the two carriages, one containing the suite, and the other, in the rear, occupied by the guardsmen not on duty. So far, therefore, as the train itself is concerned, the Czar could be no more secure in St. Petersburg.

The train speeds on to its destination without a halt, except on account of accident. At a distance of not less than five miles ahead is a pioneer train, in which the Imperial Director of Railways and the Chief Engineer of the particular railway on which the Czar is travelling, always ride. As the pilot train whizzes by the reserves along the line rush to arms and guard the sides of the railway, waiting until the imperial train has passed, so that the spectacle is presented of continuous lines of soldiery for hundreds of miles. Arrived at the end of his journey, the Czar is escorted to the quarters intended for the imperial family.

The streets are guarded by special constables in the attire of citizens. Every property owner has been called upon to supply one or more of these men at his own expense to do duty when the sovereign makes a public appearance. The constables average one in ten of the crowd that throngs the streets, and, being in ordinary dress, they can mingle with the people, note what is said, and, perhaps, do something that will obtain them regular employment among the secret police. With one-tenth of the population engaged as spies upon the remainder, with troops enough concentrated to stand a formidable siege, and his faithful guardsmen dogging every step, the Czar goes through the forms of a visit to the ancient capital of Russia or whatever city he may choose to honor.

That can afford to smile while genius and talent are quarreling.

### IT'S THE BELGIANS' HOBBY.

Big Money Prizes Offered by the King and Others for Pigeon Flying.

Pigeon flying as conducted in Belgium would be considered in America gambling. To the French and Flemish, however, the principles and proprieties seem to be fully met in the protection by which fraud is prevented. Fair play is offered, and the amount at stake is so small that the owner of a pigeon and a few francs may risk his bird and not his all with it. It is difficult to realize that a sport, and one that is apparently such child's play, can have the influence upon a people and their customs that pigeon flying has upon the Belgians. Every third house, it is estimated, has its pigeon loft, and the advertisements to let or for sale in certain of the Belgian newspapers have less to say of housekeeping conveniences and comforts than of the dimensions of the loft in the attic, and the facilities for racing and breeding. The location, too, is not in reference to business center or post office, but to some pigeon club's rooms.

At this season of the year trains are made up daily solely to carry the pigeons to their destination. Sometimes the birds will return almost together. Sometimes a sudden storm will catch the returning flights, and at home the saddened, wistful faces turned skyward tell of the wreck. Those who have been overwhelmed by it say there is nothing to equal the excitement there is in the finale of a concourse. It is told of a resident of Careghen, who had been ill with rheumatism for weeks, that at his urgent entreaty he was assisted by his nurse and physician from his bed to a chair by a window that he might see his birds return in an important race. He was alone, and there was no one in the loft overhead when his first bird appeared in sight, and followed close by another which his keen eyes told to be that hated rival of his favorite, his nearest neighbor's champion. As he heard his own bird drop upon the board above, he forgot his illness, and all except the prize his neighbor bird might win. How he got up stairs he never knew, but he had caught the bird, hurried it into the bag, and the bag on to the rope which it should slide down into the hands of the runner waiting in the street below, and had seen it disappear while yet the neighbor's bird was cooing about the house top, and its owner was whistling and frantically scattering seeds to tempt it in. Then it was that the invalid of so many weeks came to himself, and to get back was the question. The gentleman still lives, and one of Belgium's most learned pigeon flyers to-day recommends the winning bird in a race as better than a doctor.

Aside from the races for local and general competition of which there are scores arranged for every Sunday through the time from April to November, there is the Grand National Concourse, in which the king of Belgium, the Count of Flanders, and the city of Brussels offer the prizes of honor. Aside from these emoluments there is not more at stake than in many other of the distance races. This race for 1891 was flown July 18, and in its conditions will show the chance there is to win and the chance the winning is. The Society La Roue d'Or, managing the race guaranteed 1,300 francs in prizes, and as much more as the sum of the entry money, less the expenses of the race, exceeded this sum. The prize of honor was the 200 francs offered by the King; the second, the 100 francs offered by the Count of Flanders. The 1,000 francs offered by the city of Brussels was divided into twenty prizes of 50 francs each, the society prizes to be 40 francs each and to begin with the twenty-fourth return. An optional entry fee of ten francs per bird was to be divided into prizes of 80 francs each, and a special pool of 50 centimes per bird was to purchase a trophy valued at 300 francs for the winner of the King's purse, a watch valued at 100 francs for the second return, the balance to go to the third prize winner.

### Holding Their Wheat.

The proposal that United States farmers shall refuse to market their wheat—carried out, as it is reported to be, by the mailing of a million circulars—still occupies a good deal of attention. An additional report says the advice is being taken. Considering that the spring wheat crop is not yet harvested, and that the first consignments of winter wheat are just reported, this story is evidently a work of imagination. Its invention is made the more palpable by the commercial fact that the movement of wheat to and from Chicago is much larger now than a year ago. Aside from this Western papers are engaged in producing theories concerning the purpose of the people who are sending out these circulars. One is that gratuitous advisers of the farmers have no expectation that any considerable number will refuse to market their wheat; but wish to bring the farmers to a realizing sense of their inability to do what is proposed, and thus solidify the support of a treasury scheme. This might be a very good theory if farmers were not already fully aware of the necessities which force them to market their products. Another theory starts from the assumption that the Alliance leaders are not rich enough to stand the expenses of sending out the circulars, but that the money is furnished by bull speculators, one of whom recently predicted that wheat will rule at \$2 per bushel before the year is ended. But as it is clear that the circular will produce few actual results, it is plain that the speculator who puts up the money is in a fair way to lose his margin. The probability is, that while some speculator may have been foolish enough to help the scheme, those in it are simply trying to gain reputation. The statistical position indicates higher prices for wheat before the crop year is ended. The persons who send out this circular may, when the advance takes place, claim great credit with the farmers. And even a short reputation for infallibility may be worth the few thousand dollars the circular business will cost.

### Quartermaster-General.

The familiar proverb, "what is good for man is good for his beast" is fully understood by all horsemen from the turf to the farm, from the stable to the saddle. Very high authorities on the subject of horse and cattle ailments, concur in the opinion of General Rufus Ingalls, late Quartermaster-General, U. S. Army, who says "St. Jacobs Oil is the best pain-cure we ever used. It conquers pain." This department has the custody and treatment of army horses and mules, and thousands are treated.

## TALK OF A FOUR-DAY SHIP.

CAN THE CITY OF PARIS MAKE IT IN FIVE DAYS AND A HALF?

It Will Take Sustained Speed of 23.4 Knots to Cut the Record Under Five Days, but Mechanical Skill is Equal to the Task.

The interest among seafaring people in the success of the Majestic in her last run from Queenstown to New York has by no means been lost. This interest is likely to be longer lived because of the reasonable belief that the Inman liner City of Paris will straightway go hunting the record of the Majestic. According to a well-informed mariner it is unreasonable to suppose that the Majestic has done her best. Chief Engineer Sewall says that he can yet get a sustained increase of 500 horse power from his boilers—20,000 instead of the 19,500 developed during her famous passage—but the fact that it has not been done during any of the seventeen voyages made so far, and the further fact that the chances are all against his having favoring weather along with his increase of power, make it reasonably certain that 5 days, 18 hours and 8 minutes must stand as the Majestic's record.

On the other hand, the City of Paris made her record of 5 days 19 hours and 18 minutes very early in her career. Having thus established her reputation, her Captain has since had no special inducement to drive her to the last gasp. She had only to average say from 144 to 150 hours a passage to hold her prestige. But now she has been fairly beaten, and something has got to be done.

There are a good many people who think the City of Paris will again lower the record. They base their faith on the marvelous work done during the three days of her most wonderful passage, when she covered 502, 506, and 509 miles. The three best runs of the Majestic were 501, 497, and 501 miles, an aggregate of eighteen sea miles less. It is not unlikely that when Capt. Watkins of the City of Paris saw that he was sure of making a passage away below the previous record he "pulled" the ship as a merciful jockey might a horse, to save the strain. Jesting Capt. Watkins had let her out for each of the other days as he did on the three, and suppose he had steered the course 2,777 miles long instead of the longer one he did follow: during those days he averaged 21.07 knots per hour, or .97 of a knot faster than the Majestic. At 21.06 knots per hour he would have covered the 2,777 knots of the passage in 5 days 12 hours and 20 minutes.

Possibly the City of Paris may be in little better trim now than when she made that famous run of three days. Her engines may know her better and the machinery may be settled to its bearings better. The fact that it took the Majestic seventeen voyages to get where she could break the record indicates, but it is a safe wager that the City of Paris can never do better for an entire voyage than 21.06, if she can do as well as that. There are some other new fast ships afloat—magnificent ships—but it is doubtful whether their owners are ambitious to try metal in this contest. However, the present record can be broken, and these figures seem to demonstrate the limit of the break. A run of 5½ days is among the possibilities. When that is done the seafaring men of sporting blood will give long odds against any further break until new and more powerful ships are brought out.

That a four-day ship is within the possibilities of the next two or three years, it is said, need not be doubted. That is, some ship may come out to cross the ocean in 4 days 23 hours and 55 minutes. To do this will require an average speed of 23.4 knots over a course of 2,780 miles. It required an increase of about 6,000 horse power to enable the City of Paris to beat the Etruria by, say, six hours. There is no very great difference in power between the engines of the City of Paris and of the Majestic, but before a ship can knock off the 18 hours and 9 minutes that now stand between the Majestic and a four-day ship, she will have to have a decided increase over anything afloat. The improvements made in marine boilers in recent years by such men as the Thornycrofts indicate that a substantial increase of power may be had without increasing the size of the ship. Within thirty years ships have run on a pressure of seven pounds to the square inch; now from 150 to 160 is common enough. The mechanical skill of the engine builders is equal to the construction of engines that will stand 200 pounds. Above that pressure the integrity of bearings and fittings is doubtful. One need not be greatly surprised if the new ships now under way develop 28,000 horse power, perhaps 30,000.

Then there is the possibility of using three screws instead of two. The advantage of twin screws over single ones is that the parts of the machines may be made lighter and yet utilize fully the power of the boilers. The tiny engines in torpedo boats make 500 revolutions a minute without strain, but the Majestic, in breaking the record, averaged but 78. At 500 revolutions, supposing that speed possible, her crank pins, connecting rods, &c., would go flying in forty directions. But should either of the new ships now on the boards have triple screws, the dividing of the power would give increased efficiency, as has been proved in torpedo boats to the satisfaction of engineers. The new American cruisers are to have three screws. And if the new flying commerce destroyers of the American navy are to develop a speed of 23 knots as promised, the Secretary of the Navy may be very sure the British shipbuilders will not rest until ships of at least 24 knots are produced. A 24-knot ship, so-called, could not sustain a speed of 23.4 for 120 hours, but the coming packets now in hand will, very likely, do as well as 23.5 continuously. The day of the four-day ship is beginning to tinge the eastern sky.

No allowance has been made in the calculations for the use of another metal in shipbuilding than steel. It is not incredible that aluminum or some of its bronzes may now take the place of steel. The substitution of this marvellously light metal for steel cannot be wholly made in the ships to be brought out in the next three years, but even a partial use of it would give buoyancy to the vessel in proportion to the amount used. Already, the work of building a small boat of the new metal is in hand, and the space that separates the yawl from the ship in such matters is very small.

It is now less than five years since the sea-faring sharps were discussing the possibility of five-day ships as they now discuss the four-day ship. How long will it be before they will dream of a three-day passage?

### PASSING EVENTS.

New South Wales has given a close enough vote in the Legislative Assembly, on a proposition to extend the suffrage to women to greatly encourage the advocates of that measure. It was proposed by the Prime Minister and rejected by a vote of 34 to 57. That means that the proposition has obtained a sufficient foothold to encourage its friends to persist, and when it comes up again it will have a fighting chance of adoption.

Edmonton is now in communication by rail with the rest of the Dominion. The last spike of the Calgary and Edmonton road was driven on the 25th ult. By Mr. Donald Ross, one of the first settlers in that far-off district. There has been a great improvement in the means of communication in the territories since 1885. In that year, the troops, whose destination was the Edmonton district, had a long weary march of weeks from Calgary, only approached in difficulty by the toilsome progress of the column headed by Prince Albert. Now, both these places are reached by rail. Both are the centre of good agricultural regions, and without doubt both will show rapid progress now that easy means of access are provided. The road, which is about two hundred miles long, has been built within a year.

I would like to tell you what I saw from my window the other day, says a writer in Our Dumb Animals. A handsome team of horses stopped near our door, where the grass looked temptingly green. The near horse munched the grass contentedly, which the off horse tried in vain to reach. Suddenly, to my astonishment, the near horse raised his head with his mouth full of grass and held it near his companion's mouth. The off horse accepted the apparent invitation to eat and took the grass from the other one's mouth. After turning and eating awhile on his own account he repeated this maneuver, and I then called in the other members of my family to watch them. There could be no mistake about it; the horse who could reach the grass fed his companion at short intervals as long as they stood before the door.

The Czar has an answer ready for any complaints that may be sent to him from America respecting the ill-treatment of Jews in Russia. It is the account of how the poor refugees, willing and able to work, are denied admittance to the United States, and are sent back again to Europe as wanderers without a home. It is true that the initial wrong has been done to them in Russia, and that the immigration laws which exclude them from the country were intended to exclude a very different class of people, that is to say professional paupers; but, all the same, the country that has been a refuge for the down-trodden of the world and that protests most vigorously against the injustice done to the Jews of Russia, who are driven from their homes, shuts its doors upon them, not because they are Jews, but because they are penniless.

A feature of the new House of Commons, more marked in this Parliament than his hitherto been the case, is the predominance of native-born Canadians among the members. Of the 213 gentlemen who compose the House as it stands, 182 set down Canada as their birth place. Only thirty-one were born in other countries, and of these Scotland claims almost half, or fifteen, England and Ireland have seven each, while two first saw the light under the flag of the United States. In the Senate the "foreigners" are proportionately stronger. Of the seventy-seven members to-day fifty-five were born within the limits of the Dominion and twenty-two in other lands. Of the latter Ireland was the birthplace of nine, Scotland of six, England of four, the United States of two and Switzerland of one. If there is a lack of Canadian feeling in Canada, as some assert, though without very good reason, it is apparently not for the lack of men of Canadian birth able to take the lead in our public life.

It has recently been suggested with great seriousness by a responsible minister of the Gospel, that if only more women were licensed to preach the congregations would be greatly increased. One might venture to surmise that the increase in the congregation would depend very much upon the young woman preacher. Every one knows what an all-attractive magnet a handsome young clergyman is to the unmarried damsels of a country parish. It would not be extraordinary if a beautiful girl in the pulpit should prove similarly magnetic. It is, unfortunately, not always the actress or the dancer so much as the delightful woman who attracts men to the theatre, and perhaps it may be not so much the preacher as the demure young girl or sedate widow who might draw fervid congregations to the church. The preponderance of feminine worshippers may possibly be accounted for by the exclusive occupancy of the pulpits by men. A more equal distribution of the sexes in the pews might conceivably be effected by an adroit alternation of men and women in the pulpit. But will the men be drawn solely by the spirit of religion, or will the end altogether justify the means even if all the worshippers are converted.

The trade in Canadian eggs is increasing in volume almost every week. In ten days recently upwards of 3,000,000 Canadian eggs of extraordinarily fine quality were landed at Liverpool alone. They are said to weigh from 15 to 17 lbs. per 120, while the best Continental eggs weigh from 13 to 15 lbs. only; and are admittedly superior in class to the choicest Irish eggs—a fact evidenced by their price, which is already from 8 to 10 cents per 100 more than is obtainable for the Irish product. In no trade probably have the Canadians shown a greater aptitude and readiness to meet the needs of the British market. The packing is stated to be superior to that of any continental shipments, and the trade may now be said to be placed upon a permanent footing. Indeed, the leading exporters and commission agents here say that, even were the McKinley tariff abandoned to-morrow, the trade would not now be affected. It is not likely that these Canadian shipments will increase the general volume of British egg imports; but they will, it is expected, tend to keep out of British markets inferior Italian, Russian and Austrian varieties. In this way there is great room for the development of the trade, and the Canadian Government and its representatives here are to be congratulated upon the success which has followed their persistent efforts to make the Canadian farmer realize this fact.—(London Canadian Gazette.)