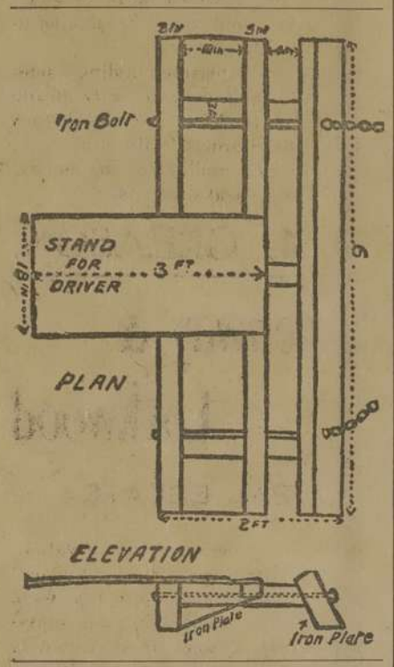
FARM AND GARDEN

A Ground Leveller.

A cheap and effective contrivance for levelling uneven land is shown in the accompanying illustration. The leveller may be made of any convenient length up to 12 feet; the steel smoothing plate is very light, but will last a long time. It is brought from the middle 3x2 in. beam to the underneath of the back 6x3 in. beam, and holes are cut in it for the ties and the bolts. It is a flat steel sheet with ends turned 1 in. and secured with 1 in. screws. The cutter is shod with 2½x ¼ in. steel plate, with bevelled edge, secured with 2 in. screws. The stand for the driver is of pine, 2 ft. 9 in. by 6 in. by 1½ in. In use the driver



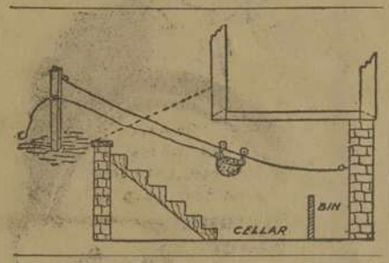
standing on the plate, by moving forward causes the front beam with its cutting edge to enter the ground, and carry forward any soil cut off. By moving backward he raises the cutting edge, allowing the accumulated earth to pass under in as great or as little quantity as he pleases; while the sloping steel sheet smoothes it out, crushes the lumps and spreads it into any depressions.

Biggest Farm in World.

The announcement that the republic of Mexico is about to make some effort to curb the princely aspirations of Don Luis Terrazas of the State of Chihuahua promises to bring into the public eye one of the most remarkable and at the same time one of the least known of the world's unusual men. Four years ago a German prince traveled 5,000 miles to visit a "farmer," and this farmer was Don Luis, whose "farm," Mexicans are now beginning to believe, is getting too large for the public health. In short, it is the biggest farm in the world. In area it ranks with the largest of European kingdoms and empires, and would make one of the big States of the Union. It measures 150 miles from north to south and 200 miles from east to west, or 8,000,000 acres in all. It embraces whole ranges of mountains, entire water systems, volcanoes, mineral lands and thousands of lakes. Over it roam 1,000,000 head of cattle, 700,000 sheep and 300,000 horses. The "farmhouse" is the most magnificent in the world—a palace costing $1,600,000 in gold, superbly furnished, with rooms to accommodate 500 guests.—The Bookkeeper.

A Labor Saver.

The little picture tells it all. This little device may be worked through any cellar door or window. It will save many steps when your time is



most valuable. Try it once and be convinced.

The Lighten Woman's Work.

Women are coming into their own every day on the farm. Time was when labor-saving devices were thought of only in connection with farm work. But that is changing. Woman's work at the best is hard, but is rendered much easier by the employment of handy devices which cost but little.

The telephone and the rural mail delivery have wrought great improvement in the lives of the farmer's wife and daughters of the farm and have done more to cultivate the spirit of true neighborliness than anything else.

A New Pear Disease.

A new disease among pears has been noted in Belgium. The diseased fruit shows round brown spots, which increase in size until the greater part of the fruit is affected, after which it falls. In one instance the loss due to this fungus was great, fully one-half of the fruit being destroyed. Where the pears have been bagged they did not suffer from the fungus. Spraying with Bordeaux mixture, it is believed, will prevent the disease.

Need of Exercise.

Keep the chicks busy and hustling for all they get to eat; never feed them on a bare surface where they can eat without scratching. This is the easiest and surest way to insure strong, rugged chicks that will not be failing ill with "leg weakness" and similar ailments. Scatter all feed in a litter, making the chicks hunt and dig for it. This litter should be about 2 inches deep for chicks less than a month old, and composed of cut straw or hay, or chaff from the hay mow or floor. Sawdust is not very good for this purpose, because the chicks usually will eat more or less of it, and sometimes with bad results.—Agricultural Epitomist.

For Seed Potatoes.

Experiment shows that the most economic potato seed is made by cutting a medium-sized tuber into quarters. It also shows that larger pieces of seed potatoes will produce a very much heavier yield, as the young plant has more nourishment to begin with; under field conditions, however, the medium-sized tuber cut in quarters is the best and most economical. If this can not be done, spread the seed out in a thin layer in a cool, dark place, and they may be used at any time within ten days after cutting without appreciable loss. Never sack or barrel the cut seed, nor expose it to the hot sun.

A Co-Operative Market.

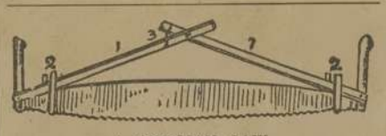
The price of living has become such a bugbear that something will have to be done beside boycotting the butchers to make things cheaper. Some of the farmers and gardeners in and about Denver are organizing for the purpose of supplying consumers with products at one-half the rate of the retailers. They propose to sell independently and have a co-operative market store, where all the farmers belonging to the association will sell their goods. This has not been done in Denver before because the wholesalers and jobbers have control of the transportation facilities.—Field and Farm.

Poisoned by Eggs.

That many people are poisoned by eggs, and not by spoiled eggs only, but often by those that are freshly laid and apparently good, is asserted by a French chemist. Numerous cases of poisoning due to eclairs, or cream cakes, have occurred recently in Paris, and it was in the course of an investigation of these that the conclusion was reached that the toxic action was always the fault of the eggs in the custard, never of mineral poisons introduced accidentally or of the other ingredients of the cream. French eggs, it is said, become infected before they are laid.

Cross-Cut Saw Support.

Two pieces of lath or other light strip of wood bored together as shown at 3 in the accompanying illustration, will stiffen a cross-cut saw so that



A ONE-MAN SAW.

one man will be able to saw with it without difficulty. The strips of wood tend to control the wabble of the free end. A piece of stove wire twisted around the saw and a strip at 2 will aid in keeping it in place. A wire twisted about the laths at 3 will help to maintain the strength.

The Milker.

Many times the milker goes to his task after brushing horses or doing other dirty work, with his hands soiled and his clothing thickly covered with dust. Both soiled hands and dusty clothing are loaded with germs that injure milk. Before commencing to milk the milker should cleanse his hands and slip on a clean suit and cap, which are used for no other purpose, and which may be easily washed. He should always milk with dry hands and never allow his hands to come in contact with the milk.—Missouri Dairyman.

The Queen Bee.

The queen bee lives from two to five years, according to the manner in which she is raised. When raised by the naturel way, as by the swarming of the bees, and the mother queen is two or more years old, she often lives four or five years. The life of the workers varies from forty-five days in the honey-making season to five or sometimes six months during winter, taking the time of October to April. Drones very seldom live more than four or five weeks in hot weather.

Ensilage.

Corn ensilage possesses numerous advantages for early forage, as it is at hand many times when it would be difficult to get spring crops available for early feeding. An acre of corn will produce more succulent food in the form of ensilage than an acre of any other kind of forage. The feeding value of ensilage is so well known that it is useless to discuss its merits.

Corn from China.

The Department of Agriculture is experimenting with corn shipped from China. Plants raised last year averaged less than 16 inches in height, with an average of 12 green leaves at the time of tasseling. The ears averaged 5½ inches in length and 4⅓ in greatest circumference, with 16 to 18 rows of small grains.

Alfalfa Meal.

Many alfalfa mills are springing up in Kansas and other western states. One Kansas plant has a capacity of eight car loads per day, and pays $50,000 annually for its raw material. Alfalfa meal is now used extensively in the cattle field.

Navy's New Dreadnoughts to Be Greatest Afloat

With the policy of building two ships a year we have adhered to the plan of building them by divisions. The North Dakota, Delaware, Utah and Florida will constitute one fleet division, and they are one in type. The Arkansas and Wyoming, and the two ships authorized by this Congress will complete another division, and will be essentially of the same general type. In the interval, however, since the North Dakota and Delaware were planned a new factor of improvement has been furnished by the Bureau of Ordnance in the demonstration that we can make a 14-inch gun that will lead the world for power and penetration. This was the idea of Rear Admiral Mason, and on his authority Congress a year ago appropriated $100,000 to make a 14-inch rifle and test it. This was done in the course of a few months, and the gun proved to be successful beyond all that had been expected of it. It necessarily follows that the next ships to be built must carry 14-inch guns.

The new ships, the Nevada and Oklahoma, will be 554 feet long and 95 feet beam. Their draft will be 28.5 feet. Their displacement will be at least 26,000 tons, and probably 27,000. The speed will be 21 knots, the coal load 3,000 tons, and they will carry a complement of 75 officers and 1,500 men. The armor will be 11-inch on the belt and on the barbettes and 8-inch on the sides. There will be, in addition to the ten 14-inch guns, seventeen 5-inch guns. As a floating fortress the ship will thus have two guns for every sector and with overlapping ranges. A 5-inch gun has been placed at the stern to protect from torpedo attack. A similar provision would be made at the stem but for the difficulty of putting a shutter there that will keep out water in heavy seas.

There will be no superstructure for turrets. The middle turret aft and the rear turret forward are raised above their neighbors so that their guns may fire over them. This is an American idea. Foreign navies are just beginning to adopt it. Years ago the superimposed turret was believed to be a good thing, but it was doubted if heavy guns could be used in the superimposed turret. And there was doubt if they could be used in turrets raised above other turrets, although not superimposed over them. To determine the matter once for all in the presence of much debate about it, a practical trial of the matter was made.

It was claimed that the concussion from the 12-inch guns would kill any living being within the lower turret. At first cats and dogs were placed in a turret on the old monitor Florida, now the Tallahassee, and the big guns were fired. The cats and dogs sustained no injury from the concussion, although the former were somewhat shaken by the contact with the latter once or twice. Then a few midshipmen were put in the turret and again the big guns were fired, and again with no bad results. Then, to make a final and permanent test of the matter, three tough old rear admirals were put in and fired over, and when they came out all right the principle was held to be established that heavy guns could be fired in an engagement over a neighboring turret without any distress to the inmates. That test has been of incalculable value to our navy, and as a consequence the two new ships will be so arranged that they can fire four of their huge guns ahead or astern.

The 14-inch rifle weighs 63.5 tons, or 139,700 pounds. With turret and mount each turret of the new ships, including the two guns, will weigh about 600 tons. About as much more is to be credited in weight to the armorplate. It is calculated that the 26,000-ton ship will carry ten 14-inch guns without difficulty. Remember that in the matter of ammunition the increase of weight is as the cube of the calibre. Where the 12-inch gun throws a projectile weighing 800 pounds, these monster guns will hurl a shell weighing 1,400 pounds. This calls for storage capacity and weight-carrying ability in the new ships. But the 14-inch guns are made so that they do not of themselves or in their carriages increase the weight in the ratio that the projectile is increased. The powder charge for these guns will be from 365 to 370 pounds. The muzzle velocity in foot seconds will be 2,600. With a trajectory sufficiently high their range might be, as is often claimed, 25 miles. For good, everyday fighting, however, they will do some good hitting at eight or ten miles.

Do you want to have some idea of the terrible fighting efficiency of these new Dreadnoughts—the most powerful that the world has yet seen? Well, for a comparison, take the Connecticut, which only a few years back—say ten—was our greatest ship. She has four 12-inch guns and can throw in five minutes 40 shells weighing 840 pounds. That is 32,600 pounds, or over 16 tons of death and destruction. Assuming that the service of the 14-inch gun will be somewhat slower than that of the 12-inch, it is doubtless safe to say that the ten 14-inch guns on either the Nevada or the Oklahoma will deliver 80 shells in five minutes, or 12,000 pounds of projectiles, with their deadly load of high explosive, any pound of which detonated in the psychological place on the enemy's ship would sink it. You can rake the statistics of the navies of the world and you will nowhere find anything approaching the force of this fire. It is nearly twice that of the best Dreadnought in the British navy to-day.

The new ships will probably have the "peach basket" fire-control towers, which have now been installed on nearly all the battleships. Just at present there is a division of opinion as to the value of these towers, and there are two schools of thought in the navy as to them. A special board is at work to get all the data possible as to the advantages and defects of these towers, and another board will probably be appointed in the near future to consider the matter and make recomendations as to the future policy in regard to them.

If the corresponding bureaus of any other country have accomplished what the Bureau of Construction has done since the beginnings of the new navy, 25 years ago, it has been kept from the current history of naval achievement. No praise can be too earnest or distinct for what these officers have done for their country. Their work redounds to the credit of each passing secretary and of the entire body of officers in the navy. When the crucial hour shall come and the fate of the nation may depend on the great naval struggle for which countless millions and unflagging zeal for many years have been given in preparation, to them will be due the victory, if it be a victory. Their share in the result will be, perhaps, less sung than that of the men who command the ships and man the guns, but a generous people will none the less remember their good work.—Philadelphia Ledger.

KING OF KINGS COOKS.

How British Sovereign's Meals Are Prepared by $10,000 Chef.

Mr. Menager, the head cook at Buckingham palace, occupies an important post in the royal household. His salary is $10,000 per annum and he is recognized as being one of the greatest culinary artists in the world. The royal kitchen and the whole kitchen staff are under his complete control.

Opening off the main kitchen at one side of it are half a dozen smaller kitchens, and on the other side there are four offices, where the clerical work in connection with the kitchen department are attended to. One of these offices is Mr. Menager's private room.

Mr. Menager does not live in Buckingham palace, but has his private residence close to it. On arriving at the palace—usually about 11 o'clock in the morning—his first care is to inspect the lunch menu for that day, which has been prepared by his first assistant, and also the menu for breakfast the following morning. He then prepares the dinner menu for the following day—a task that occupies him usually a couple of hours.

No two dinners at the royal table are ever the same. Certain dishes are from time to time repeated, frequently by special request of the king, but what may be termed the general scheme of each dinner is always different. One of the side kitchens is reserved solely for Mr. Menager's use, where he carries out experimental culinary operations and is constantly elaborating and working out new ideas. Some dishes have taken him months of preparation before he has decided to put them into the menu. There is one particular sauce which Mr. Menager invented some years ago to which the king has a particular liking. Mr. Menager was making experiments for over three years before he served this sauce to the royal table.

There are many dishes, by the way, which can be tasted nowhere except at the royal table. The secret of their preparation is known only to Mr. Menager, and he guards such secrets with great care. None of his assistants has the least notion of how these special dishes and sauces are prepared. They simply have the handling of the raw materials and each assistant carries out different directions in its preparation for the table.

The dinner menu is submitted every day to their majesties for approval; but this is a mere matter of form, for neither the king nor queen ever thinks of altering or interfering with Mr. Menager's arrangements.

At 3 o'clock a report is laid before the great chef by the order cook of the various meats that have been ordered in accordance with Mr. Menager's instructions of the day before, and also what is called a kitchen report is given to him by the head assistant cook—which is a detailed statement of the manner in which the dinner for that night is to be prepared. After seeing that everything is in order for their evening's work, Mr. Menager generally leaves the palace about 4 o'clock, returning at 6:30, when he never fails to make a personal inspection of the various ranges, ovens and stoves and takes a careful note of the temperature in each.

The preparation of the royal dinner is then begun. Mr. Menager remains in the kitchen while the work is going forward, keeping a keen eye on everything and everyone, and issuing from time to time instructions to his first lieutenant. At 8:50 exactly a bell is rung and the servants who are to bear the dishes to the state dining room enter the kitchen.

At 9 o'clock dinner is served, and Mr. Menager's work for the day is over. He remains in his private room until 10 o'clock, when he receives a message from the king commencing the dinner. This is a ceremony his majesty never forgets to perform.—London Answers.

DAKOTA'S MIXED MARRIAGES.

Unions of White Men and Indian Women Not Frowned Upon.

In the Dakotas when a white man weds an aboriginal woman and publicly acknowledges her as his wife he provides her with as good a home and clothing as he can afford, and he treats her as he would treat a white woman. He sees to it that she learns to cook, to sew and to keep house, and in other ways tries to educate and uplift her.

Still more interesting is the fact that these mixed marriages involve little or no social disability. The white husbands are rarely, if ever, barred from associations with the whites because of their wives.

To be sure, a man known to be living with an Indian woman who is "without benefit of clergy," is, as a rule, in the language of one White River plainsman, "purty nigh ostrichized." But this would be true if he were known to be maintaining similar relations with a white woman.

"Such loose-hitched tie-ups used to be kind o' common around here," said my White River man, according to a writer in Everybody's, "and nobody thought much about 'em. But there's so many schoolma'ams come out here from New England and other places that folks don't stand for that sort o' thing no more."

Legally married Indian wives pay no more social penalty than do their white husbands. Generally, the little red hen sticks to her home and does not go out with her white husband for a social evening as often as would a wife of her own race. But this is largely a matter of Indian temperament.

As for the half-blood children, as they grow up they are asked to the country dances, the picnic with the white children and women of the community. Some of the handsome, well-educated young half-breeds are in as much demand at social functions as are those whose parents both belong to the "superior race."

In the schools, too, the half-breed children mingle with the children of white families on equal terms and suffer little, if anything, from race prejudices or preferment.

Windmills as Newsmongers.

In Holland births, marriages and deaths are indicated by windmills. When a miller is married he stops his mill with the arms of the wheel in a slanting position and with the sails unfurled. His friends and guests frequently do the same with their mills in token of the ceremony. To indicate a birth the wheel is stopped in a slanting position, but at a more acute angle than that of a marriage, and with the two upper sails unfurled. Should a miller die the sails of his mill are all furled, and the wheel is turned round until the arms form an upright cross, in which position they are left until after the funeral.

Self-Sacrifice.

"I guess I'll go back to the country," said the gentle grandmother.

"What's the trouble?" inquired her son-in-law. "Aren't we treating you right?"

"Yes. But the baseball season is here, and I won't be able to resist the temptation to see the games."

"No. If I am seen in the grand stand looking hale and hearty I'll be almost sure to spoil somebody's excuse for being away from the office."—Washington Star.

Willingly.

He—I asked your father's consent by telephone.

She—What did he say?

He—He said, 'I don't know who you are, but it's all right.—Home Life.

BEFORE the time you see where you made your mistake it is too late.