Lifting the Tubers by Machinery-Two Dis-

tinct Methods Worked Up by Inventors The wholesale production of potatoes has demanded machinery for simplifying the original methods of planting, hoeing and digging by hand. This de-mand has been met by our inventors. The potato planter does the work of 10 good men dropping by hand. Any of the good sulky cultivators or light harrows will enable a farmer to sit on a comfortable seat and let his horses do the hoeing for him. There are machines that will throw poisoned water on six rows at a time as fast as a team will walk to protect from potato bugs. The hardest problem has been to produce a digger that will not only throw the tu-bers out of the soil, but screen or lift

them from the earth as well. Two distinct methods have been worked up by inventors. One is represented by a large, heavy complicated machine with cog wheels, shakers, chains and many parts. This is to scoop



AN IMPROVED POTATO DIGGER.

up vines, dirt and tubers, shake out the former and pass the latter out behind on the surface of the ground. These complicated machines do good work, the obctions to them being that they are of heavy draft, expensive and so complicated that the average cost of repairs is

quite a large item.

The other plan was to devise a plow with a simple screening attachment without expensive fixtures or heavy weight, a machine that the average farmer with a single team could handle farmer with a single team could handle. Beginning with the shovel plow with spikes or fingers ranged about it, this idea has been developed until we have the arrangement shown in the illustration here reproduced from The Rural New Yorker, already quoted. In some of the diggers the screens are placed be-hind the plow. This leaves the tubers in the furrow. In the machine depicted the potatoes do not fall behind at all. They are simply plowed to right and left, falling upon the long screens which

run lightly and easily over the ground.

In a general way, the average farmer is advised to select the least complicated machinery, but it must also be borne in in mind that no machine can give absopotato fields of all sorts and kinds—stor lute satisfaction everywhere. There are ly, weedy, wet, hard, soft. One could hardly expect a digger made especially for work on a level prairie, free from s, to do first class work on a stony New England hillside.

When to Cut Corn.

The ear is the most valuable part of the corn crop for the western farmer, but there is great value in the stover or fodder. Hence it is important to know whether we can obtain both these values ta full, or whether obtaining full value of the one necessitates a decrease in the value of the other. A report from the lowa station, where experiments were conducted to decide when to cut corn so as to get the most profitable returns from the crop, makes it appear that-

The time to begin cutting corn is when the blades and husks have begun to dry, and the cutting should be finished when half the blades and husks have dried up. This gives about 10 days for cutting corn, and the opinion is expressed that the purpose of economy would be better served if the ripening could continue so that the harvest would last but five days instead of 10.

Considering the value of the stover, the importance of having the ears as ripe as possible and the large size of the Iowa cornfields, the crying need of the lowa farmer is a machine that will harvest his corn crop with the same facility as the present self binder harvests the smaller grain.

Open Shed and Grain Chamber

In cold climates many farmers take the precaution to surround their barnyards on three sides with buildings, which adds wonderfully to the comfort of animals that spend at least a portion of each day out of doors, whether it be winter, with its necessary stable feeding, or summer, with its soiling. But to secure the comfort of cows that are turned into the yard in summer an open shed is

highly desirable. It is also an important addition to a yard where cows are turned at night in, summer, whether kept in the stable or



ADVANTAGEOUS BOTH IN SUMMER AND

WINTER. the pasture during the day, for sudden storms and showers frequently arise in the night and thoroughly drench the stock that has no shelter it can seek. For sheep, cows, weanling calves and other stock such an open shed has pronounced advantages both in summer and winter. The one shown in the illustration, here reproduced from The Country Gentleman, is combined with a corn and grain chamber, which is entered from the midway landing of the stairs leading from the first to the second floor of the stable to which the smaller building is attached. The grain is thus constantly at hand when needed or the use of the animals and is easily and conveniently housed after being thin hed from the straw or husked from the stalk.

in the sevnteenth century under the name

BPEEDING BARRED PLYMOUTH ROOK

one Plan of Mating This Variety Bos the Breeders have different plans of mating this variety for best results. Nome advocate mating a standard colored fe male with a light male to produce light females. The result of this mating is some good light females, all very light males and some very dark females. The same breeder, to get his good cockerels, mates his dark females to a very dark standard male. As a result he gets some good cockerels—some lighter and some darker. The pullets are nearly black and worthless. Following is what a breeder writes on the subject in The Poul-

try Monthly: "My plan has been, as a rule, to mate a standard female and a male of as near the same shade as I can. The barring should be deep on the females, and in the back should have from five to seven bars on each feather. It is not expected to be so good on the males; they usually run lighter in undercolor. This mating, if followed up for a few seasons, will produce more good standard colored males and females than any other plan of mating, and the culls will be few and far

'Of course if this plan is taken up with stock that has been bred from extreme matings the result will not be very satisfactory the first season, but if continued will soon begin to show up in cood shape. If one can get stock that as been bred from the single mating, he is on the short road to success, and it will save him many a bird from going to the block. It is surely much more profitable to raise 80 good standard birds, male and female, out of 100 hatched from standard mating that will sell from \$3 to \$6 each, than to raise 40 fine pullets worth \$5 each and then market 40 nearly white cockerels and 20 black pullets.

"With the other extreme mating 80 per cent of the females are too dark to use as breeders, and 10 per cent of the males are so dark as to be slaty and not saleable, and then one seldom gets that bright blue tinged plumage on males from this cockerel mating.

"It will pay any one who has never tried these standard matings to try them and note the results. Give them a good honest trial and do not content yourself with a single year's breeding."

Cultivating a Fenced Garden.

The ideal condition with many perpermitting approach from all sides with horse and cultivator to assist in the cul-tivation of the growing crops and in the subduing of weeds. But a fenced garden is sometimes made imperative by circumstances over which the owner has no control, the "circumstances" being in the nature of his neighbors' cows, pigs, fowls or other animals that are liable on occasions to be at large to the injury of gardens and other cultivated places. The owner's own animals, even when excellent care is taken, may sometimes escape from their allotted limits and in an hour nearly ruin a garden.

For these and similar reasons many are obliged to fence in their gardens and de-prive themselves and the gardens also of



the great advantage of the full and frequent use of the cultivator. A plan suggested in American Gardening is given herewith by which a fenced garden may be cultivated with a good deal defining be curivated with a good deal of ease and thoroughness. The ground used should, if possible, be much longer than wide, with everything planted in rows and the rows running lengthwise.

The end fences are made up entirely of gates, as shown in the diagram.

These being set wide open and the rows having been arranged so that a row oc-curs in exact line with each fence post at the ends, opportunity is afforded to cultivate every row in the garden, and that, too, completely to the ends, with no turning of the horse within the limits of the garden, the advantages of which are too apparent to need dwelling upon.

Agricultural News and Notes. The several agricultural congresses of the world's congress auxiliary of the olumbian exposition will be held in Chicago Oct. 16-28.

A still further decline in the condition of apples is made evident by the returns of August to the department of agriculture at Washington.

Oregon wheat will be a heavier crop than last year.

Iowa agricultural bureau says the state promises an average crop of corn and 50 to 65 per cent of an oat crop. The total yield of wheat is estimated at 10, 124,000 bushels.

The Large Cheese and Improved Cushaw are good pumpkins alike for home consumption and market.

Experiments made by Editor Carman of The Rural New Yorker seem to indi-cate very clearly that in order to in-crease our yield of potatoes it is only necessary in digging our crop to expose the hills separately, and then before har-vesting go through and select our seed potatoes from those hills which show the most abundant crop.

....The shipments of Canadian eggs to E goand have tallen off this year. In the British market our eggs have to compete with the pauper eggs of European hens!



KEEPING MILK AND CREAM SWEET. A Very Important Part of the Process Is

Cleansing the Milk Utensils.

It is often very desirable to keep milk and cream sweet for a longer period than is possible by the adoption of ordinarily known methods. In warm weath er it is difficult to keep milk sweet for any great length of time, but souring even in the hottest weather may be greatly retarded. To keep milk sweet it should be reduced to as low a temperature as possible at the earliest practicable moment after milking. For this purpose aerating machines are made. The milk is conducted over tinned tubes while ice cold water runs through the tubes. In five minutes we have re-duced the temperature of milk in our dairy by this process over 40 degrees. Milk so chilled does not sour so rapidly

The cream from this separated milk should keep sweet longer as a rule than from milk set in pans or cans for the reason that it must always be more uniformly sweet than cream skimmed otherwise in warm weather. Then if chilled at once and set in deep cans sur-rounded by ice water there should be little trouble in keeping it sweet two or three days. A friend of mine made a cooler and aerated his milk in warm weather, and informs me that he has kept milk sweet for 48 hours without using ice. Sixty degrees is not a cool enough temperature in hot weather to set milk in. Fifty degrees is far better. If one can secure cool spring water, let the milk or cream stand in that and have some ice also in the water if pos

as that which cools slowly.

In connection with this subject too much emphasis cannot be laid on the necessity for having dairy utensils clean and properly washed. Milk pans should first be rinsed in cool water, then thoroughly scalded, then again rinsed in co water and then well wiped dry. If h water is used first, it will set some of th milky substance to the sides and joints of the dishes, and the trouble will begin right there. No treatment of the mill or cream can prevent souring if thi matter of cleaning utensils is not at tended to. Even the most infinitely small portions of sour milk or cream allowed to remain contain enough bacteria to sour the new contents in a very short time, even though the conditions for their rapid multiplication are made unfavora ble by cooling.-Professor C. S. Plumb in American Cultivator.

At the dairy tests of the World's fair the New Hampshire cows took the high-est award in butter producing. There is a large herd of Jerseys at the fair made up of the best cows from the farms of many breeders, several states being represented. These cows have not given the results which private tests by the owners assert, but they have made fine

The Jerseys do not excel in the amou milk produced, but the richness of the milk is great and the production of butter far beyond what is expected on an ordinary farm. The herd records show that on one day 870 pounds of milk, containing 126 pounds of cream, ground as the performance. From this stood as the performance. From this was secured 50 pounds of salted butter. The cows average two pounds of butter per day when doing well and yield about 15 quarts of milk daily.

The Holsteins have made a good record as butter producers. One result other than the simple record of milk and but.

than the simple record of milk and butter is the demonstration that the cows are doing just what they were bred to do—showing the great improvements that have been made by breeding for a special end. This whole herd has proved this. It is better for a man to have one cow which produces 14 pounds of butter in a given time than two, each of which produces seven. It is cheaper, for the GARDEN WITH END FENCES MADE UP OF cost of one cow, her care and keeping, is that much tax beyond the expense of the other-that is, in the second

Dairy and Creamery. It is possible to feed cows too many

The fair dairy tests prove the Guernsey claim as far as butter color is con cerned. The Guernsey butter has the richest yellow color of any, and seldom needs artificial addition to its hue.

Guernsey cows have universally a rich yellow skin, and the color of their hair is orange yellow, shading to red and freely spotted with white.

Squashes are in favor with milk cows as food, but should be chopped fine.

If you doubt about the necessity of nilking cows with exact regularity, try the regular and irregular system on to of your cows and see for yourself. Milk one regularly to the minute each day, let the time vary for the other from half an hour to three hours and see how soon the second cow will fall off in her milk.

Cream much exposed to the air and Cream much exposed to the air and rising upon milk set in shallow pans is thicker and darker in color than that from a separator or deep set cans. But it is not any better nor is there any more of it, and it has a chance to absorb microbes that are hurtful.

One ton of husks and corncobs from a sweet corn canning factory is worth as food for milk cows half as much as a ton of good timothy hay.

The quantity of Danish butter shipped to England has increased from 487,636 dredweight in 1892. This is because Danish butter has the name of being the best that is made. Denmark is rapidly being transformed into a great dairy farm, and its butter factories give employment to a vast number of men and

-Ah, weary soul, that stang'st two hours through the the bore with "just a word with you."



after this little exercise, is just to see how easily soot can be removed by using little Master Mechanic's Extraordinary Soap. It has no equal for removing tar, oil or grease, from the hands or clothes, and every housewife, as well as every mechanic, should keep a supply.

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One of the briefest discourses brobably ever delivered was that of a Prince Archibald of Cologne, who, being appointed to preach before the Court at Versailles one April, ascended the pulpit, gravely bowed to the audience, and, shouting out "April fools—all!" ran down the steps again amid peals of laughter.

But brevity is not always the soul of wit. Canning was once asked by a clergyman how he had liked his sermon, "Why, it was a short sermon," was the reply. "Oh yes," said the preacher, "you know I avoid being tedious," "Ah! but," answered Canning, "you were tedious." short Sermons. TRY BALA

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RAILWAY TIME TABLES

GRAND TRUNK-Southern Division

	ARRIVE.	DEPART
Wabash Express (A) "Jimited Express Accommodation Atlantic Express (A) Day Express Reading Express (A) "Wabash Express (A) (D) Mixed (C) Eric Limited (A)	3:35 a.m. 3:45 a.m. 12:10 p.m. 10:55 a.m. 3:10 p.m. 4:20 p.m.	3:40 a.m 3:50 a.m 8:05 a.m 12:20 p.m 2:20 p.m 3:15 p.m 4:25 p.m

11:20 a.m. 11:20 a.m. 12:30 p.m. 6:50 p.m. 9:50 p.m. 7:30 p.m Sarnia Branch,

ARRIVE. | DEPART Limited Express (B).... Atlantic Express (B)...
Accommodation...
Reading Express (B)... Accommodation..... Eric Limited (B)....

Sarnia Branch ARRIVE. | DEPART Chicago Express (B)... 5:30 a.m 7:40 a.m 10:20 a.m Pacific Express (B) 7:00 p.m London, Huron and Bruce St. Marys and Stratford Branch. ... | 11:15 a.m. | 7:30 a.m

Express. 2:05 p.m. Express. 5:40 p.m. 2:40 p.m. Express. 9:15 p.m. 6:55 p.m. Toronto Branch, Hamilton-Depart-a.m. | a.m. | a.m. | p.m. Hamilton—Arrive— a.m. | a.m. | a.m. | p.m. | p.m. | p.m. | r.m. 112:30 | B + 9:60 | 10:30 | B12:30 | 3:55 | 6:25 | 8:15

* These trains for Montreal.
† These trains from Montreal.
† These trains from Montreal.
(A) Runs daily, Sundays included,
(B) Runs daily, Sundays included, but makes
no intermediate store on Sundays.
(C) No. 20 carries passengers between London
and Paris only,
(D) This train connects at Toronto for all
points in Manitoba, the Northwest and British
Columbia via North Bay and Winnipeg.

E. DE LA HOOKE, City Passenger and Ticket Agent, the "Clock" corner Richmond and Dun-LONDON & PORT STANLEY RY.

Leave London 6.44 9.80 2.00 8.00 Arrive St. Thomas. 7:20 10:15 8:00 8.00 Exp Depart St. Thomas. 7:25 10:15 8:10 8:50 Arrive Pt. Stanley. 7:45 10:35 8:30 Going North.

All trains stop at intermediate stations when assengers at or for.

CANADIAN PACIFIC RAILWAY. Coing East. ortland, Me... Boston..... Halifax, N. S... Trains arrive from the east at 11:06 a.m., 6:35 m., 8:06 p.m., 11:00 p.m.

being west. 9:20 p.m. s.m. 12:47 8:43 12:47 2:80 10:40 2:30 10:15 7:15 10:10 Trains arrive from the west at 8:40 a.m., 12:35 p.m., 4:45 p.m., 10:15 p.m.

Thos, R. Parker, City Ticket and Passenger Agent, 161 Dundas street, southwest corner Richmond and Dundas. MICHIGAN CENTRAL RAILWAY LONDON TIME.

Canada Southern Division-Going East, Leave Leave St. 8:00 p.m. 2:00 a.m

Canada Southern Divis on—Going West (Except state)

(Chicago and Western Express (daily).

S:30 a.m. 10:40 a.m. 1

press (daily). S500 p.m.; 12:05 m. Trains arrive in London at 9:10 s.m., 12:05 (ncon), 6:35 p.m. and 10:45 p.m. [NOTE.—No trains to or from London on Sundays.] JOHN PAUL, City Passenger Agent, 395 Richmond street.

ERIE AND HURON RAILWAY. Trains South.

 Earnia (G. T. R.)
 a.m. P.M. a.m. F.M. courtright
 F.M. old from the first from the fi

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must be handed in on the day previous to that on which their appearance is desired