

Yards' Company, of Chicago, for 1913 the total receipts of live stock numbered 16,452,807 head, with a valuation of \$409,184,674. This immense consignment was divided in the following manner:

Head.	Kind.	Valuation.
2,513,074	Cattle	\$208,883,429
275,382	Calves	5,004,969
7,570,938	Hogs	146,507,470
5,902,798	Sheep	31,798,494
90,615	Horses	16,990,812

The heaviest trading in cattle was done in 1892; in calves, 1911; in hogs, 1898; sheep, 1912; and horses, 1905. Whether it be due to a decreased birth rate or an altered system of feeding and rearing among stockmen, the receipt of calves at this market in 1912 exceeded that of 1913 by 130,019. This is one of the large markets of the world, but there are many others in the United States and Canada which act as a trading place in these commodities, and with this great quantity of live stock at her disposal the North American Continent does not yet supply the demands of her own people. In the month of January, 1914, alone the United States imported 8,935,797 pounds of Argentine meat. With the increasing population at home and the foreign demand for prepared articles, there are as yet no visible limits to the industry in this country.

### A Record of Champions.

The crowning event of the International Fat Stock Show, held annually at Chicago, is the placing of the award on the grand champion steer. It brings glory to the feeder, exhibitor and breeder, and is watched with intense interest. For the last two years Canada has carried off the trophy, but one never knows in what corner of North America a steer is being nurtured and reared that may some day secure the much coveted prize. Following is the record of winners since 1900:

Year	Name	Breed	Price per lb.
1900	Advance.	Angus.	\$1.50
1901	Wood's Principal.	Hereford.	.50
1902	Shamrock.	Gr.-Angus.	.56
1903	Challenger.	Her.-Angus.	.26
1904	Clear Lake Jute 2nd.	Angus.	.36
1905	Blackrock.	Gr.-Angus.	.25
1906	Peerless Wilton 39th Defender.	Hereford.	
1907	Roan King.	Gr.-Short.	.24
1908	Fyvie Knight.	Angus.	.26
1909	King Ellsworth.	Gr.-Angus.	.18
1910	Shamrock 2nd.	Angus.	.60
1911	Victor.	Angus.	.90
1912	Glencarnock Victor.	Angus.	.50
1913	Glencarnock Victor II.	Angus.	(not sold)

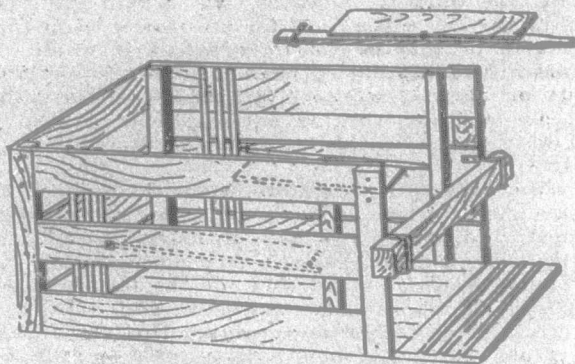
Glencarnock Victor II., Shamrock II., Roan King, and Advance were yearlings; Peerless Wilton 39th Defender was a calf; Shamrock and Clear Lake Jute II. were three years of age, and the remainder two years old.

### Breeding Crate for Pigs.

A short time ago we received an enquiry re the making of a breeding crate for swine. This is almost indispensable where all sorts and sizes of sows are to be bred to a large heavy boar. It greatly facilitates matters where the sows are small or weakly. A breeding crate is built the same as an ordinary shipping box with the top left off and the rear left open. It is best to have the corner posts 2 x 4 scantling and the side boards good solid material six or eight inches in width. Good dimensions are four feet ten inches in length, by two feet wide and two feet nine inches high. Board up the front closely and at intervals of six inches near the front end nail slats on the sides into which may be slid a false front to shorten the box for small sows. Nail a strong iron staple or keeper on each rear corner scantling into which may be slid a 1 x 4 inch slat to keep the sow up in the crate. Place this from fourteen to sixteen inches from the bottom. Where it is necessary to use a very small boar or a very large sow a platform must be supplied behind the crate for him to stand on. This platform may be made of two-by-four scantlings with inch boards placed crosswise and inch slats on top of these to prevent slipping of the boar's feet. If it is required to be higher, it may be easily raised by laying pieces under it.

One of the most important and essential parts of the crate are the foot-rests to be placed along the sides of the crate upon which the boar rests his feet and relieves the sow of the weight. One of these is shown at the top of our illustration. A piece of stout tough wood is necessary for these each to be made two by two inches and two feet eight inches long. Round these off at the rear ends to fit into holes in the rear posts; of these holes there should be three in each post at intervals of four inches. Leave the front ends of the strips square and fit them with a square staple to go through the middle side boards at a

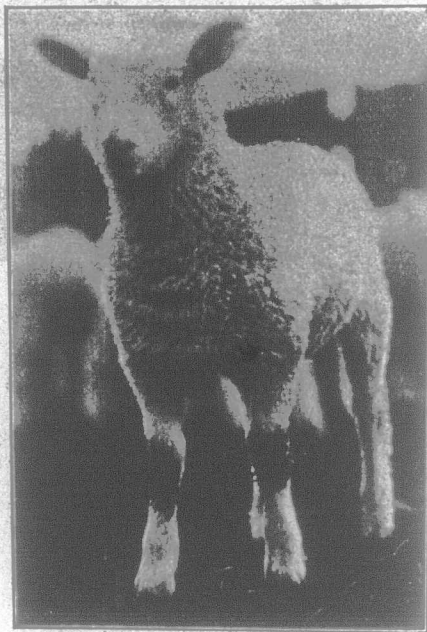
distance of two feet eight inches from the rear post and be fitted by nuts on the outside of the board. On top of this may be nailed a five or six-inch board a few inches shorter than the strip leaving the strip extending at both ends. This board is a good foot-rest and also prevents the sow moving sideways. If the sow is large and all the space is required turn down the side



Breeding Crate for Swine.

rests. To do this, simply loosen the nuts on the front staples, pull out the rounded end and change the square of the front end to allow the shelf to fall down. Use thumb nuts such as are used in the tail rods in wagon boxes.

Some make larger crates five and one-half or six feet long by two feet four inches wide and three feet high. It is well to nail cleats crosswise of the floor to prevent sow slipping. A good firm foot rest and a very handy one is made by nailing two-by-four scantlings to either side of this type of crate placing them about the height of the sow's head in front and slanting them down to the floor of the crate behind. These are permanent and require no adjusting, but of course cannot be made meet the requirements of so many different sizes of sows. To keep the sow up in the crate some use a stout, round hardwood pole, as a good strong shovel handle. This they slip through holes bored at intervals in each of the second boards composing the sides. From this description any reader should be able to build a suitable crate.



Nothing Wrong with this Fellow.

## THE FARM.

### Farm Engineering.

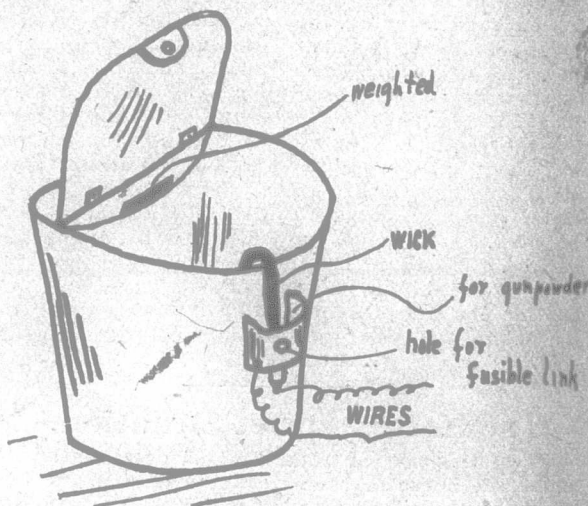
#### THE WORKING PRINCIPLES OF ORCHARD HEATERS.

Many of the Eastern farmers have found out that orchard heaters are not as satisfactory in one orchard as in another, and wish to know the principles of operation in order that they may be used with the greatest efficiency. Others have tried them but once, and without success. Full stories of experiences are hard to get without prejudice.

The plan of orchard heating has been tried for years in the Western United States with great success. Eastern fruit growers in New Jersey, New York, Connecticut, and Massachusetts have taken it up for the last two years. Few orchards in Canada are so protected. The idea is to start a multitude of small fires in various parts of the orchard when the temperature goes so low as to give a possibility of injuring the crop, particularly at blossom time. The usual fire is a can of burning oil which gives off a dense smoke.

Sometimes soft coal is used, but it is less satisfactory because of the time it takes to start, and the fact that it cannot be readily quenched without dumping. The oil heaters, on the other hand, smoke up well and burn from the beginning, and, if there is a cover on the container, they may be readily put out by closing the cover. As many as three or four thousand of these small cans are used in some of the orchards.

The protection afforded comes largely from the great cloud of smoke which hangs low over the orchard, holding in the heat from the fires. If a strong wind gets at this cloud and dissipates it readily, the heaters will not be satisfactory. If the orchard is located high and unprotected, in order to get good air drainage the probabilities are that this form of heating will be difficult to arrange. The best location is one that is somehow sheltered, as, for example, one where there has been a windbreak erected or where there is a natural windbreak. Particularly in valleys surrounded by small hills, this method of frost fighting is successful. In such places as these the cold winds are prevented from driving in and making a cold air pocket around the trees. Many of the farmers in setting out new orchards arrange windbreaks against the winds found to be most commonly damaging with the idea of utilizing the orchard heaters when the trees come into bearing.



Orchard Heater.

The particular type of burner is, of course, immaterial so far as effectiveness goes. Heaps of any burnable material, if it smokes well, may be used. Small fires of brushwood or sawdust, sometimes with a little soft coal thrown on, have been used in the early days of experimenting and are still retained by some growers. One man built his fire on a portable arrangement and dragged it in and out through the orchard very slowly with reasonably good results, but, of course, at the expense of a great amount of labor. The difficulty of starting such a large number of heaters in a short time has been solved by a simple electric arrangement that any farmer can make. The oil can, built something like a milk pail, has a hinged cover with a weight tied to it tending to throw the cover up. (See sketch). A piece of fusible metal holds it down. In a little pocket alongside of this fusible link there is a small amount of gunpowder and a wick leading from the inside of the oil can. There is the ordinary spark plug of an automobile engine arranged close to the powder. If a spark plug is too expensive, just the bare ends of the two electric wires held securely a tiny distance apart will do. When the electric spark jumps the space it ignites the gunpowder, and in that way lights the wick. The burning wick melts the fuse and the weights pull up the cover, the burning wick igniting the oil within. By opening the cover a small amount or a large amount, as desired, the fire may be regulated.

Nova Scotia.

R. P. CLARKSON.

### Advantages of Factory-Mixed Fertilizers.

Editor "The Farmer's Advocate":

I was surprised to read in a recent issue of your paper a letter from a correspondent criticizing a fertilizer advertisement of the company with which I am connected. It seems to me that before a man writes letters, or at least before he should ask to have them published, he should know what he is talking about. This is a simple proposition, yet what are the facts; in the first place your article was headed "Believes in Home-mixed Fertilizers," and very severely and most unfairly criticizes a graduate of the Agricultural College whom he claims stands "Sponsor" for a fertilizer experiment. I am at a loss to understand whether this letter was prompted by ignorance or malice. We all understand what a fertilizer "experiment" is, and I challenge any man to read the advertisement in question and find in it a reference to any experi-