side of mangers are often in individual sections with smaller lids to feed boxes. Some like a cover extending over the width of three stalls, as one handling answers.

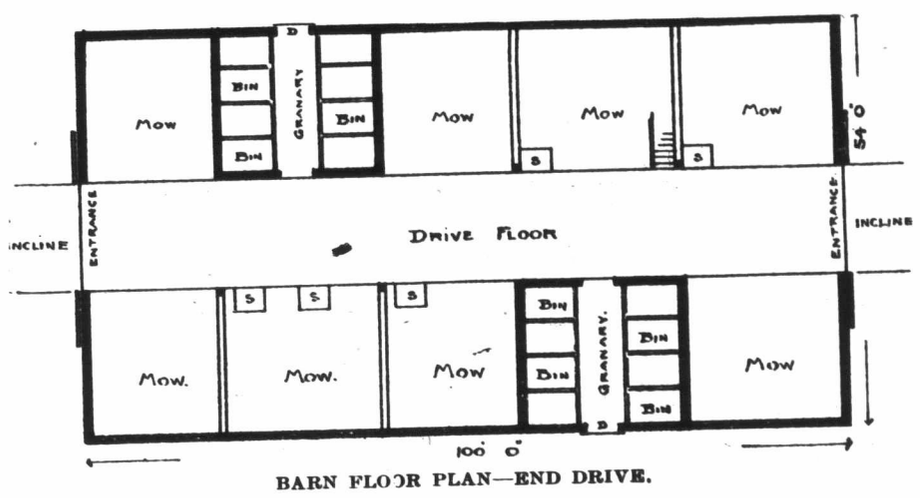
Cattle Stalls.—The most perfect arrangement for stabling cows is a box stall with a shallow gutter near the middle. Box stalls can be used advantageously only when there is plenty of bedding. When sufficient straw is used they can be left for several days without cleaning, but on the score of economy most farmers prefer to tie up in stalls. Different lengths of platform should be made to suit the various ages and sizes of cattle. The average length of woodwork in stalls runs four feet six inches by a width of not less than thirteen feet and up to fourteen feet for two pairs of animals Stall boards look more finished when terminated by a six-inch diameter post of oak finished with a turned ball. The gutters should be eight inches deep against stalls, made in the form of a grade, say thirty inches across, with the level of passageway behind three inches below the platform of the stalls. The tops of divisions between boxes and heads of stalls in cattle stables are now being made four feet high, allowing free circulation of air and diffusion of light, and all animals are in view from any part of the basement.

Chutes.—A number of chutes should be placed to open from drive floors into root house, feed room and stables on the ground floor, for the passage of hay and straw from the mows above.

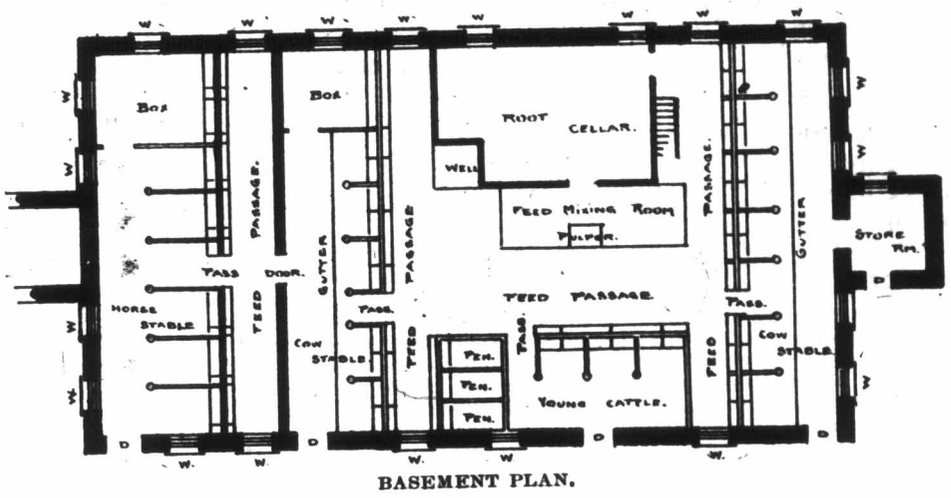
Ladders.—Ladders should be conveniently situated from main driveways. On barn ends a ladder commencing 6 feet from floor of mow or roof of granary, and reaching to the gables, can be placed to be used in adjusting the hay-fork car.

Brush Boxes.—Frames 2 feet 6 inches long by 1 foot 8 inches high by 12 inches deep, of 2-inch plank, built into the walls of basement at convenient points, are a source of comfort to the users of curry combs and brushes; and a suitable receptacle for the milk pails in the cow stables.

[NOTE.—The above article and plans have been prepared by Mr. D. A. Hewitt, architect, formerly of Brantford, Ont., now of Ottawa, who has given much attention to the subject of farm barns and construction, and are offered as specimens of his work. The plans are of course subject to changes and modification to meet circumstances. In the case of plan A, for instance, the shelter may be dispensed with, which will give room for considerable addition to the stable accommodation. The location of the feed room may also be changed so as to be between the silo and the root house for convenience in mixing feed. The silo might, in order to increase the stable room, be placed outside the building, as many are now arranged, having handy connection with the feed room by a door and a chute down which the silage is carried.—EDITOR.]



BARN FLOOR PLAN—END DRIVE.



BASEMENT PLAN.

Favors Windmill Power.

To the Editor FARMER'S ADVOCATE:

SIR,—I will try and show my fellow-farmers some of the advantages of the windmill over other farm powers. I have a Brantford 14-foot windmill, which was erected on my farm two years ago. All I have to do when the horses are feeding or on a stormy day is to go into the barn and pull on the lever and it is either grinding with the large Maple Leaf grinder (I have ground oats at the rate of sixty bushels an hour) or cutting chaff as fast as I have done with eight horses, or pulping turnips, or pumping water—rain or shine, as long as there is a little wind. All the expense I have now is a little oil. One of the great advantages of the windmill over the other powers is that it is always ready and always out of the road. A. E. HODGERT.

Perth Co., Ont.

Three Great Pictures.

In distributing the balance of our three great premium engravings, "Canada's Pride," "Canada's Glory," and "Canada's Columbian Victors," we desire that they find their way at once to as wide a circle of farm homes as possible, hence our exceedingly liberal offer of all three for one new subscriber, or 50 cents cash. We would advise our friends to take advantage of this offer at once while the supply lasts. For the information of our many new subscribers, we might say that the first two pictures represent groups of prize-winning heavy and light horses, respectively, and "Canada's Columbian Victors" is a beautiful illustration of prize-winning Ayrshires at World's Fair in 1893.

Treatment of Seed Oats to Destroy Smut.

To the Editor FARMER'S ADVOCATE:

SIR,—In common with nearly all farmers, I have suffered considerable loss from smut in oats. Some years I believe it is as much as 20 per cent. This is a loss without any compensation. I have watched the agricultural press for some time for some antidote or some method to prevent the oats turning to smut. As yet I have noticed but two methods that have been recommended. The one I may call the hot water cure. This, however, is so inconvenient that it is not practiced to any extent. The other was extensively published in the agricultural press some years ago, and if I remember rightly was said to have been discovered in Russia. It consisted in saturating the oats in a solution of potassium sulphide, or liver of sulphur, to give it its common name. One pound of this was to be dissolved in about six gallons of water. It was said this would destroy the smut spores without injuring the vitality of the grain. Last spring I prepared a solution of the above in my spraying barrel. I then spread my seed oats on the barn floor and thoroughly sprayed them, turning them several times and spraying them each time until they would retain no more of the solution. I did this in the evening, the next morning the oats were dry enough to run through the drill. I found that the vitality of the oats was not injured in the least. I also found at harvest that the vitality of the smut spores had not been injured in the least. This is my experience with the potassium sulphide "cure." As perhaps I did not apply this "cure" in the right way, I would like to have the experience of others, as doubtless there are many who have tried it. JOSEPH CHELLEW.

Lincoln Co., Ont.

[NOTE.—Mr. S. A. Bedford, Supt. Experimental Farm, Brandon, Man., in his report for 1896 says that in his experiments with sulphide of potassium the seed oats were soaked in the solution for twenty-four hours—1½ pounds of the chemical to 25 gallons of water—and very little smut was seen. Next to this treatment the steeping of oats for five minutes in bluestone liquid generally gave best results, and this may be sufficient to keep the smut in check even if it does not completely destroy the smut spores. Mr. McKay, Supt. Exp. Farm, Indian Head, N.-W. T., in his 1897 report, gives results of bluestone treatment for smut in wheat. *Pure seed.*—1 lb. bluestone to 8 bush. Heads on 25 square feet: good, 1,342; smutty, 0. Untreated—1,014 good; 244 smutty. *Smutty seed*—1 lb. bluestone to 8 bush.: good, 1.210; smutty, 24. Untreated—good, 641; smutty, 643.—ED.]

Second to None.

JOHN MOORHOUSE, Renfrew Co., Ont.:—I have to congratulate you for the pains you have taken to give the farmers such insight of what is going on in the world for their benefit. I consider your journal second to none published in the country today. When it reaches our house it is for who will have it first. The girls are just as anxious as the boys. I hope you may be long spared as the farmer's advocate. Now, sir, I wish you and your many readers a happy New Year!

Manitoba's Final Crop Report for 1897.

In our last issue was given an estimate of the products of the farms of Manitoba for the year 1897. The December crop report has since been issued, and a few more details will be of interest. By districts the acreage, average, and total yields of wheat and oats are as follows:

WHEAT.

District.	Area in Crop.	Average Yield.	Total Yield.
North-western	90,000 acres.	16.5 bus.	1,485,000 bus.
South-western	554,626 "	13.6 "	7,542,913 "
North Central	240,181 "	14 7 "	3 530,660 "
South Central	320,000 "	13.6 "	4,352,000 "
Eastern	86,075 "	15.7 "	1,351,377 "
Province	1,290,882 "	14.14 "	18 261,950 "

OATS.

District.	Area in Crop.	Average Yield.	Total Yield.
North-western	68 940 acres.	29 bus.	1,999,260 bus.
South-western	169,925 "	19 "	3.228 575 "
North Central	73 656 "	23 "	1,694.688 "
South Central	105 100 "	23 5 "	2,469 850 "
Eastern	50,525 "	24.5 "	1,237,740 "
Province	468 141 "	22.7 "	10,629.513 "

In barley the total area in crop, 153,266, with an average yield of 20.77, giving a total of 3,183,602 bushels.

The total yield of flax is given at.....247,836 bush.
" " rye " ..... 48 344 "
" " peas " ..... 33,380 "

Making the total grain crop 32,404,-625 bushels. The report continues: "The range of yield, as reported by correspondents, varies from six to twenty-two bushels per acre. The season for harvesting and threshing was exceedingly favorable, and never in the history of the Province was the wheat crop placed at such an early date upon the markets. The quality was in general No. 1 or 2 hard, free from smut, and the price realized was in excess of that received for some years past. Although the yield on the whole was only 14.14 bushels per acre, the crop was handled expeditiously and economically, and the price realized has been so satisfactory to farmers that the Province has forged ahead, entering upon a new era of prosperity."

"The oat crop this season cannot be considered much better than half a crop."

LIVE STOCK.

Beef cattle exported	15,000
Stockers exported to U. S.	16,500
Total	31,500
Hogs shipped out on foot or dressed	12 500
Hogs received by Winnipeg packers	25,000
Total	37,500

Although the above large number of stockers and export cattle have been sent out, still the total number of cattle in the Province shows an increase over the estimate of 1896, viz.:

STOCK IN THE PROVINCE.

	1896.	1897.
Number of horses in Province	95,140	100,274
" " cattle	210.507	221.775
" " sheep	33,812	36 680
" " pigs	72,562	74,944

The poultry disposed of by farmers is given as:

Turkeys	47,540
Geese and ducks	20,000
Chickens	184,055

which does not begin to supply the local demand. Large quantities of turkeys and geese are yet imported from Ontario to supply the Christmas markets.

In dairy products the increase in production over 1896 is unfortunately very small, but owing to the higher prices ruling this last year, the returns financially have been greater. The following figures are from the crop reports of '96 and '97:

		Pounds. 1896.	Pounds. 1897.	Price.	Value.
Butter	Creamery	776,000	987,179	18c.	$177,692 22
	Dairy	1,469,025	1,410,285	13c.	188,625 62
		2,245,025	2,397,464		366,317 84

	Pounds. 1896.	Pounds. 1897.	Price. 1897.	Value. 1897.
Cheese	986,000	987,007	8½c	83,895 59

Fall Plowing.—The total area of fall plowing is 888,935 acres. From the August Bulletin the area of breaking is reported as 88,790 acres, and the summer-fallowing as 392,960 acres, making a grand total of 1,370,685 acres prepared for the crop of 1898, an increase of more than 400,000 acres over that ready a year ago for the 1897 crop.

The estimated expenditure for farm buildings totals nearly $1,000,000.

Prairie Fires—The loss estimated from this source does not, after all, begin to approximate the actual damage sustained in the setback it gives to the sufferers, which we find to be for the past three years as follows: