

a little practice will soon enable you to determine the charge required for each particular circumstance, as even two stumps the same size and in the same kind of soil require different treatment, for a stump situated in a hollow, with the dirt plowed up against it, will require a greater charge than one on a knoll where some of the soil had been removed from around it. I would advise our friend to try one pound of 50% dynamite to a pine stump sixteen inches to eighteen inches in diameter, and three pounds for a stump twenty-four inches to thirty inches in diameter.

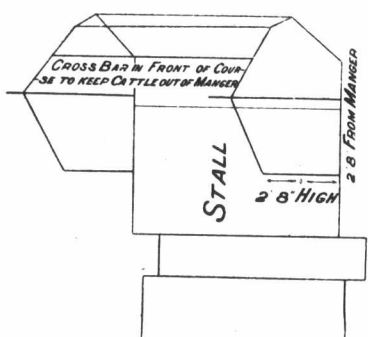
B. C., Nov. 6th, 1900.

Yours truly,  
"STUMP."

### Water Supply System for House and Barns.

To the Editor FARMER'S ADVOCATE:

SIR,—Having gone to considerable expense in purchasing a herd of thoroughbred Holstein cattle, I found it necessary to fit up my barn and stables accordingly, and I thought, as the water-supply question is one of such great importance to farmers and dairymen generally, it might be interesting for your readers to know about the system which I use and which I consider an excellent one. I enclose a plan showing the location of the house, well, and barn, with relative distances. In the loft of the drive barn is the storage tank for water, inside of which is a 20-inch galvanized tank the same height as the store tank. The fresh water is forced into the galvanized tank, and the stale water overflows into the larger one. Then, as the water for

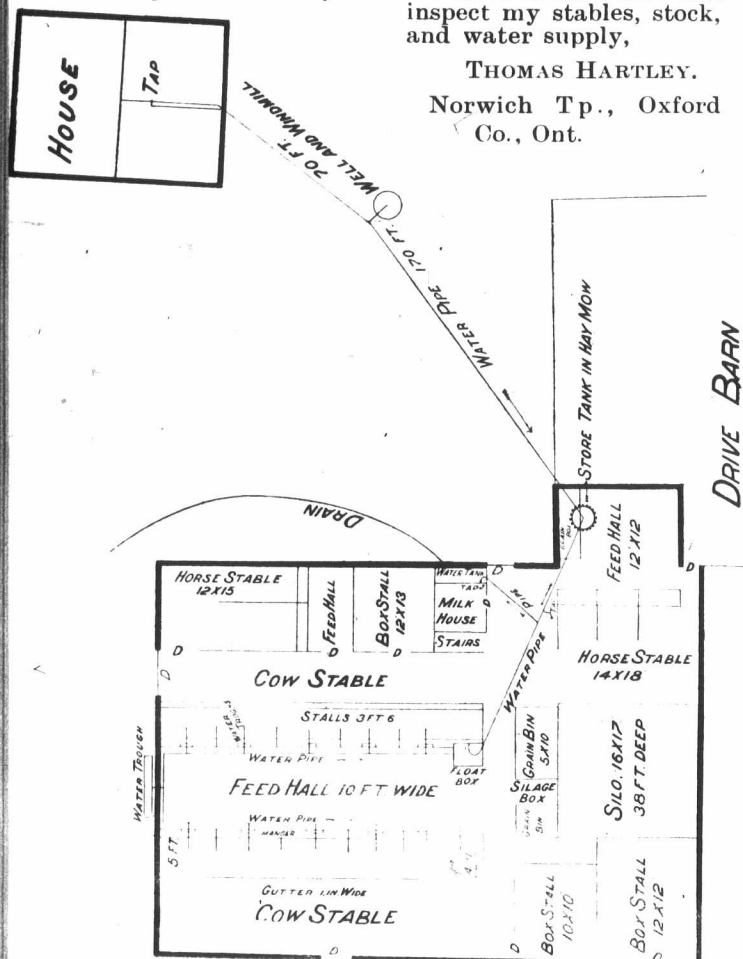


SIDE VIEW OF MANGER.

the house is drawn from the galvanized tank, it is always fresh, and the same pipe that carries the water to the barn, carries it also to the house. In the stables, as shown in the plan, each cow has a separate trough; the water enters from the bottom, and there is a check valve in each trough to prevent the water from flowing from one cow to another, so each gets a fresh supply. In the milk cellar the tap empties into a cement trough, large enough to hold two cans and two pails; then, after the milk is cooled sufficiently, the plug from the trough is pulled and the used water is carried away through a tile drain. In the stable I have 20 head of cattle, most of them thoroughbred Holsteins. Some of them are imported, and it is a satisfaction to think that they will not have to wade through snow up to their knees all winter, and drink through a hole cut in the ice, but will have pure, fresh water always before them. Should any of your readers care to examine further into this question, I should be pleased at any time to have them come and inspect my stables, stock, and water supply,

THOMAS HARTLEY.

Norwich Tp., Oxford Co., Ont.



BASEMENT PLAN OF THOS. HARTLEY'S BARN, SHOWING WATER SYSTEM.

### A Reviving Interest in Plowing Matches.

SUGGESTIONS BY WILLIAM RENNIE, SR.

As there appears to be a revival of interest taken in plowing matches in some sections of the country, I take the liberty of offering some suggestions in this connection. The style of plowing adopted some forty or fifty years ago was a narrow furrow with high comb, necessary to cover the seed grain, which was invariably sown by hand and covered by harrowing the surface level. Since the introduction of grain drills, the seed-bed is prepared by first plowing wide and shallow furrows, then harrowing and cultivating thoroughly before seeding with the drill.

For testing the skill of plowmen, the old style is decidedly preferable. I herewith submit a scale of points by which plowing may be judged. By this the plowman will understand beforehand the standard of excellence that is required; this is desirable.

SCALE OF POINTS.	
Beginning .....	15
Finish .....	15
Shaped ridge .....	12
Even holding .....	10
Compactness .....	10
Covering the grass .....	10
Equal measurement (back and face) .....	10
Straight .....	10
Ins and outs .....	8
Total .....	100

In staking out lots for a plowing match, allow sufficient width for two ridges of about fourteen feet each. Set stakes with number in furrow (if any) between each lot. Plowmen must throw off two halves and gather a ridge in the center. The halves and center ridge must have an equal number of furrows; one or both finishes must be to the center ridge. Ample time should be allowed, say at the rate of sixteen hours per acre. No assistance allowed except setting and lining of poles. Plowmen should be allowed to use their hands to arrange furrows, especially in sod, which is preferable for match work. Plowing should measure six inches, both on coulter and share sides.

Enthusiasm may be created in plowing matches by several townships or counties in a district holding local matches, say end of October, and each select their champion in both the senior and junior classes, and, say, first week in November, a district championship match may be held to decide the "district champion plowmen." This idea was inaugurated in the "Ottawa Valley district" this present fall, and proved a great success.

This might be taken up by the Farmers' Institutes in their several divisions. The object of holding these matches would be to enthrone the young men in the district to take a greater interest in their farms and horses, and also create a taste to keep everything neat and tidy on their farms. Prizes should be offered for the most approved modern style of plowing stubble land, using either single or twin furrow plows. In this class the ridges should be double width, so that each plowman will have one finish only; time might be at the rate of eight hours per acre. This class should be of very great interest and benefit to both the farmers and manufacturers of this country.

### Growing Flax with Wheat.

In parts of Minnesota and the Dakotas, where considerable attention is given to the growing of flax, cases are frequently cited to show that a double crop, wheat and flax, can be successfully and economically grown. A farmer from Lincoln Co., Minn., thus writes in favor of the combination in a recent issue of *Farm, Stock and Home*:

"I don't just know why it is, but a combination of wheat and flax in the same field is a weed killer, or has proven so with me. I had as much wheat to the acre this year as the average around me, and as much flax to the acre, too, as fields in this neighborhood that grew flax only, and I got both off the same land. Flax alone and wheat alone had as many weeds for company as there was flax or wheat, so that such fields carried as much vegetable matter as mine did. I vote for the double crop."

### Wheat, Chess, and Wild Flax.

To the Editor FARMER'S ADVOCATE:

SIR, I saw an article in FARMER'S ADVOCATE of November 15th, from H. Pettit, giving his experience with chess, which is very similar to mine. I have heard and read many a man's statement that wheat does turn to chess, giving reasons why they believe it, but have never heard or seen any good proof myself that such is the case. One man told us that if we would mow or cut the top off the wheat three times in the spring, two or three weeks apart, it would all turn to chess. I tried it, but never a bit of chess. One of my near neighbors thinks he has a proof that wheat does turn to chess.

Two years ago wheat killed out badly in this district, mine as well as the rest, but I had no chess, while he had scarcely anything else but chess, as nice and as even a crop as you would wish. His argument was that he did not sow so much chess, and that you could not find any chess between the drills. Last year he also had a field of wheat severely winter-killed, but had a good half crop of rye. Now, he does not argue that wheat turns to rye, but why not? He had no idea that he sowed that amount of rye, and you could not find a stool of rye between the drills. I am convinced that if many of our farmers would take the plan of Mr. Pettit and re-clean their seed carefully, they would be surprised to see what they would get out of it, and there would be a great decrease in the chess crop. When I came on the farm I am now on, I found wild flax, and have had considerable trouble with it ever since. If the wheat is a good crop, not winter-killed, we see but little flax; but if otherwise, there is plenty of it. I have no idea that wheat turns to flax, but the flax seed will lie in the earth for years and then grow if the ground is plowed early in September and harrowed. If anyone knows of a plan to clean the land of it (and not cost the whole farm) they would do me a favor to let me know of it. I can keep clear of raising chess, but I cannot of that stuff.

Oxford Co., Ont.

J. H. JULL.

### DAIRY.

#### Expansion of the Canadian Cheese and Butter Trade.

BY J. A. RUDDICK, DOMINION DEPARTMENT OF AGRICULTURE.

Taking a general view of the situation, it seems to the writer that the outlook is a very hopeful one. I believe that our present position in the British market may not only be maintained, but that it may be improved to a very great extent, providing we make such efforts as we are capable of in that direction.

#### CHEESE.

There is some danger that while we are congratulating ourselves upon having attained such a prominent position in the Old Country markets with our cheese, we may forget that other countries are looking in the same direction, and would drive us out if possible. That essentially British sentence, "What we have we'll hold," expresses a sentiment which finds a ready response in the minds of Canadians; still, we must not lose sight of the fact that some of our competitors have natural advantages equal if not superior to ours, so that they only have to do their work as well as we do to excel us in the matter of quality. In New Zealand, the comparatively cool climate enables the cheesemakers to turn out an article always free from the peculiar defects of our summer-made cheese, and to do it without any special provision for controlling temperature. At the present time New Zealand cheese is not as well made as Canadian, but earnest and systematic efforts are being put forth to improve the methods of manufacture. It would not be a good thing for the Canadian cheese trade if it came about that New Zealand, or any other country, for that matter, was able to furnish a better article than Canada. The redeeming feature of the New Zealand competition is that its volume is not large, nor is it likely to expand very much. The total export of cheese from New Zealand in 1895 was 79,650 cwt., while in 1899-1900 it reached 95,746 cwt., an increase of only 16,096 cwt., or about 25,000 boxes of cheese.

The United States have always competed with us for a share of the Old Country trade, and the story of that competition has been told too often to need repetition here. I think it may safely be assumed, however, that with our reputation for honest goods, our wise legislation and helpful efforts of the Governments, the uniformity in methods of manufacture, the cohesiveness of the different units which make up the dairymen of Canada, coupled with a more suitable climate and superior shipping facilities, to say nothing of our present lead, gives us an advantage which should enable us to hold our own without much difficulty.

These two countries which have been quoted are practically our only competitors in supplying Great Britain with the Cheddar cheese which she gets from outside her own borders. Other imports consist of various kinds of continental cheese. The competition from New Zealand and United States is, however, keen enough to make it necessary for Canadians to adopt every possible means of improving the quality of the cheese, if the present position is to be maintained or any headway is to be made.

The most encouraging feature of the outlook, it seems to me, lies in the fact that there is still so much room for improvement. The responsibility for this improvement does not rest on any one section of the trade, but is fairly well distributed. Thus the milk producer, by more careful observation of the proper methods of handling milk, may do much towards securing a better-flavored article; the cheesemaker has much to learn and to practice regarding the process of manufacture before the cheese are all even passable in the matter of body or texture and finish; the factory owners, whether