

height, measure about eight feet in length, be straight and free from branches, and would, no doubt, yield excellent fibre. Speaking of the crop, Mr. J. Bengough says that, except in a few places where the ground was wet, "the plants are tall and very thick on the ground, the fibre is very fine, and the plants very clear of leaves or anything that would injure the texture of the fibre. I am sorry you have not had the opportunity of seeing the crop yourself. There are some plants that have branched like a tree. These had been sown in hills for seed, and judging from their appearance, will yield about a quart of seed to each plant. Upon the whole the experiment is a success. The field was not prepared properly for the crop, never having been ploughed in the spring. It was fall ploughed, but not manured as prescribed, and I observe a very great improvement in the growth of the plants where manure had been deposited, giving me evidence that the land requires to be rich in order to get a good crop. I expect to have a considerable quantity of seed, and shall be happy to supply any of your friends if I find I have any to spare."

We are glad to learn that so far the experiment has been successful, and trust that others will test the suitability of the Canadian soil and climate for the growth of this important crop. There can be no doubt that a good demand and market would be found if the culture of hemp proved practicable in this province.

We are much obliged to Messrs. Fawnes & Bengough for their specimens, which were carefully packed, and reached us in good order. We shall be glad to hear the results of their further efforts in the preparation of the fibre.

Experiments with Nitrate of Soda and Salt on Fall Wheat

In September, 1867, I was led by the result of some carefully conducted experiments in England, to use nitrate of soda on fall wheat. At the same time, while trying this manure, I determined also to test salt, both in conjunction with the nitrate and alone.

The idea I had with regard to nitrate of soda and salt was, to divide one acre into a succession of squares, by driving down posts or stakes on one side, parallel to the furrows, and by sowing alternate strips of soda and salt, missing one strip altogether between each article. I first sowed when walking with the furrows, repeating the operation when walking across them, and opposite the line of stakes. It followed that the acre was sown with successive squares of each sort; i.e., one manured with soda, then an unmanured square, then one manured with salt, followed by another unmanured. And to see the effect of double portions of each, where the stripes crossed each other, was one great end to be answered. There were sown

salt to the acre. This would, by the plan adopted, show the effect on every alternate square of twice that quantity, and would give means for an accurate comparison where both soda and salt were omitted.

All through the fall the result was carefully watched, but contrary to all expectation, there was no alteration in the appearance of any portion of the numerous squares; all seemed alike. Where either single or double quantities of soda or salt had been used, no perceptible benefit could be seen over the space where neither had been sown. The same result was seen after harvest, and I became convinced that to sow nitrate of soda or salt on fall wheat was simply a waste of time and money. Since my experiment, I find that some eminent writers, and well-known seedsmen and manufacturers of manure, have fallen into the same error, and have published their experience. They, however, persevered, and repeated all their experiments, by sowing in the spring instead of autumn, and added both nitrate of soda and salt to many other sorts of soluble manures—and after a succession of elaborate trials, have decided that all kinds of soluble manures must invariably be sown in the spring as a top dressing, and not in autumn. If this is true—and we have little or no reason to doubt it—we ought to use the liquid manure from our farm yards as a spring dressing for wheat. A very simple contrivance would enable this to be effectually done in the construction of the carriage used in carrying it out, which should be made of a light hollow roller, of considerable diameter, which, whilst passing harmlessly over the wheat, would distribute a stream of liquid manure in its rear. A very ingenious friend of mine lately hit on a plan which, from its extreme simplicity, and ease of action, merits a place in your journal.

This plan was to form a hollow cylinder of wood, say of two inch oak plank, six feet long and three feet in diameter, hooped exactly like a large cask, but with very little of what coopers call "bilge," that is swelling in the centre (there would be no difficulty in constructing one without any). Through the centre is to be passed a hollow pipe about four inches in diameter, which forms the axis on which the roller turns, and to which are attached the shafts, and through the centre of each end of the cask the stream of liquid manure pours and is distributed. The way this was arranged was this. The hollow shaft was open like an angular spout inside the case, with the open side always upwards, and the centre of it, lengthwise, formed into a kind of bow, the highest part being raised about twelve inches in the centre. Projections in the walls inside of the cask carried up the manure, and when it reached the angle of about 45°, precipitated it on to and into the open spout, which, from its bowed shape (the back upwards) formed an excellent run towards the hollow axis, from whence it flowed, in a greater or

less stream as required, out of both sides at once on the land. One practical difficulty, however, was found in using this apparatus for wheat. It was necessary to convey the manure round to the back of the roller or cask, so that where the roller went once the wheat was rolled and manured all at the same time.

The cask had a door about 6 inches in diameter near the centre, formed of boiler plate, with hasp and hinges. The manure pump readily filled the cask, and when full, the team was driven off with the load, exactly like many an ordinary roller, only in this instance it was filled with liquid manure. Of course, the hollow axes were fitted with a sluice plug to each, to prevent the exit of the liquor until the time came when the plugs were withdrawn, and the liquid manure poured out at such a speed as required, and according to the quantity wished to be used. The revolving projections on the inside of the cask carried up the last drop and deposited it in the trough. When the roller was empty, the team was turned towards home for another load. C.

Farm Carpenter Tools.

There is no more important branch of farm industry than that of carpentering on an amateur scale. First, it saves many a dollar to be paid to the mechanic. Second, it saves many a day lost in taking the broken implement to the mechanic's shop, and again going for it, when it ought to be done, but too often to return disappointed, to go again next day. But the most important view of the case is this, that your sons learn to use the tools, and you yourself, although possibly middle aged, soon acquire some considerable knowledge of their use also. The difficulties are not so great in getting the materials for buildings and the thousand and one little jobs about a home-stead, as in paying for the labour. The labour must be paid for in cash, whereas the material can often be paid for in work of some kind during winter. Suppose a farmer wants some oak, maple, or other lumber for the next year's buildings or repairs. During the winter he hauls logs to the nearest mill, and gets them cut on shares, when probably he would be doing little or nothing else. The team must be kept, and the labour of one of his sons is often available; and thus the material is provided. But not so the labour. For this cash must be paid, and here begins the difficulty, and the building or repairs too often go undone because the farmer does not feel that he can spare the money to pay for them. But the case is most materially altered when the material is obtained as above, and the labour is found at home during the winter season, or on wet days or other idle hours. To do this, however, tools, and good sharp tools too, are absolutely requisite. I have often seen an amateur carpenter trying to use a dull saw, too close set to cut even