

believe it is the opinion of those who have experimented with them, that the great benefit to be derived must come from their almost unlimited usefulness in pumping and forcing water.

It is true that they will furnish power enough at certain times to do such work as is necessary to drive a cutting-box or grain crusher, but the power is not uniform enough. Then you are required to attend to such work while the wind is in motion. This may be convenient on a stormy day accompanied with wind, but a farmer cannot stop outdoor work, when the weather is fine, to take advantage of a favorable gale, in order to perform indoor work. Nor can he always see far enough into the future to make the necessary preparations for it. Then again, while men are feeding a cutting-box, for instance, if the wind fluctuates, they may have a good many idle moments during a day's work, which is certainly not very profitable. For crushing grain they may be more useful, when arranged so that it is not necessary to be present except to make an occasional visit to see that all is right. In this case a large hopper may be used, which will hold several bags of grain, and the crusher should be one so constructed that the feed will be regulated according to the velocity.

We claim that the windmill is an almost indispensable machine, particularly to a stock farmer. During the whole year, but more especially in the warm season, stock requires a constant, abundant supply of good, pure water. This requirement is greater in the vicinity of large areas of permanent and other pasture land. From the wells which are necessary, no matter what the mode of raising the water may be, it can be brought to the surface easier and cheaper by the use of the windmill than by the hand of man, especially when required in large quantities. Another advantage is that a more constant supply can be kept before the animals. As an example, one tank may be used to supply water to three or four fields, where the corners of these meet. By using floats on the troughs, which floats close the valves on the supply pipes, the troughs may be kept full constantly.

A windmill can also be of great service situated near or on one of the farm buildings. As in the previous case, the water is first pumped into a tank, which may supply the troughs in the yards and paddocks by means of underground pipes. It may also supply water to the stall-fed stock by supplying the troughs in front of each row of stalls.

Where an engine is kept on the farm a windmill may not be necessary near the farm buildings; but where men with small farms have not enough work to employ an engine, and who cannot afford the greater expense connected with it, then to utilize the wind power would prove a great factor.

Having touched on the utility, we will proceed to notice some of the advantages. The windmill is a durable machine, if properly mounted on a good substantial derrick. The derrick must be strong and closely jointed, to resist the action of the wind and the motion of the wheel. The height of the derrick is important, and should be governed by the evenness of the surface of the country.

Having been properly constructed, they can readily withstand such storms as are common to Ontario. For instance, I know of one which came under my personal observation. It is a sixteen-foot wheel, and has been used constantly for six years without one dollar's expenditure for repairs. The result is that the majority of the enterprising farmers in that vicinity are erecting six and eight-foot wheels, which are the most suitable when used for the sole purpose of pumping water. The smaller wheels can be placed on derricks or on barns, with greater power to resist gales than the large ones, which require very strong foundations.

As to the extreme limit of the utility of one of these machines, we are not prepared to say definitely. However, it covers a considerable length of time if they are properly cared for, oiled, etc. In fact, some which have been in

use for seven or eight years appear to be good for fifteen more at least.

They can be easily manipulated, and where solely used for forcing water require no manipulation at all; because, when they are so constructed, an automatic appliance is used which stops the motion of the wheel as soon as the supply tanks are full, and after a time liberates it again.

Windmills are increasing in numbers in Ontario, and are becoming more popular every day. You will find them in nearly all parts of the Province, and where one is introduced in a neighborhood, among enterprising people, more soon follow it. There are some, however, who condemn them, perhaps because they have seen one failure where a fair trial has not been given; or perhaps they have not given the matter thoughtful consideration as to the advantages to be gained from their use. After having thought over the matter carefully and examined it closely, surely one cannot help but be favorably impressed with their utility in connection with Canadian farms.

R. S. S



FOOTBALL.

The football club has been organized with the following as officers:

Honorary President, Prof. Shaw.
President, H. B. Sharman, B. S. A.
Captain, R. S. Shaw.
Secretary, G. A. Putnam.
Captain, 2nd team, A. Phin.

Committee: Soule, Hamilton, A. Curzon and Kennedy. A field committee has also been appointed to look after the grounds.

The club, thinking that the organization might not be a success without the aid of the fair sex (suppers, etc.), resolved to elect a patron and patronesses. The Hon. John Dryden was chosen as patron, and the officers' wives and daughters are the patronesses.

The team is making a glorious record for itself this fall, having, so far, played three matches without losing a goal. The team is pretty nearly the same as it was two years ago, and consequently the members play well together.

The first match of the season was played on Saturday, the 13th, with a team from Berlin High School, which was well contested, but ended in a victory for the College by three goals to none. The Hespeler first and second teams came up the following Saturday with the intention of rendering a different account of themselves to what they did last year. Some of them brought tin horns and other melodious instruments for the purpose, no doubt, of celebrating their easy victory over the College teams. It is supposed, though, that they played the Dead March in "Saul," going home. The College first team won by four goals to nothing, and the second by five to nothing.

The next Saturday the team undertook a missionary journey to Georgetown, to show the team there how to play football. In spite of disagreeable weather and miserable grounds, they succeeded in defeating their opponents by two to nothing.

On Thanksgiving Day the First team goes to Galt to play a team with a record of fifty-three goals to six, and has been beaten only once in five years. Let every one who can, make it a point to accompany the team and "yell!!!" There will, we suppose, be special one fare rates, as usual.

The goals scored so far have been shot by S. Curzon, A. Curzon and G. A. Putnam, in the match with Berlin; by W. J. Brown, S. Curzon, A. Curzon and P. B. Kennedy, in the Hespeler First team match; by MacDonald (2), A. Phin and Dehart, in the Second team match; and by W. McCallum and A. Curzon, in the Georgetown match.