A Power at Our Doors

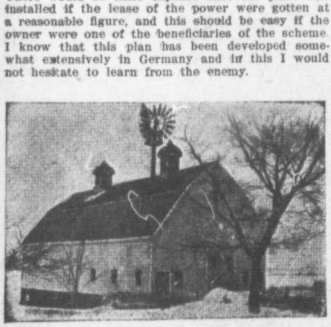
Why Not Develop Local Water Powers?

A. W. Wilkins, Wellington Co., Ont.

WHEN Ontario's lack of coal deposits is mentioned outside the province or in the province as a serious drawback to industrial development, our newspapers hasten to assure us that what Ontario lacks in black coal, she more than makes up in white coal. When the present project at Niagara and Queenston is complete, we will realize even more fully the enormous value of this white coal. The neighboring city of Guelph, for instance, is run very largely by Hydro power generated at Niagara. Farmers all over Ontario are using this power where it is available, and I have read frequently in Farm and Dairy and other agricultural papers of the convenient Hydro-electric installations on many Ontario farms. I understand that in sections where Hydro-electric lines have not yet gone, farmers are letting their power requirements wait until Hydro reaches them.

Is there not a danger that in waiting for the big project, we are apt to neglect the opportunities that lie right at our doors. All through Ontario there are small streams on which there are opportunities for power development. There are several such streams in Wellington county. Some of these powers are developed and used for grist mills. Others, that were once used for milling projects have fallen into disuse. There are still more power prospects that have never been developed at all. Some of these prospective water powers would develop only five horse power. There are lots of possible water powers that no one ever thought of using that are capable of developing 15 to 20 h.p. and a great many that may be dammed back to give three to five horse power for a few hours each day.

Now, here is my suggestion. Why not develop these powers cooperatively. I worked with an engineering concern in my younger days and I know that I am not talking of something that is impracticable. It would be very easy for a bunch of 10, 20 or 30 farmers, living near such a possible water power to construct a dam, install a turbine wheel and a dynamo. If there is not sufficient water to run the dynamo continuously it would be necessary to install a large capacity storage battery. If it were possible to arrange it, the dynamo might be run just from dusk until eleven o'clock, or some other hour arranged for. Such a project would afford enough power for lighting the farm homes and buildings and to perform such minor operations as turning the cream separator, running the washing machine and churn, pumping water and so forth. There would be little expense once the plant was installed if the lease of the power were gotten at a reasonable figure, and this should be easy if the owner were one of the beneficiaries of the scheme. I know that this plan has been developed somewhat extensively in Germany and if this I would not hesitate to learn from the enemy.



Is There a Place for the Windmill?

J. and O. Kidston, Kings Co., N.S., can harness their windmill for a variety of uses. It is as a pumping power, however, that these mills are in greatest demand and it is probably only a matter of time before this will be the only use made of them. Prophecy, however, is always a dangerous business.

The Cheapest Pumping Power

Is the Good Old-fashioned Windmill

POWER windmills were once common. Now, we seldom see them. Wind power was once used for pulping roots, running grindstones, fanning mills, and even feed cutters. One leading windmill company in Canada advises us that they do not now sell more than two or three power windmills per year. The Canadian farmer wants a more dependable power for general use than the wind. There is one place, however, where the windmill more than holds its own. The company already referred to, in a comparatively short period of time, sold over 2,000 windmills for pumping water. Many farmers prefer to have a windmill for pumping purposes, irrespective of their power equipment in other lines. One of these is M. H. Haley, the well known Holstein breeder.

"Our windmill has now been in use for 25 years," remarked Mr. Haley to an editor of Farm and Dairy during the Toronto Exhibition. "It has an eight-foot wheel and is used only for pumping water. It has cost practically nothing in the 25 years we have used it. Five dollars would cover every expense. It is the cheapest power procurable. Of course, the wind does not always blow and with a windmill you need a good storage supply, and this summer for the first time, we had such a wind famine that we had to call in our Hydro-electric power to pump water for a time. Even with Hydro-electric power available, however, we will continue to use wind power for pumping water just as a matter of economy."

One of Several Uses for the Gas Engine.

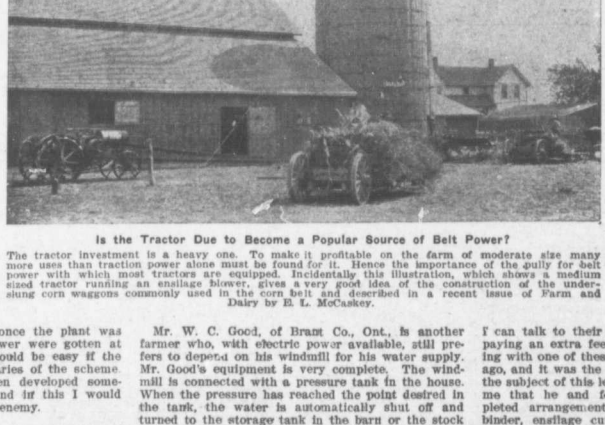
This same gasoline engine, on the farm of Detlor Bros., Hastings Co., Ont., runs the grain grinder, milking machine and so forth.
—Photo by an Editor of Farm and Dairy.

Mr. W. C. Good, of Brant Co., Ont., is another farmer who, with electric power available, still prefers to depend on his windmill for his water supply. Mr. Good's equipment is very complete. The windmill is connected with a pressure tank in the house. When the pressure has reached the point desired in the tank, the water is automatically shut off and turned to the storage tank in the barn or the stock tank in the yard. Mr. Good's argument for the windmill is the same as that of Mr. Haley,—its economy. We have heard of an Ohio farmer who not only uses his windmill to pump water, but has also connected it up with a dynamo and storage battery and uses it for lighting his premises as well. Just how practicable this scheme would be, we do not know.

The Nebraska College of Agriculture has the most complete figures available as to the economy of the windmill for pumping purposes. This college estimates the cost of pumping 100 bbls. of water by windmill at 15 cents. This includes interest on investment in the mill, depreciation, cost of oil and payment for the time required to keep the mill in order.

The same amount of pumping with a gasoline engine would cost $1.30 cents, with gasoline figured at 36 cents a gallon. A windmill, 12 feet in diameter, running in a wind having a velocity of 30 miles per hour, will produce approximately two horse power, according to these Nebraska figures. Thirty mile winds are not common, however, and a wind of six to 15 miles and an eight-foot wheel, will pump all the water required on an average farm.

An important point in installing a windmill is to have the power high enough. It should be at least 15 feet above all houses, barns, trees or other wind obstructions within 400 feet. Select a tower high enough to catch the lightest wind that blows from any point of the compass. Do not be satisfied with a good wind exposure on one side of the mill because your prevailing winds are from that direction. It should be high enough to catch the light winds which blow from other directions, and it will then be above the eddying, changeable ground currents. We have sold hundreds of extensions to increase the height, but we have known of one being [illegible]. A few dollars spent in getting a higher tower in the first place is a good investment. More windmills are damaged or destroyed on account of being placed on low towers in close proximity to buildings and trees than from any other cause, and no manufacturer can consistently guarantee windmills and towers when they have not been properly selected to fit the conditions with which they will be surrounded.—F. E. E.



Is the Tractor Due to Become a Popular Source of Belt Power?

The tractor investment is a heavy one. To make it profitable on the farm of moderate size many more uses than traction power alone must be found for it. Hence the importance of the gully for belt power with which most tractors are equipped. Incidentally this illustration, which shows a medium sized tractor running an ensilage blower, gives a very good idea of the construction of the underslung corn waggons commonly used in the corn belt and described in a recent issue of Farm and Dairy by E. L. McCaskey.

Two Powers for Every Farm

One Will Be a Tractor

By Tom Alfalfa.

As late as six years ago it was a common thing for a bunch of us, when one of the neighbors had bought a gasoline engine, to argue as to whether or not that engine was the right size to adequately and economically meet all the power needs of the farm. Since then the mechanical end of farming has moved on apace. There are several tractors handy enough to me now that I can talk to their owners over the phone without paying an extra fee at central. In fact, I was talking with one of these tractor men just a few minutes ago, and it was the news he gave me that suggested the subject of this letter to Farm and Dairy. He told me that he and four of his neighbors had completed arrangements for the purchase of a corn binder, ensilage cutter and blower and a circular saw outfit. The binder is the second-hand machine belonging to one of the members and which has now been taken over by the circle. The same is true of the saw. A rush order has been sent to the factory for a blower. Arrangements have been made with this man for the use of his tractor to operate the blower and saw.

This is the first actual step taken in this district towards a condition that I expect will soon be general. We have all experienced serious delays and loss while waiting for the silo filler to come around. There is a demand for big power for some purpose or other on every farm; say from 10 horse power up. There is the silo filling, feed grinding, wood cutting, and perhaps, I had better add, threshing. It is out of the question for each farmer to have his own equipment unless his farm be a very large one. Ours is, I suppose, an average Ontario community with the farms running from 100 to 150 acres each. I believe that, eventually, the larger equipment will be owned cooperatively among neighbors. I believe, too, that this can be applied to the tractor, as I still have to be convinced that a man can afford to buy a tractor with all of its equipment for a 100-acre farm. Many farmers, however, will prefer to have their own tractor with which to push their own work

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