WANTED — Position as steam threshing engineer in Manitoba or Saskatchewan. Run sixteen falls. Age 27. State wages. MILLARD CHRISTOPHER, Letcher, S.D., U.S.A.

FOR SALE — At a sacrifice Two Jackson Combination Sheaf Loaders in perfect condition; new last fall, with all 1919 improvements. Owner leaving. W. M. CONBOY, Dacotah, Man.

than personal advancement, political or financial, is what is needed in Canada. It is possible in the home to give that trend to the ideals of youth which, in manhood, will develop in the life. There are many ways of doing this. Current events bring into the public eye men whose lives spell service to their fellow men; there are others whose deeds and principles evidence the purpose to grasp every opportunity to lift themselves, regardless of the sacrifice of others and of the common good. The object-lessons are before us all the time. The application can be made in the discussion of live issues, bringing out in strong light what is high and fine, in contrast to the lower types of citizens. The history of other nations, their rise and fall, and the reason for the same, broadens the viewpoint and gives the benefit of others' experience, enabling one to avoid the pitfalls into which they have fallen. Fathers and mothers who take no interest in public affairs, who are indifferent to the great questions before the nation, cannot do what they should in preparing their boys to become the highest type of citizens. It is the indifference of those who care nothing for the political questions which decide so many of the conditions under which we live that is a real menace to the country.

In the years of youth, when the heart is open to high aims and noble purposes, the inspiration should be given to every boy to become an all-around man, animated by the love of God and of his fellow men, desiring to fill well his place in every department of life.

LIGHT AND POWER FOR THE FARM HOME

ELECTRICITY, cheaply produced, and at an investment cost far below that of some of the luxuries he now enjoys, is now at the disposal of the farmer. This was not true half a dozen years ago, but it is today. Realizing that there would be too long a wait before country people could enjoy the convenience and economy of electric current as furnished by the Hydro companies, rapid as has been their growth in recent years, far-sighted manufacturers have designed complete and easily operated equipments which can be set down in the farm dooryard more easily than a threshing engine.

In prosperous communities a very large proportion of the farmers own automobiles. Many must have a new model every year. These machines cost anywhere from $500 to $2,500. Yet on these same farms in the majority of cases, the kerosene lamp and lantern—wasteful, flickering and dangerous—are still doing service. Hand or dog power drives the churn, the separator and the grindstone. Cumbersome steam engines operate the threshing machine and the silage cutter.

Asked why safe and economical electric current is not used for these purposes, the owner will probably say that it would cost too much and in addition that there would be no one to operate the plant, and that electricity is a dangerous thing to handle. At one time these arguments might have had force, but not at present.

With one of these lighting outfits, in addition to being able to furnish from eight to fifteen 16-candle power lamps, it is possible to operate the following motor driven appliances: electric fan, sewing machine, washing machine, suction cleaner, pump, circular saw, lathe, ice cream freezer, cream separator and churn. Of course, the plant is not large enough to operate them all at once, but this latter necessity never arises. Besides, the freezer, churn, separator, etc., may be installed in the engine house and driven direct from the engine through a line shaft, so that no motors will be required for them.

For the operation of the lighting plant, less skill is required than to run the simplest automobile. It consists of a gasoline engine, an electric generator or dynamo, a storage battery of sixteen small cells, which can be placed on a shelf, and a simple switchboard.

The cost of lamps and wiring will be about $3 per lamp, more or less, depending on the conditions and grade of materials employed. An estimate of materials and wiring may be obtained from a local electrician or contractor.

In deciding whether or not to install an electric plant a good business man will inquire into the cost of operation to see if his investment will bring returns in the form of actual cash saved over old methods and in increased convenience and safety. Let us examine a plant. It consists of a 2½ horse power engine, dynamo for generating current, switchboard for distributing and controlling the current and storage battery. The storage battery bears much the same relation to a dynamo as does a water tank to a pump. It stores electrical energy in the form of chemical energy, giving the energy back again in the form of electric current for the lights when the engine is shut down.

A 50-light outfit may at first sight seem unnecessarily large, but when one begins to plan just where she should put lights, it will quickly be seen that the manufacturers have calculated carefully and well. A six-roomed house, for instance, would require, say, four lights for the parlor, three for the dining room, four for the sitting room, three for the kitchen, one each for bedrooms, bath and pantry, and one or two porch lights. Add to this the lights required for barn, dairy, granary, and other outbuildings; places are soon found for all the lights. Of course, while all these lights will be needed at some time or other, it rarely, if ever, happens that all will be burned simultaneously, which leads naturally to the point we have in mind, in which the prospective purchaser is deeply interested, namely, the cost of operation.

The most efficient and, therefore, the least expensive method of operation is where the lights are burned direct from the dynamo, as this prevents the slight loss occasioned by use of storage batteries. Of course, where a very few lights are in use, as during the day or in the very early morning, the storage battery serves a very useful purpose, and really makes for economy. The costs are figured, however, for evening lighting, with the lights burning direct. Assuming, for convnience, that all 50 lights were burned at once, the figures shown are interesting. The 2½ horse-power engine, which furnishes the power, will use about a quart of fuel an hour, so if the lights were turned on at 5 o'clock, a fair estimate for winter lighting—the actual amount of fuel used for the evening lighting would be just a little over a gallon.

Besides using current from the dynamo for light and power, one will usually arrange a line shaft to be driven by the engine and use power therefrom to run the washing machine, mangle, pump, grindstone, root cutter, feed grinder, etc. This work will usually be done during the day, and at the same time the engine can be charging the storage battery. Less than one-third the power of the engine will be required to do the latter, hence it has easily ½ horse power available for other work. This point should be considered in figuring the cost of operating a lighting system, as in the average case it would be unfair to charge the total cost against the plant as a lighting plant alone. It has been abundantly proven that a small engine on the farm pays big returns, so that one can almost substract the engine part of the electric light plant and charge it to general farm expense.

STILL UNBEATEN

The sergeant-major had the reputation of never being at a loss for an answer. A young officer made a bet with a brother officer that he would in less than twenty-four hours ask the sergeant-major a question that would baffle him.

The sergeant-major accompanied the young officer on his rounds, in the course of which the cook-house was inspected. Pointing to a large copper of water just commencing to boil, the officer said:

"Why does that water only boil round the edges of the copper and not in the centre?"

"The water round the edge, sir," replied the veteran, "is for the men on guard; they have their breakfast half-an-hour before the remainder of the company."