current was obtained from a near-by trolley line at the pressure of 500 volts. As the plow travels in any direction the reels unwinds the flexible cord which is long enough to reach to any part of the field, or rewinds automatically when the machine approaches the point of current distribution. It plows more evenly than a hand-worked machine and costs less to operate. In can also be used in place of a traction engine for hauling machinery around the farm and with a driving pulley attached to the axle it will drive a threshing machine. This same principle has also been applied to harrows, to seeders and to harvesting machines. There is an electric reaper in operation in our Western wheat fields. Corn shellers have also been operated and propelled by the electric current.

So we may run down the list of electric churns, electric spading machines, electric hay lifts, electric tree fellers, electric fence makers, electric forcing frames, electric irrigators, electric stock feed boilers, electric sheep shearers, etc. There is a plan under way in one large abattoir to electrocute steers instead of killing them in the old-fashioned way. There is a process for treating manure by electricity so as to increase its fertilizing properties. Special trolley manure-cars are in use. Trolley cars are now built for the special purpose of transporting New Jersey truck to New York City. Cattle are kept from breaking out of a field on a Western ranch by an electric current which traverses the barb wire fence and shocks the animals every time they come against it. There is an electric device intended to prevent horses from running away. There is an electric horse shoer. There are a thousand and one electric devices for farm use and they may all be operated if sufficient current can be obtained.

The remaining phase of electric farming is that which covers the theory of the stimulation of plant growth by the direct application of the current. The theory on the one hand is that the use of arc lamps in the market garden simply prolongs the day and keeps plants growing all the time, whereas if left to themselves they would rest so to speak each night. The theory of the second part of the proposition is that general plant growth is and always has been powerfully affected by the natural currents of the earth; that we can trace great failures or periods of great productiveness in crops to the absence or presence of underground electric manifestations. However this may be it has certainly been found that plant growth is much stimulated by the use of electric light. At Ithaca, N.Y., Prof Bailey has produced some wonderful results through the artificial stimulation of the arc lamp. Prof. F. W. Rane of the West Virginia Experiment Station has accomplished almost as much with the incandescent lamp which he claims to be more available. Prof. Bailey hung a 2,000 candle power arc lamp in his greenhouse and kept a current on all night. He found that germination proceeded much quicker, some of the plants running to seed in fact before the edible leaves were formed. The plants even bent or were attracted toward the lamp to an angle of forty-five degrees, but straightened up again during the day. In three weeks, lettuce which had received the benefit of the arc light was double the size of that which had not, although both had been planted at the same time. Different plants are variously affected and all plants are affected more highly when the arc is covered by a globe than when it is bare.

Prof. C. D. Warren of the Amherst Experimental Station has experimented with electric currents sent through the earth. Several inches below the earth he caused a large number of wires to be strung. They extended from side to side of the garden, and in fact before burial looked like the string of an immense piano. Seeds were planted in the earth above the wire and a current was constantly exerted from a nearby power house. Strange results were obtained. Many seeds sprouted before their time. Roots of vegetables were found to be greatly enlarged. In another garden side by side with the electric garden the same kind of seeds were planted, of course nothing extraordinary was observed. All of these investigations are part of our natural progression and the scattered elements of electric farming are sure to be rounded up and reduced to a well-moulded and practical basis before very long.

## EDITORIAL NOTES.

Recently the Department of Trade and Commerce sent out a circular letter to the Boards of Trade throughout Canada, and to many importers and manufacturers also, making enquiries regarding the conditions of Canadian trade, both domestic and foreign, and requesting suggestions thereanent. By some remarkable concatenation of events the Department failed to remember the Canadian Manufacturers' Association when sending out their circular—or, at least, it has never been received by the Association. The Association will, no doubt. fully and dispassionately discuss and consider the matter, and at the proper time submit their views to the Government-Business is business. The Government desire, we believe, to act fairly towards all Canadian interests, and all who are interested should freely and willingly render it all possible assistance to the accomplishment of that end

A couple of days ago in the Dominion House of Commons, Mr. Davin, of Assinaboia, offered a resolution to the effect that the Government were in honor bound to place agricultural implements, binder twine and coal oil on the list of nondutiable articles. The resolution was promptly voted down by a vote of 128 to 26.

It is probable that on some day during the ensuing week the Dominion Parliament will adjourn, to assemble again at a date not yet announced, but probably in the early part of the coming year. No proposition has been introduced into the Commons looking to tariff changes, and the country must remain in suspense for some months yet on this most vital and important question.

A method of nickeling wood has been devised by the German chemist, Langbein, the wood being covered by a thin coating of metal by either a dry or wet process. As Canada is the only country in which nickel is now found in large quantities, this new discovery should add to the ever-increasing demand for this metal.

If the wood pulp and paper manufacturers were certain of McKinley's election in November, there would be a hustling to