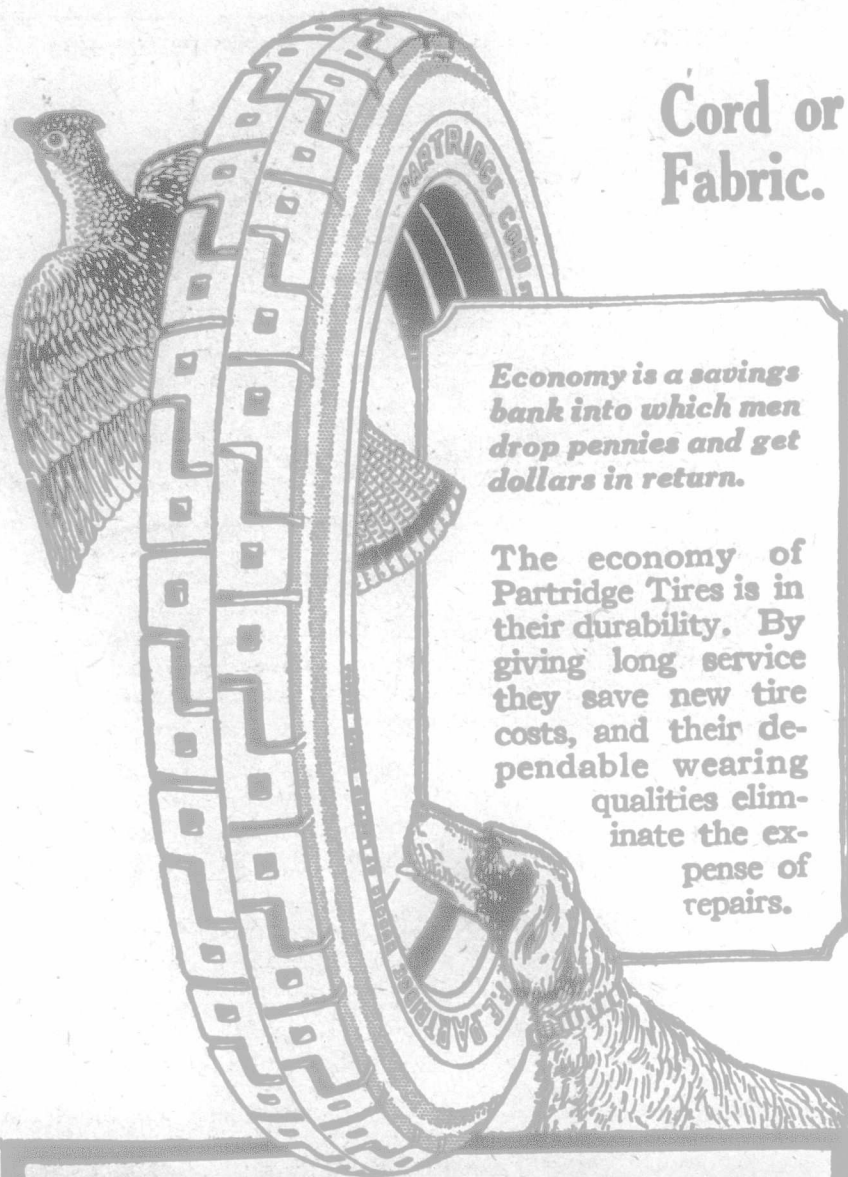




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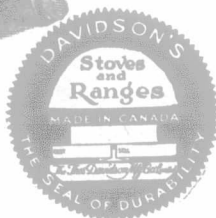
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AUTOMOBILES, FARM MOTORS AND FARM MACHINERY.

Some Points About Choos- ing a Tractor.

EDITOR "THE FARMER'S ADVOCATE":

The time for agricultural shows is at hand, and we will again have an opportunity to see several of the various makes of farm tractors altogether. Prospective buyers visiting the exhibition to choose an outfit will find little enough comprehensive data to base their choice on, for there are no exact figures which the manufacturer can give to enable one to estimate in advance just what the machine can do. Nevertheless, with careful study of such information as we have and the exercise of good judgment, our estimate will be so near that small adjustments such as the outfit should permit of, will enable us to do first-class work.

It is of first importance that consideration should be given the tractor and plow as a unit, making absolutely sure they are in every way adapted to work together.

As to size, many arguments are offered as to why one exceeds the other, so that the figures representing the items under discussion for each tractor, must be totalled to decide the machine best suited to our requirements. It may be taken for granted that one man will not successfully operate more than four bottoms on the fields of the average farm in this part of Canada, and two and three-furrow tractor plows are more often seen. At this point we must each decide for ourselves the following questions:

The same engine will haul a two-furrow plow one-third faster than it will haul a three-furrow plow, but the smaller outfit makes more turns at the ends of the field, all of which take time; and during this time the three-furrow is doing a third more work. What is the acreage for each per ten-hour day?

Is the plowing done at the higher speed as good as that at the lower speed?

The smaller outfit should cost less, therefore the interest on the investment will be less, but the larger outfit runs slower, therefore it depreciates slower, so that the cost of repairs should be less and the life of the outfit considerably longer. Which will be the least expensive during five years' service?

In comparing two machines which differ greatly in cost, the argument that the smaller machine requires less money to be outlaid has some weight, but the seeming advantage should be checked by comparing the capital cost per hundred pounds of drawbar pull, when it may be found that the higher-priced machine produces its work at a cheaper outlay.

To estimate how powerful a machine is required to do satisfactory work, it is necessary to know: The maximum resistance to the plow in pounds per square inch of furrow; the average or sustained drawbar pull at plowing speed on the soil under consideration; and the greatest pull the tractor can exert on the particular soil without slipping the wheels or tracks.

To get the first figure, we naturally estimate the hardest plowing on the farm, or in the district if it is intended to hire around the neighborhood. Probably there is some heavy land or a stiff grade to plow. If so, estimate for this and allow double to take care of suddenly applied loads.

The second figure is a guide to the prospective buyer as to the number of plows he will be able to handle satisfactorily, and he can buy his plows to suit. A rough idea of the sustained drawbar pull in pounds can be had from the rating which the manufacturer puts on the machine. For example, say the machine is rated at 12-20 horse-power. This means 20 h.p. at the belt pulley and 12 h.p. at the drawbar. One h.p. at plowing speed is taken as 200 lbs., so the drawbar in pounds is $200 \times 12 = 2,400$ lbs.

The greatest pull the tractor can exert for a given size of engine and a particular soil, is available just previous to the time when the grip on the land is no longer great enough to prevent the wheels or tracks from being slipped around while the machine advances. By subtracting the average pull from the maximum pull,

we get the power available to take care of over-loads.

From the foregoing paragraph it is very evident that the power available at the drawbar is not dependent only on the power of the engine, but also upon the hold the lower part of the rim of the

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