

the expressions, hard work, and close observation.

The interests representing about one half a billion dollars were in evidence on the plowing field, and several vitally interested spectators were men who represented millions in their own rights.

Before leaving this subject a word must be said for the operators of the various tractors. It is upon these men that so much depends. Like a jockey with his horse from the time the contest begins until it ends the operator verily sleeps, eats and drinks with his machine. Grime and dirt are in evidence everywhere upon his person. A week's growth of beard adorns his face, but it matters little to him. His sole time and attention is devoted to "bringing home the bacon" in the shape of a medal.

There was one thing specially noticeable in the 1912 contest, and that was the apparent certainty with which the various internal combustion engines went to their various stunts. There seemed to be a confidence on the part of the operators that the task undertaken would be finished.

When one looks back to 1908 and 1909 and even 1910, the thing is specially noticeable. Light loads were pulled in those days, and the tractors went coughing and spluttering along, while there was always a feeling that a stop was imminent. It simply goes to show that big improvements have been made in design and construction, such things as cooling systems, carburetors, lubricating systems, ignition, governing, etc., etc., have all been tried out and proven, and that in so far as the internal combustion tractor is concerned there have been long strides made toward standardization.

To the manufacturer who enters his engine for the first time in a motor competition, the proposition presents many difficulties. Arriving on the ground with his engine and operator he finds that he is short many things necessary to make the affair run smoothly, and it is with the idea of aiding this class of contestants rather than the old "war horse" that we make this attempt to enumerate a few



The Avery Gasoline Tractor pulling a Five Bottom Avery Self-Lift Plow. (Bronze medal winner Class B.)

of the things necessary.

If the contestant be from out of town, one of the first things to do is to get on the ground

gained by having your engine on hand a day or two ahead of time.

When loading your car however,



The Rumely 30-60 Oil-Pull Tractor pulling an Eight Bottom Engine Gang. (Gold medal winner Class E)

early. It will generally be found that Winnipeg freight yards are not by any means the quickest places from which to get cars spotted, and much time can be

here are a few things that you want to incidentally put on:—

1. One leather belt that has been well stretched, together with a supply of lace leather.



The Gould Shapley and Muir "Ideal" Tractor pulling a four bottom Cockshutt Engine Gang. (Silver medal winner Class B.)

2. One recording dynamometer.

3. One tent (about 12 x 14), to be erected on fair grounds and later on plowing field.

4. One folding cot with a supply of blankets.

5. Some folding chairs.

6. A complete kit of tools for making small repairs and changes.

7. A rain coat for each man connected with the outfit.

8. Good stout shoes that will defy water and mud, for remember it always rains during the Winnipeg Exhibition.

9. Two 10 or 12-foot cable chains.

10. At least a dozen suitable stakes for lining out first furrow. These should be about ten or twelve feet above ground and should be so made that they can be readily seen at a distance.

11. Each engine should have an assistant to the regular operator in addition to the representative in charge.

12. Suitable arrangements should be made for getting to and from the plowing field. An automobile is preferable as it saves time.

13. Don't forget to arrange for lunches for your crew on the plowing field, as judges never get hungry, and by all means take along something to drink (not Scotch!).

14. See that you have definite arrangements regarding the plow which you are to pull, and upon your arrival in Winnipeg either have it sent to the exhibition grounds during the brake tests or see that it surely gets to the plowing field in ample time.

15. If possible arrange for a piece of land near the plowing field in order to try out your plows and gauge the load you wish to pull before the contest begins.

16. Don't think that a motor contest is a place to try out new experiments. The contestant who comes in and knows what his engine can do always stands the best chance of making a creditable showing.

17. Bring along your coolest headed operator. A cool head and good generalship counts for a great deal in a motor competition.