

Gas Traction Co.: Mr. Fred Glover, Mr. C. C. McConville, Mr. M. McCurdy.

American Abell Engine and Thresher Co.: Mr. F. E. Kenaston, Mr. S. O. Bush, Mr. A. Cox. Avery Co.: Mr. J. B. Bartholomew, Mr. W. J. Brandon.

Advance Thresher Co.: Mr. J. D. Junkins.

Gaar-Scott & Co.: Mr. S. S. Strattan, Mr. Frank Lamb.

International Harvester Co.: Mr. Harold McCormick, Mr. W. A. Cavanaugh, Mr. J. L. Martin, Mr. J. F. Jones.

Oliver Plow Co.: Mr. James Oliver.

Reeves & Co. Mr. H. C. Clay.

Sawyer, Massey & Co.: Mr. Robert Harmer.

Verity Plow Co.: Mr. George Verity.

J. I. Case Threshing Machine Co.: Mr. W. F. McGregor, Mr. D. T. Davies, Mr. J. Witmer, Mr. O. B. Farney.

Buffalo-Pitts Co.: Mr. J. F. Wagner, Mr. O. F. Lundquist.

Canadian-American Gas & Gasoline Engine Co.: Mr. D. McCrae.

The above represent's either heads of firms, designers or men well up in their respective companies. In addition, it drew to the contest field official representatives from such firms as Rustin & Proctor, Clayton & Shuttleworth, Robey & Sons, Ransom, Sims & Jefferies, to say nothing about a large number of men from the other side of the line who own large tracts of land and who are interested in the traction engine for traction cultivation purposes.

The original entry list for the 1911 Motor Competition included thirty-five engines, made up as follows:

#### STEAM CLASS.

J. I. Case Threshing Machine Co. ....	3
American-Abell Engine & Thresher Co. ....	1
Avery Company ....	1
Gaar-Scott & Co. ....	1
Sawyer, Massey & Co. ....	2

#### GASOLINE CLASS.

International Harvester Co..	4
Kinnard-Haines Co. ....	1
M. Rumely Co. ....	1
Canadian-American Gas & Gasoline Engine Co. ....	1



The Gas Tractor "Big 4 30" pulling 8 John Deere bottoms (Gold Medal Winner Class C).

Avery Company .....	1	J. I. Case Threshing Machine Co. ....	1
American-Abell Engine & Thresher Co. ....	1	Kinnard-Haines Co. ....	1
Sawyer-Massey & Co. ....	1	All of the above entered the tests with the exception of those belonging to the J. I. Case Threshing Machine Co. and the engine of the Canadian-American Gas & Gasoline Engine Co., the latter being delayed in transportation.	
Goold, Shapley & Muir ....	2		
Gas Traction Co. ....	1		
Aultman & Taylor Machinery Co. ....	1		
Buffalo-Pitts Co. ....	1		



The Avery Tractor doing "hings. A 3-furrow P. and O. Gang turning the Sod.

J. I. Case Threshing Machine Co. ....	1
Gaar Scott & Co. ....	1

#### KEROSENE CLASS.

International Harvester Co..	4
M. Rumely Co. ....	2
Gas Traction Co. ....	1



1 H C 25 h.p. Gasoline Tractor pulling a 5-bottom Oliver Engine Gang.

load. The lead is the number of pounds of pull upon the rope caused by the friction upon the rapidly revolving drums. The apparatus is so arranged that the pull is downward and this pull is pressed upon a platform scales. The distance is the circumference of the center of the rope and the time is the number of revolutions per minute. Therefore the load multiplied by the circumference in feet and the number of revolutions per minute and divided by thirty-three thousand gives the horse power.

It would be possible to apply a similar apparatus to the cylinder pulley of a separator and measure at all times just the horse power that is required to drive the machine.

In the table as prepared by the judges a unit of fuel is mentioned. The unit of fuel in each case is seven pounds of gasoline, seven and nine-tenths pounds of kerosene (in each case an Imperial gallon), and one hundred pounds of coal. Therefore, the expression, the number of horse power hours per unit of fuel means the amount of horse power that can be delivered for one hour of time on either one of the above units of fuel, as the engine is either gasoline, kerosene or steam.

The brake tests are provided for two reasons. First, to determine the most economical load that the engine can carry, or in other words, the biggest load it can carry on the smallest possible amount of fuel and water. Also to determine the highest load it can carry or the biggest load it can pull in the belt.

In the second place, the brake test is to determine the relation between the belt power and the draw-bar horse power of an engine, and as traction engines today are used as much for one as for the other, it is necessary that they be as nearly balanced as possible.

In making the awards the following points were used:—

The brake tests began on July 7th. One of the brakes used was the same as has gone through the 1908, 1909 and 1910 competitions and the other brake which was of the same construction, belonged to the University of Saskatchewan.

The brake tests to the uninitiated are the least spectacular and require the most explanation. If you will but imagine the brake a separator you have solved the problem the only difference being that an apparatus is provided whereby the exact load of the engine can be measured in horse power. This load is secured by means of a rope friction. The process by which it is determined is very simple. A great many years ago it was decided that one horse power was the power required to raise thirty-three thousand pounds one foot in one minute and in measuring the horse power on the brakes you have three things to contend with — time, distance and the