

For ten long days before the engines appear on the plowing field they have been tested for their stationary power

find the officials, business-like college professors, clad in wide-brimmed hats and overalls. Harassed and buffeted by contending

ened to a razor edge at the factory cut the tough, dry sod as a knife cuts cheese. Two acres of virgin prairie grow dark with every

glassy smoothness and every joint is limber. Next to it is one losing hopelessly through lack of preliminary tuning up. Alongside a steam mogul is a gasoline midget. On the next course is the hope of an inventor who has staked his all on a crude combination of plows, harrows and packers. A fussy little single cylinder engine is coughing "I can't, I can't, I can, I can, I can't, I can't." Yonder can be seen a gas tractor with opposed engine, here a four-cylinder vertical, and over there a two-cylinder horizontal. This one has a hit-and-miss governor, while that one throttles its charge. Here is an owner ready at the last moment to risk the race on some new notion. A new cleat or a new cork insert in the friction clutch fails at the critical time, and a good machine is discredited. The student of design saves here 10,000 miles of travel, and sees construction put to its most strenuous test in yielding data of incomparable value.

Each hour the steamers must take water, but time is too precious to allow a stop. The tank wagon keeps pace alongside, and a horse-crane and steam jet do the rest. Once in two hours the coal supply must be replenished, but the engineer finds sacked fuel and a dozen helping hands to avoid delay. The bare prairie affords no natural watering place. The alkali water from a distant farm well is not only insufficient, but bad for both man and machine. The railway falters in its



The Sawyer-Massey 25-45 Gas Tractor: Gold Medal Winner, Class C, Gasoline Engines; doing one of the finest pieces of plowing in the Contest

on a friction brake, in a hot, unromantic corner of the exhibition grounds. Now they have made their way over ten miles of winding prairie trail to where a section of virgin gumbo soil lies waiting for the breaking plow. Here ensues the real struggle, the climax of a year's effort.

All one day there is the eagerness of preparation. Tents are pitched, fuel and water arranged for, plows assembled and adjusted. On a quarter section set apart the competitors are given a chance to test their plows and power. Courses are marked by flag and stake, and all made ready for the start at daybreak. In the night a steam tractioneer steals away with his engine to caulk a flue. Yonder a dim light shows where a torn gasket is being replaced on a gas tractor, or possibly a sheared stud in a fuel pump is being replaced by a nail from the tool box. In the stillness, the sound of a stealthy file betrays the purpose of a plowman to get an edge on his rival as well as his plow. Camp food, tents, cots, blankets, hasty lunches during the long, busy hours, the lack of opportunity for restful sleep and clean washing, all emphasize the bustle and confusion, and give some hint of the hardships borne without a murmur by the loyal mechanics. Their iron steeds have been put in the final pink of condition. The night before the supreme test the men sleep in their clothes on the field, one eye open for prowlers from rival camps.

Out on the fields at dawn we

ranks, they discharge their duties with all the more zest. Fuel and water are carefully dispensed, and one by one the puffing, purring steamers and the puttering gas

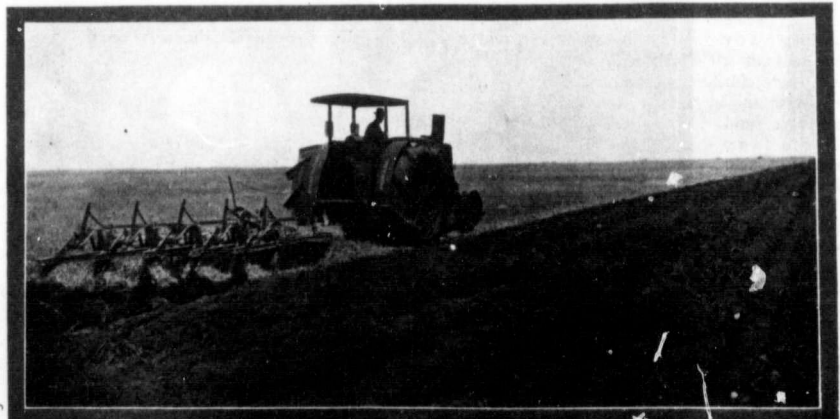
mile of travel, four acres in an hour. Once in a former contest an acre of stubble ground was plowed in eight minutes, a world's record. Tons of coal and car-



The J. I. Case 110 H. P. Steam Tractor: Gold Medal Winner, Class C, Steam Engines; making a record run on the plowing field.

tractors are sent into the fray. Down the field, headed straight for each flag in the line, the steersman strikes his furrow. Circling quickly at the other end, he re-

loads of water are sent into the thin air, and between sunrise of one day and nightfall of the next, three hundred and twenty acres of virgin land are doubled in value



The Avery 20-35 H. P. Gas Tractor: Winner of the Silver Medal, Class B, Gasoline Engines; pulling a five bottom Avery Power Lift Plow, and doing a most excellent piece of work

turns carefully upon the edge of the first. Back and forth the engines puff and groan, while plowshares that have been sharp-

Here is a mammoth steam engine, there a single cylinder. Yonder is an engine which has been used until bearings are worn to a

tas' of bringing water in tank cars from the city, and early in the day six steamers must stop plowing while gas engines on all sides go