

Horseless Harvesting

In no other farming operation does the modern gas traction engine prove its efficiency and economy more strikingly than in harvesting.

Harvesting comes at a season of the year when the work is particularly hard upon both horses and men. It is usually the hottest weather of the summer, and the horses have to be driven remorselessly all day long in the hot sun, the flies stinging them to madness; it is by no means uncommon for them to fall exhausted or to die in their tracks under the killing work. The men sweat and grumble and shirk, often taking advantage of the farmer's helplessness to strike for higher wages, threatening to tie up the whole job unless their demands are acceded to.

At this trying time, so perilous to the outcome of the entire season's work, the gas traction engine is of inestimable value to the farmer who owns one. It walks steadily and tirelessly through the fields of ripened grain, pulling its string of binders—never stopping, never tiring, never complaining—sixty to 100 acres a day can be cut with it, and it can be worked all night and all day, if need be, at far less expense than that of horses and men.

For instance, this is what a gas traction farmer says: "Our wheat all ripened at once. Weather was so hot horses were dropping dead all around us. With the engine we were cutting seventy-five to 100 acres a day, and saved all from shelling out."

It was not until the gas traction engine had been in successful operation for several years that there was perfected a hitch which makes it possible to use the engine successfully in harvesting. It was comparatively easy to devise hitches for pulling plows, drills and harrows, for a long, light bar, well trussed and braced, was the only requisite; the engine had a straight pull and a clear field. It was another matter, however, to perfect a hitch by means of which several binders could be drawn after the engine, the engine running alongside the uncut grain and the binders following after and off to one side, each cutting its full swath. There must be no side draft and no running over uncut grain or bundles, and the natural side draft of the binders themselves must be overcome.

One great reason why engine manufacturers were particularly desirous of solving the problem of a satisfactory binder hitch was that it was the last link in the all-around efficiency of the internal combustion tractor. The engine was in successful use pulling plows, harrows, drills, sod crushers, packers and other implements, and trains of loaded wagons, and in threshing; but the manufacturers realized that until every

farm machine could be successfully operated with the engine it was necessary for the farmer to keep a large number of horses throughout the year with which to do his harvesting, and therefore the engine did not provide as profitable an investment as it would if he were enabled almost entirely to do away with horses.

By turning a tiller wheel at the seat of the binder the pole is offset more or less, as conditions require, thus allowing any desired width of cut. With this hitch it is not necessary to stop the engine and all the binders when one gets out of adjustment; the operator simply turns the offset out of the pole until the disabled binder trails

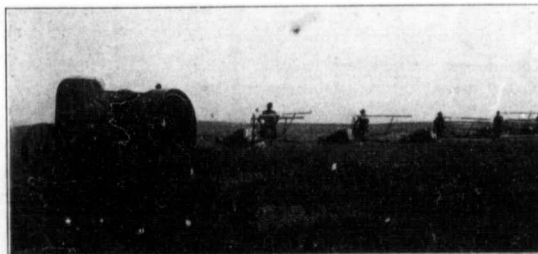
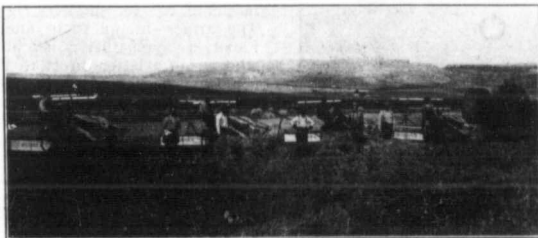
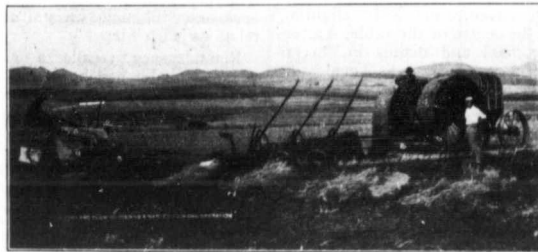
isolate the cost of any given kind or amount of work does not take into consideration the expense of feeding and caring for the horses during the idle seasons in order that they may be fit for service when the season of hard labor arrives. For instance, it would be misleading to change the breaking account or the harvesting account only with the feed consumed during the actual work of breaking or harvesting, since it is equally necessary to sustain the horses during intermediate time.

In this northern climate the long winter months mean large feed bills to the farmer who is dependent upon horse traction, and a period of dangerous inactivity for the horses. One hundred and thirty bushels of oats and four and one-half tons of hay must be fed to the ordinary work horse in a year, and the annual expenditure for feed is therefore fully \$90. Some farmers argue that they raise their own feed and that it does not cost them much, but it costs them just the amount of its market price on the farm. The farmer has been dependent upon horse traction for so long that he has come to look upon the labor and expense of caring for the horses as a matter of course, but it is nevertheless a source of great expense and trouble. Anything that will emancipate him in a large degree from his hired help will earn his gratitude.

The only expense which can possibly be charged to the gas traction engine when it is not actually at work is interest on the investment, and depreciation; the latter, if the engine is properly cared for, amounts to very little.

In farming, as perhaps in no other business almost everything depends upon doing things at the proper time and getting them done quickly. Horses can do only so much, and the farmer can work his horses only so many hours a day. The greatest value of the gas traction engine lies not in its ability to do the harvesting and other work much cheaper than it can be done with horses, but in the fact it enables the farmer to do his work just when he wants to do it and to get through with it quickly, while soil and weather conditions are just right.

Some gas traction farmers even go so far as to harvest, plow and disc at one operation, the binder being attached directly behind the engine and offset so that it cuts its swath off to one side, while the engine travels along at the edge of the uncut grain, and the plows and discs follow after the binder in a line directly behind the engine. One of our illustrations shows such an arrangement. A more practicable method, however, is to harvest with the engine all day and then plow during the night.



Gas Traction Engines at work in the Harvest Field.

It was not until the spring of 1909 that the problem was successfully solved by the perfecting of a hitch with which any number of binders of any size or make can be operated with any traction engine. Each binder cuts its full swath and runs exactly where the operator desires. There is no side draft and no running over bundles, and the sharpest corners can be turned perfectly

directly behind the one in front, following in this position until the necessary repairs are made, after which the tiller wheel is turned in the opposite direction and the binder resumes its proper position.

It is hard to make any accurate comparison in figures of the relative cost of harvesting with an engine and harvesting with horses, for the reason that to