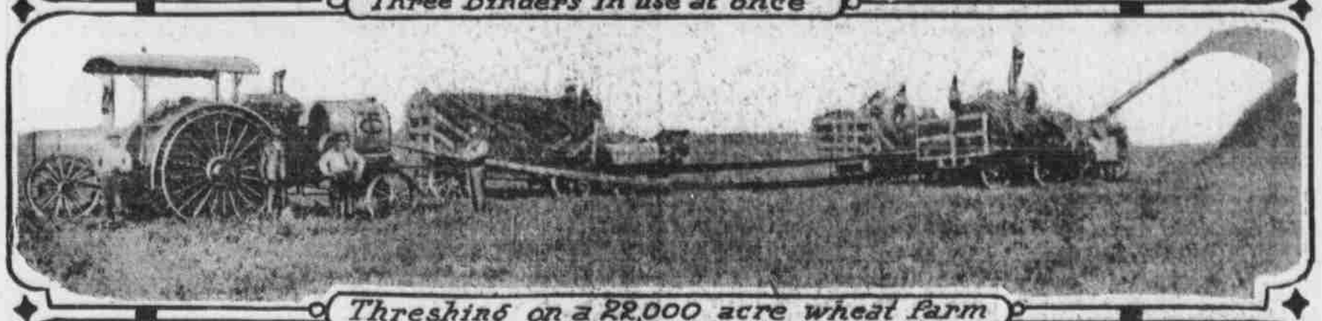
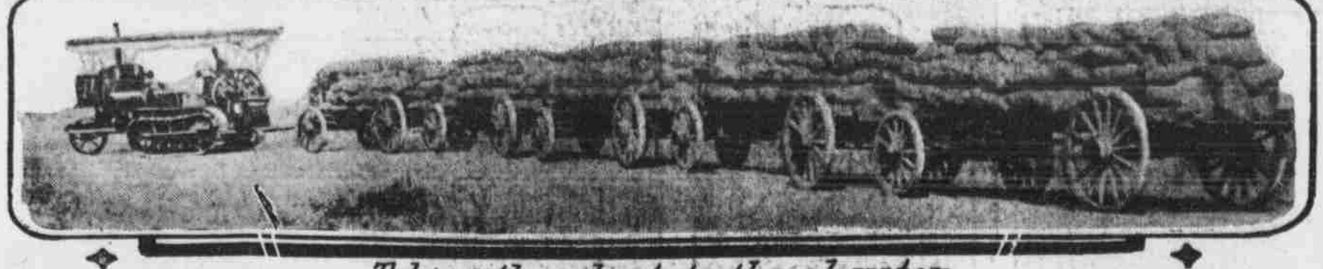
Farm Tractor a Power Plant of Many Possibilities

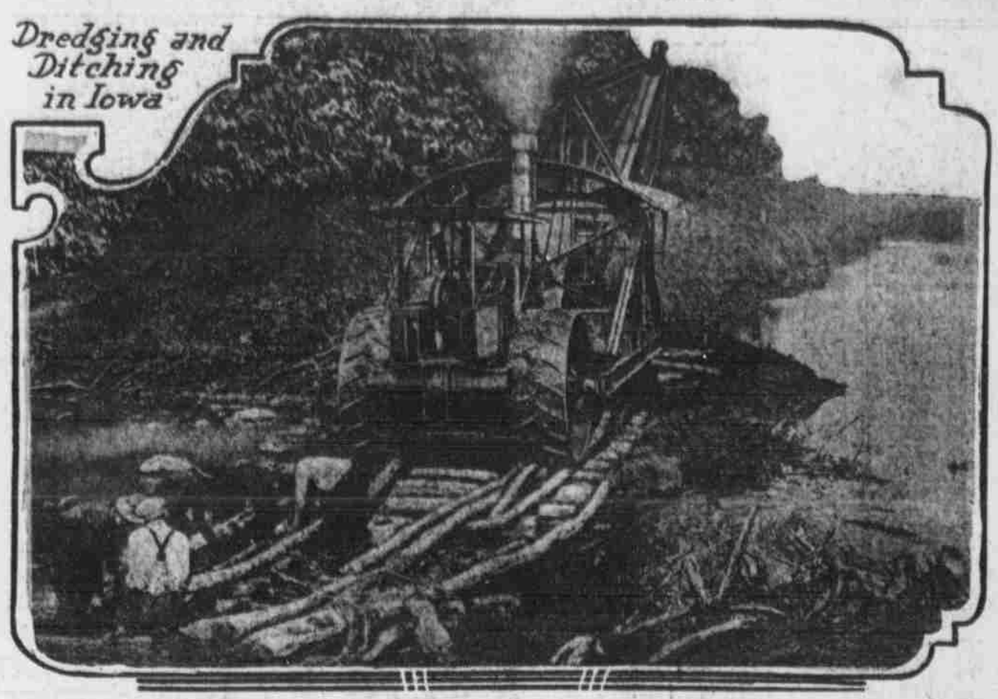
Three binders in use at once



Threshing on a 22,000 acre wheat farm



Taking the wheat to the elevator



Dredging and Ditching in Iowa

THE tractor has added a new chapter to the romance of the middle-west corn-belt farm. The pioneer broke the rich, virgin soil of the prairie with horses or oxen and an old walking plow. Then came the riding plow, breaking a single furrow at a time; then the gang plow, with a whole herd of horses or mules for power, and each change lightened the labor of the man behind the plow and made it possible for him to turn more acres in a given length of time. Now the tractor is superseding all these and changing the character of agriculture.

Years and decades of heavy corn and wheat crops are beginning to tell on the fertility of our soil. For years we tilled only the surface, leaving the rich soil below unused. Now we are plowing deeper to secure the fertility that lies beneath the surface soil. To do this we must have power to pull the plows. Horses and mules will furnish power if we have enough of them, but it is expensive to keep and feed a large number of animals that are in use only in the plowing season. Here the ingenuity of man comes in and furnishes us the iron horse to fill this need.

The tractor travels slowly up and down the fields, pulling from one or two to twenty or more plows, according to the size of the field and the power of the machine in use. It never tires. It never takes fright at a wind-blown paper and runs away. In winter and idle seasons it consumes no feed and requires no care. It is steady, reliable and powerful.

At first the tractor was used only for plowing, but time and recent improvements have shown us that the tractor may be made an all-around handy machine on the farm. It comes in sizes to fit the farm, and the price depends largely on the amount of power that can be generated and the size and adaptability of the machine.

The farmer starts his crop year in July or August, when he plows the stubble fields in preparation for the fall-sown grain. Here the tractor does its first work, traveling hour after hour and day after day up and down the fields, under the broiling summer sun, never tiring, requiring no feed and water at night, when the farmer comes in tired and hungry from his hard day's work. Not only does the tractor pull the plows, but behind the plows are attached the disc and harrow and sometimes a roller, so that the work that once took many days of labor, following the team with one implement after another, is now done in one operation. At one time the seed bed is prepared and moisture stored in the ground and protected by a dust mulch, so that it will remain until the seed is sown and thus insure good germination.

Then comes silo filling time. The tractor is again put to work, and day by day the silage cutter hums and clicks, and the partly ripened corn or sorghum is hoisted, load after load, into the top of the silo and pressed down, where it ferments and changes into the rich, juicy silage that keeps the cattle sleek and fat throughout the winter.

The silage cutter is not owned on every farm that has a silo. The tractor is thus the basis of neighborhood co-operation. Several farmers living in the same vicinity buy a silage cutter together. It takes a number of men to operate the cutter and fill the silo. At silo filling time the men who own the cutter work together, going from farm to farm and exchanging labor until all the silos are filled. The tractor is attached to the cutter and the work is done quickly, and when the silos are filled the tractor hauls the cutter to its place of storage, where it is left until the next season.

Then comes threshing time. For years the threshing crew, with its steam engine and big threshing machine, has traveled about over the wheat belt, spending from a day to a week or more on each farm, threshing out the grain. The tractor is changing all this. Instead of hiring the traveling crew, the farmer puts his own tractor to use. The threshing machine is now, in many cases, owned by a group of farmers, who work together as at silo filling time, threshing first one man's grain and then another's, until threshing time is over and the granaries are filled.

The man with the tractor still needs many wagons to hold his grain, but he does not need the men and teams that used to be necessary to haul it to the elevator. Neither does he need to consume many days making weary trips over the road with one load after another. He loads his wagons, hitches them all behind the tractor and sets out with a long train of loaded wagons behind him, and one trip may be sufficient for the whole big crop.

City horses are fed baled hay, which is compressed into a small compass and is easily handled. Baling this hay into bales takes power, and is another field in which the tractor finds a use. On many a farm and ranch the hay, whether wild hay, timothy, alfalfa or clover, is cut and cured and raked into windrows. Then the tractor and hay press are taken out into the field and the hay is gathered up from the windrows and pressed into these wire-bound, sweet-smelling bales, and hauled to the city markets, where it finds a ready sale.

The tractor and baler are in many cases also used to preserve the straw that is left in great heaps in the field after the threshing is done. Once the grain-belt farmers left this straw to rot in the stack, where it occupied and rendered useless land that was growing more valuable year by year, or he burned it, and after harvest time the country was bright with fires that were burning up the farmers' dollars. Now he spreads some of this straw on his fields, for he has found that properly used it makes a valuable fertilizer, and some he bales for winter bedding for his cattle and horses.

Later in the fall comes corn husking time. Then planting time for all the fall sown grain. Now the tractor is again taken into the fields to prepare the seed bed and to sow the seed.

Even in the winter time the tractor need not be altogether idle. There is grain to grind. Some grind alfalfa into meal for cattle. Sometimes the tractor is put to work pumping water—tanks full of water for the house or for the stock. The ingenious farmer can find a hundred ways to use his engine.

And when spring comes again the fields are plowed and disced and harrowed for the spring sown crops. Then the corn fields are ready to be prepared for seed and seeded.

After the spring rains the farmer of the present day goes out and drags the roads. He is coming more and more to a realization of the importance of good roads in his vicinity. He wants good roads between his place and town because he drives over them so often in his motor car, and he needs good roads because they save him time in hauling his produce to market. So he goes out whenever he has spare time and the conditions are right and drags the roads. His tractor does the job quickly and well. It also helps him when he wants to grade. A road grader is no trouble at all for the ordinary tractor to handle.

Then comes harvest time, and once more the tractor travels the length of the fields and back and forth again, this time pulling the binder, and sometimes several binders are used at once.

So the tractor is an important part of the machinery equipment of the farm. It has displaced many horses and mules and lightened the labor of many a man already, and tractor farming is just at its beginning. A few years ago the tractor was a clumsy thing. It was adapted only to use on the big farms and ranches, where plowing was a problem that machinery alone could solve. It was expensive and complicated, and its use necessitated the constant presence of a highly paid and well trained machinist. The ordinary farmer, with his 160 or 320 acres, could not afford to own such a big and expensive machine for use during the plowing season, but idle during all the rest of the year.

The decrease in the size of the machine, the improvement in the engine, making it less complicated and more easily handled, the accompanying lowering of the price, as tractors are made in increasingly larger numbers, and the possibility of adapting it to various kinds of work, have all been factors in placing upon the markets of this country a large number of different machines which are practical and not unduly expensive on the ordinary farm.

To utilize the tractor to the best advantage the farmer has had to make a few changes in his methods. There are certain things which the horse or mule will not and cannot do. There are also certain things which the tractor will not and cannot do. You can't beat a tractor with a whip and force it to do what it has not been made to do. You have to arrange your work in accordance with the ability and whims of the tractor. The most important change in farming operations due to the characteristics of the tractor is probably in the matter of the shape of the fields. It takes a tractor a much longer time to make turns than it does to cover the same distance in a straight line, and the tractor cannot make as short turns as a team can. On this account, the farmer who wants to use a tractor on his farm must make his fields long and narrow in shape. The square or nearly square field is not practical with the tractor, as it requires too much turning. The long, narrow field, with a maximum length of furrow and a minimum amount of turning is the ideal for the tractorized farm. Many farmers grow a narrow bane of hay crop around the ends of their plowed fields, and these afford a convenient place for turning the tractor without much loss of time, and at the same time utilize the land so that none of it is wasted.