



is to say had slow speed motors and were the conventional two rear drive wheel machines with transmission somewhat after steam tractor fashion. But nearly all the companies have changed their designs when it has come to the two and three-plow sizes and convention in design of the small tractor is thrown to the "four winds." This has happened because more thought has been given by every one concerned to producing for the farmer something to meet his needs. The large tractor has its field, but it does not economically reach the man who has a farm smaller than a section, upon which crops of many kinds are raised.

In 1913 a man from Cozad, Nebraska, wrote to me saying: "The tractor will never replace the horse on the farm to any extent until it can be used for all work. The successful tractor must be light and supple rather than heavy. I am only waiting for the day when the true tractor comes on to the market." He did not have to wait long because the day is here when he can buy exactly what he wants—and the size that will fill his requirements is the two or three-plow machine.

The small tractor is being developed and built, also, because of the great demand of all the farmers. One writer has said this demand is "so strong, so determined, so well defined, that it will not be denied." The interest the farmer is showing in the small tractor is greater than has ever been shown in any subject. The demonstrations in the past summer have illustrated this, and at each show the small tractor has been given more attention than

the large machines. Not only has this interest been shown by small farmers but by men with farms over 400 acres in size. Mr. Frank I. Mann, of Illinois, is a very conservative and careful farmer on such a farm who purchased last year a 12-25 tractor. He writes that it has proved a great saving for him because he has been able to accomplish more by its use. It has given him the extra power required to carry over the "peak loads" of the farm, such as plowing and harvesting. Says Mr. Mann, "I am well satisfied with my 12-25 and though this is but the second year, I hardly know how to farm without it. We are now plowing for

my spring's work so well as I did this year. I had plenty of power because I had three horses more than I have ever had before to do the work. We have no trouble getting our crops in if we have all the power we need. Next year I shall sell those extra horses and one more and buy a small tractor because I need one."

The small tractor then is the outcome of an economic demand. It has not been developed as a fad or because it has been widely advertised. It has been advertised, but the farmer has urged that it be; and the farmer has, in return, shown his interest to an almost incredible extent. The small tractor, as we have it to-

The tractor plowing demonstration is the "show me" part of the tractor game. If you are from "Missouri" you had better follow these affairs closely.

Unquestionably, however, the light tractor advocates have been carried away by their own enthusiasm. They have too much of the automobile and too little of the tractor in their machines. That has already been pretty thoroughly demonstrated. The evidence is apparent this year, when you find most of the experienced tractor designers either bringing out or preparing to bring out tractors combining both the heavy type and the light type of construction.

The arguments for this welding of design are compromise arguments—an acknowledgment of the good points of both designs. But even these compromise types have not followed any standard. Some producers of the heavy type merely cut down size and weight by using better materials where greater strength was necessary and applying anti-friction bearings where the loads were heaviest. Builders of "too-light" designs followed the opposite course, building up and strengthening adding more power units to the motor.

The logical future development of the tractor will undoubtedly be along the line of combining the knowledge and experience of the agricultural engineer, the automobile engineer and the tractor engineer. Each class has much to learn.

Simply because a tractor is a new design need not necessarily condemn it; but if it is simply a design fathered by a haphazard idea and you buy it, the chances



In some sections the light 2-plow Tractor is a popular machine.

wheat with it and the ground is so hard and dry it would not be possible to plow with horses. If it continues dry we will be able to plow over 100 acres of clover ground with the tractor this fall, which would not be possible with horses until so late we might not get its full value next season in corn."

A Wisconsin farmer said to me recently, "I never got through

day, speaks for itself, but there is still much room for development.



TRACTORETTES

The tractor never was designed to take the place of the horse, anymore than man was destined to live alone.



A horse that goes without reins day and night, if necessary. Kerosene, water and lubricative oil are all it requires.