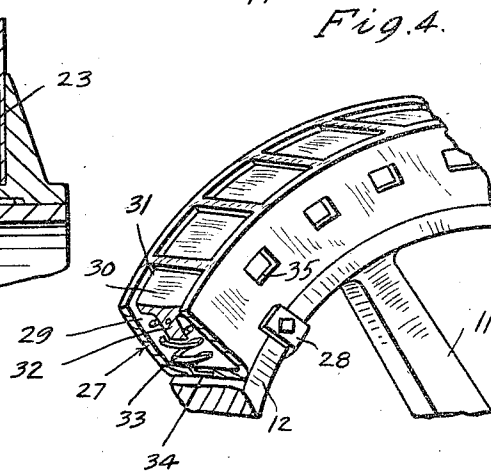
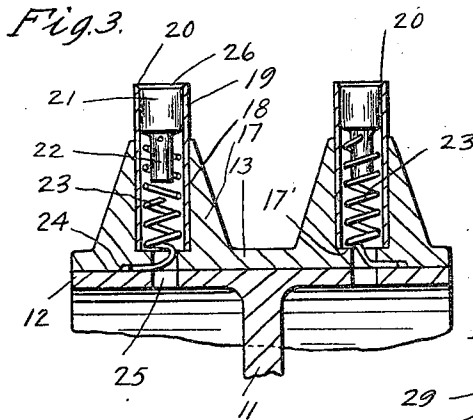
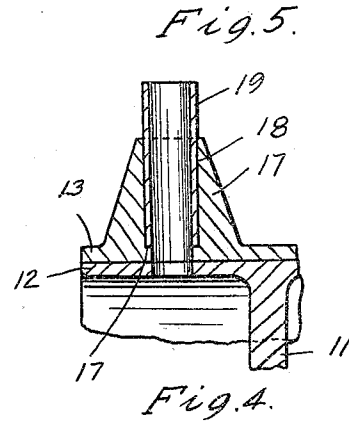
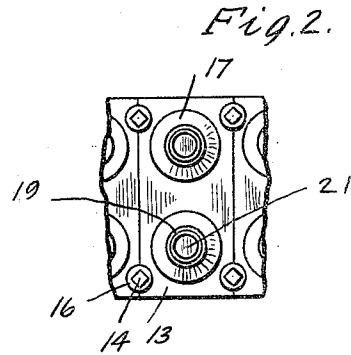
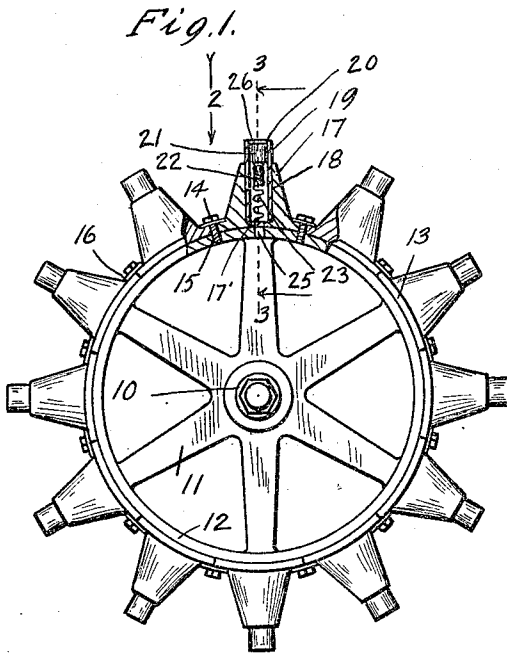


S. T. ALLEN.
TRACTOR WHEEL.
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1,297,631.

Patented Mar. 18, 1919.



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TRACTOR-WHEEL.

1,297,631.

Specification of Letters Patent.

Patented Mar. 18, 1919.

Application filed October 4, 1918. Serial No. 256,823.

To all whom it may concern:

Be it known that I, SHERMAN T. ALLEN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Tractor-Wheels, of which the following is a specification.

My invention relates to a tractor wheel.

It is an object of this invention to construct a tractor wheel provided with radial self cleaning grouters in which a plunger is normally held a slight distance from the outer end thereof forming a cup shaped recess. The plunger is spring controlled so that on encountering any obstacles in the road it will move inwardly toward the frame of the wheel, thereby affording superior traction. When the grouters leave the ground the plunger is moved outwardly ejecting any mud or gravel which may have lodged therein, and thus prevent them from becoming clogged up.

With the above and other objects in view, which will appear as the description proceeds, my invention consists in the construction, arrangement and combination of parts hereinafter described and claimed.

In the accompanying drawings, which form a part of this specification, I have illustrated a preferred embodiment of my invention, and in which,

Figure 1 is a side elevation of my tractor wheel, one of the grouters being shown in cross section.

Fig. 2 is a detail in plan showing the grouter supporting plates, looking in the direction indicated by arrow 2.

Fig. 3 is a section taken on line 3—3 of Fig. 1 showing a pair of grouters in vertical cross section.

Fig. 4 is a perspective fragment of a tractor wheel showing a modified construction of the grouters.

Fig. 5 is an elevation, partly in section, showing another type of grouter.

Referring to the drawings the tractor wheel consists of a hub 10 and spokes 11 secured to rim 12. The outer periphery of the rim 12 is provided with a series of rectangular grouter supporting plates 13 which are secured thereto by means of stud bolts 14 passing through the corners of adjacent plates 13 and engaging screw-threaded apertures 15 in the rim 12. 16 are washers for the bolts 14, said washers overlapping the

two adjacent plates 13, as is clearly shown in Fig. 2.

In the construction shown in Figs. 1—3 inclusive, each plate is provided with a pair of conical bosses 17, said pairs of bosses being arranged transversely to the periphery of the wheel. The bosses 17 are provided with radial cylindrical bores 18 for the reception of tubular grouter members 19 fitting tightly therein and held in place by frictional engagement. The lower end of the tubular member 19 abuts against the shoulder 17' while the upper end projects a short distance from the outer end of the bosses. The outer ends of the tubular grouter members 19 are beveled as at 20 to provide a firmer grip upon the ground when the tractor wheel is traveling. A plunger 21 having a stem 22 integral therewith is slidably mounted for reciprocal movement in the tubular member 19. A contractile spring 23 is disposed about the stem 22 and fastened thereto with one end, and with the other end secured in a groove 24 in the grouter supporting plates 13. The normal position of the plunger 21 is such that the outer end is spaced a slight distance from the outer end of the tubular member 19, thereby forming a shallow cup shaped recess 26. A mud and sand discharge aperture 25, in the rim 12 of slightly smaller diameter than the tubular members 19, is disposed below each of such members and affords an outlet for any mud or sand which may have entered past the plunger into the interior of the tubular members 19.

In the modified form shown in Fig. 4 the grouter attachment consists of a ring shaped frame 27, rectangular in cross section, which is suitably secured to the rim 12 by means of U-shaped bands 28. The grouter attachment 27 is provided with a series of rectangular sockets or chambers 29, each having mounted therein a grouter plunger 30 slightly spaced from the outer periphery of the member 27 to form a shallow cup shaped recess 31. The plunger 30 has a stem 32 integral therewith fastened to a retractile spring 33 whose inner end is suitably secured to the rim 12 at 34. 35 are a series of openings on the lateral sides of the grouter attachment 27, each socket or chamber 29 communicating with a pair of openings 35.

In the operation of my tractor wheel the

grouters will in contacting with the ground secure a firm grip thereon. Any obstacles such as gravel and stones will force the grouter plungers inwardly. Just as soon
5 as the grouters leave the ground the grouter springs will push the plungers outwardly, thereby ejecting any matter lodged in the tubular members, thus making the grouters self cleaning. Due to the fact that the plunger
10 is spaced from the outer ends of the grouters forming a shallow cup shaped recess, the frictional contact of the grouters on hard roads or ground is increased, the beveled edges of the tubular members biting
15 into the ground or road bed. If any dust or mud should work past the plungers into the interior of the tubular grouter members, the same will be dislodged and discharged during the travel of the wheel
20 through the openings 25 in the type of wheel shown in Figs. 1, 2 and 3 and through openings 35 in the type of wheel shown in Fig. 4.

In the modification shown in Fig. 5, I
25 have dispensed altogether with the plunger and spring controlling the same. In this type the grouter consists of the tubular member 19 mounted in the conical bosses 17. Any mud or gravel entering the tubular

members will work loose and be discharged 30 during the travel of the wheel through the discharge openings 25.

In place of arranging the grouters in pairs as shown in Fig. 2, there may be only one row of grouters circumferentially disposed 35 on the periphery of the wheel.

Various other changes in the construction and arrangement of parts may be made by those skilled in the art without departing from the spirit of my invention as claimed. 40

I claim:

A tractor wheel comprising a hub, a rigid frame extending outwardly therefrom, grouters extending radially from the frame, each grouter comprising a tubular member, 45 a plunger slidably mounted therein and normally spaced a slight distance from the outer end of said tubular member, thereby forming a cup shaped recess therewith, said tubular member having a discharge orifice, a 50 contractile spring operatively connected to said plunger said spring tending to move the same into normal position and allowing the same to be moved toward the frame on encountering resistance on the road. 55

In testimony whereof I have signed my name to this specification.

SHERMAN T. ALLEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."