

(No Model.)

A. MILLER.
TRACTION WHEEL.

No. 372,426.

Patented Nov. 1, 1887.

Fig. 1.

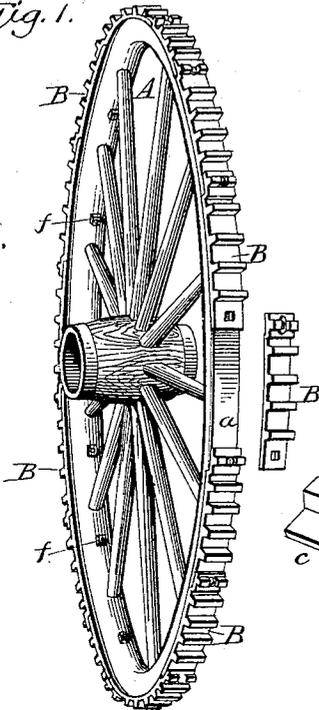


Fig. 2.

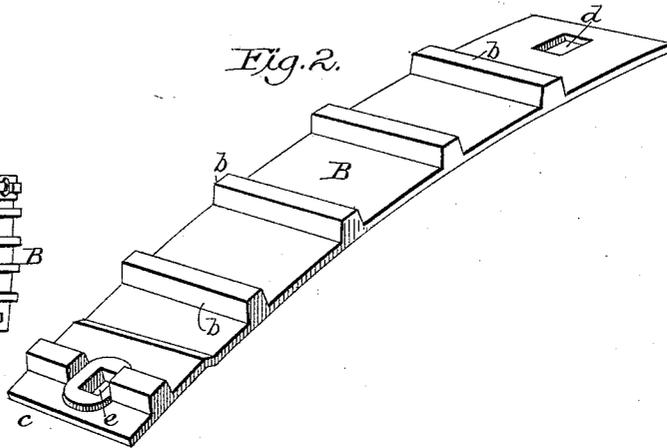


Fig. 3.

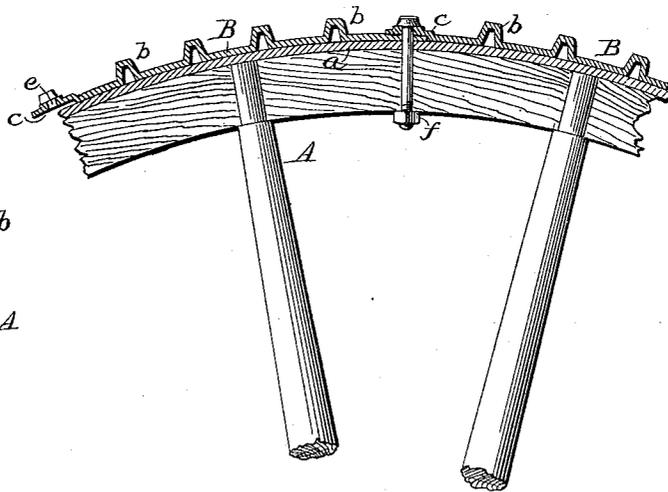
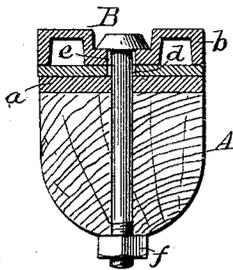


Fig. 4.



WITNESSES

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ABRAHAM MILLER, OF NEWARK, ASSIGNOR TO THE NEWARK MACHINE COMPANY, OF COLUMBUS, OHIO.

TRACTION-WHEEL.

SPECIFICATION forming part of Letters Patent No. 372,426, dated November 1, 1887.

Application filed June 1, 1887. Serial No. 239,955. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM MILLER, of Newark, in the county of Licking and State of Ohio, have invented certain Improvements in Traction-Wheels, of which the following is a specification.

At the present day it is a common practice to employ ordinary farm-wagons to carry and actuate manure-spreaders, seed-distributers, and similar mechanisms, which are mounted temporarily thereon and connected for the time being with one of the wheels.

It is the aim of my invention to provide means by which the wagon-wheel may be speedily converted into a good traction-wheel, adapted to take a firm hold on the ground and to operate the mechanism with a certainty and uniformity which cannot be secured when the wheel is used in its ordinary condition with a narrow tread and smooth face, and to admit of the wheel being quickly restored to its original condition when the wagon is to be used in its ordinary capacity.

To this end the invention consists in ribbed or toothed segmental plates which are detachably secured to the wheel by bolts, as herein-after more fully explained.

In the accompanying drawings, Figure 1 is a perspective view of a wheel provided with my attachment, one of the parts being shown detached. Fig. 2 is a perspective view, on a larger scale, of one of the rim-plates. Fig. 3 is a section through the rim of the wheel in the plane of its rotation. Fig. 4 is a transverse section through the wheel on the line of its axis and through the joint at the ends of the overlapping plates.

Referring to the drawings, A represents an ordinary wheel—such as is at the present time in general use on farm-wagons—with a flat smooth tire, *a*, secured permanently thereon.

In carrying my invention into effect I provide a series of segmental metallic plates, B, their inner faces being adapted to fit snugly upon the tire of the wheel, their form and number being such that when laid together end to end they will completely encircle the wheel and form an outer or supplemental rim thereon. I form these supplemental plates

preferably of malleable cast-iron; but they may be rolled or hammered from wrought-iron or otherwise formed.

I form each plate with a series of projecting ribs or lags, *b*, adapted to enter the soil and prevent the wheel from slipping. These lags I commonly extend across the plates, as shown, from one edge to the other, and to prevent unnecessary weight I form them hollow on the inside, as shown in Figs. 3 and 4, preferably leaving their ends closed by vertical walls, as shown, to prevent the entrance of dirt and give greater strength.

The plates may be abutted end to end when applied to the wheel and secured by separate bolts; but I prefer to form each plate end raised, as shown at *c*, sufficiently to overlap the end of the next plate, this arrangement permitting a single bolt to be passed through the ends of the two plates for the purpose of holding them in position. Each plate is provided at the two ends, as shown, with perforations *d* and *e*, preferably elongated, to receive the fastening-bolts, which are passed through the plates and through holes in the tire and felly of the wheel to receive fastening-nuts *f* applied to their inner ends. I prefer to employ for ordinary purposes fourteen plates for each wheel, and to locate the fastening-bolts between the spokes of the wheel. The fastening-bolts may be independent of the bolts commonly employed for holding the ordinary tire in position; or, if made of sufficient length, the one set of bolts may serve both purposes.

My supplemental rim-plates may be made of the same width as the ordinary tire, or narrower; or they may be made as much wider as circumstances may demand, in order to overhang the wheel on both sides, and thus give the same an increased tread or bearing surface.

I am aware that traction-wheels have been variously constructed with ribs or lags on the periphery, and I lay no broad claim to this feature.

I am also aware that rubber blocks have been secured by clamping devices to the rim of a wheel; also, that a wheel has been con-

structed with inner and outer metal portions bolted permanently together, the outer portions provided with grooves or serrations.

The essence of my invention resides in the fact that I provide plates peculiarly adapted for speedy application to or removal from a wagon-wheel of ordinary construction, so that the wheel may be used in its ordinary form and for ordinary purposes, or as an efficient traction-wheel, at will. Ordinary wheels to which I apply my plates are commonly made, as shown, with a wooden felly and a flat metal tire thereon. In practice I find that when the bolts for securing the supplemental plates are passed through this wooden felly its elasticity prevents the parts from rattling loose, the bolts and plates remaining in position in a more satisfactory manner than would otherwise be the case.

What I claim is—

1. As a new article of manufacture, a supplemental rim-plate for a wheel, formed in one piece with the hollow lags and the perforated ends, one of which is raised, as and for the purpose described.

2. The wagon-wheel having the wooden felly, the flat metal tire *a*, applied permanently thereto, and the removable outer tire, *b*, consisting of the series of ribbed segmental sections secured by bolts passing therethrough and through the tire and felly of the wheel.

In testimony whereof I hereunto set my hand, this 25th day of May, 1887, in the presence of two attesting witnesses.

ABRAHAM MILLER.

Witnesses:

RICHD. T. CLARKE,
J. M. KNODLE.