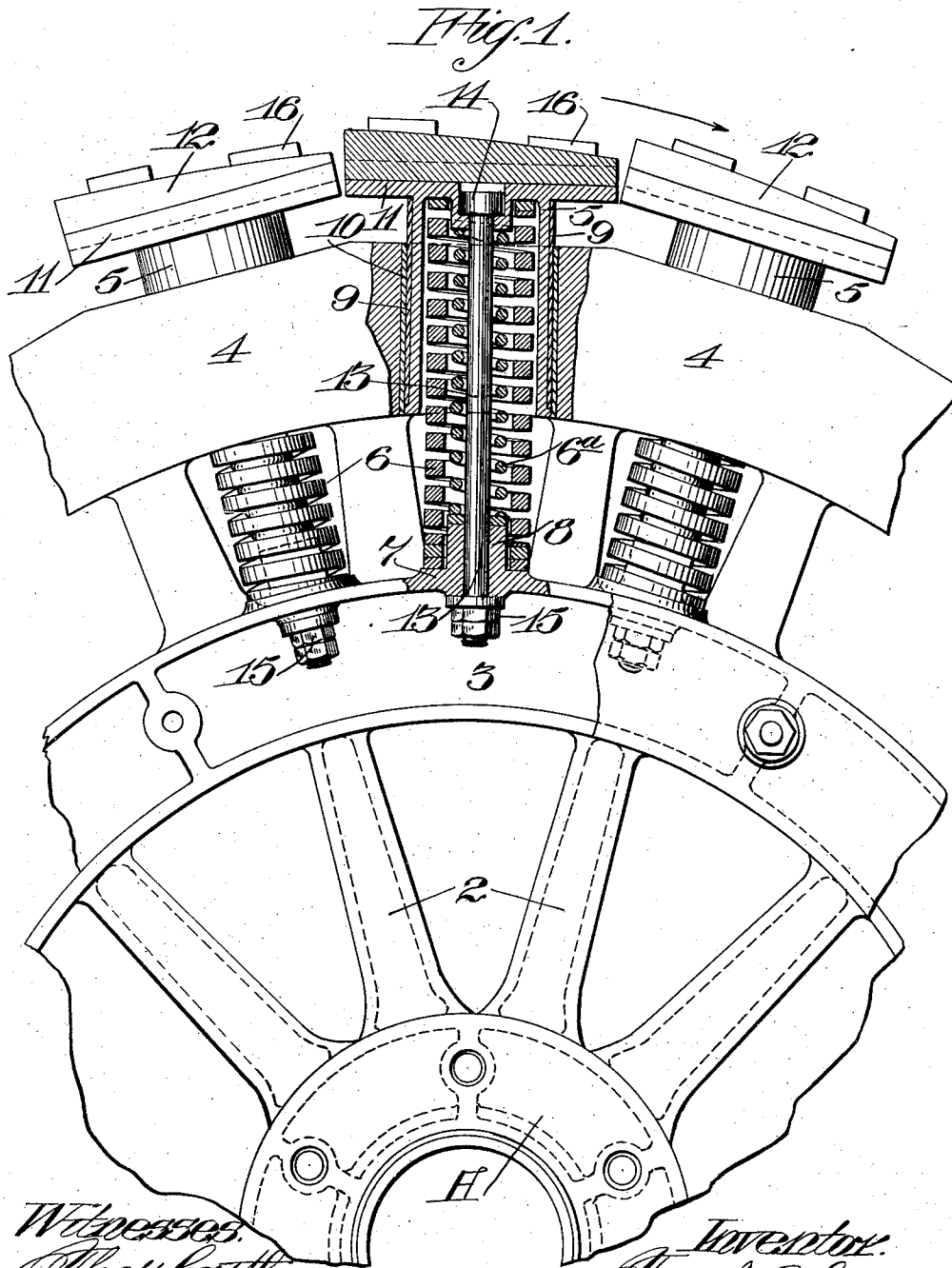


F. I. SEARS.
ELASTIC VEHICLE WHEEL.
APPLICATION FILED DEC. 5, 1910.

1,025,209.

Patented May 7, 1912.

2 SHEETS—SHEET 1.



Witnesses:
Thos. Eastberg
J. E. Maynard.

Inventor:
Frank I. Sears
by G. H. Strong.
Att'y.

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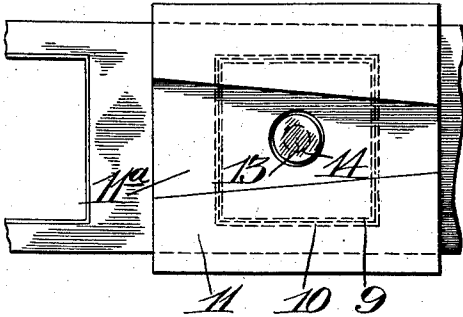


Fig. 2.

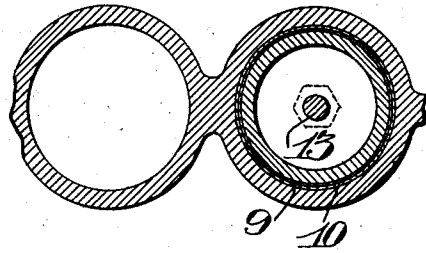


Fig. 3.

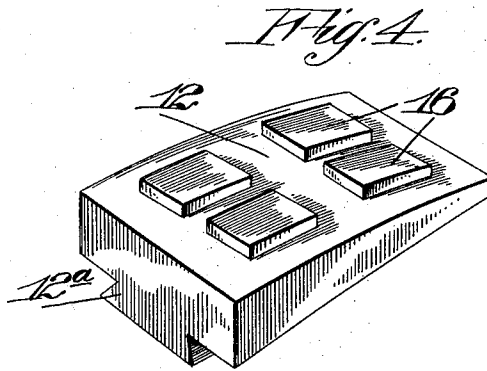
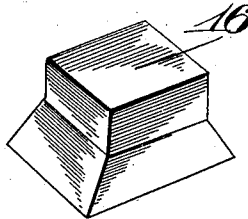


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANK I. SEARS, OF OAKLAND, CALIFORNIA.

ELASTIC VEHICLE-WHEEL.

1,025,209.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed December 5, 1910. Serial No. 595,571.

To all whom it may concern:

Be it known that I, FRANK I. SEARS, citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Elastic Vehicle-Wheels, of which the following is a specification.

My invention relates to an improved construction for vehicle wheels.

It consists in a combination of parts and details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a sectional view showing the parts of a wheel. Fig. 2 is a plan view of a rectangular tread member and also a modified form of tube. Fig. 3 is a transverse section showing cylindrical casings. Fig. 4 is a perspective view of a tread plate. Fig. 5 is a view of an elastic tread.

As shown in the drawing, my wheel consists of a central hub A, with spokes 2, a rim 3, and an outer rim 4 through which the movable tubes 5 are guided. These tubes carry shoes or treads upon their outer ends, and they are slidably guided through the rim 4.

The inner ends of the tubes are open and contain springs 6, of which I have here shown two concentric series. The outer ends of the springs abut against the outer closed ends of the tubes, and the inner ends abut against suitable seats 7 upon the inner rim 3.

When the two sets of springs are used as herein shown, the outer or larger coils rest upon the base formed by the seats 7, and a tubular extension 8 serves to support the inner ends of the interior springs 6^a, the outer ends abutting in like manner against the seats formed at the outer ends of the tubes. These tubes may be made either cylindrical or rectangular, as desired, the rectangular form serving to guide the movement of the tubes and prevent them from turning. These tubes may be made of aluminum, or like material, and are preferably surrounded by wear plates 9, which may be made of thin steel, shaped to fit the exterior of the tubes, and they are slidable through guides, as at 10. These guides may also be in the form of wear plates fixed in the rim 4, and such plates may be readily

replaced when ever too much worn for service. 55

The outer ends of the tubes have formed upon them rectangular plates 11, which serve to support the tread plates 12. These plates 11 have tapered dove-tailed grooves 11^a, extending in the direction of the circumference of the wheel, and the plates 12 have dove-tailed tongues 12^a which fit and interlock with the grooves of the plates 11, thus making it easy to introduce or remove said plates at will. 60 65

The tubes and plates resting upon the springs 6 and 6^a will be pressed inwardly when the weight of the vehicle is upon them, and will be allowed to correspondingly move outwardly when relieved of such weight. The amount of movement is limited by means of check rods 13, having heads 14, which fit corresponding chambers in the plates 11, the inner ends passing through the seats 7, and being screw-threaded may be held by lock-nuts screwed on to the inner ends, as at 15. These rods 13 being freely slidable through the tubular extensions 8 will allow the compression of the springs 6, and will limit the outward movement when pressure upon the springs is relieved. 70 75 80

The tread plates 12 have openings made in them adapted to receive treads 16, which may be conveniently made, as shown in Fig. 5, rectangular in shape and having the inner portion made conical so as to fit corresponding chambers in the plates 12, and when the plates 12 have been slipped into the plates 11 and interlocked therewith the treads 16 will project a certain distance outside of the face of the plates 12, and thus form the portion coming in actual contact with the road surface when the vehicle is in motion. 85 90

For ordinary travel about cities, these treads may be suitably made of rubber or similar elastic material, and are easily replaceable when worn. 95

The tread plates 12 are preferably made as shown in Fig. 4, with the ends, which will be at the front when the wheel is traveling, made thinner than the ends at the rear, thus insuring each plate making the proper tread as it rolls over the ground. 100

This construction provides a convenient elastic wheel with properly protected wear- 105

ing surfaces, and all parts are easily replaceable and interchangeable at will.

Having thus described my invention, what I claim and desire to secure by Letters-
5 Patent, is—

1. A vehicle wheel having radial slidable tubes with plates upon their exterior ends, other plates substantially fitting the first named plates, with tongue and groove connections between the two plates, said second
10 plates being thicker at the rear than at the front and treads removably fitting into the second named plates.

2. A vehicle wheel having tubes radially and slidably guided in the rim, plates upon
15 the outer ends of the tubes having converg-

ent dove-tailed grooves in the direction of the circumference of the wheel, tread plates having corresponding dove-tailed tongues interlockable with said grooves, said tread
20 plates being beveled and thicker at the rear than at the front and having chambers, and removable traction treads fitting said chambers.

In testimony whereof I have hereunto set
25 my hand in the presence of two subscribing witnesses.

FRANK I. SEARS.

Witnesses:

G. H. STRONG,
CHARLES EDELMAN.

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