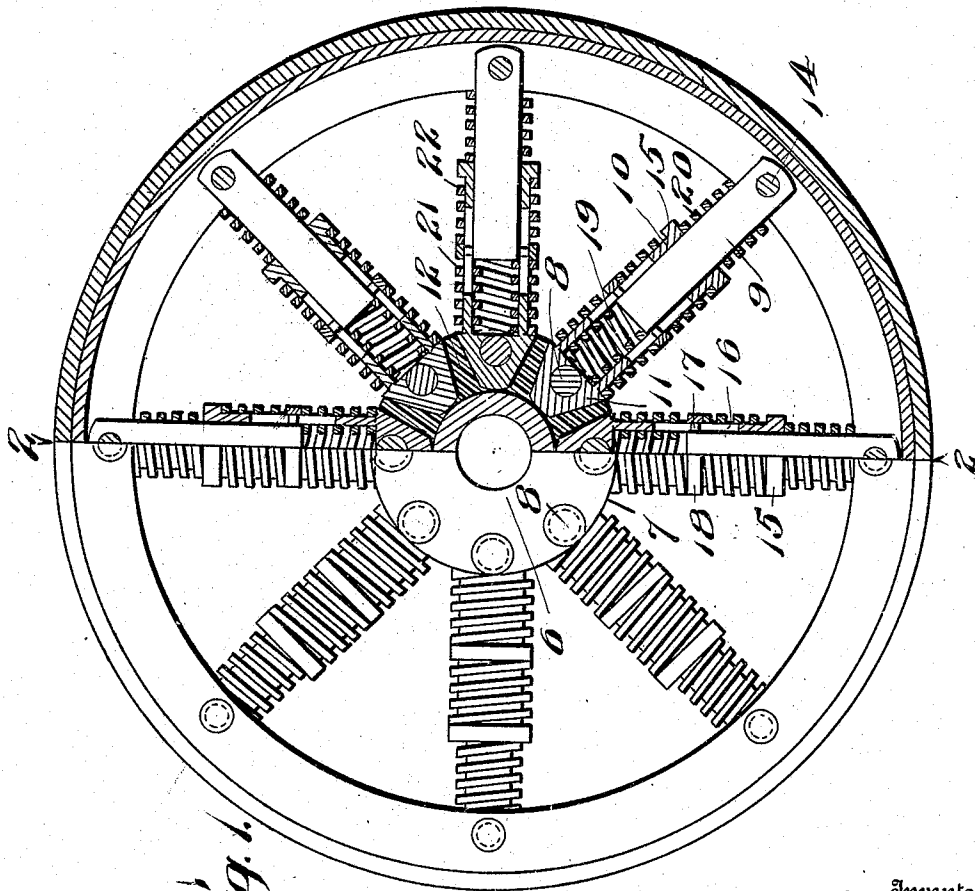
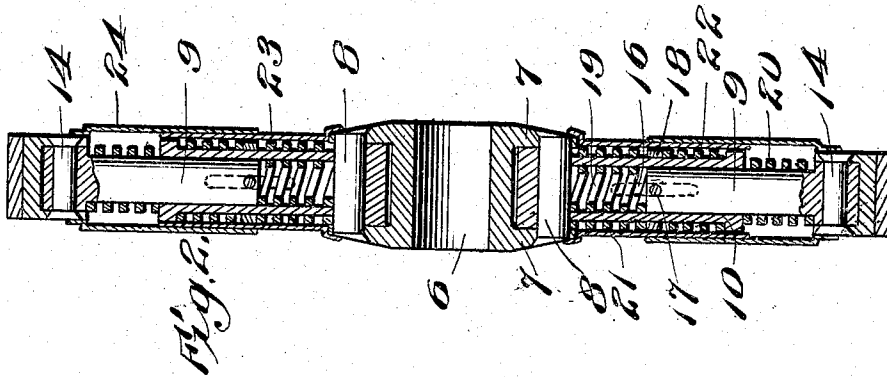


941,550.

C. W. BAEDER.
 SPRING WHEEL.
 APPLICATION FILED JUNE 2, 1909.

Patented Nov. 30, 1909.
 2 SHEETS—SHEET 1.



Witnesses

Frederick Thoms
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Charles W. Baeder

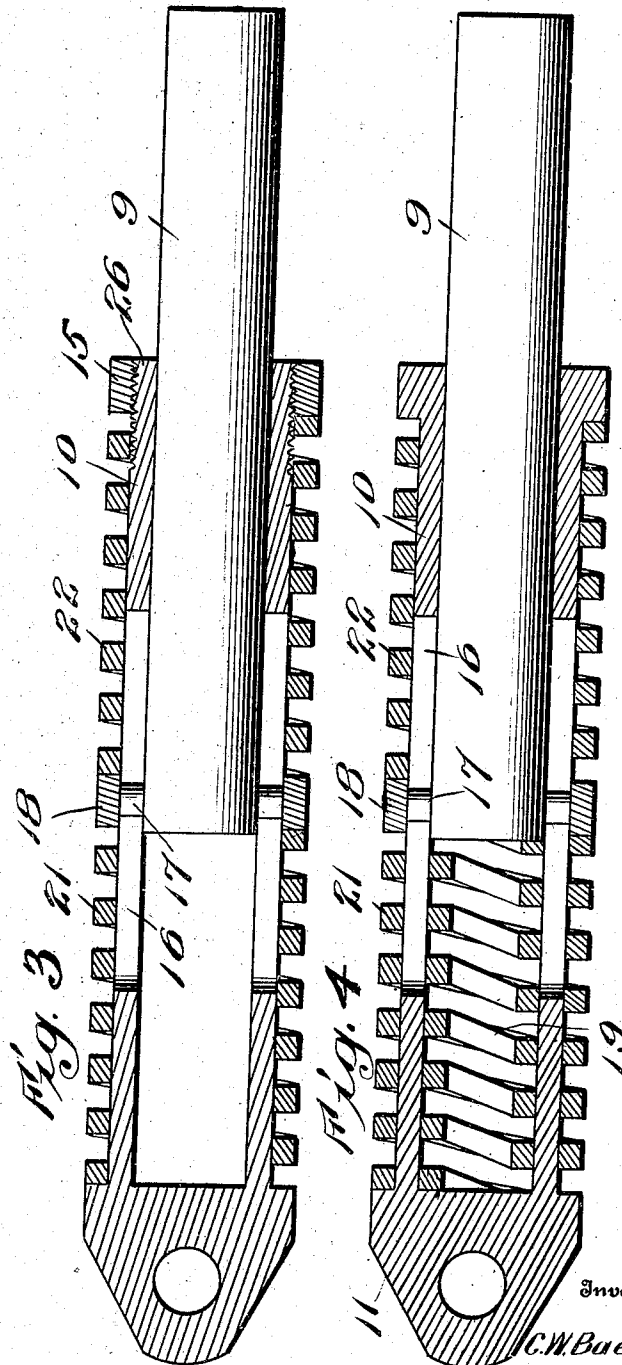
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W. E. Tera
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Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES W. BAEDER, OF MEMPHIS, TENNESSEE.

SPRING-WHEEL.

941,550.

Specification of Letters Patent. Patented Nov. 30, 1909.

Application filed June 2, 1909. Serial No. 499,350.

To all whom it may concern:

Be it known that I, CHARLES W. BAEDER, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Spring-Wheels, of which the following is a specification.

This invention relates to spring wheels of that type having extensible spokes cushioned by coiled springs, the spokes being formed of two members and pivotally connected at the opposite ends to the hub and the rim respectively.

The object of the invention is to form an improved device of the kind as will more fully appear hereinafter.

The invention is illustrated in the accompanying drawings in which—

Figure 1 is an elevation and half section of the wheel; Fig. 2 is a section on the line 2—2 of Fig. 1; Figs. 3 and 4 are sectional views of modified forms of spokes.

The invention is applicable to wheels for railway cars, street cars, automobiles and other vehicles, and referring specifically to the drawings, 6 indicates a hub preferably cast or made of one piece of metal and provided with two peripheral spaced flanges 7 between which the inner ends of the spokes fit, the spokes being pivotally connected by means of cross bolts 8. Each spoke comprises two parts, an outer or plunger part 9 and an inner or tubular part 10. The latter is provided at the inner end with a beveled or wedge-shaped head 11 which fits between the flanges 7 to which it is connected by the cross pins or bolts 8, and the spaces between the heads of the spokes may be filled with cotton waste 12 or other compressible substance in order to exclude dirt and moisture and provide sufficient lubrication if desired. The plunger 9 is pivotally connected at its outer end to the rim 13 by a cross bolt 14, the rim being channeled and the ends of the spokes set in the channel between the flanges.

The inner end of the plunger 9 fits at a working fit in the outer end of the tube 10, and at the outer extremity the tube is provided with an outwardly extending shoulder or flange 15. Said tube is also slotted lengthwise as indicated at 16, on opposite sides, for a portion of its length. A pin 17 extends through the inner end of the plunger 9 and through the slots, and carries a ring 18 which fits around or incloses the tube 10, forming a shoulder opposite the flange 15. An inner

coiled spring 19 is located between the inner end of the plunger and the inner end of the tube 10. A spring 20 is coiled around the plunger between the outer end of the tube 60 and the rim, and springs 21 and 22 are coiled around the tube, on the outside, the former being located between the ring 18 and the head 11, and the latter between the ring 18 and the flange 15. The parts above described are or may be inclosed by side plates 65 of which there are two on each side. These plates will be made of thin sheet metal. One plate 23, on each side, is fastened to the ends of the hub 6 and extends outwardly to 70 about the ends of the tubes 10. The other plate 24 is fastened to the side of the rim and extends inwardly to about the ends of the plungers 9, so that said plates lap each other, permitting, however, relative move- 75 ment between the hub and rim, the plates on each side working in contact and assisting in maintaining the lateral rigidity of the wheel. For vehicle use the plates will preferably be omitted, but will be used on car wheels and 80 heavy trucks.

In Figs. 3 and 4, modified spokes are illustrated. They all have the tube and plunger arrangement. As shown in Fig. 3, the springs 19 and 20 are omitted, using 85 only the springs 21 and 22, and in this form the shoulder at the end of the tube 10 consists of a ring 15 secured onto the end of the tube, as indicated at 26, whereby the ring can be adjusted to vary the tension of the 90 springs. In Fig. 4 the construction is substantially the same as that first above described, with the omission of the spring 20.

By making the spokes as shown with telescoping sections and springs between and 95 pivotally connecting the ends of the spokes a certain amount of play is permitted, whereby the hub can yield under weight or shock, affecting the functions of a spring wheel without the use of a pneumatic tire 100 or the like, and at the same time giving a wheel sufficiently strong to be used on cars and heavy vehicles, and having the other advantages incident to cushioned wheels.

I claim:

1. The combination with a rim and hub, of spokes pivotally connected thereto, comprising slotted tubes having shoulders at the outer ends thereof, plungers working in said tubes, rings on the tubes connected 110 through the slots to the plungers, and springs coiled around the tubes between the

rings and the shoulders and between the rings and the inner ends of the tubes.

2. The combination with a rim and hub, of spokes therebetween, each spoke comprising a slotted tube pivoted at its inner end to the hub, a plunger pivoted at its outer end to the rim and extending into the tube and having a cross pin projecting through the slots, a ring carried by the pin on the

outside of the tube, and springs coiled 10 around the tube between the ring and opposite ends of the tube.

In testimony whereof, I affix my signature in presence of two witnesses.

CHAS. W. BAEDER.

Witnesses:

Mrs. F. M. DUKE,
A. BAEDER.