

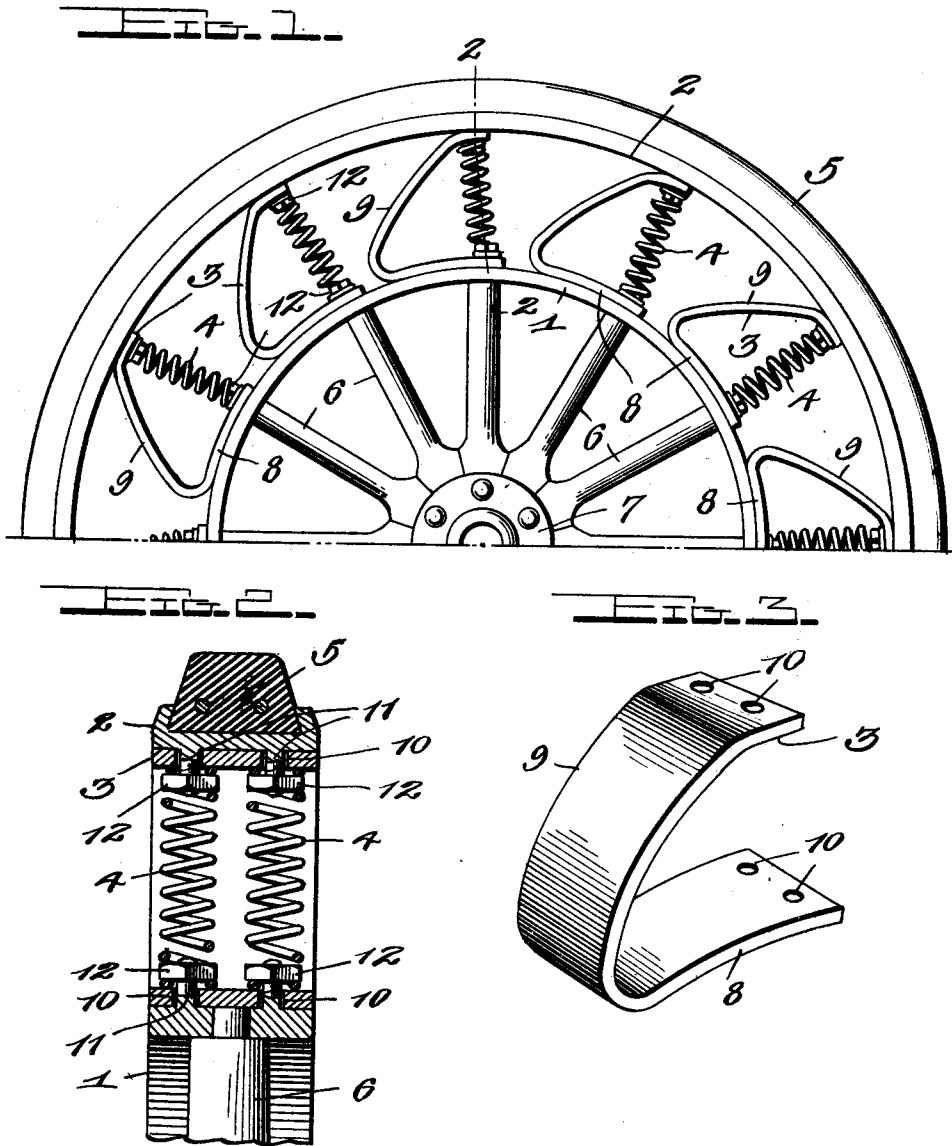
O. C. MESSICK & F. JEFFERSON.

SPRING WHEEL.

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Patented Jan. 28, 1913.



Witnesses
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UNITED STATES PATENT OFFICE.

OLA C. MESSICK AND FRANK JEFFERSON, OF SEAFORD, DELAWARE.

SPRING-WHEEL.

1,051,745.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, OLA C. MESSICK and FRANK JEFFERSON, citizens of the United States, residing at Seaford, in the county of Sussex and State of Delaware, have invented certain new and useful Improvements in Spring-Wheels, of which the following is a specification, reference being had to the accompanying drawings.

This invention comprehends certain new and useful improvements in wheels and relates more particularly to that class of wheels known as spring wheels.

The primary object of the invention is to provide a wheel having an outer rim spaced from an inner rim and held in spaced relationship by a plurality of bow and helical springs placed therebetween.

Another object of the invention is to provide a spring wheel of simple and durable structure which shall possess a high degree of elasticity.

The invention also aims to generally improve spring wheels to render them more useful and commercially desirable.

With these and other objects in view as shall become apparent as the description proceeds, the invention consists in certain constructions and arrangements of parts as we shall hereinafter fully describe and claim.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing in which—

Figure 1 is a side elevation of our invention; Fig. 2 is a transverse sectional view on the line 2—2 of Fig. 1; and Fig. 3 is a perspective view of one of the bow springs.

Similar parts are referred to in the description and designated in the accompanying drawing by like reference characters.

Referring to the drawing numerals 1 and 2 designate the rims of the wheel between which are positioned the bow springs 3 and the helical springs 4. The outer rim 2 is provided with a solid tire 5 of any suitable material such as rubber or leather and the inner rim is provided with the spokes 6 and hub 7 of the usual construction found in automobile wheels, this being the type illustrated in the drawing. The inner portions 8 of the bow springs 3 are bent to conform to the curvature of the inner rim 1 to which they are attached and from which they diverge slightly. The intermediate portions

9 of the bow springs 3 are bowed outwardly to pass diagonally between the outer and inner rims and the outer portions of the bow springs are secured to the outer rim. It is apparent from the drawing that the portions 8 of the bow springs are relatively longer than the outer portions thereof, thereby providing maximum bearing surface for the springs, and the diagonal arrangement of the intermediate portions 9 thereof equally distributes the shocks which are imposed upon the wheel, to the length of the said intermediate portions. These springs are provided near their end edges with a plurality of transverse openings 10 adapted to engage threaded pins 11 formed integrally with and arranged in transverse alinement on the proximate faces of the outer and inner rims. Nuts 12 screw on these pins and serve to hold the springs 3 firmly in position. Helical springs 4 are arranged in substantially radial alinement between the inner faces of the bow springs and are held therebetween by the nuts 12 engaging the ends of said springs and binding them against the faces of the bow springs. Thus it will be seen that the pins 11 and nuts 12 serve the double purpose of holding the bow springs 3 and helical springs 4 in position.

We are aware of the fact that it is old to interpose springs between the outer and inner rims of a vehicle wheel but we believe the specific manner which we have just described for holding the springs therebetween to be new. This arrangement makes it a very easy matter to remove these springs for any cause whatever and substitute new ones.

In the operation of our invention any suitable number of springs are used and they have sufficient strength to normally hold the rims concentric with one another but should any cause whatever such as an over load or the striking of an obstruction tend to displace the normal arrangement of these rims the lower springs are compressed and the upper ones expanded. Thus it will be seen that there is a double action tending to hold the rims in their normal position and also tending to return them to this position should they become displaced.

From the foregoing description in connection with the accompanying drawing, it will be seen that we have provided a spring wheel of simple and durable structure and

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one in which the springs are so secured that they may be easily and quickly removed.

Of course it is to be understood that minor changes in construction, and arrangement of parts so as to adapt the wheel to different styles of vehicles such as motorcycles, baby carriages, etc., may be made without departing from the scope of the invention as defined by the claim.

10 Having thus described the invention, we claim:

In a spring wheel comprising inner and outer rims concentrically arranged in spaced relationship, the opposed faces of these rims 15 being provided respectively with outwardly and inwardly projecting threaded pins formed integrally therewith, bow springs disposed between said rims and having their opposite ends provided with openings to

engage the said pins, spiral springs secured 20 in position on said pins, means for holding said springs in position on the pins, the inner portions of said bow springs being curved to conform to the curvature of the inner rim, said inner portions of the bow springs 25 being relatively longer than the outer portions thereof, and the intermediate portions of said bow springs disposed diagonally between the said inner and outer rims, as and for the purpose described. 30

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

OLA C. MESSICK.
FRANK JEFFERSON.

Witnesses:

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