

W. J. FRICKE,  
RESILIENT WHEEL.  
APPLICATION FILED JUNE 15, 1922.

1,481,297.

Patented Oct. 10, 1922.

2 SHEETS—SHEET 1.

Fig. 1

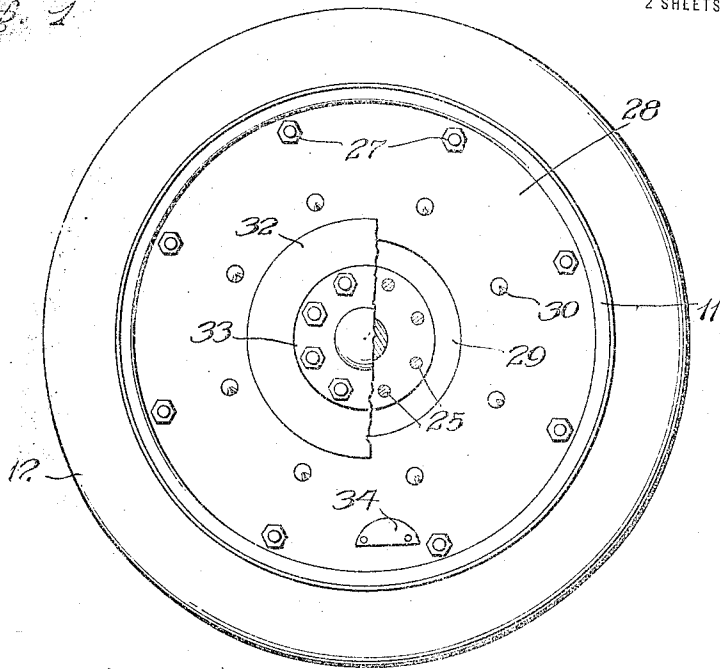
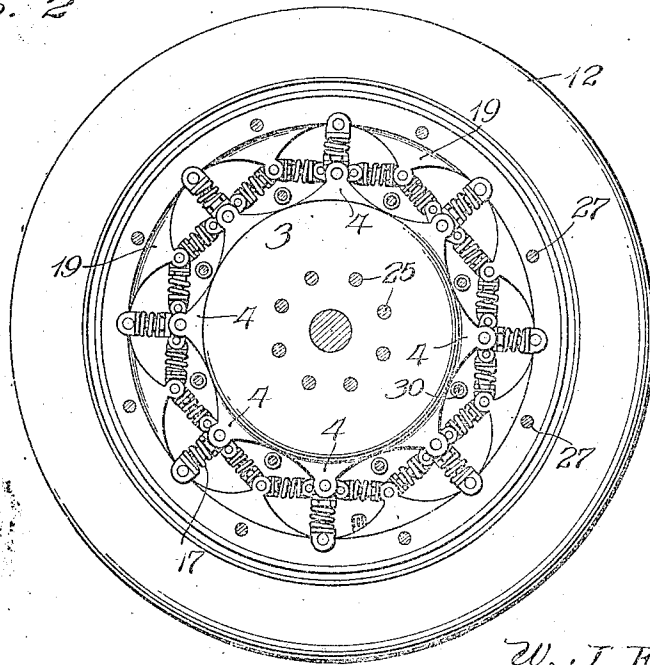


Fig. 2



Inventor

W. J. Fricke

By *Townsend & Townsend*  
Attorney

W. J. FRICKE.  
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 2 SHEETS--SHEET 2.

Fig. 3

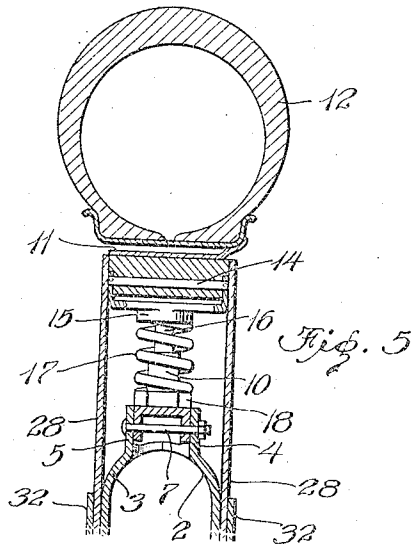
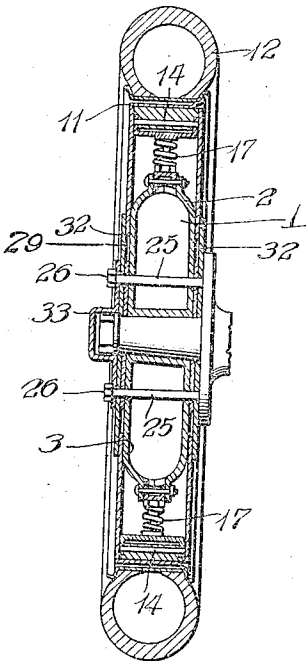
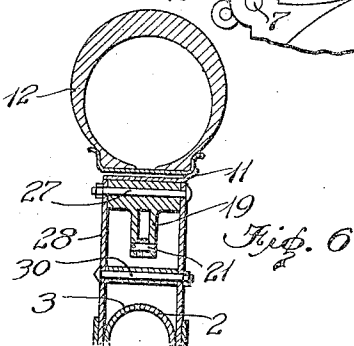
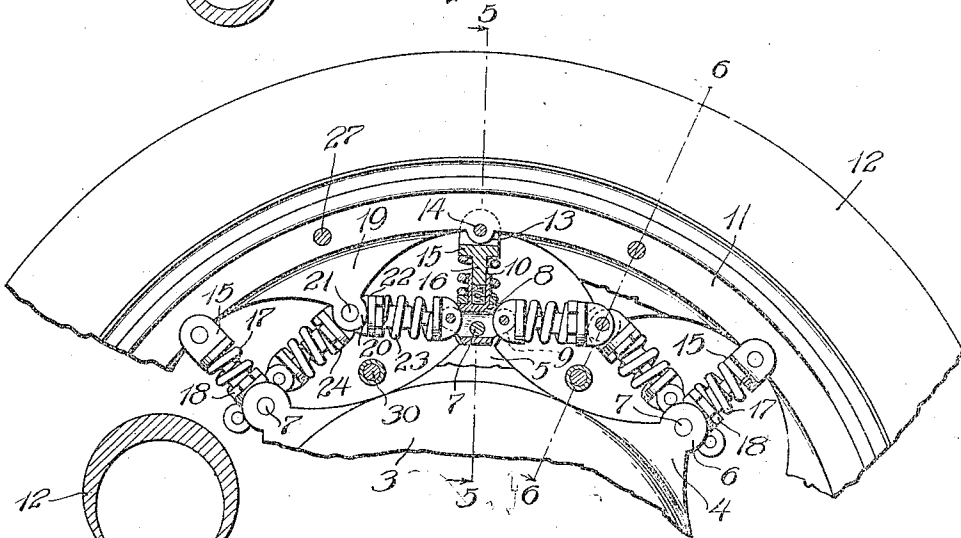


Fig. 4



Inventor  
 W. J. Fricke

By Townsend & Townsend  
 Attorneys

## UNITED STATES PATENT OFFICE.

WILLIAM JOHN FRICKE, OF PARAGOULD, ARKANSAS.

## RESILIENT WHEEL.

Application filed June 15, 1922. Serial No. 563,465.

*To all whom it may concern:*

Be it known that I, W. J. FRICKE, a citizen of the United States, residing at Paragould, in the county of Greene and State of Arkansas, have invented certain new and useful Improvements in a Resilient Wheel, of which the following is a specification.

My invention relates to resilient wheels and the primary object is the provision of a wheel constructed in a novel manner and comprising a departure from the ordinary specific construction as used in most of the wheels at the present time.

In carrying out this object, it is the provision of the present invention to construct a wheel substantially of the disc type, yet having a positive driving connection between the hub member and the rim portion of the wheel.

Another object is the provision of a wheel of this type equipped with novel and improved disc plates arranged in an efficient and readily applicable manner.

With these and such other objects in view as will be apparent from the description, my invention resides in the novel construction, combination and arrangement of parts hereinafter described and claimed and taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of a wheel constructed in accordance with the invention;

Figure 2, a similar elevation with the cover plates removed;

Figure 3, a vertical section through the wheel;

Figure 4, an enlarged fragmentary elevation, partly in section, showing the manner of mounting certain elements of the wheel;

Figure 5, a vertical section on the line 5—5 of Figure 4; and

Figure 6, a similar section on line 6—6 of Figure 4.

In detail, the invention comprises a hub member 1 formed of two discs 2 and 3, disposed over the hub to form a bearing and extending vertically at opposite sides, their peripheral portions being inturned to the median line of the wheel, as illustrated in Figure 3. At peripherally spaced intervals the circumferential meeting edges of the two discs 2 and 3 are extended in substantially triangular formation to form lugs 4 and 5 provided with ears 6, between which are journaled on pivots 7 bearing members 8,

comprising in the present instance substantially cylindrical members provided with ears 9 at each end and a cup shaped cylindrical portion 10 on their outer sides. The discs 2 and 3 comprise the inner or driving discs in their assembled relation, and the circumference of this driving disc is considerably less than that of the inner portion of the wheel rim 11, which is of the usual construction and carries a pneumatic or other tire 12 thereon.

This construction provides a spacing between the underside of the rim and the periphery of the driving disc, and at spaced intervals on the rim, corresponding to the position of the lugs 4, are disposed ears 13 carrying therebetween pivot pins 14 upon which are journaled spring seats 15 provided with plungers 16 adapted to extend into the cylindrical cups 10 on the members 8 carried by the driving disc, and slidable there-in against the tension of the spiral springs 17 carried between the opposed faces of the seats 15 and adjusting nuts 18 threaded over the cylindrical sockets 10, as best illustrated in Figure 4.

At equi-distant intervals between the rim lugs 13 the under surface of the rim is provided with inwardly extending triangular lugs 19 carrying ears 20 between which are disposed the pivot pins 21 on which are journaled spring seats 22 of a construction exactly similar to that already described and extending oppositely to connect with the bearings 8 carried by the driving disc. Around these spring seats in corresponding sockets are disposed the spiral springs 23, regulated by the adjusting nuts 24, all of which are disposed in the space between the periphery of the driving disc and the under surface of the wheel rim as illustrated.

The two sections 2 and 3 comprising the driving disc are held in assembled relation by means of bolts 25 passed therethrough and secured by nuts 26, in the usual manner, and secured by means of bolts 27 to the sides of the rim are covering plates 28, at each side of the wheel and provided with relatively large central apertures 29 to allow of a sliding relation between the plates and the inner driving disc. Plates 28 are further held in position by means of transverse peripherally spaced bolts 30 extending therethrough in the space between the periphery of the driving disc and the under surface of the rim.

Outer covering plates 32 are disposed on opposite sides of the wheel, being of a size sufficient to cover completely the central apertures 29 in the cover plates 28, and held in position by means of the bolts 25 herein-  
5 before described which are passed there-through and extend also through the hub cover plate 33 on the outer side of the wheel.

A detachable segmental cover 34 is provided adjacent the usual air valve stem so  
10 that ready access may be had thereto.

With this construction, it will be seen that I have provided a hollow driving disc forming an integral part of the hub and carrying  
15 members at peripheral spaced intervals which are connected by spring members with the wheel rim in a radial direction, and by oppositely extending similar spring members in a circumferential direction with lugs  
20 carried by the rim, whereby a three-way connection is established between the inner driving disc and the rim. The construction further provides for a two-way circumferentially disposed spring connection between  
25 the rim and the driving disc at points intermediate the radial spring connection already described. The parts are readily accessible by reason of the feature of the removable series of cover plates and a sufficient  
30 clearance is provided for the action of the driving disc relative to the rim by reason of the apertures 29 provided in the cover plate. The spring mechanism is readily adjustable by reason of the nuts described and the cup shaped sockets 10 may  
35 be packed with hard lubricating material or any other desired means of lubrication ap-

plied so that the wheel is at all times in an efficient state for easy and noiseless operation.

While I have illustrated and described  
40 certain details and features of construction entering into the invention, I desire it to be understood that I do not intend these as  
45 limitations, but that any such may be used and any changes and modifications may be made as will fall within the scope of the invention as claimed.

I claim:

In a resilient wheel, a hub member, a  
50 hollow drive disc integral with said hub member, socket members pivotally mounted on said driving disc in circumferential spaced  
55 relation, plungers pivotally connected to the wheel rim and disposed in said socket members, spring connections between said socket  
60 members and plungers, lugs carried by the wheel rim intermediate the said socket and plungers, and spring connections between  
65 said driving disc and wheel rim disposed on said lugs, cover plates at opposite sides of the wheel, said plates being centrally apertured to provide for play between said  
70 driving disc and wheel rim, cover plates over said apertures, and a hub cap plate disposed on the outer face of the wheel, said last named cover plates being connected by plates extending transversely through  
said wheel, and said first named cover plates being connected by transverse bolts extending  
through said rim and plates.

In testimony whereof I affix my signature.

WILLIAM JOHN FRICKE.