

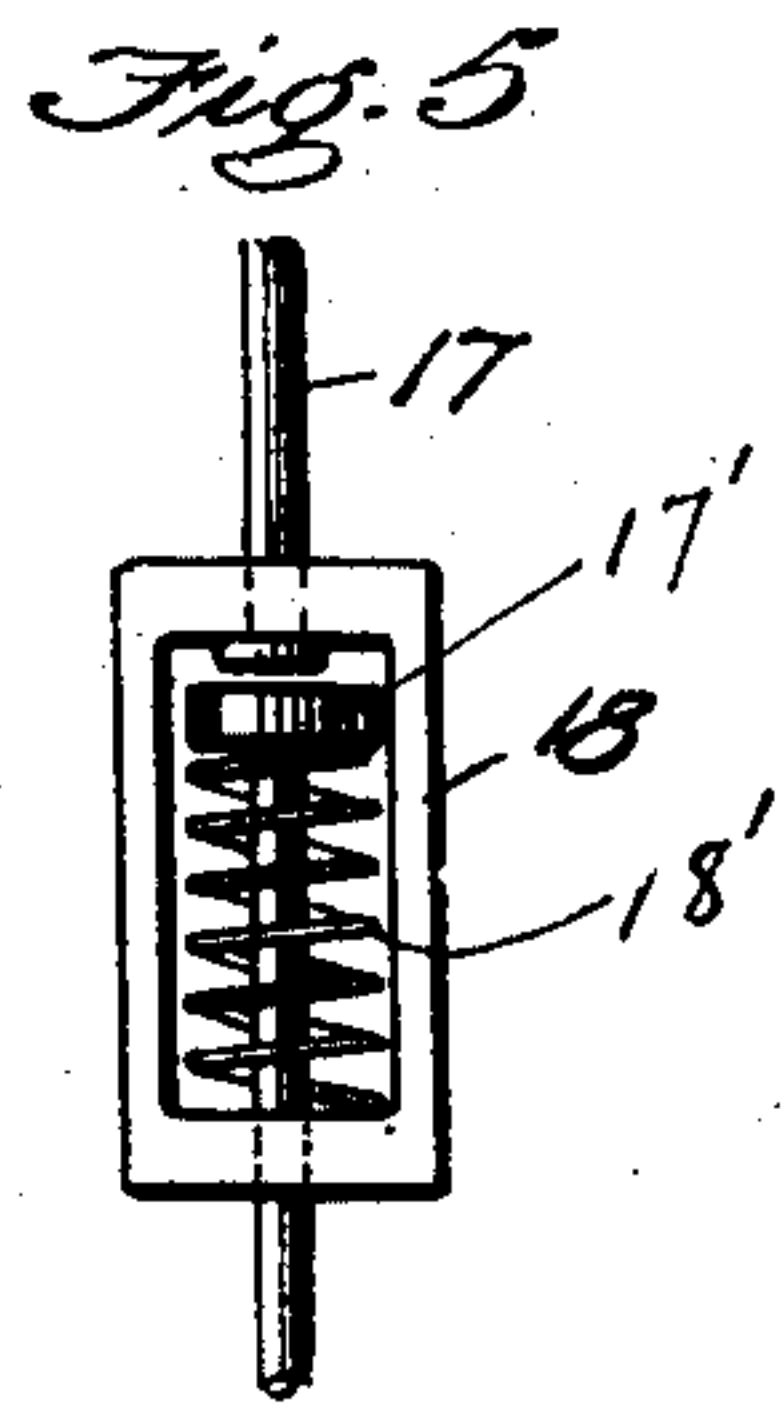
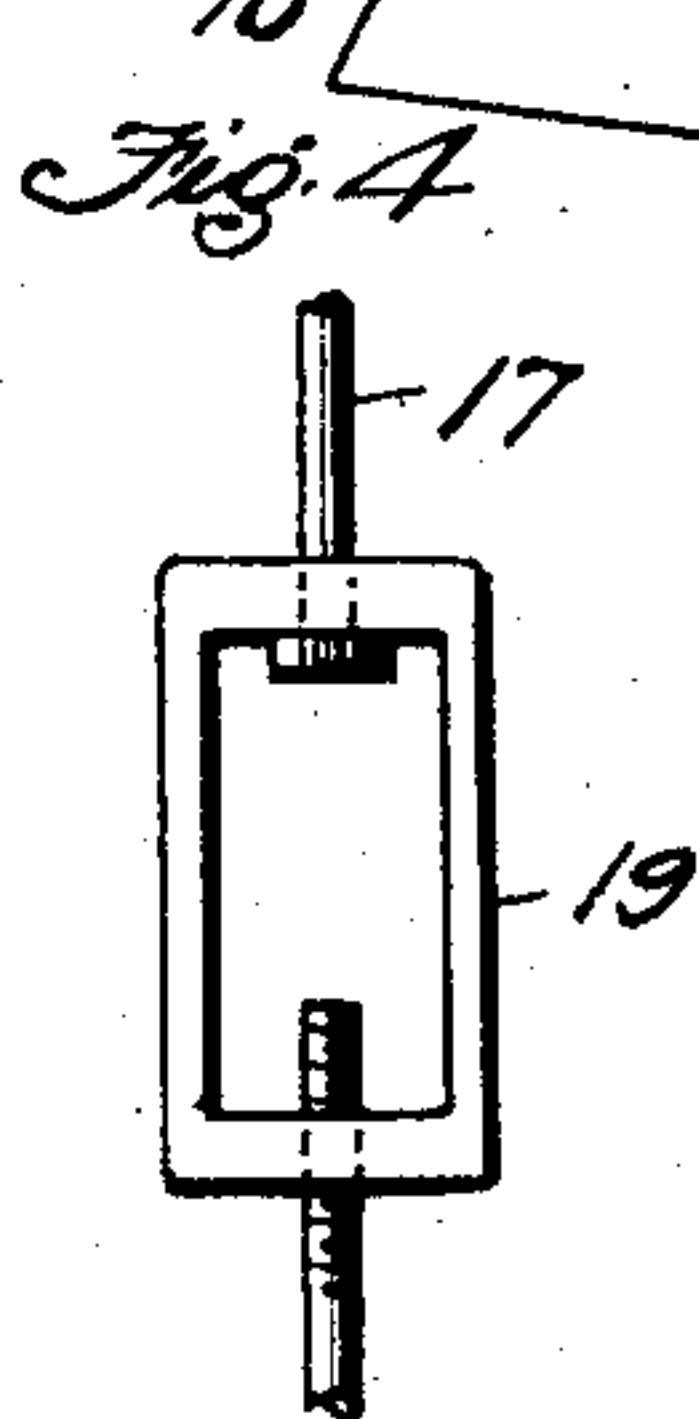
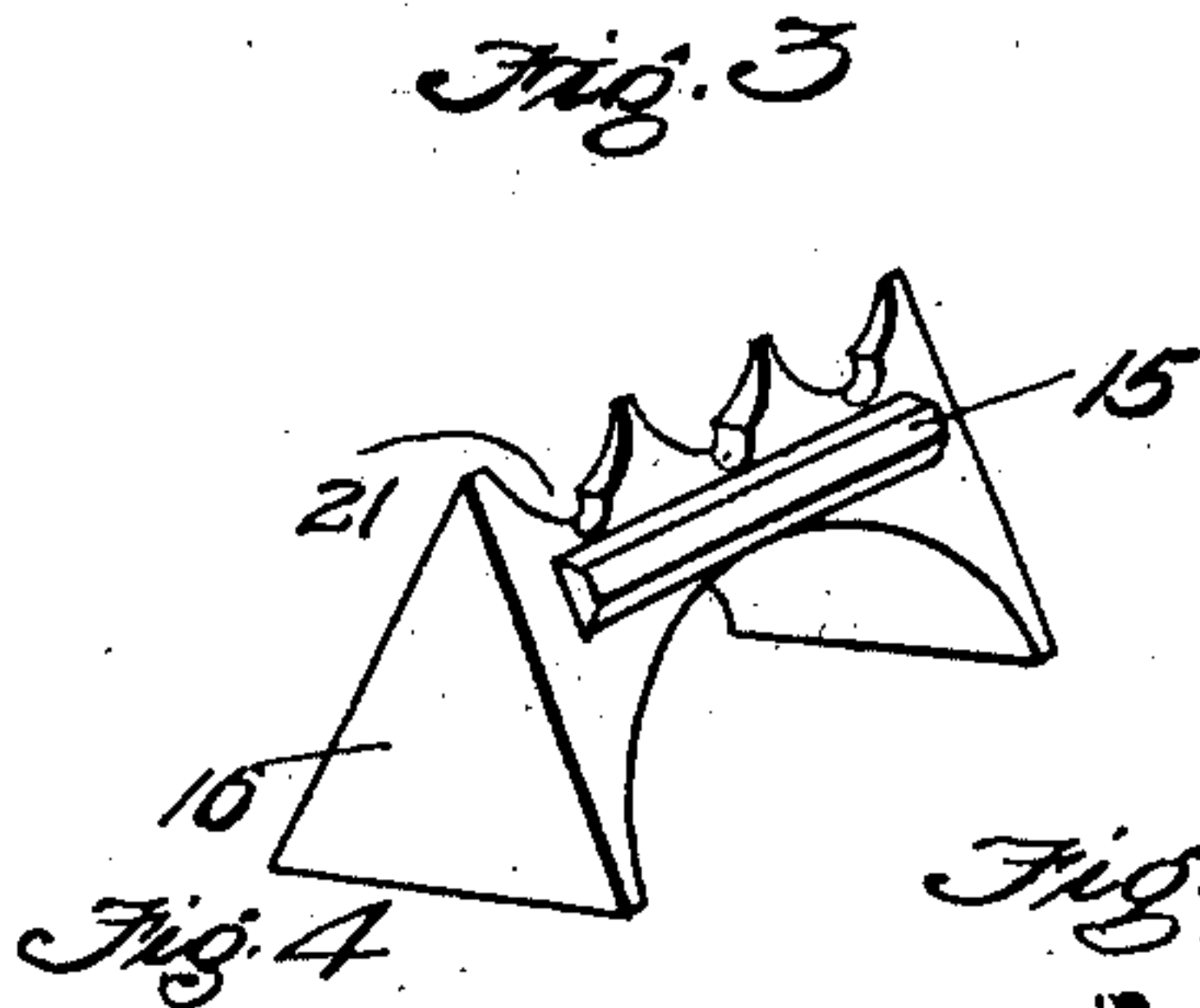
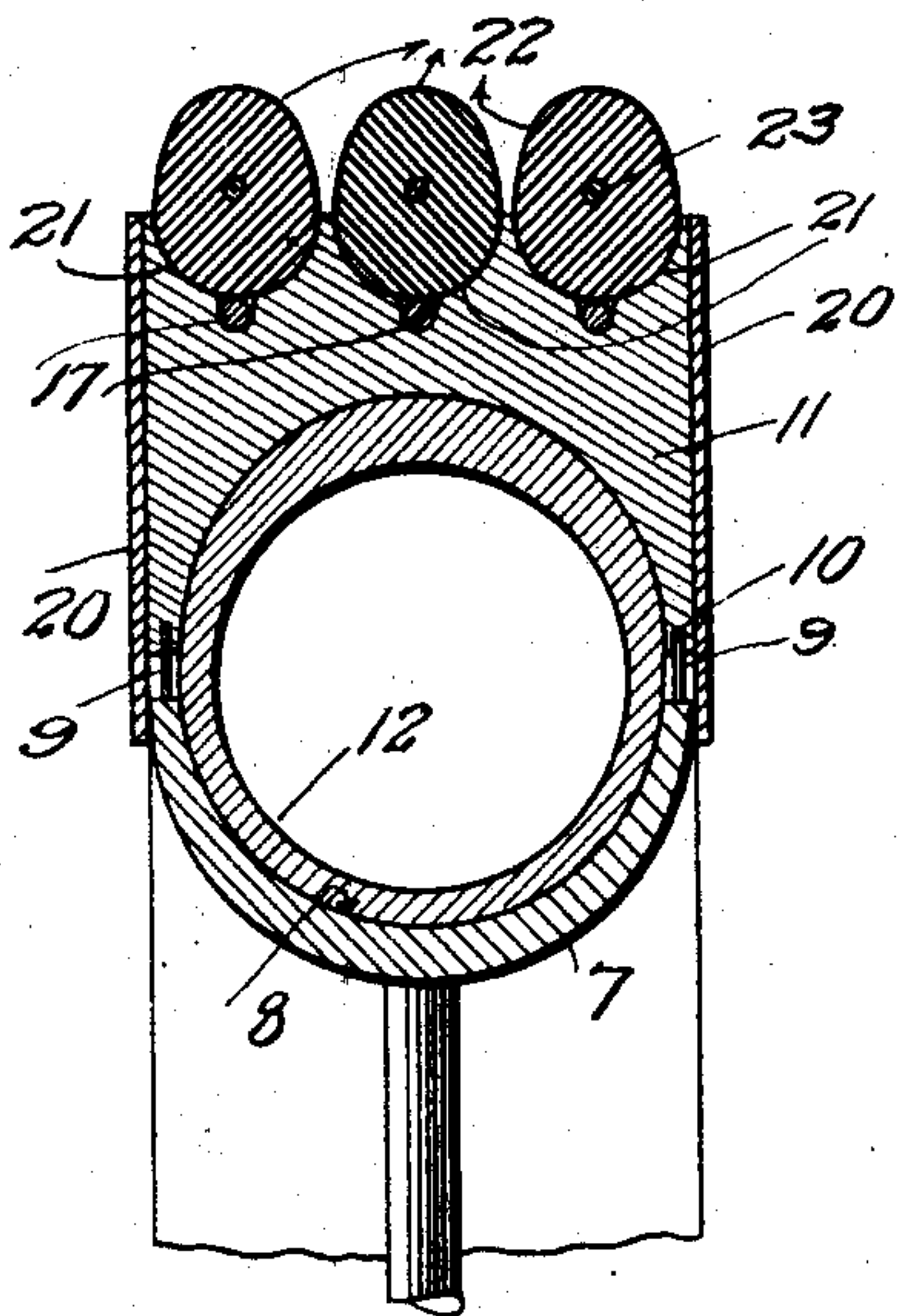
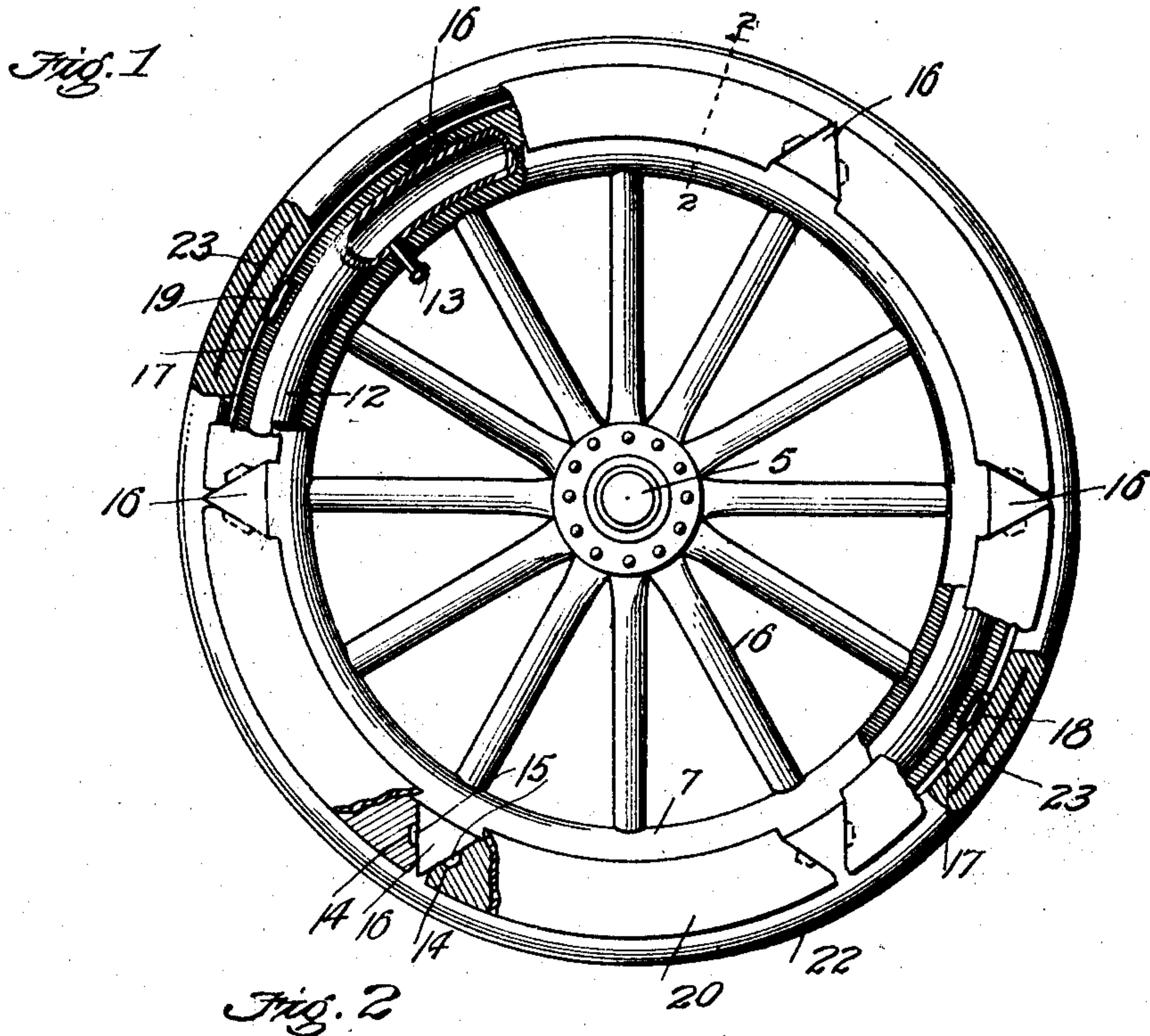
No. 826,612.

PATENTED JULY 24, 1906.

W. B. SAWYER.

TIRE.

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Witnesses
Edmund A. Strauss,
Myrtle A. Jones.

Inventor
William B. Sawyer
Hazard & Harpham
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM B. SAWYER, OF RIVERSIDE, CALIFORNIA, ASSIGNOR OF ONE-THIRD TO S. G. ARMSTRONG, OF RIVERSIDE, CALIFORNIA.

TIRE.

No. 826,612.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed December 5, 1905. Serial No. 290,461.

To all whom it may concern:

Be it known that I, WILLIAM B. SAWYER, a citizen of the United States, residing at Riverside, in the county of Riverside and State of California, have invented new and useful Improvements in Vehicle-Wheels, of which the following is a specification.

My invention relates to pneumatic wheel-rims, and is especially applicable to automobiles, motor-cycles, and similar vehicles; and the object thereof is to produce a pneumatic wheel-rim of great durability and which cannot be punctured. I accomplish this object by the wheel-rim described herein and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, partly in central section, of a wheel equipped with my improved rim. Fig. 2 is a section on the line 2 2 of Fig. 1. Fig. 3 is a perspective view of the rubber cushion-blocks placed between sections of the tire. Fig. 4 is an enlarged detail of the turnbuckle attachment. Fig. 5 is an enlarged detail of the spring-tension attachment.

In the drawings, 5 is the ordinary hub of the wheel, and 6 represents the spokes secured thereto in the usual manner. On the outer ends of the spokes is the felly 7, in the outer edge of which is a channel or trough 8, which is preferably semicircular. At suitable distances around the felly it is provided with pins 9, which project into sockets 10 in the sections 11, composed of non-puncturable material. Wood forms a good material for these sections, as it is light and strong. Papier-mâché is also a good material. These wood sections are of a similar curvature to the felly and in the edge next to the felly contain a semicircular trough, which, with the trough in the felly, forms the tire-receiving channel, in which is contained the pneumatic tube 12, which can be inflated and deflated through valve 13 in the usual manner. There may be as many of these wood sections as desired. I have shown six, as in an ordinary autowheel that number provides a wood section which may be so cut as to retain the greatest strength of the wood; but there may be more or less of these sections, if desired, and they may be constructed of other material. The ends of these wood sections are cut on a slant, as shown in Fig. 1, and are provided with recesses 14, in which are re-

ceived lugs 15 of the rubber cushion-blocks 16, which are placed between the various sections of the wood sections to permit of the expansion and contraction of the outer portion of the rim of the wheel when in use. These cushion-blocks are of elastic rubber and are therefore compressible and resilient. To hold the wood sections and these cushion-blocks in place, binding-hoops 17 are provided. These binding-hoops at points preferably equidistant are provided with a tension-spring attachment 18 and a turnbuckle attachment 19, which are illustrated in an enlarged detail in Figs. 4 and 5, which permit the hoops to be drawn up tightly upon the wood sections and at the same time permit of a yielding motion between the different sections. As shown in Fig. 4, the turnbuckle attachment consists of the link 19, through one end of which the end of the rod of the binding-hoop 17 passes in threaded contact and through the other end of the link the end of the rod of the binding-hoop swivels. As shown in Fig. 5, the spring-tension attachment consists of the link 18, through the ends of which the rod of the binding-hoop swivels, and on one end of the rod intermediate the head 17' and the end of the link is a spring 18', which gives a yielding or spring tension on the binding-hoop when the turnbuckle is screwed up. To the sides of these wood sections are secured metallic plates 20, which extend downwardly, so as to overlap the felly and to keep out the dirt from the space between the felly and wood section when the pneumatic tire is fully inflated, as shown in Fig. 2. In the top of the wood sections and also in the top of the rubber cushion-blocks are grooves 21, in which are received the solid-rubber facing-rings 22. Other wearing material may be substituted for rubber. The bottom of these grooves are small and narrow for the reception of the binding-hoops, as best shown in Figs. 2 and 3. The facing-rings are provided with the usual central strengthening-wire 23.

In assembling the parts of the tire the pneumatic tube is deflated, and after the parts are put into their appropriate places and the proper tension produced in the binding-hoops it is inflated, thereby giving the outer part of the tire its necessary stiffness and resiliency.

By this construction it will be seen that I

have provided a non-puncturable pneumatic tire of great durability and which will not skid on the ground as easily as the ordinary autowheel. It will also be observed that the wear of the wheel comes principally upon the facing-rings, which when worn out can be easily replaced with little expense compared to the replacing of the tires of the ordinary autowheels.

10 Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A vehicle-wheel rim composed of a felly having a channel in its outer face; a plurality of sections composed of non-puncturable material having channels in their inner faces which together with the channel in the felly form a pneumatic-tube channel; a pneumatic tube in said channel; means to hold said non-puncturable sections against separation from the felly; resilient cushions between the ends of said sections; and wearing material exterior said sections and cushions.

2. A vehicle-wheel rim composed of a felly having a channel in its outer face; a plurality

of pins projecting upwardly from the outer face of said felly, said pins being secured thereto; a plurality of wood sections having sockets in their lower faces for the reception of said pins and having channels in said faces, which with the channel in the felly form a pneumatic-tube channel; a pneumatic tube in said tube-channel; conical-shaped rubber cushions intermediate said wood sections; side plates secured to said wood sections and extending downwardly to overlap the felly; facing-rings on the outer side of said wood sections, said facing-rings being received in grooves in said wood sections and cushions and binding-hoops surrounding said cushions and wood sections and received in grooves therein.

In witness that I claim the foregoing I have hereunto subscribed my name this 28th day of November, 1905.

WILLIAM B. SAWYER.

Witnesses:

G. E. HARPHAM,

MARGARETE C. NICKELESON.