

No. 751,368.

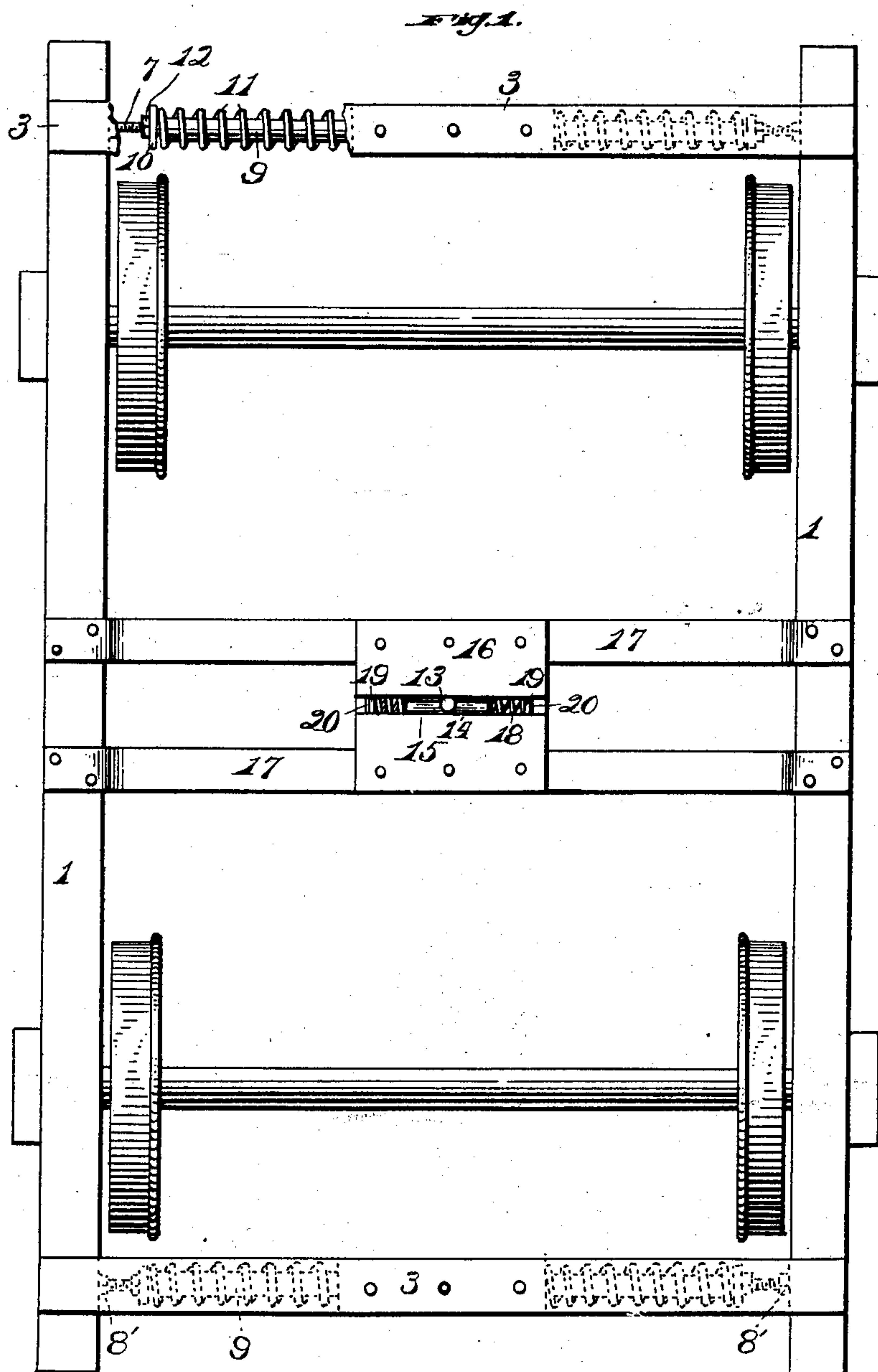
PATENTED FEB. 2, 1904.

W. C. ANDREWS.
SHOCK REDUCING MECHANISM FOR CARS.

APPLICATION FILED APR. 25, 1903.

NO MODEL.

2 SHEETS--SHEET 1.



Witnesses:

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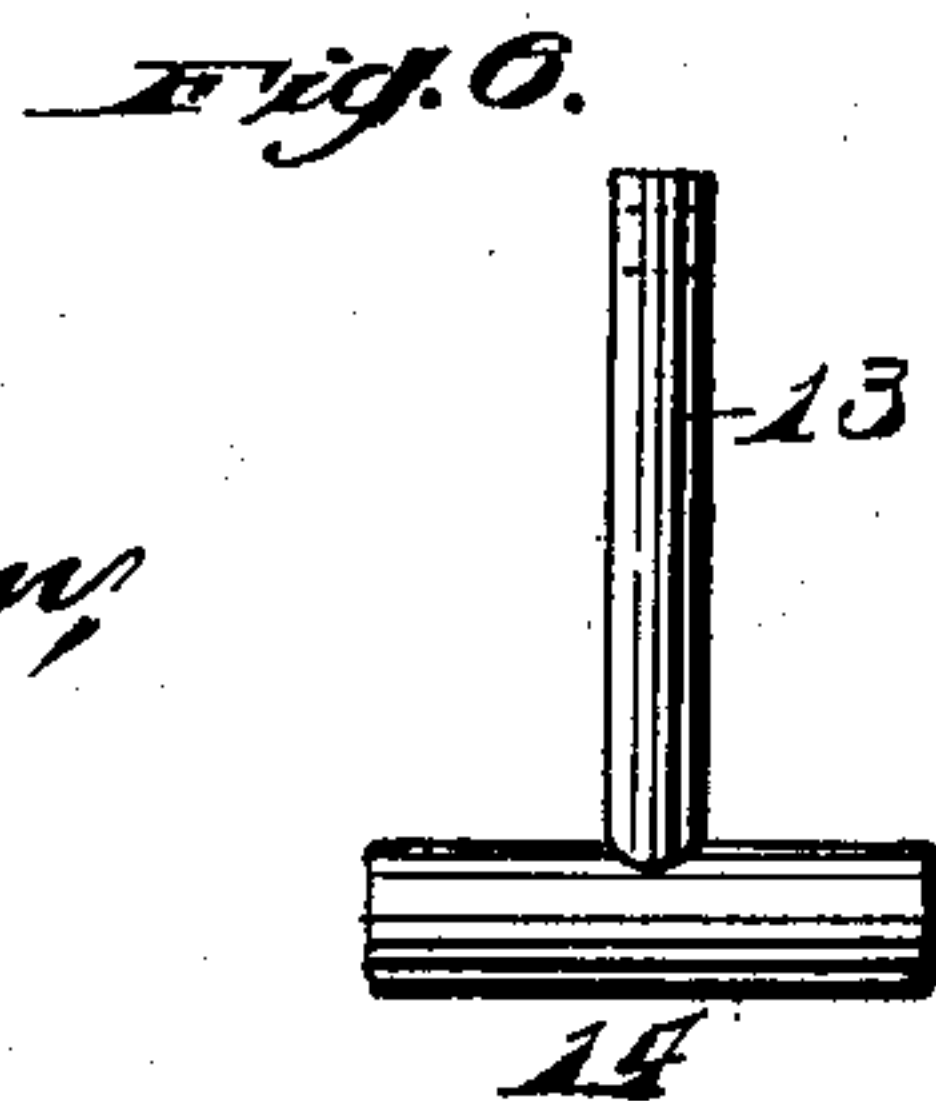
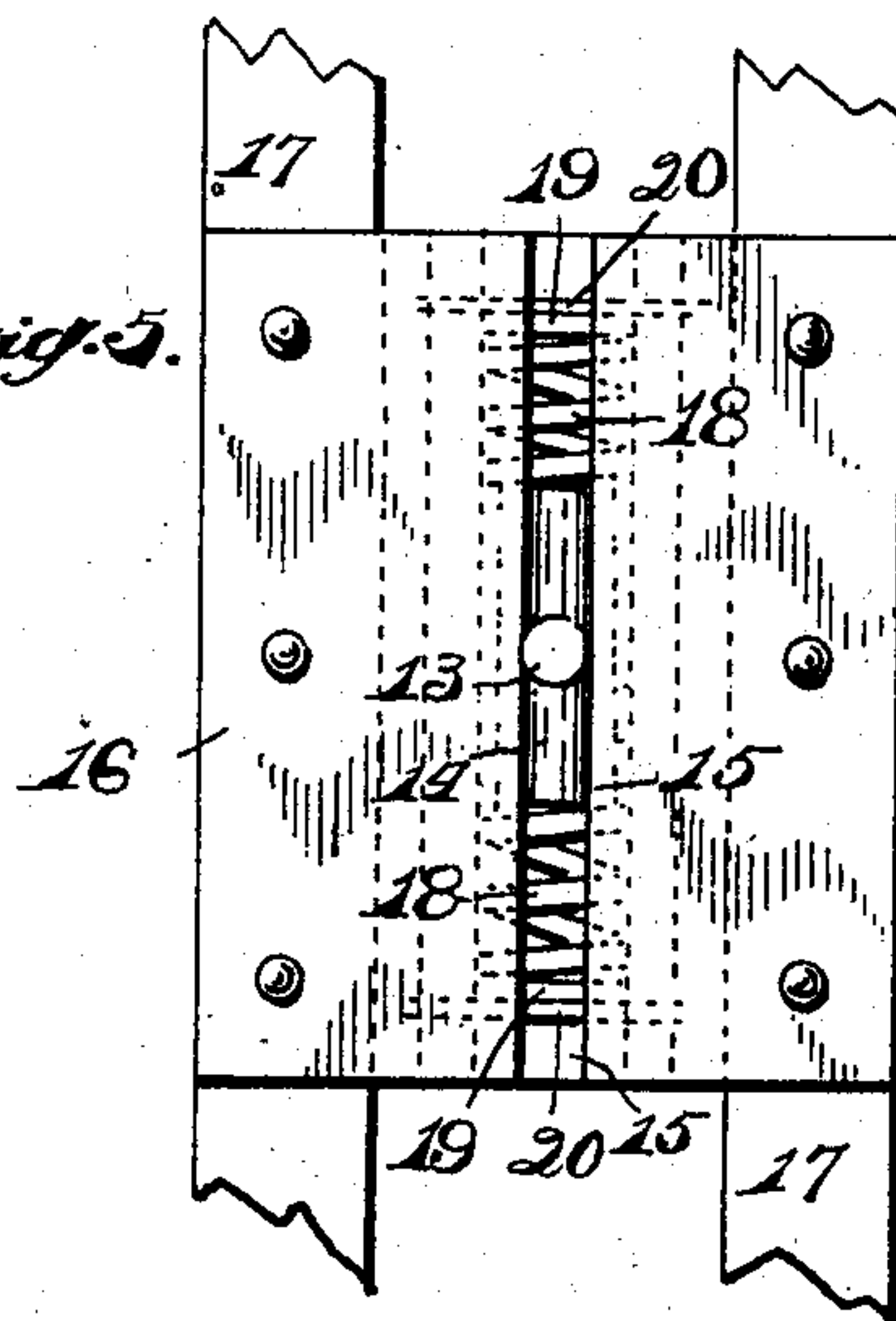
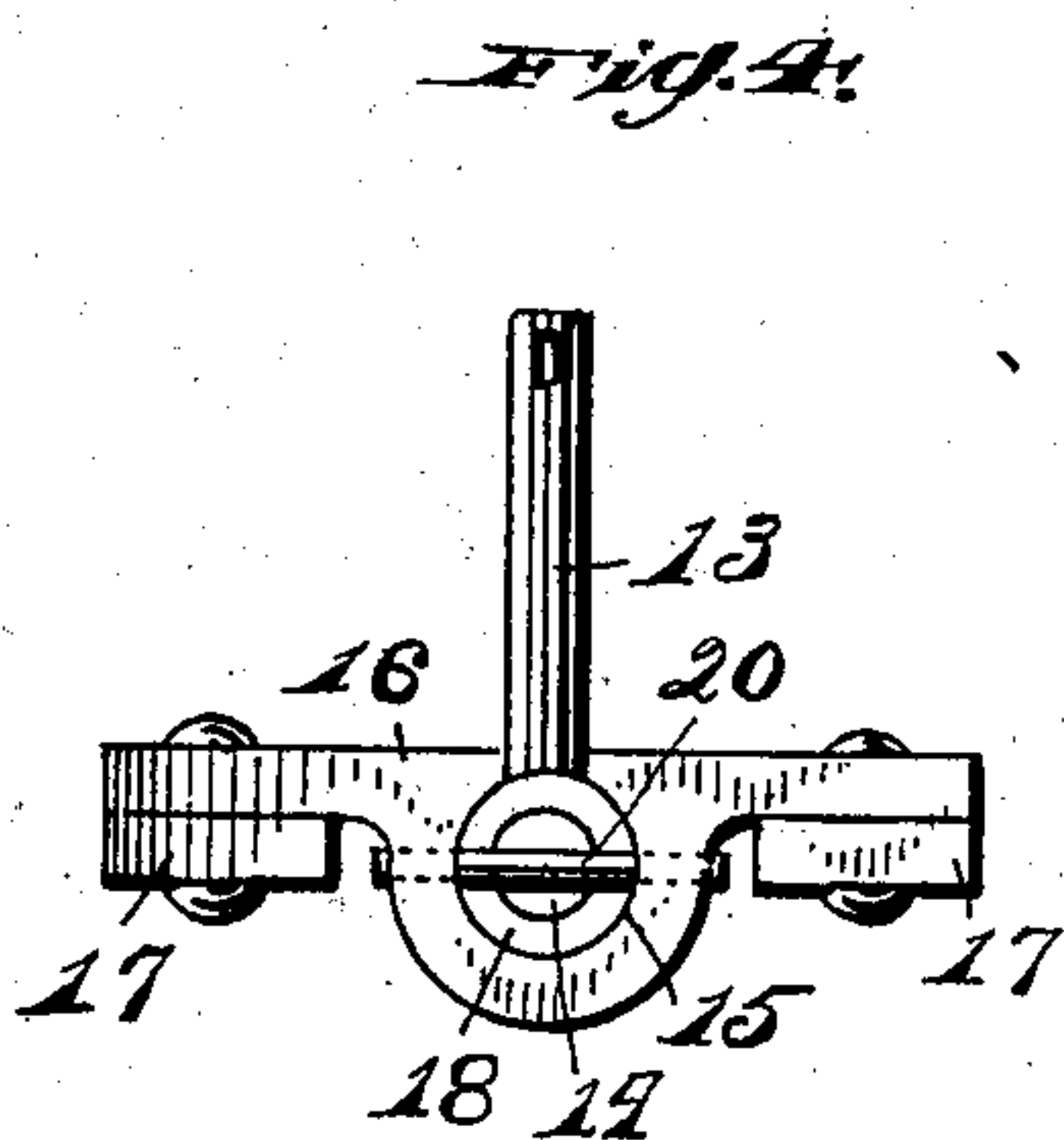
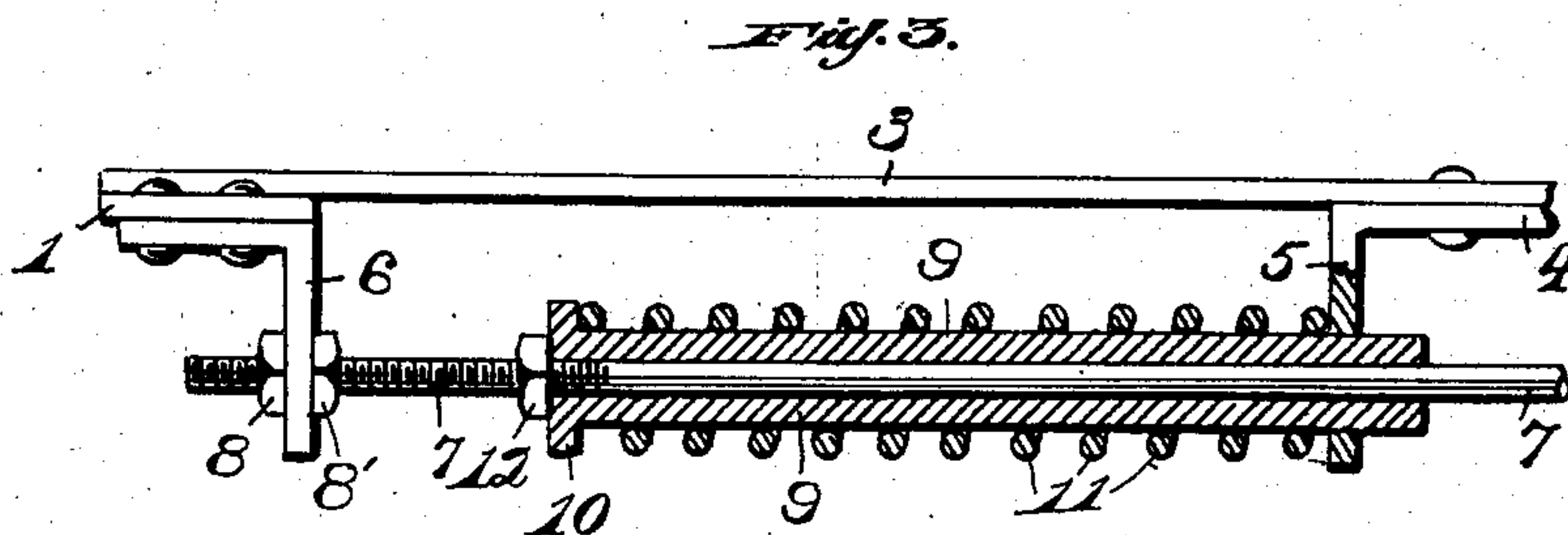
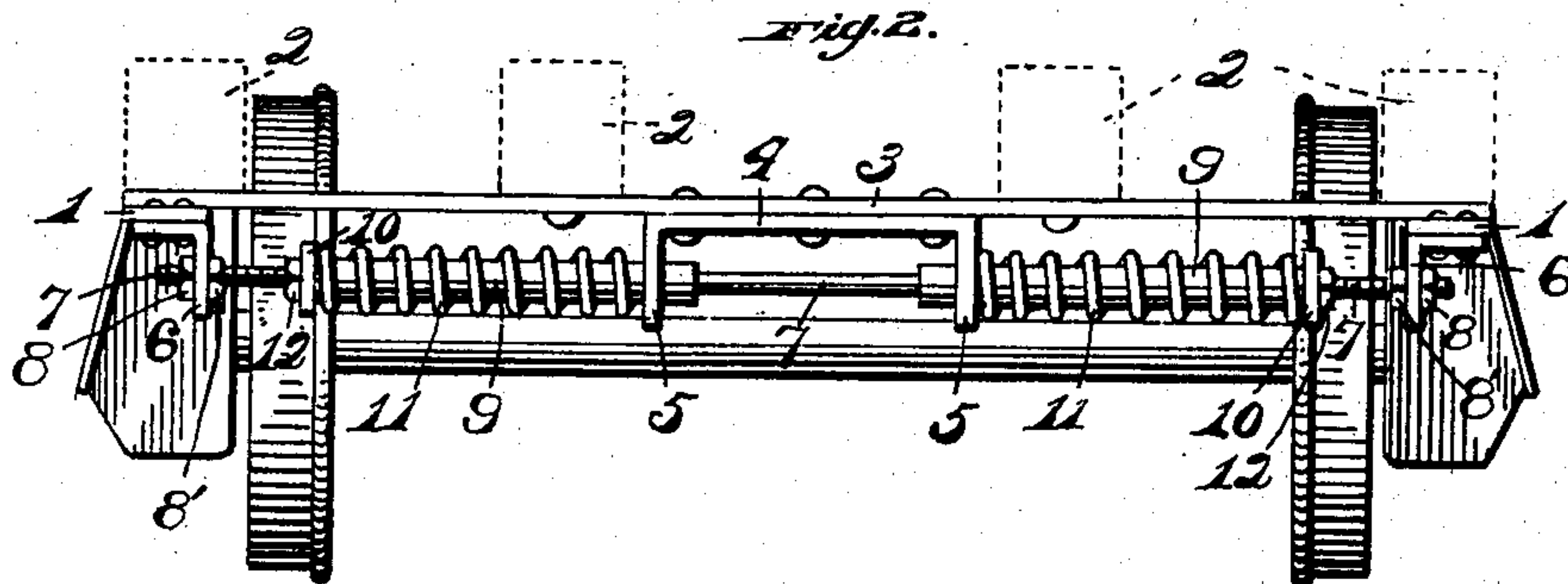
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UNITED STATES PATENT OFFICE.

WILLIAM CAREL ANDREWS, OF WHEELING, WEST VIRGINIA.

SHOCK-REDUCING MECHANISM FOR CARS.

SPECIFICATION forming part of Letters Patent No. 751,368, dated February 2, 1904.

Application filed April 25, 1903. Serial No. 154,294. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CAREL ANDREWS, a citizen of the United States of America, and a resident of Wheeling, county of Ohio, and State of West Virginia, have invented certain new and useful Improvements in Shock-Reducing Mechanism for Cars, of which the following is a specification.

My invention relates to new and useful improvements in car construction, and more particularly to a new and useful device for reducing or diminishing the shock or jar incident to a railway or street car striking a curve in the track; and it consists in the particular construction, arrangement, and combination of parts which will hereinafter be fully described, and specifically pointed out in the claims here-
to appended.

The chief object of my invention is to provide a device particularly adapted for street-cars for preventing or reducing the shock or jar occasioned by a car striking a curve in the track, and also for diminishing the shocks or jars incident to the sidewise swaying and sudden lurching of cars.

A further object of the invention is to provide a device which will to quite an extent obviate the tendency of a car to which it is applied to jump the track.

A still further object is to provide an extremely simple, durable, and efficient device of the above-referred-to class which does not raise the body of the car above the truck to an objectionable height and which is composed of but few parts, such parts being of a nature which to a great extent precludes the possibility of the said device becoming out of order.

In describing my invention in detail reference is herein had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a top plan view of a car-truck equipped with my invention, the latter being shown partly in section. Fig. 2 is an end view of the same. Fig. 3 is a partial longitudinal section of my invention. Fig. 4 is a side view of the coupling means employed. Fig. 5 is a top plan view of the same, and Fig. 6 is a side view or elevation of the king-bolt.

Referring to said drawings, in which like

reference - numerals designate like parts throughout the several views, 1 indicates the side rails of a car-truck to which in the ordinary car construction the car-body is directly secured. With this construction, as is obvious and as is well known, any jar, shock, or lurch to which the car-truck is subjected is communicated in an equal degree to the body of the car. To obviate this shock in the body of the car to as great an extent as possible, I bolt to the under side of the car-body, preferably to the bolsters 2 thereof, at each end of the car a longitudinal cross-bar 3, the ends of which rest free upon the side rails of the truck. To the under side of the cross-bar 3, intermediate the ends thereof, is secured a plate 4, with vertical downwardly-extending lugs 5, and to the under side of each side rail 1, at a point directly under the free end of said cross-bar 3, is secured an angle bar or bracket 6. Extending across from one bracket 6 to the other and passing through the lugs 5 is a rod 7, which is screw-threaded for a considerable distance from each end thereof, as shown. Said rod 7 is held securely in place at each end by nuts 8 and 8', which are adjusted thereon against the opposite faces of the bracket 6. Said rod 7 carries upon each end intermediate said brackets 6 a sleeve 9, having a collar 10 upon its outer end, said sleeve being free and movable and adapted for free backward and forward movement on said rod. The inner ends of said sleeves 9 extend through the lugs 5, as shown. Encircling the sleeve 9 is a spiral spring 11, having one end resting against the collar 10 and the other against the outer face of the lug 5. On the rod 7 against the collar 10 is an adjusting-nut 12 for adjusting the tension of the spring 11. Now when a car-truck is subjected to a sudden lurch, as is especially the case when a curve in the track is encountered, the car-body, being mounted on the cross-bars 3, which rest free at their ends upon the truck of the car, is swung against the tension of the springs 11, the said ends of the cross-bars 3 moving or sliding freely upon the side rails 1, and as said springs readily yield to pressure upon their ends the shock of said lurch is communicated in a considerably diminished degree to said car-body.

With the above-described end gear for cars I preferably use the coupling means herein illustrated in Figs. 1, 4, 5, and 6, which means cooperate to more effectually prevent sudden jars or shocks being communicated from the car-truck to the car-body. However, as is obvious, the ordinary coupling means may be employed, if desired. The said coupling means illustrated consists of a substantially T-shaped king-bolt 13, the cross-piece or head 14 of which is movably held in a groove or channel 15, provided in a bearing-plate 16, which is bolted upon cross-bars 17, secured to the truck of the car. As illustrated, the said bolt 13 stands vertical, and the car-body is mounted thereon as on a pivot. At each end of the head 14 in the channel 15 is a spiral spring 18, one end of which rests against the end of said head and the other against a collar or plate 19, which is held against displacement by a key or pin 20, secured across the end of the channel.

As is obvious, instead of the plate 4 with the lugs 5 angle bars or brackets similar to the brackets 6 may be used.

I have shown and described my invention in what I consider to be its simplest form; but it is apparent that various minor changes may be made in the construction and arrangement of parts without departing from the spirit or scope of the invention. Hence I do not wish to limit myself to the precise construction shown.

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

1. In a device of the character described, the combination with a car-truck and car-body, of cross-pieces secured to said car-body, a plate carrying lugs secured to each of said cross-pieces, brackets secured to the side rails of said truck, a rod extending across from one bracket to the other, movable sleeves upon said rod, springs carried by said sleeves, and tension-adjusting means for said springs, substantially as described.

2. In a device of the character described, the combination with a car-truck and a car-body, of a cross-bar secured on the under side of the car-body at each end thereof, the ends of said

cross-bars resting free upon the side rails of the car-truck, a plate with downwardly-extending lugs secured upon each cross-bar intermediate its ends, brackets secured to the side rails of the car-truck under the free ends of the cross-bars, a rod supported by said brackets and lugs, movable sleeves carried by said rod intermediate said brackets and lugs, springs carried by said sleeves, and means for adjusting the tension of the springs.

3. In a device of the character described, the combination with a car-truck and a car-body, of a cross-bar secured on the under side of the car-body at each end thereof, the ends of said cross-bars resting free upon the side rails of the car-truck, a plate with downwardly-extending lugs secured upon each cross-bar intermediate its ends, brackets secured to the said side rails of the truck under the free ends of the cross-bars, a rod transversely supported by said brackets at each end of the car and passing through said lugs, movable sleeves carried by each rod intermediate said brackets, springs carried by said sleeves, means for adjusting the tension of said springs, means for coupling the car-body to said truck, the last-mentioned means consisting of a channeled plate, a substantially T-shaped king-bolt having its head movably secured in the channel of said plate and its body standing vertical above said plate, and springs for yieldingly holding said king-bolt against movement in said channel, all substantially as and for the purposes set forth and described.

4. In a device of the character described, the combination with a car-truck and a car-body, of transverse bars secured to said truck, a channeled plate mounted on said bars, a substantially T-shaped king-bolt having its head movably secured in the channel of said plate and its body standing vertical above said plate, and springs for yieldingly holding said king-bolt against movement in said channel, substantially as described.

Signed by me at Wheeling, West Virginia, this 7th day of April, 1903.

WILLIAM CAREL ANDREWS.

Witnesses:

H. E. DUNLAP,

J. F. CASKEY.