

No. 700,269.

Patented May 20, 1902.

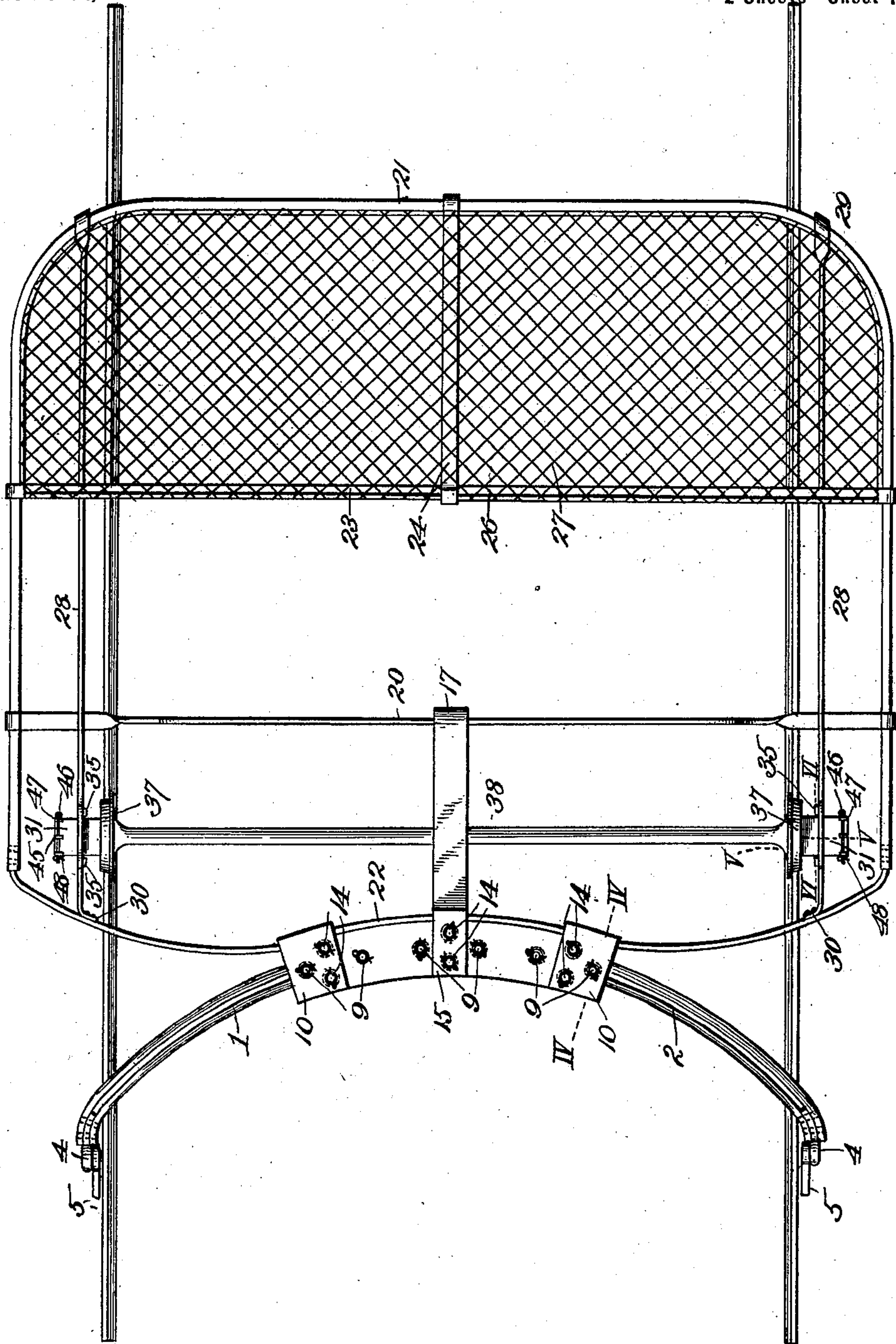
C. O. WEST.  
STREET CAR FENDER.

(Application filed Nov. 1, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



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2 Sheets—Sheet 2.

Fig. 2.

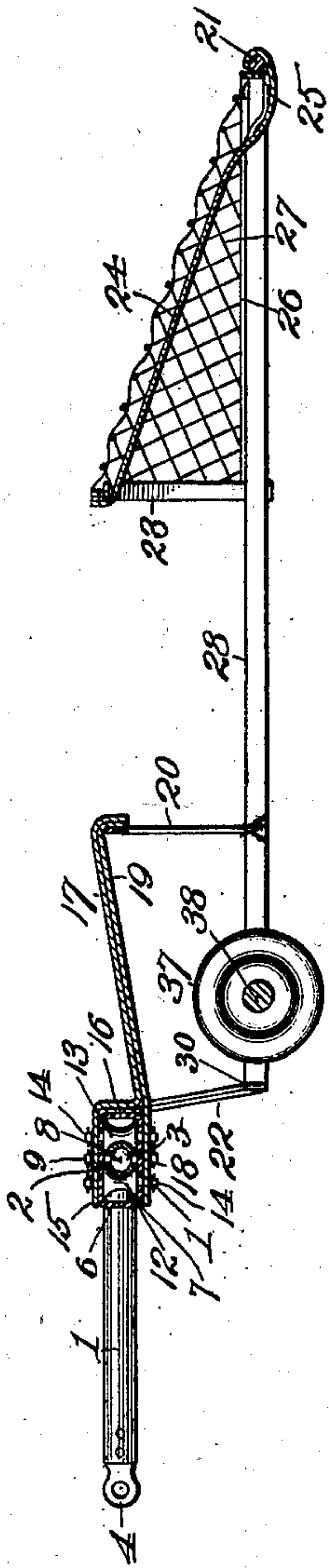


Fig. 3.

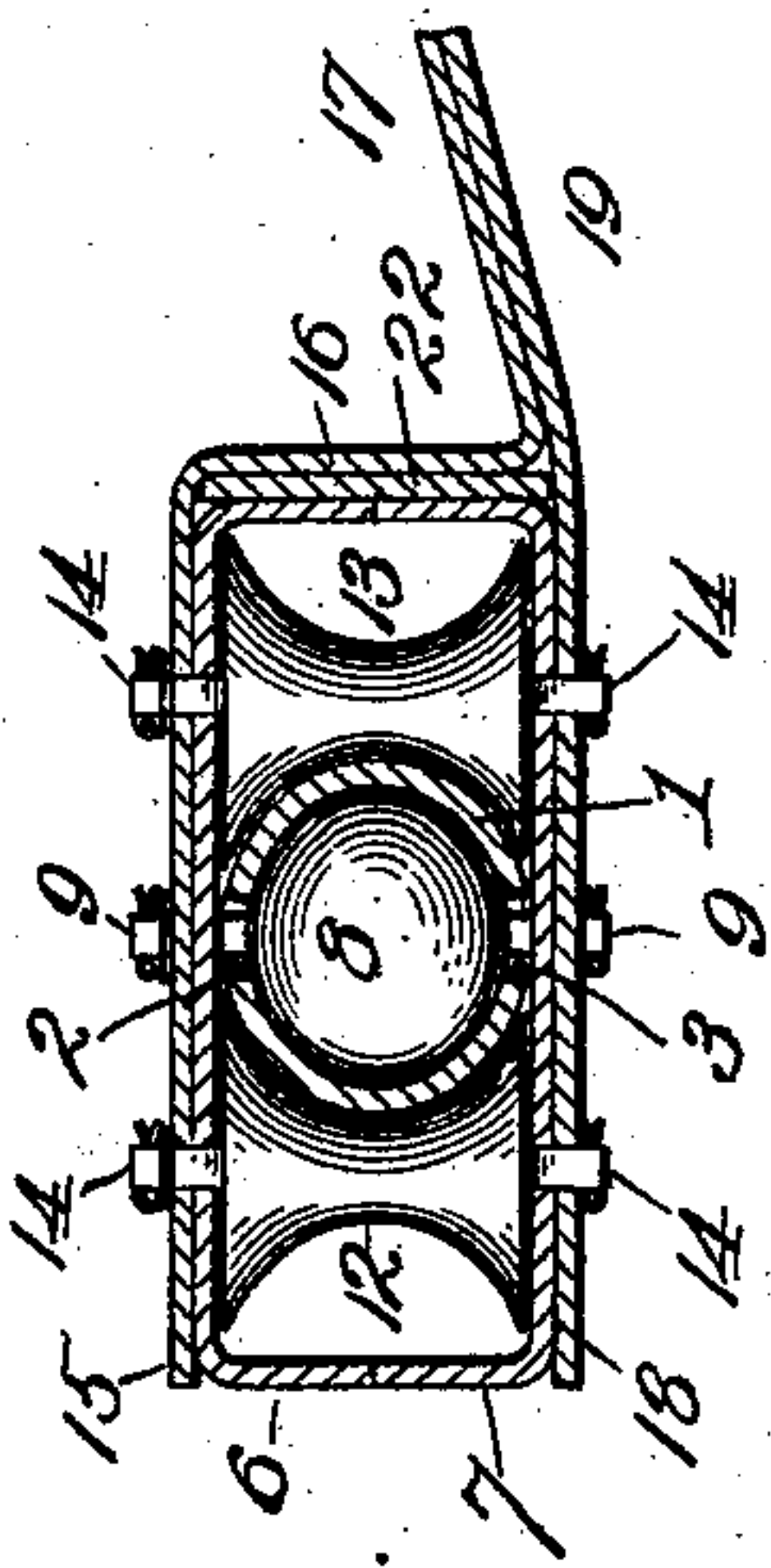


Fig. 4.

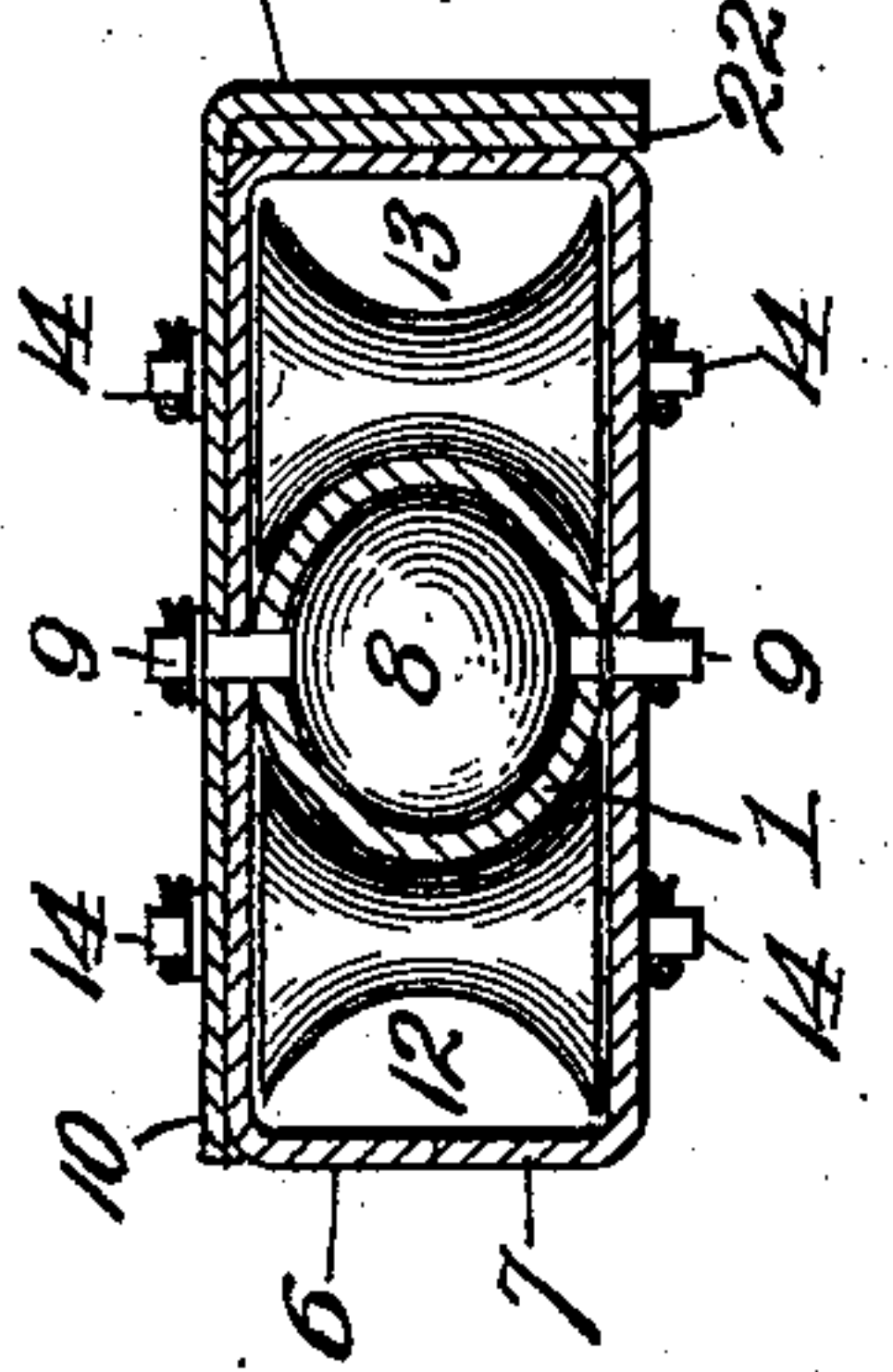


Fig. 5.

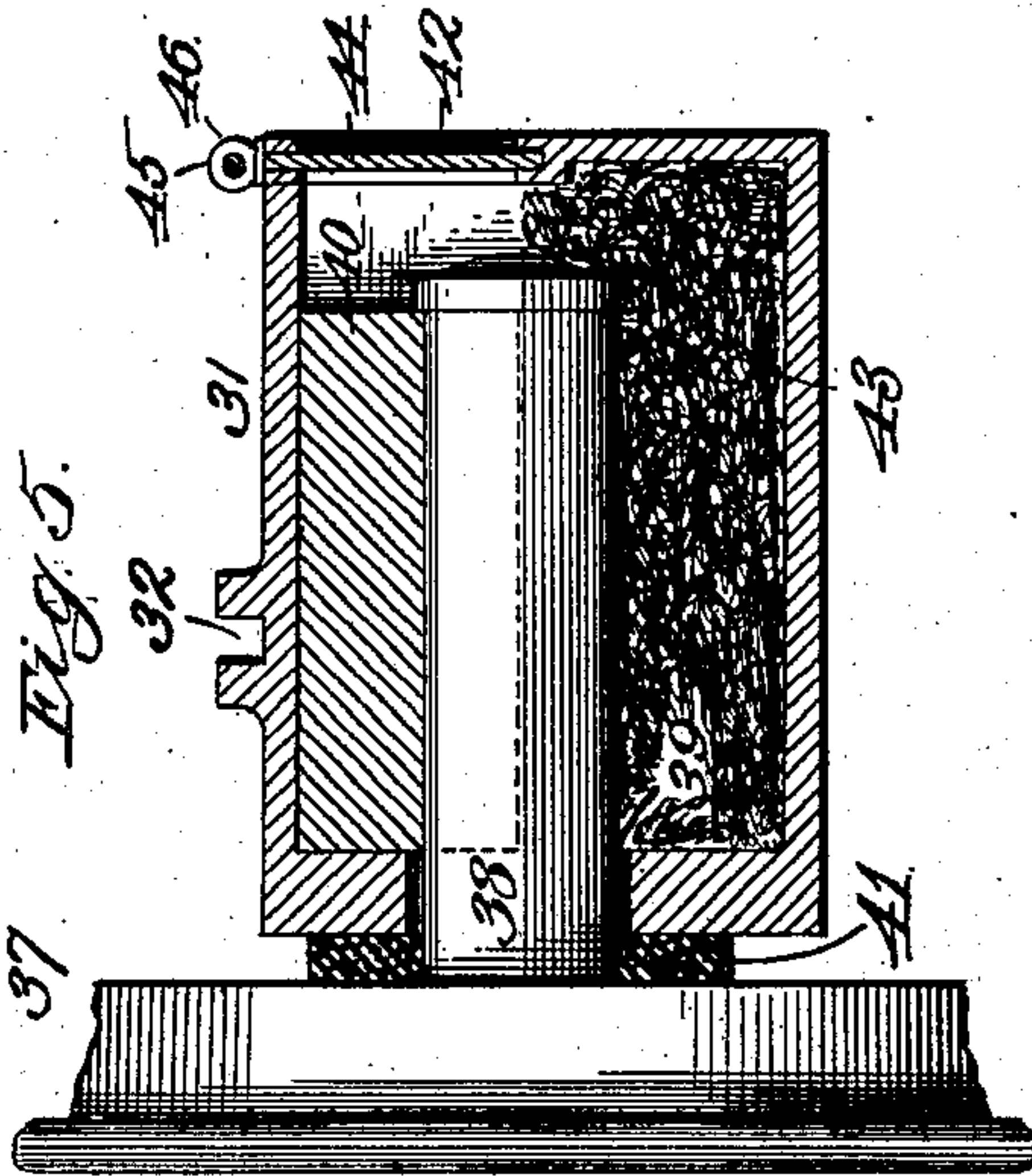
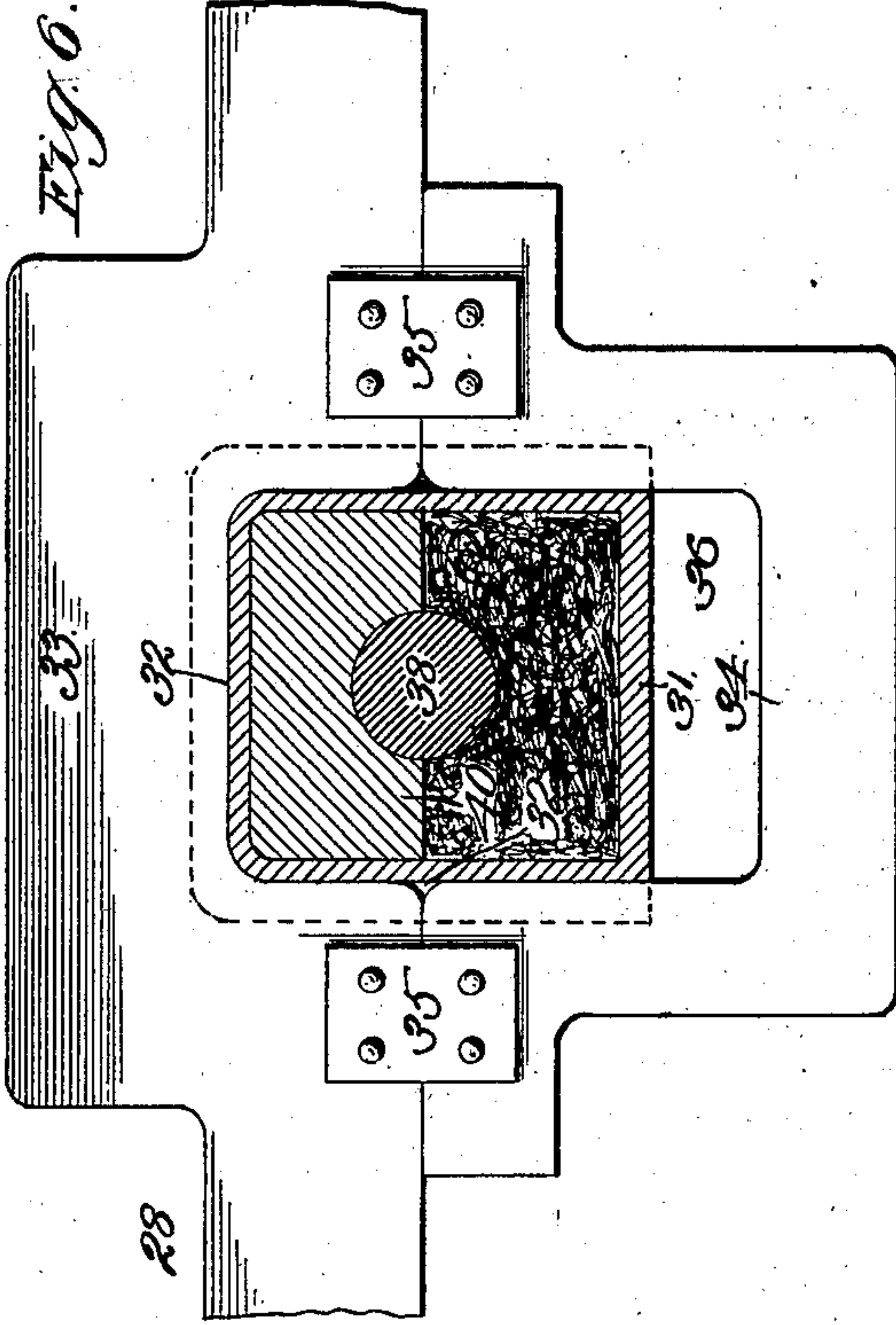


Fig. 6.



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# UNITED STATES PATENT OFFICE.

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TO JAMES E. LOCKWOOD, OF KANSAS CITY, MISSOURI.

## STREET-CAR FENDER.

SPECIFICATION forming part of Letters Patent No. 700,269, dated May 20, 1902.

Application filed November 1, 1901. Serial No. 80,778. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES O. WEST, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Street-Car Fenders, of which the following is a specification.

My invention relates to street-car fenders, and my object is to produce a device of this character which automatically adapts itself to irregularities in the surface and corner and other curves of the track, while maintaining at all times an operative relation with the car.

A further object is to produce a fender of light weight and of simple, strong, durable, and inexpensive construction.

To these ends the invention consists in certain novel and peculiar features of construction and combinations of parts, as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a top plan view of a car-fender embodying my invention. Fig. 2 is a central longitudinal section of the same. Fig. 3 is an enlarged central section of part of the same. Fig. 4 is an enlarged section on line IV IV of Fig. 1. Fig. 5 is a section on line V V of Fig. 1. Fig. 6 is a section on line VI VI of Fig. 1.

Referring to the drawings, where like reference characters indicate corresponding parts, 1 designates a tube of segmental form and provided for approximately its full length with the vertically-alined slots 2 3, the former near its upper and the latter near its lower side, and provided at its ends with rearwardly-projecting arms 4, pivoted to work vertically on the car-track frame 5. This tube, which occupies a horizontal position beneath the fore part of the car, (not shown,) is preferably made of two sections riveted together and to the rearwardly-projecting arms 4, said sections being spaced so as to provide the slots 2 3, though it is to be understood that I do not confine myself to this construction. Loosely mounted upon the tube or "slotted segmental track," as it is hereinafter termed, is a segmental box of rectangular form in cross-section and composed of an upper inverted-U-shaped portion 6 and a lower U-

shaped portion 7. Arranged longitudinally and centrally within the box and slotted segmental track is a series of bearing-rollers 8, having their trunnions 9 projecting vertically through slots 2 and 3 and journaled in said box. The upwardly-projecting trunnions of the endmost rollers of said series are also journaled in reinforce-plates 10, secured to the upper side of the box and provided at their front ends with depending arms 11, paralleling and a slight distance forward of the front sides of the box, as shown clearly in Fig. 4.

12 designates peripherally-grooved or spool rollers arranged in longitudinal series within said box at the rear or inner side of the segmental track, and 13 similar rollers within said box at the front or outer side of the curved track, the vertical trunnions of said rollers, like rollers 8, being journaled within the box, as shown clearly in Fig. 3. These rollers preferably break joint with the rollers 8, and the trunnions of the endmost ones are also journaled in plates 10. The upwardly-projecting trunnions of the central ones are journaled likewise in the plate 15, having a depending arm 16 at its front end, terminating in a forwardly and upwardly extending brace 17. The depending trunnions of said central rollers 12 and 13 are also journaled in reinforce-plate 18, underlying the box and provided with a forwardly and upwardly extending brace 19, underlying and secured to brace 17, said double brace 17 19 being hooked over and riveted or otherwise secured rigidly to the center of a transverse arch 20, laterally bracing the rear portion of a U-shaped tubular frame 21 of the fender proper, the rear portion of said frame being connected by a cross-bar 22, having its ends riveted or otherwise suitably secured in the ends of said tubular frame. Cross-bar 22 is curved at its center, so as to fit snugly against the front side of the roller-carrying box and in the space formed between the same and plates 10, 15, and 18 and the pendent portions 11 and 16 of said plates 10 and 15, this arrangement insuring that vertical movement of the fender shall impart like movement to the box and the tubular track and that lateral movement of the fender shall cause said



roller-carrying box to move endwise toward one side or the other upon said track.

Parallel with and a suitable distance forward of arch-brace 20 is a second arch-brace 23 for the fender-frame 21, and this brace in turn is braced by a centrally-arranged brace 24, secured at its rear end to brace 23 and at its front end to the front end of frame 21, and in order to eliminate any possibility of the latter striking the track-bed the front end of brace 24 is depressed below it, as at 25, this relation insuring a contact of portion 25 with the track-bed, and therefore eliminating all danger of injury to the frame 21 from such cause. This brace also forms a support for the basket portion of the fender, the same consisting of the frame 26, provided with a foraminous or network cover 27 and resting upon arch-brace 23 and snugly within that portion of frame 21 in advance of said arch. Said basket is also supported upon the longitudinal braces 28 of frame 21, said braces being looped around and secured at their front ends to the frame, as at 29, and riveted, as at 30, or otherwise suitably secured at their rear ends to cross-bar 22, said braces being secured at the intersection-points with arch-brace 20 as a further means for imparting rigidity to the fender and for affording a rigid support for the journal-boxes 31, arranged contiguous to cross-bars 22. To secure said boxes in a simple, cheap, and efficient manner, they are provided at their upper and vertical sides with grooves 32, within which fit snugly the arched portions 33 of braces 28, which arched portions, in conjunction with the U-shaped brackets 34, secured thereto by bolts 35, provide openings 36, of greater depth than the boxes, for the purpose of enabling the fender to swing vertically on pivot-arms 4 in accommodation of irregularities of the track without imparting like movement to the wheels 37, mounted on opposite ends of axle 38, the journals of said axles projecting into the boxes through openings 39, where they are engaged by the usual bearing-brasses 40, dust and other foreign particles being excluded from the boxes by leather or equivalent washers 41, interposed upon the journals between the wheels and the boxes. These compressible washers also serve to enable the boxes to be tilted sufficiently to enable the bearing-brasses to be fitted in place over the journals through the openings 42 in the outer ends of the boxes, said openings being arranged above the center of the journals in order to eliminate possibility of leakage of the oil or other lubricant stored therein, the lubricating material being preferably in the form of oil-saturated waste, as shown at 43 in Fig. 5. Opening 42 is normally closed by a slide-door 44, and to secure the latter reliably in place it is provided with a loop 45 at its upper end to receive a rod 46, which also extends through loops 47 and is secured in place by a cotter 48.

The car is adapted to be equipped with one of these fenders at each end, the arrange-

ment being such by preference that only the basket portion of the fender shall protrude from beneath the car, though of course, if desired, that portion of the fender may also lie below the car-platform.

As the car proceeds it pushes the front and pulls the rear fender, the rollers 13 of the former pressing against the front side of its segmental track and its rollers 8 pressing against the rear side or section of said track, while the rollers 12 and 8 of the trailing fender respectively engage the rear and front sides or sections, respectively, of the other slotted segmental track. By this arrangement it will be obvious that there is always provided for the front or operative fender a strong, reliable, and extended bearing on its track 1 to receive any impact of an object on the car-track and at the same time to insure the proper lateral swing of the fender on said track caused by the engagement of wheels 37 with the curved portion of the rails. This arrangement enables the fender to swing freely to accommodate the curve and always occupy its proper relative position on the track-bed. The fender, as hereinbefore stated, accommodates vertical irregularities in the track and bed by reason of its pivotal connection with the truck.

From the above description it will be apparent that I have produced a fender for street-cars which embodies the features of advantage enumerated as desirable in the statement of invention, and while I have illustrated and described the preferred embodiment of the same it will be understood that it is susceptible of modifications in various particulars without departing from the principle of construction involved.

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

1. A street-car fender, comprising a curved track, pivoted to operate vertically, a box mounted to slide thereon transversely of the car-track, a fender-frame rigidly connected to said box, a basket secured to the front end of the same, journal-boxes secured near the rear end of said frame, an axle journaled in said boxes, and wheels mounted on said axle, and adapted to travel upon the car-track rails, substantially as described.

2. A car-fender, comprising a slotted segmental tubular track pivoted to operate vertically, a box mounted on said track, and provided with rollers engaging the same internally and externally, the trunnions of said internal rollers projecting through the slots of the track, and a wheel-supported frame rigidly secured to said box and provided at its front end with a basket, substantially as described.

3. A car-fender, comprising a slotted segmental tubular track adapted for connection with a car, a box upon said track, rollers journaled in said box and within the track, rollers journaled in said box and engaging the



front or rear sides of the track, and a wheel-supported frame secured to said box and provided with a basket at its front end, substantially as described.

5 4. A car-fender, comprising a curved track, pivoted to work vertically, a box slidingly mounted on the track, a wheel-supported frame provided with a basket at its front end, and a cross-bar at its rear end having a curved  
10 portion fitting against the front side of the box, an arched brace connecting the sides of the wheel-supported frame, reinforce-plates secured to the ends of the box and having depending arms engaging the front side of the  
15 cross-bar of the wheel-supported frame, and plates secured to the upper and lower sides of the box and provided with brace-arms connected at their front ends to the middle of said arched brace, one of said plates having a ver-  
20 tical portion bearing against the front side of said cross-bar of the wheel-supported frame, substantially as described.

5 5. A car-fender, comprising a curved track pivoted to the car to work vertically, a box slidingly mounted thereon, a wheel-supported frame connected at its rear end to said box,  
25 an arch connecting the sides of said frame

near its front end, a brace connecting the center of said arch with the front end of said frame and depressed near its front end to a  
30 plane below that of the wheel-supported frame, and a basket secured upon said arch and that portion of the wheel-supported frame in advance of the arch and overlying said brace, substantially as described. 35

6. A car-fender, comprising a curved track pivoted to the car to work vertically, a box slidingly mounted on said track, a wheel-supported frame secured at its rear end to said box and provided at its front end with a bas-  
40 ket, longitudinal braces for said wheeled frame, provided with openings, journal-boxes fitting in said openings, and having vertical movement with relation thereto, an axle jour-  
45 naled in said journal-boxes and wheels mounted on said axle, and adapted to run upon the car-track, substantially as described.

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

CHARLES O. WEST.

Witnesses:

H. C. RODGERS,  
G. V. THORPE.