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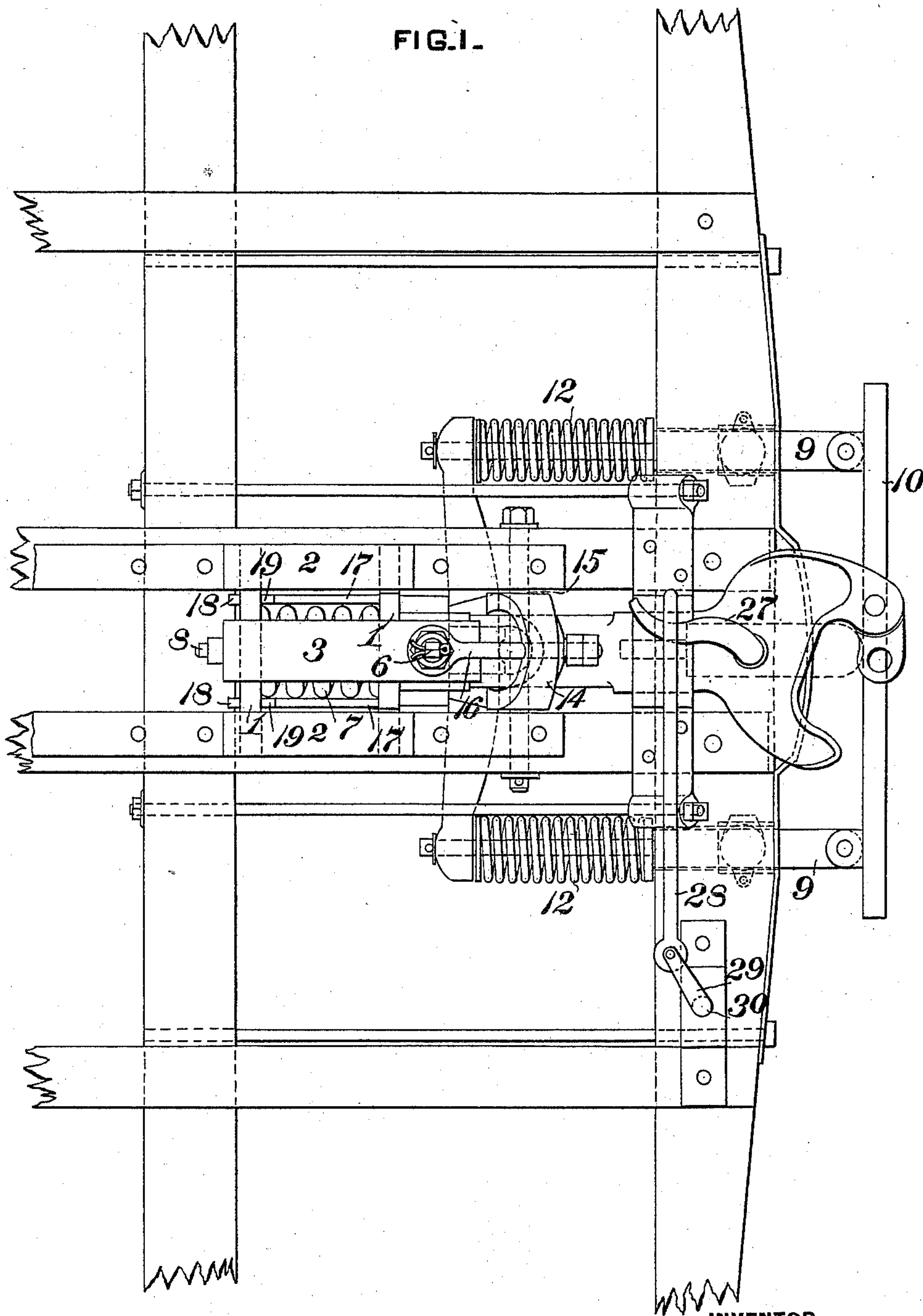
3 Sheets—Sheet 1.

H. C. BUHOUP.

CAR COUPLING AND BUFFING MECHANISM.

No. 488,496.

Patented Dec. 20, 1892.



WITNESSES:

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INVENTOR,

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(No Model.)

3 Sheets—Sheet 2.

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FIG. 2.

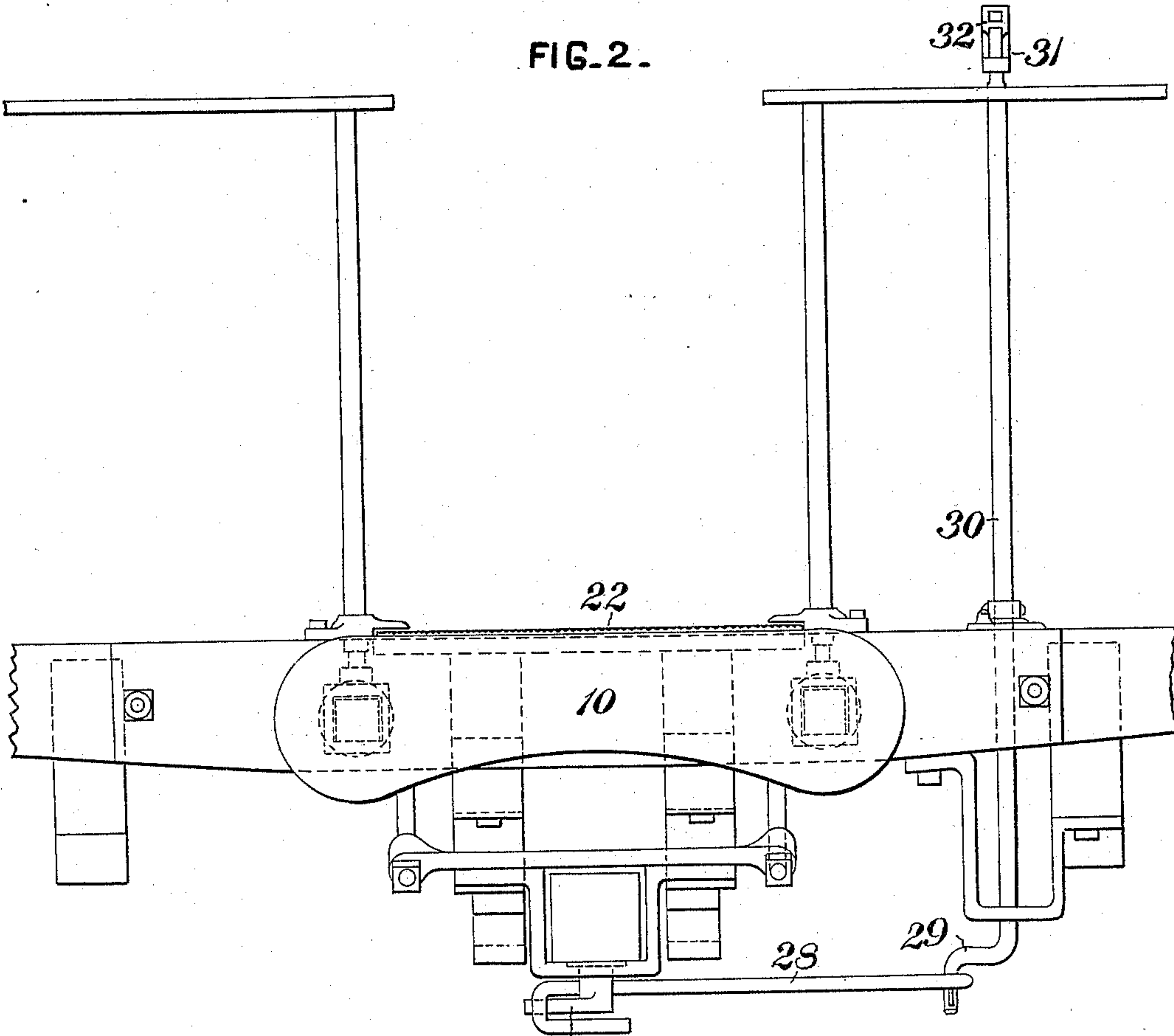
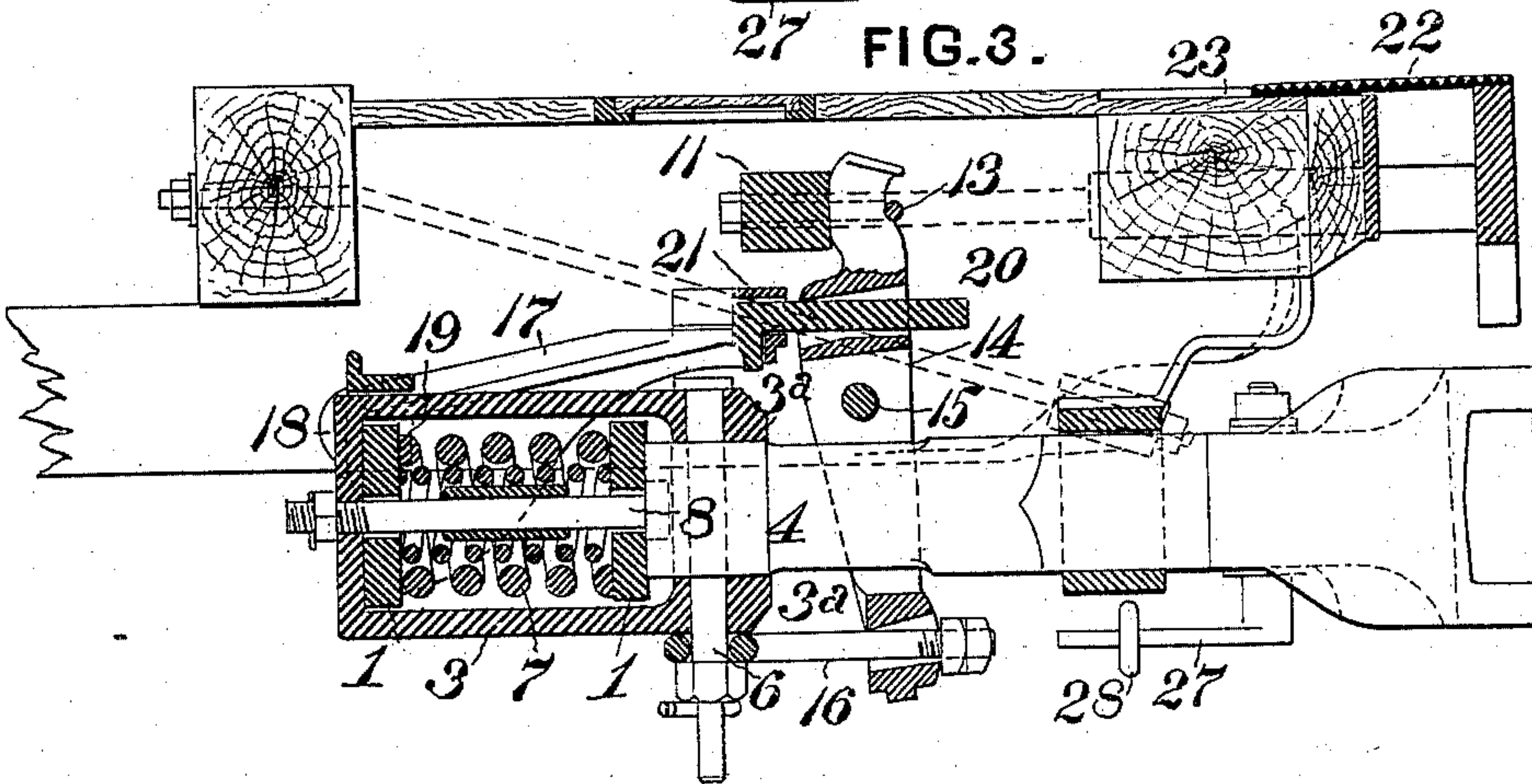


FIG. 3.



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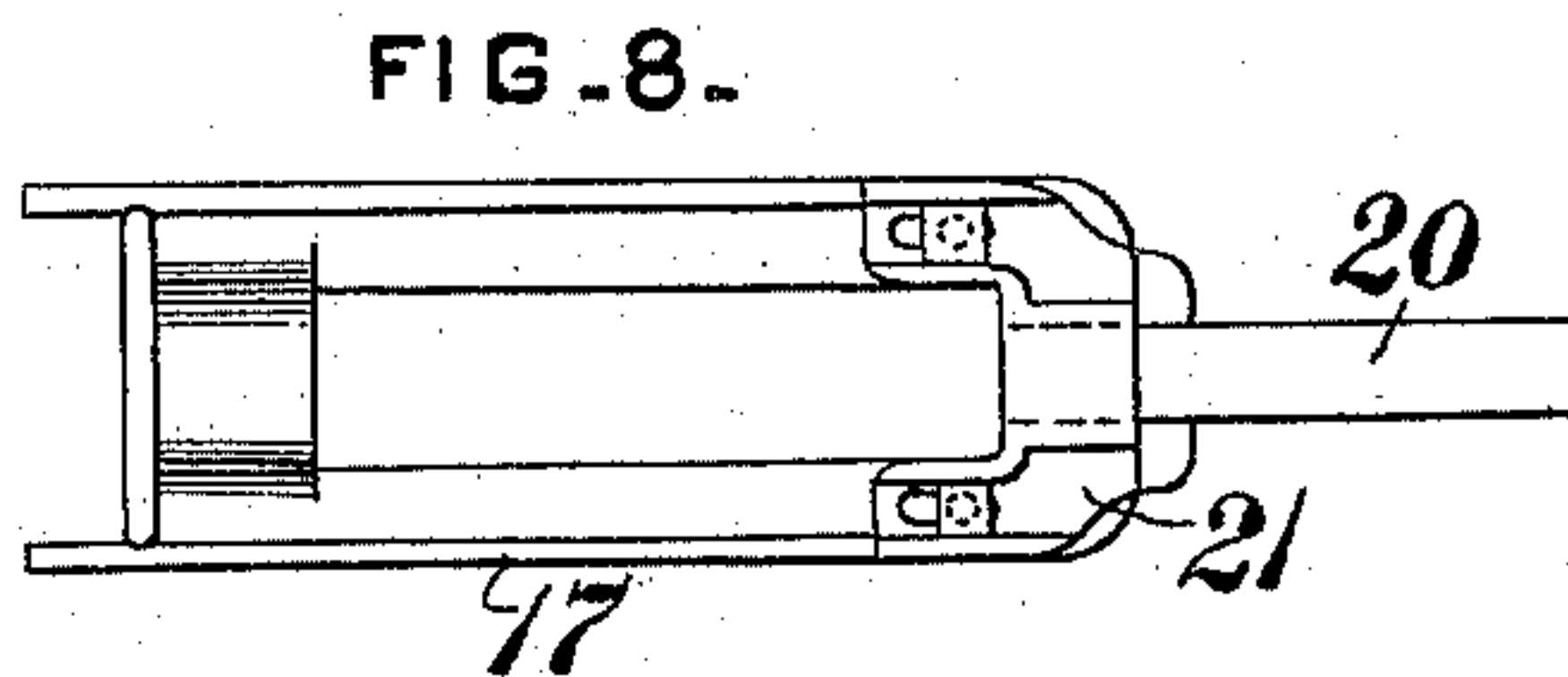
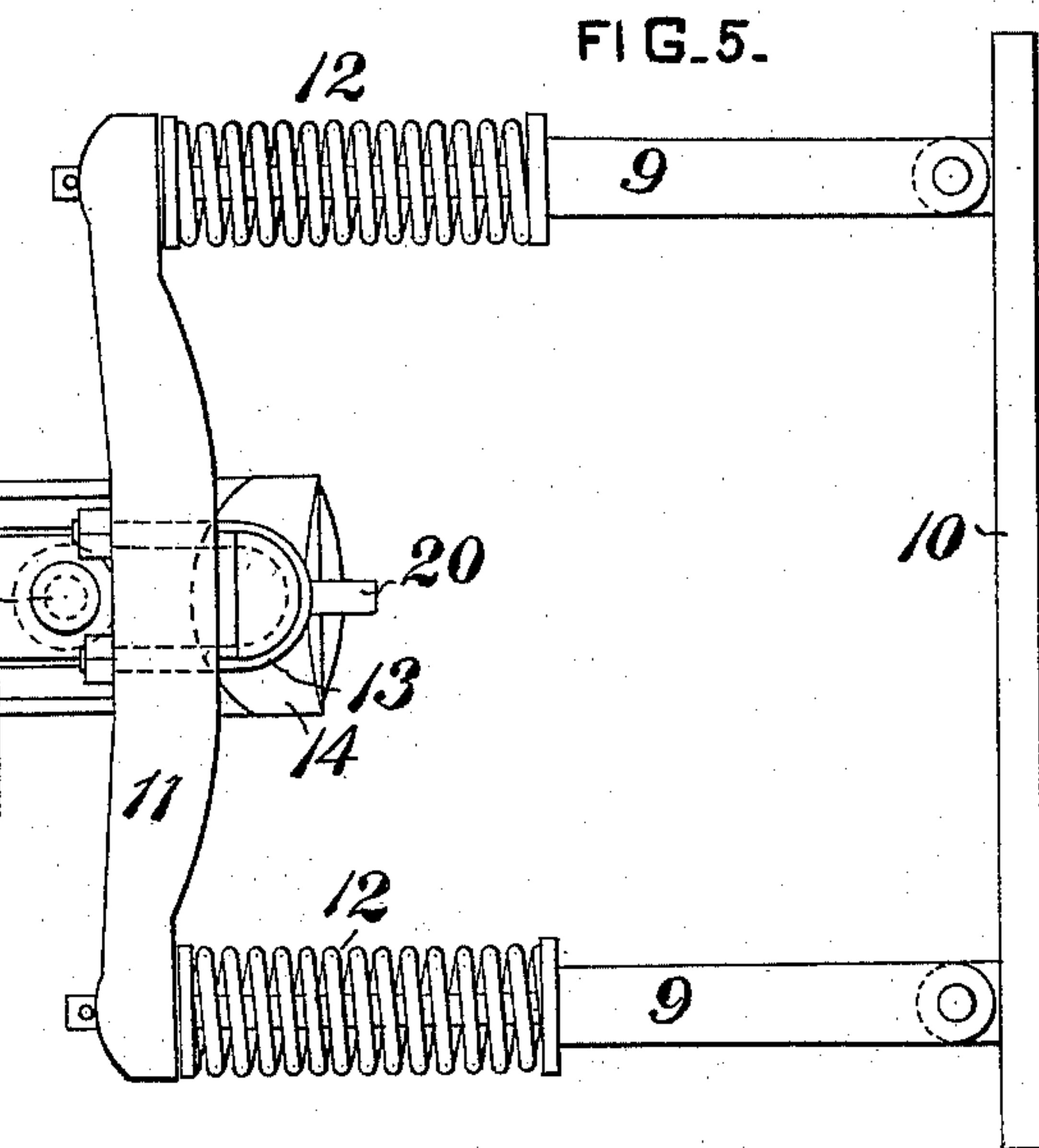
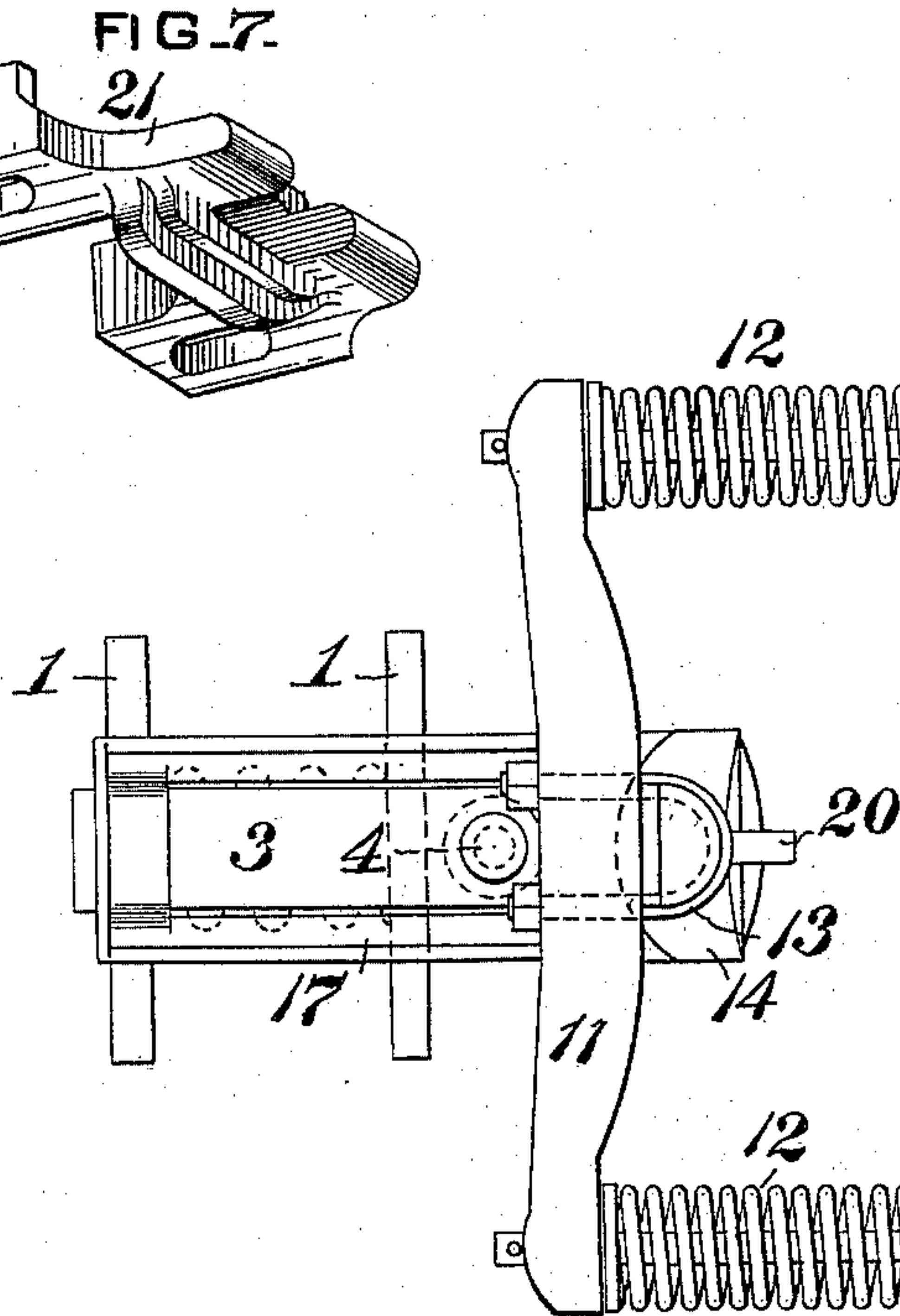
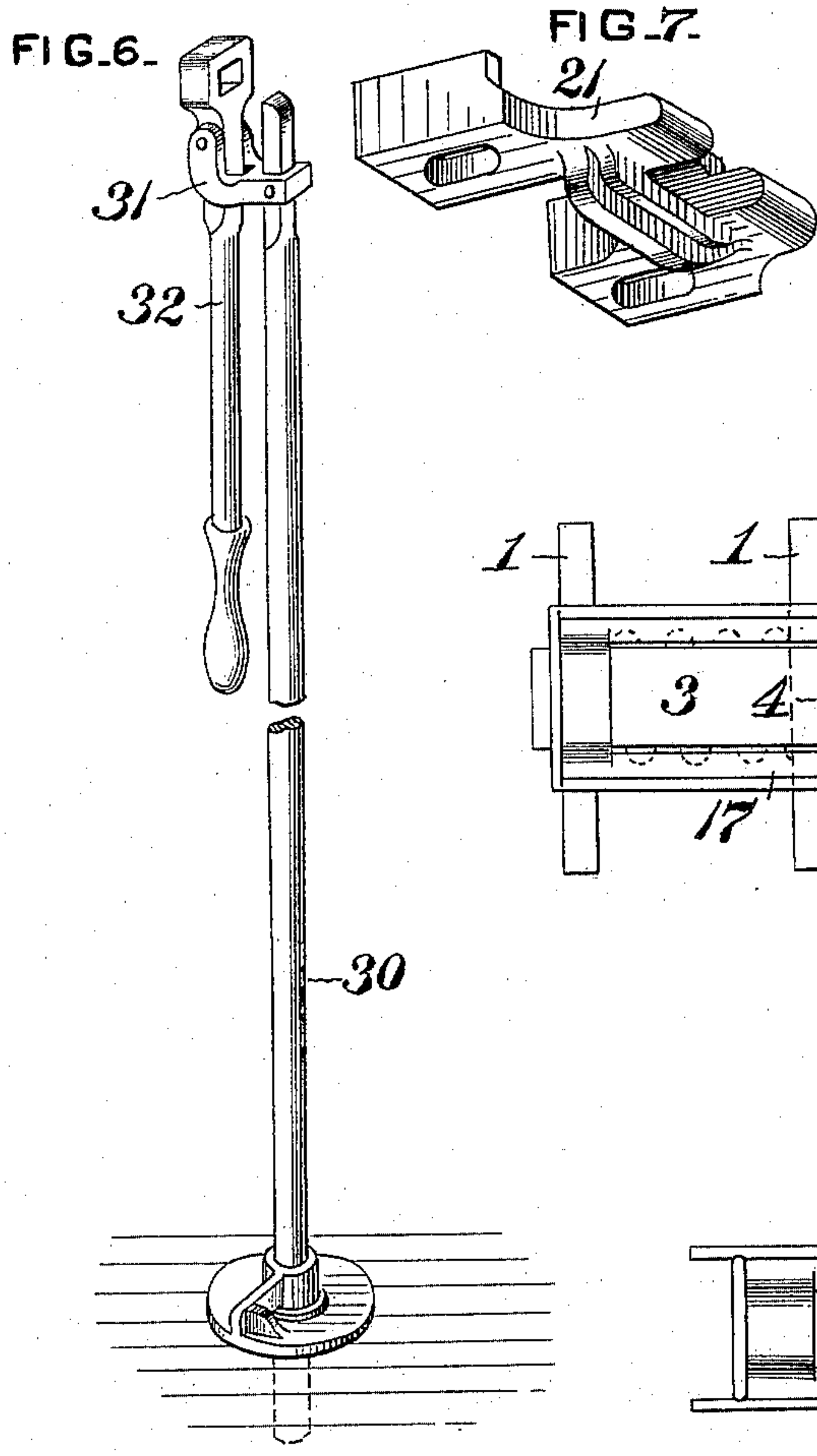
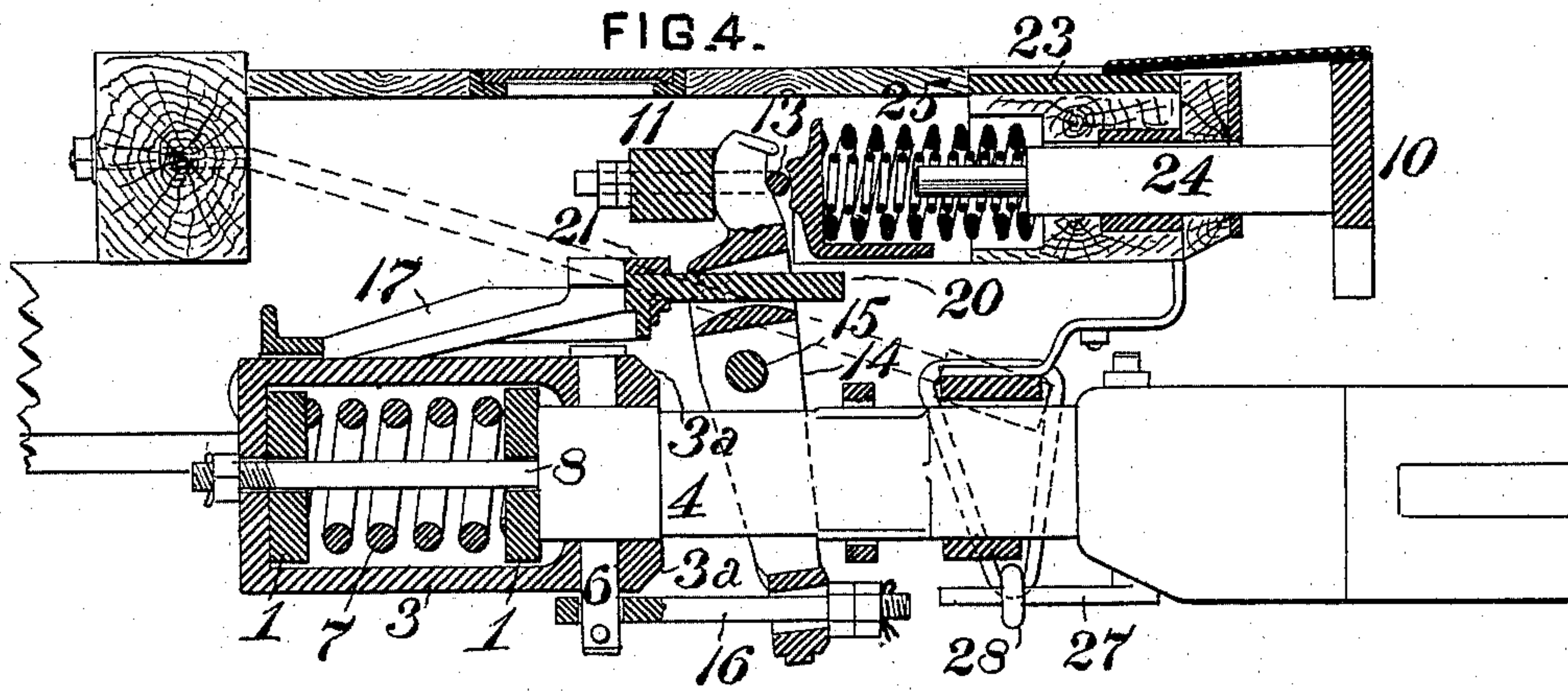
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3 Sheets—Sheet 3.

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UNITED STATES PATENT OFFICE.

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CAR COUPLING AND BUFFING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 488,496, dated December 20, 1892.

Application filed July 26, 1892. Serial No. 441,243. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. BUHOUP, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented or discovered a certain new and useful Improvement in Car Coupling and Buffing Mechanism, of which improvement the following is a specification.

The invention described herein relates to certain improvements in draft-rigging for cars and the connection of the coupler thereto.

The invention has for its object certain improvements in the manner of connecting the coupler to the spring pocket or strap, in the manner of actuating the yoke during the inward movement of the coupler, in the arrangement of the buffing mechanism, and in other details of construction, as will be hereinafter more fully described and particularly claimed.

In the accompanying drawings forming a part of this specification, Figure 1 is an under side view of my improved apparatus applied to a car in connection with the Janney type of coupler; Fig. 2 is an end view of a car having my apparatus applied thereto; Fig. 3 is a sectional elevation of the same; Fig. 4 is a view similar to Fig. 3, in connection with a Miller coupler; Fig. 5 is a detail view of the buffing mechanism; and Fig. 6 is a detail view on an enlarged scale of my improved device for unlocking the coupler; Figs. 7 and 8 are detail views of the strut or brace and its adjustable bearing block.

In the practice of my invention the ends of the follower plates 1 are supported and guided by the draft-irons 2, which are bolted to the longitudinal beams of the car. The U-shaped strap or spring pocket 3 is passed around the follower plates and the barrel 4 of the coupler is secured between the jaws 3^a, formed on the ends of the strap or pocket, by a tail pin 6 passing through the jaws and barrel, as shown in Figs. 1, 3 and 4. The springs 7 are held from lateral displacement by a bolt 8 passing loosely through the follower plates, the springs and the bottom of the strap or pocket.

The buffer stems 9 are passed through guide sleeves in the end sills of the car platform and have their outer ends pivotally connected to

the buffer plate 10, while their inner ends pass through slots in the ends of the equalizing lever 11, thereby permitting of an angular movement of the lever with reference to the stems 9. Springs 12 are arranged around the stems and bear at their ends against the inner faces of the front sills of the car or platform through the medium of suitable washers. The buffer stems 9 are provided with shoulders, which are so located as to be in line with or slightly within the face of the sill when the stems are in normal position, but will bear against the washers and compress the springs, when the stems are forced inwardly, as shown in Figs. 1 and 5. The equalizing lever is pivotally connected at its center by a U bolt 13 to the upper end of the yoke lever 14, which is mounted on the shaft 15 having its ends fixed in the center sills of the car. The yoke lever is provided as is customary, with an opening near its lower end for the passage of the barrel or shank of the coupler, and the lower end of the yoke lever is so connected by an eye bolt 16 to the tail pin 6, as to be drawn back with the coupler and spring pocket or strap 3. As the coupler is forced inwardly, the lower end of the yoke lever will be pulled in the same direction, thereby causing its upper end and with it the equalizing lever to move outwardly, compressing the buffer springs 12. Thus it will be seen that by reason of the connections of the yoke lever to the coupler at one end and to the equalizing lever at its opposite end, the inward movement of the coupler and of the buffing plate is resisted by the buffing and draft springs 12 and 7. In order that said springs 7 and 12 may co-operate to resist outward movement of the coupler, a strut or brace 17 is interposed between the rear follower plate and the yoke lever at a point near its upper end. At its rear end the strut is provided with prongs 18 and 19 adapted to pass down on opposite sides of the follower plate as shown in Figs. 1, 3 and 4, while its front end is supported in proper position by a finger 20 formed on the strut and passing through an opening near the upper end of the yoke lever. It is preferred to form the bearing of the strut or brace against the yoke lever by a block 21 adjustably secured on the end of the strut by

bolts passing through holes in the block and strut, the holes in the block being elongated so that the block may be shifted along the strut to compensate for wear. It will be readily understood from the foregoing, that any forward movement of the rear follower plate, caused by a pull on the coupler, will through the medium of the strut shift the upper end of the yoke lever and equalizing lever forward compressing the buffer springs 12.

In order to provide a continuous platform between cars a foot plate 22 is attached along its front edge to the upper edge of the buffer plate, the rear portion of the foot plate resting upon the housing or guide plate 23, so set in the car platform as to form a continuous surface therewith.

In order to prevent a bending in of the buffer plate when the car is connected with one having only a central buffer, a sliding block 24 is passed through the end sill of the car so as to bear at its front end against the center of the plate 10, and at its rear end against one end of a spring 25, the opposite end of the spring being arranged in a socket 26 which rests against the upper end of the yoke lever, as shown in Fig. 4.

It has heretofore been customary to arrange the lever for operating the swinging hook catch on top of the coupler, but as the space between the coupler and platform is very small, access to the lever is very difficult. It is therefore preferred to arrange the catch operating lever 27 on the under side of the coupler as shown. The lever is operated to unlock the coupler hook, by a rod 28 extending from the lever to a crank pin 29 on the lower end of the shaft 30, which is mounted in suitable bearings in the end sill, and the hand rail of the car, as shown in Fig. 2. This shaft may be rotated by any suitable handle applied to the upper end of the shaft, but it is preferred to employ an arrangement of handle which can be folded down against the shaft as shown in Figs. 2 and 6. To this end a bracket 31 is secured to the shaft near its upper end, and to this bracket is pivoted the handle 32, provided on its inner end with an angular socket adapted to fit over the correspondingly shaped upper portion of the shaft. The pivotal support of the handle is so located that when the handle is moved to a horizontal position its socket will fit over the end of the shaft, and when the handle is released it will drop down alongside of the shaft.

It will be observed that when it is desired to remove a coupler either for repairs or to insert another form of coupler, it is only necessary to remove the tail pin 6, through a hole in the platform of the car, when the coupler can be drawn out and another substituted therefor. No other portion of the draft or buffing mechanism need be taken down or even shifted. The hole in the platform for the removal of the tail pin is normally covered by a plate 33.

It has heretofore been customary to arrange

the buffing spring in line with the yoke lever or the center of equalizing lever, so that when the equalizing lever is shifted to an angular position by the passage of a train around a curve, it will remain in such position until by the passage of the train around an opposite curve it is again shifted; and further, such an arrangement of spring will not offer any resistance to the swaying and oscillation of the cars. In other forms of buffing mechanism springs have been arranged around the stems of both buffers, said stems being connected to a rigid bar, so that only one spring is operative to prevent oscillation. Also the buffer stems have been connected to a pivotally mounted equalizing lever, but the springs are arranged between the equalizing lever and shoulders on the buffer stems, and do not at any time bear against the front car or platform sill, so that while they serve to impart a resilient action to the buffer stems, they will not restore the equalizing lever and buffer stems to normal position. In my arrangement, however, both springs are simultaneously operative to prevent the oscillation of the cars, and when the equalizing lever is shifted to an angular position, by the passage of the cars around curves, the springs will operate to restore the lever to normal position as soon as the cars come into line with each other.

I claim herein as my invention:

1. The combination of a coupling mechanism, a buffing mechanism and a pivotally mounted yoke lever connected above its pivotal point to the buffing mechanism and having a rearwardly extending connection below its pivotal point to the coupling mechanism, substantially as set forth.

2. The combination of a coupling mechanism, a buffing mechanism, a yoke connected at points above and below its pivotal point to the buffing mechanism and coupling mechanism respectively, and a brace or strut interposed between the coupling and buffing mechanisms, substantially as set forth.

3. The combination of a spring, follower plates arranged at opposite ends of the spring, a spring pocket or strap arranged around the follower plates, a buffing mechanism, a yoke lever connected at one end to the buffing mechanism and at its opposite end to the spring pocket or strap, and a coupling mechanism connected to the spring pocket or strap, substantially as set forth.

4. The combination of a spring, follower plates arranged at opposite ends of the spring, a pocket or strap arranged around the follower plates, a buffing mechanism, a yoke lever connected at its ends to the buffing mechanism and the pocket or strap, a brace or strut interposed between the yoke lever and the rear follower plate, and a coupler connected to the pocket or strap, substantially as set forth.

5. The combination of a coupling mechanism, a buffing mechanism, a yoke lever con-

5 nected to the buffing mechanism and a brace
or strut provided with an adjustable bearing
block, interposed between the yoke lever and
the rear follower plate of the coupling mech-
anism, substantially as set forth.

10 6. The combination of a pivotally mounted
equalizing lever, springs interposed between
the ends of the equalizing lever and the front
sill of the car and normally bearing at their
ends against the equalizing lever and the
sill of the car, and buffer stems passing
through the sill and adapted to engage the
front ends of the springs when forced in-
wardly, substantially as set forth.

15 7. The combination of a pivotally mounted
equalizing lever, springs interposed between
the ends of the equalizing lever and the front
sill of the car or platform, buffer stems hav-
ing their inner ends pivotally connected to
20 the equalizing lever and provided with shoul-

ders adapted to engage the front ends of the
springs when moved inwardly and a buffer
plate pivotally connected to the outer ends of
the buffer stems, substantially as set forth.

25 8. The combination of the catch lever of a
swinging hook coupler, a shaft provided with
a crank arm at its lower end, a link connect-
ing the crank arm and catch lever, and a han-
dle provided with an angular socket and so
pivoted to the shaft that when raised to an
angular position in relation to the shaft the
socket will engage the correspondingly shaped
end of the shaft, substantially as set forth.

In testimony whereof I have hereunto set
my hand.

HENRY C. BUHOUP.

Witnesses:

R. H. WHITTLESEY,
DARWIN S. WOLCOTT.