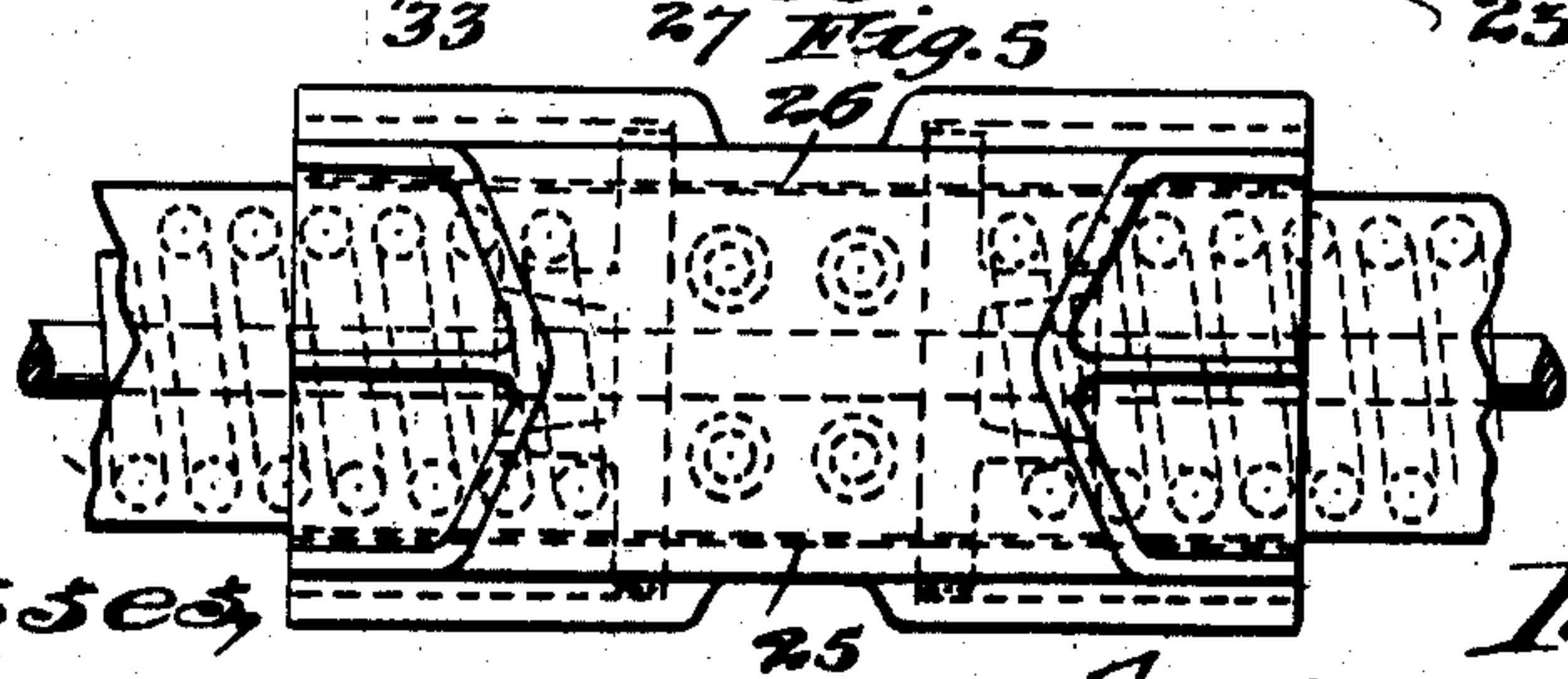
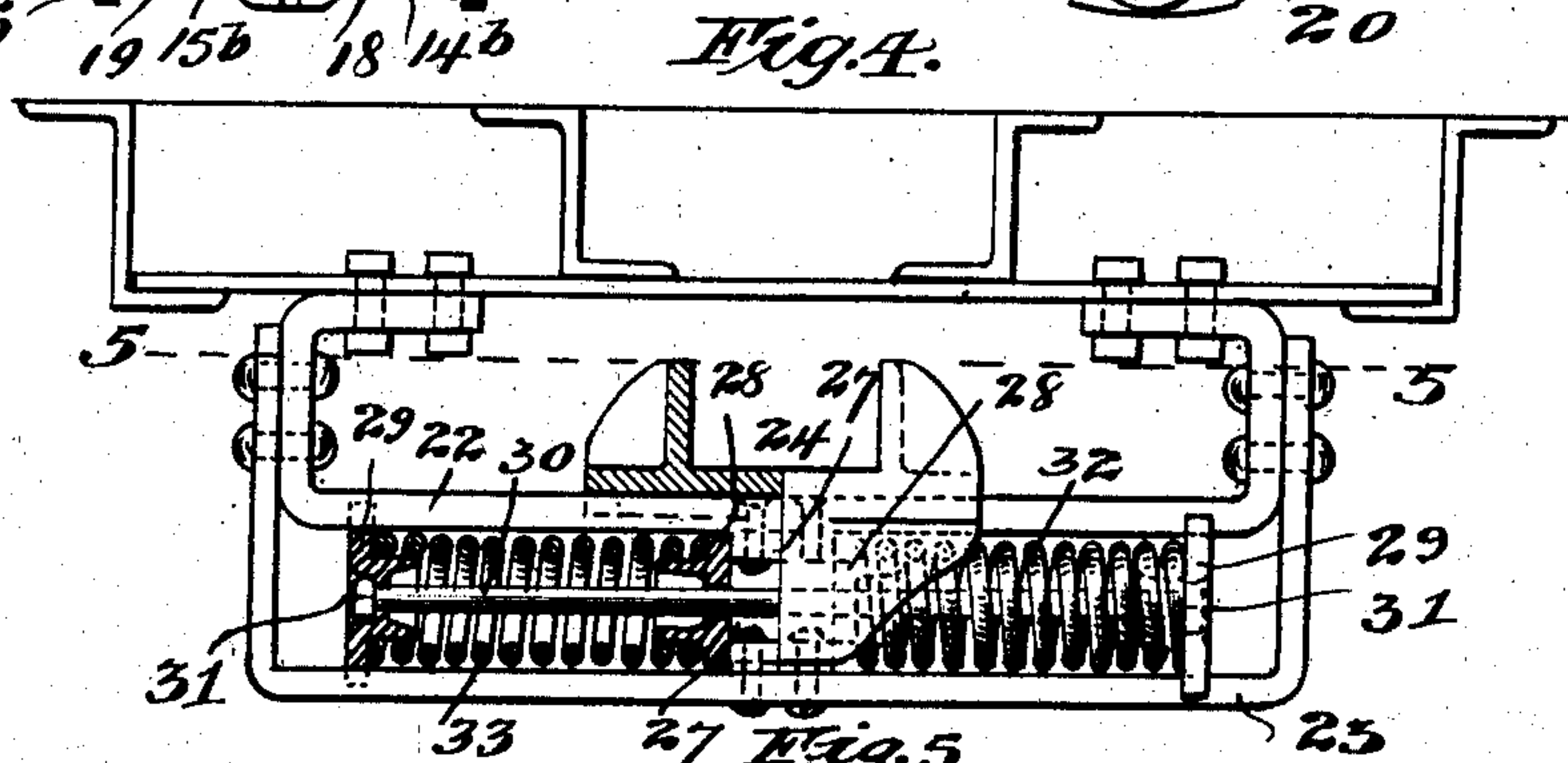
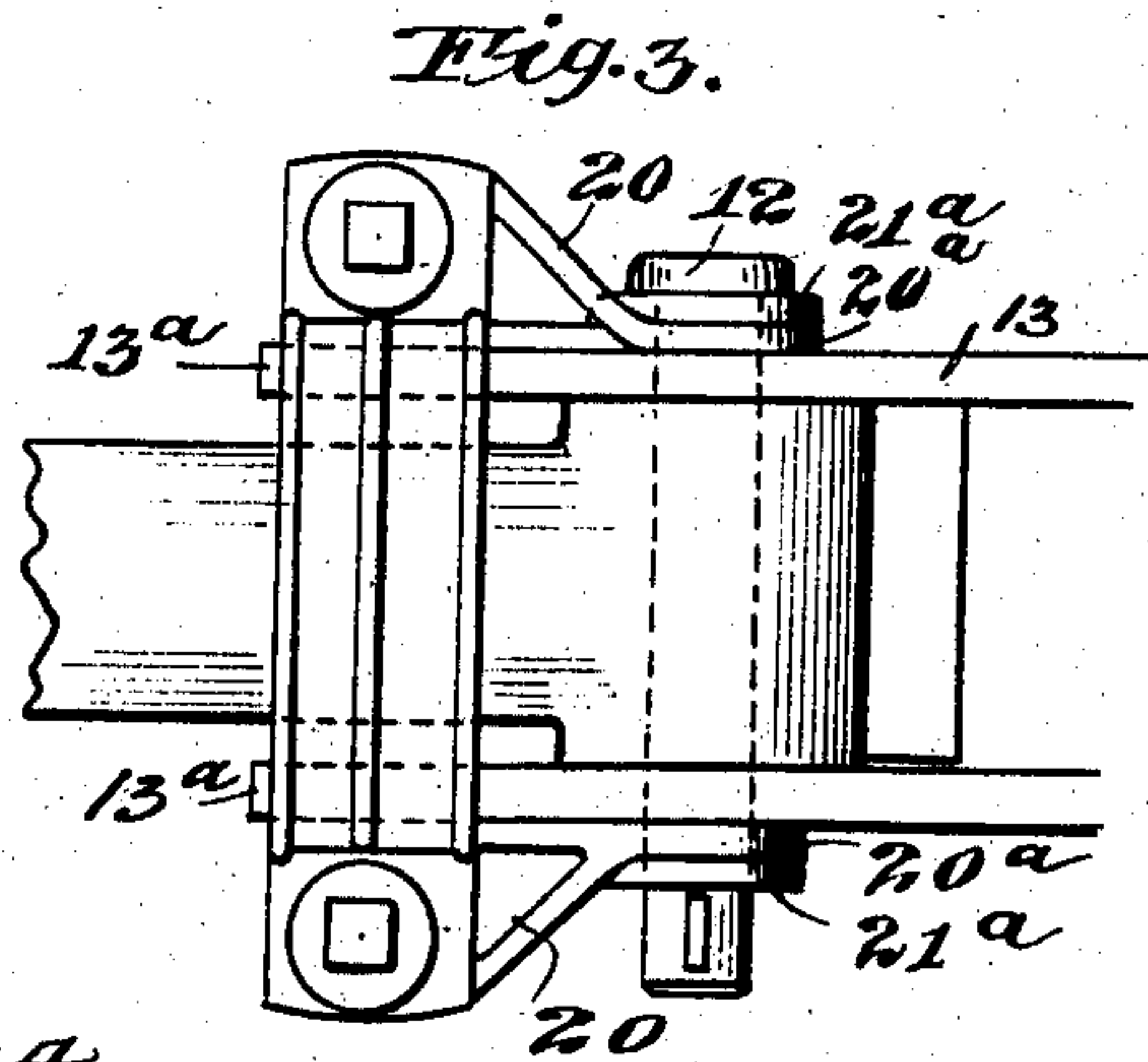
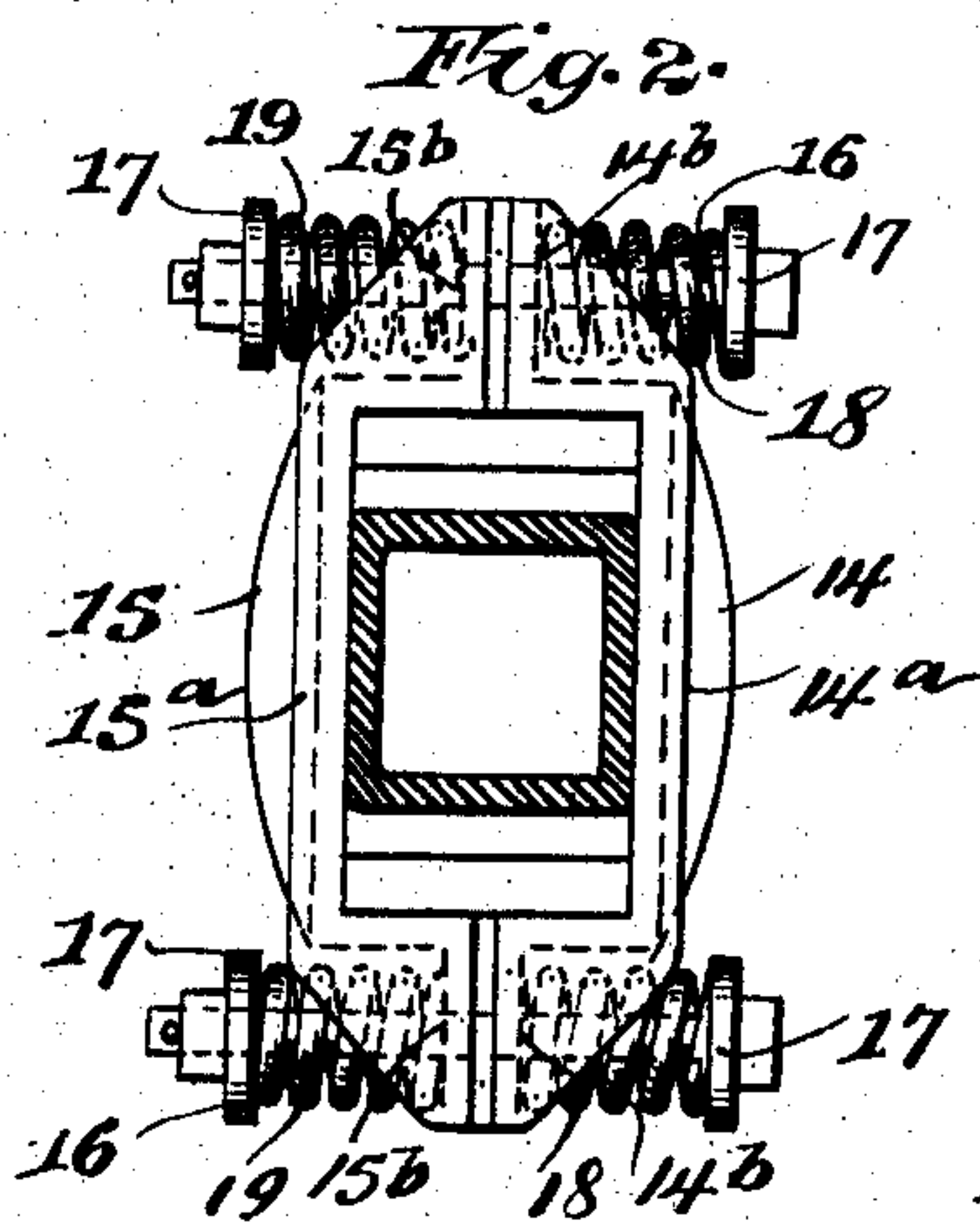
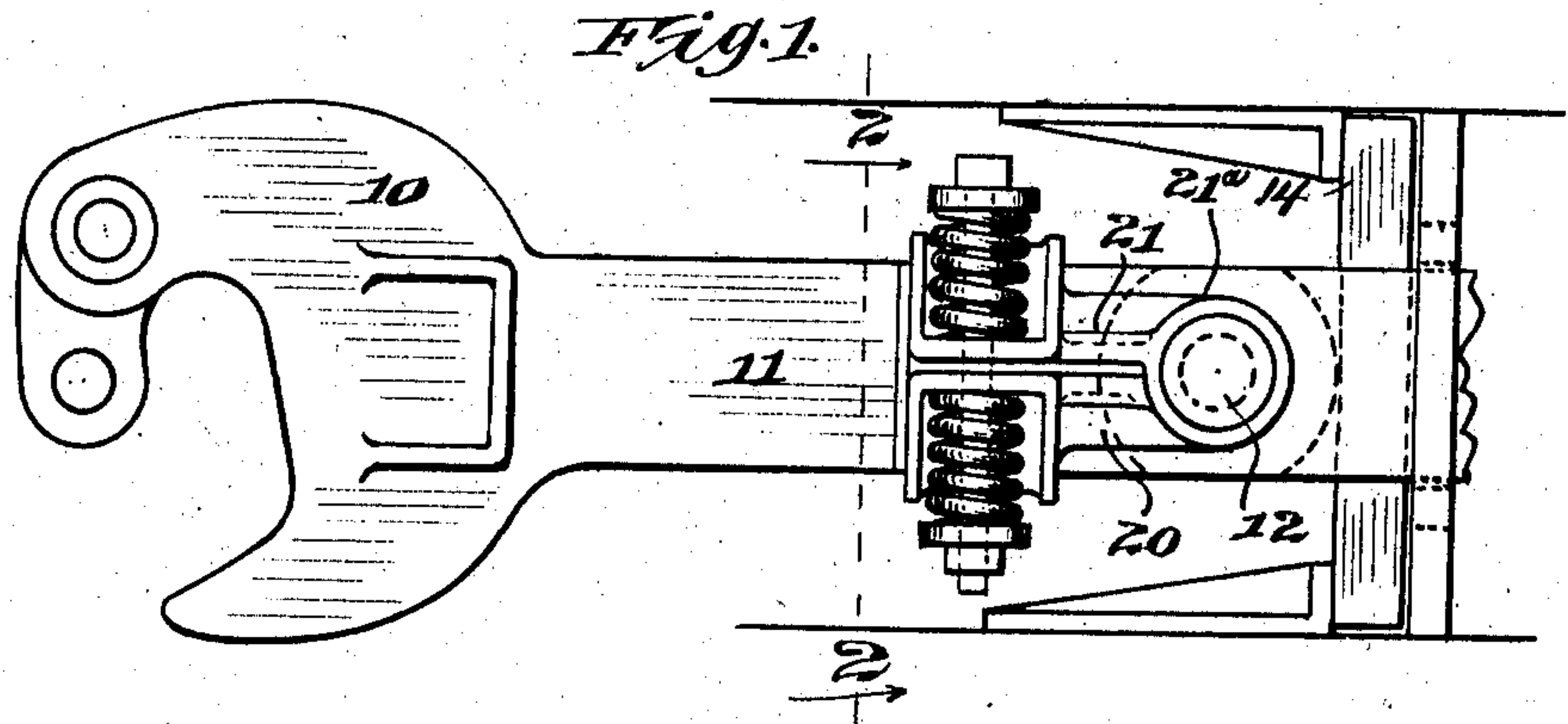


No. 859,446.

PATENTED JULY 9, 1907.

F. S. GALLAGHER.
DRAW BAR CENTERING MECHANISM.
APPLICATION FILED OCT. 30, 1905.



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UNITED STATES PATENT OFFICE.

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DRAW-BAR-CENTERING MECHANISM.

No. 859,446.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed October 30, 1905. Serial No. 280,126.

To all whom it may concern:

Be it known that I, FREDERICK S. GALLAGHER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Draw-Bar-Centering Mechanisms, of which the following is a specification.

This invention relates to draft appliances for railway cars, and pertains more especially to that class of appliances employed in connection with draw-bars having side clearance for the purpose of centering the draw-bars and coupler heads and automatically maintaining them in proper position for coupling.

One feature of my present invention resides in the employment of one or more pairs of springs operating between an abutment member and the opposite sides of the draw-bar, the springs of each pair being preferably both brought into action and operating together to center the draw-bar when deflected to either side.

The principle of the invention is capable of application to either draw-bars which are rigid with the yoke or draw-bar extension, or draw-bars which are pivotally connected to the yoke or draw-bar extension.

In the form of the invention designed for application to draw-bars having a pivotal connection to the yoke or draw-bar extension, a leading characteristic of the device resides in the fact that the centering device is connected to one of said parts and exerts a lateral thrust or pull upon the other, the preferred form being that wherein the centering device is pivotally connected to the yoke and exerts lateral pressure upon the draw-bar.

Another noteworthy feature of the device as applied to pivoted draw-bars resides in the fact that the centering device partakes bodily of the longitudinal movement of the draw-bar in buffing and draft, thus obviating the friction and wear that arises in the more usual forms wherein the centering device does not partake of such longitudinal movement.

My invention will be readily understood when considered in connection with the accompanying drawings which illustrate the same, and wherein,—

Figure 1 is a plan view of the draw-bar pivotally connected to its yoke and equipped with my improved centering device; Fig. 2 is a cross-sectional view on the line 2—2 of Fig. 1; Fig. 3 is a side elevational view of Fig. 2; Fig. 4 is a front elevational view, partly in cross-section, illustrating a modified form applicable to draw-bars that are either pivoted to or rigid with the yoke; and Fig. 5 is a plan view on the line 5—5 of Fig. 4.

Referring first to Figs. 1 to 3, inclusive, 10 designates the coupler head, and 11 the usual draw-bar stem or shank. This latter has a pivotal connection by means of a pivoted pin 12 with the usual yoke strap or draw-bar extension 13, within and transversely of which

latter are the usual followers, of which the outermost is indicated at 14. The upper and lower front end portions of the yoke are carried forwardly of the pivoted pin 12 for some distance, such forward extensions being designated by 13^a.

14 and 15 designate a pair of companion members that are arranged to embrace the sides of the draw-bar and yoke extensions and through which the thrust of the centering springs is exerted. These members consist of duplicate inversely arranged castings having, in their preferred form, upright side walls 14^a and 15^a and inwardly offset upper and lower projections 14^b and 15^b at their upper and lower ends. These upper and lower projecting walls are apertured to receive transverse bolts 16, these latter being provided at their ends with suitable heads, nuts, or other forms of spring abutments, designated by 17.

Surrounding each of the bolts 16 on one side, and confined endwise between the heads 17 and walls 14^b are a pair of coiled springs 18, and a similar pair of springs 19 are similarly disposed on the opposite side between the abutments 17 and walls 15^b. The member 14 has at its upper and lower ends rearwardly extending arms 20 that terminate in centrally apertured hinge plates 20^a pivoted upon the pin 12; and the companion member 15 has a corresponding pair of rearwardly extending arms 21 that terminate at their ends in hinge plates 21^a also pivotally supported upon the pin 12. By reason of this construction it will be seen that the two thrust members 14 and 15 are capable of a swinging movement around the draw-bar pivot-pin 12, and are normally forced toward each other and against the sides of the draw-bar and yoke extension by the action of the springs 18 and 19.

In the operation of the device, assuming that the draw-bar is swung to the right in Fig. 2, the upper and lower extensions 14^b of the member 14 will tend to compress the springs 18, which force will be transmitted through the abutments 17 on the same side, the bolts, the abutments 17 on the opposite side, the springs 19, and the thrust member 15 to the left sides or edges of the yoke, which latter, of course, is confined against substantial lateral movement between the usual draft-sills and follower stops, said draw-bar extensions thus constituting the ultimate abutments of the spring action, and the yielding resistance of both the springs 18 and 19 being simultaneously called into action to return the draw-bar to the central position shown as soon as the deflecting influence is withdrawn. When the draw-bar is deflected to the left, as shown in Fig. 2, precisely the same action occurs, the member 15 in this instance being the active centering member, and the member 14 abutting against the extensions of the yoke, and anchoring the springs 18. It will also be observed that by reason of the fact that the centering

mechanism is connected to and carried by a member of the draft-rigging which partakes of the longitudinal movements of the draw-bar, and of the further fact that the thrust members 14 and 15 of the centering mechanism are pivoted concentrically with the draw-bar, all rubbing wear between said parts and the draw-bar is avoided.

Referring to the form of the invention shown in Figs. 4 and 5, 22 designates a draw-bar supporting hanger secured to the under side of the end sill or other member of the underframe, secured to which and depending therefrom is a secondary hanger 23 constituting a runway for the centering mechanism. Slidably mounted on the hanger 22 is a saddle 24 for the draw-bar shank, which saddle has front and rear depending aprons that are inwardly offset at their central portions, as shown at 25 and 26, respectively. Between the horizontal members of the hangers 22 and 23, and centrally thereof, are rigidly secured abutment blocks 27, and on either side thereof are slidably mounted and guided on and between the horizontal members of the two hangers inner and outer followers 28 and 29, respectively. A rod 30 is passed centrally through these followers and between the central abutment blocks, being secured against displacement by nuts 31 on either end entering counter-sunk recesses in the outer faces of the outer followers 29. Surrounding the rod 30 on the right hand side, Fig. 4, and abutting at its ends against the followers 28 and 29 is a coiled compression spring 32, while a similar spring 33 is similarly located in the opposite side. As shown in Fig. 5, the shoulders formed by the inwardly offset portions 25 and 26 of the depending aprons of the saddle abut against the ends of the inner followers 28.

In operation, when the draw-bar is swung to the right, in Fig. 4, the inwardly offset extensions of the saddle force the inner follower 28 on the same side to the right, compressing the spring 32, which latter transmits the force through the outer follower 29 on the same side, rod 30, outer follower 29 on the left, spring 33, and inner follower 28 on the left, to the abutment block 27, whereby the combined energy of both springs is called into play to recenter the draw-bar when released from the deflecting influence. When the draw-bar is deflected to the left, the same action results, the force being transmitted through the spring 33 in the

first instance, and then, through the described connections, to the spring 32 and the opposite side of the abutment block.

It will thus be seen that in both the form of the invention illustrated in Figs. 1, 2 and 3, and the form illustrated in Figs. 4 and 5, the combined energy of both springs lying on opposite sides of the draw-bar is called into action to restore the draw-bar to central position.

It is evident that the principle and characteristic features of the invention might be embodied in other devices differing specifically and in detail more or less from those herein shown; and hence I do not limit the invention to the particular mechanisms described and shown, except to the extent indicated in specific claims.

I claim:

1. In a draft-rigging mechanism, the combination with a draw-bar and a yoke pivotally connected to the shank of said draw-bar, said yoke extending forwardly of said pivotal connection, of a pair of thrust members pivotally mounted coincident with said pivotal connection of the yoke and draw-bar and lying on opposite sides of the latter and of said yoke extension, and a pair of springs normally co-operating to draw said thrust members together, substantially as described.

2. In a draft-rigging mechanism, the combination with a draw-bar and a yoke pivotally connected to the shank of said draw-bar, said yoke extending forwardly of said pivotal connection, of a pair of thrust members pivotally mounted coincident with said pivotal connection of the yoke and draw-bar and embracing the opposite sides of the latter and of said yoke extension, a rod passed loosely through said thrust members, and a pair of springs carried by said rod and at their inner ends abutting against said thrust members, substantially as described.

3. In a draft-rigging mechanism, the combination with a draw-bar and a yoke pivotally connected to the shank of said draw-bar, said yoke extending forwardly of said pivotal connection, of a pair of thrust members pivotally mounted coincident with said pivotal connection of the yoke and draw-bar and embracing the opposite sides of the latter and of said yoke extension, rods passed loosely through the upper and lower ends of said thrust members, respectively, and a pair of springs surrounding each of said rods and at their ends abutting against said thrust members, substantially as described.

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