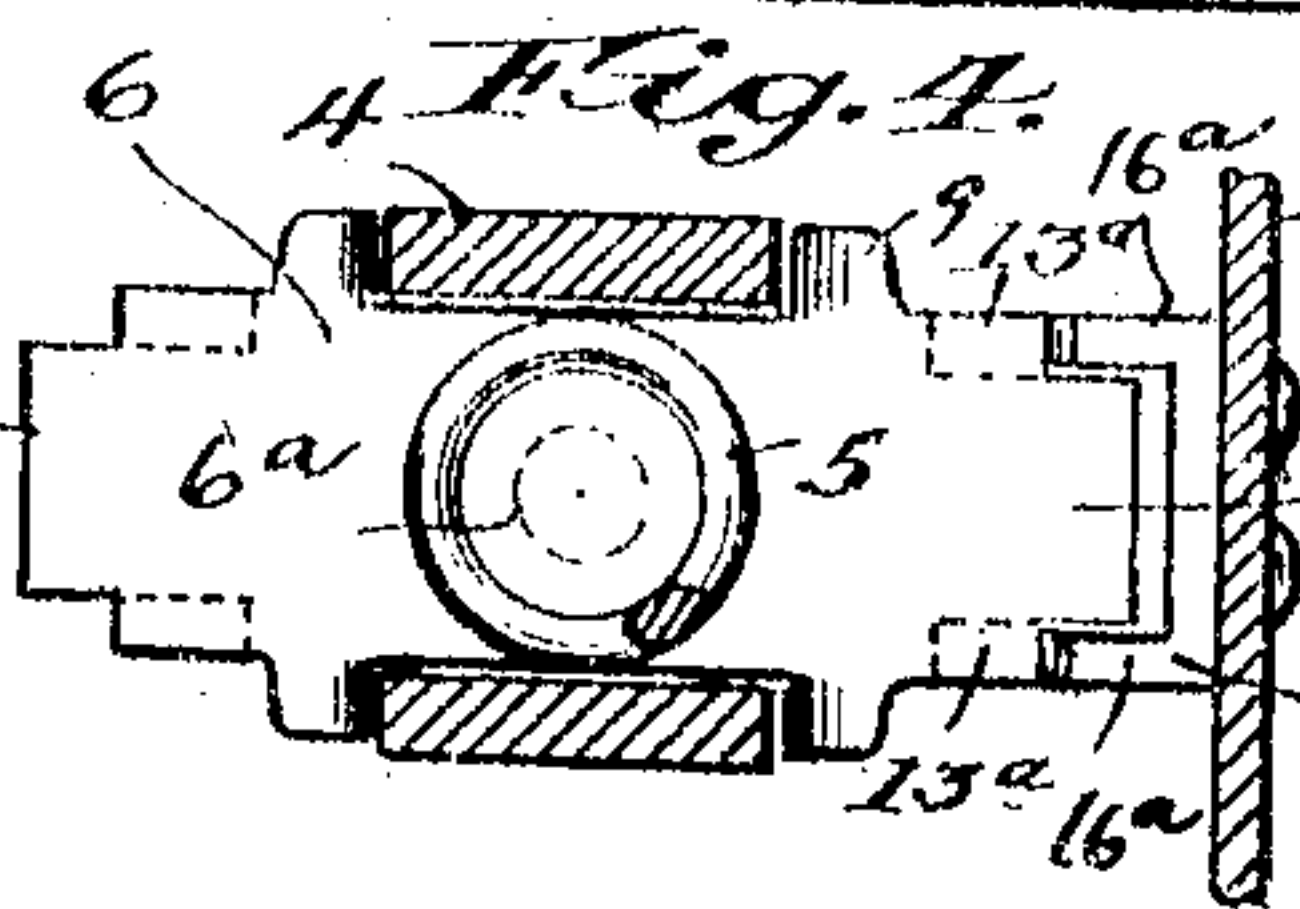
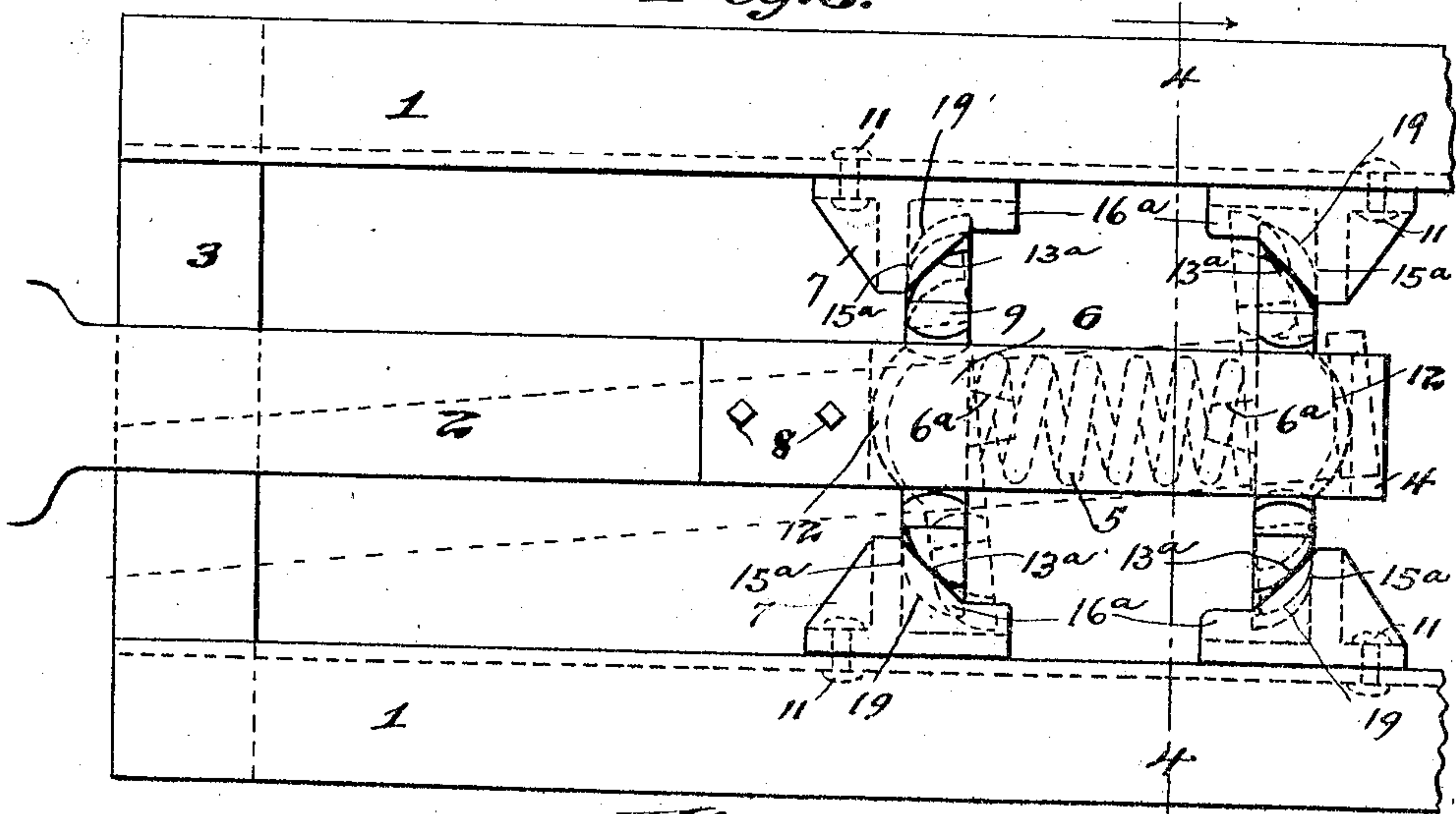
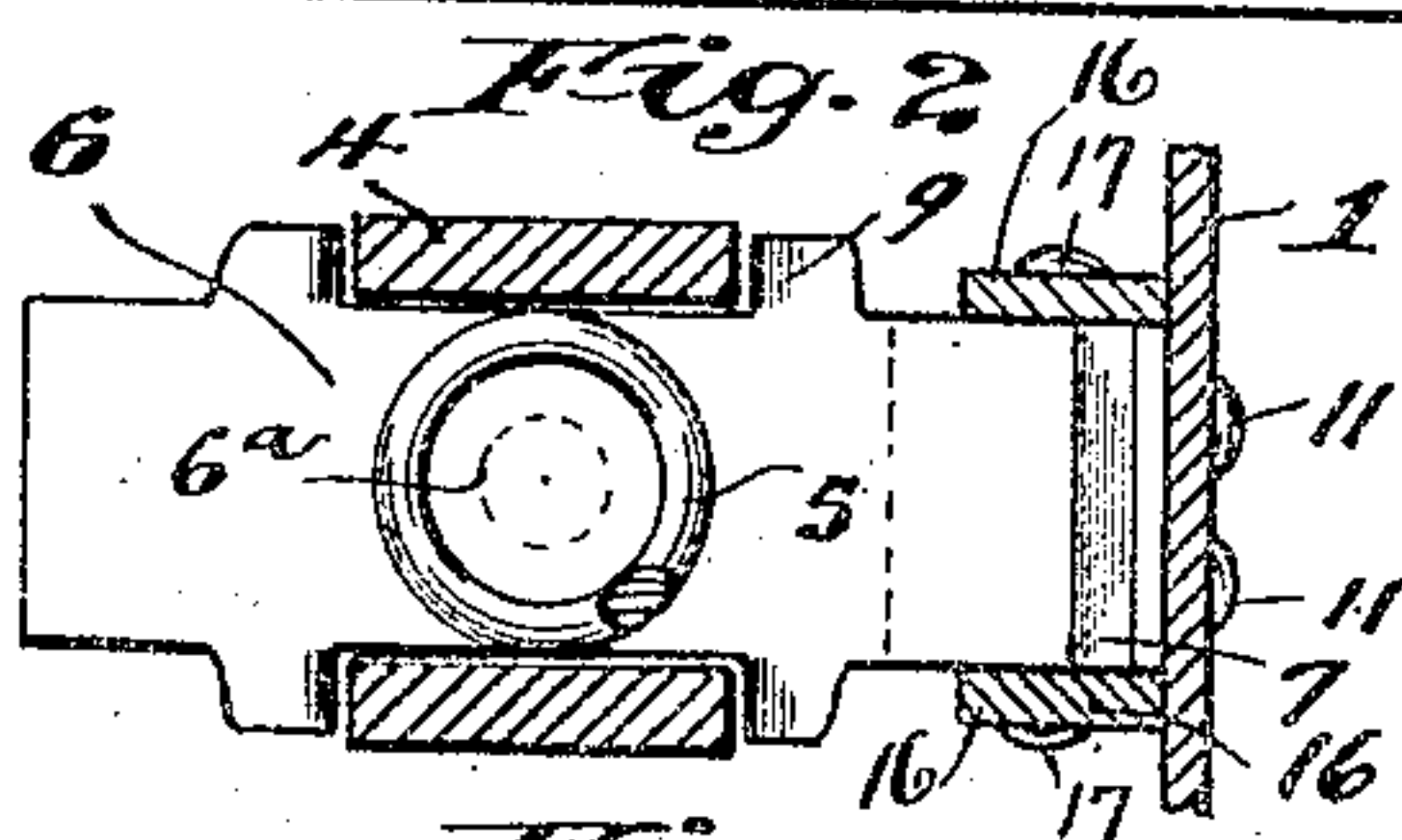
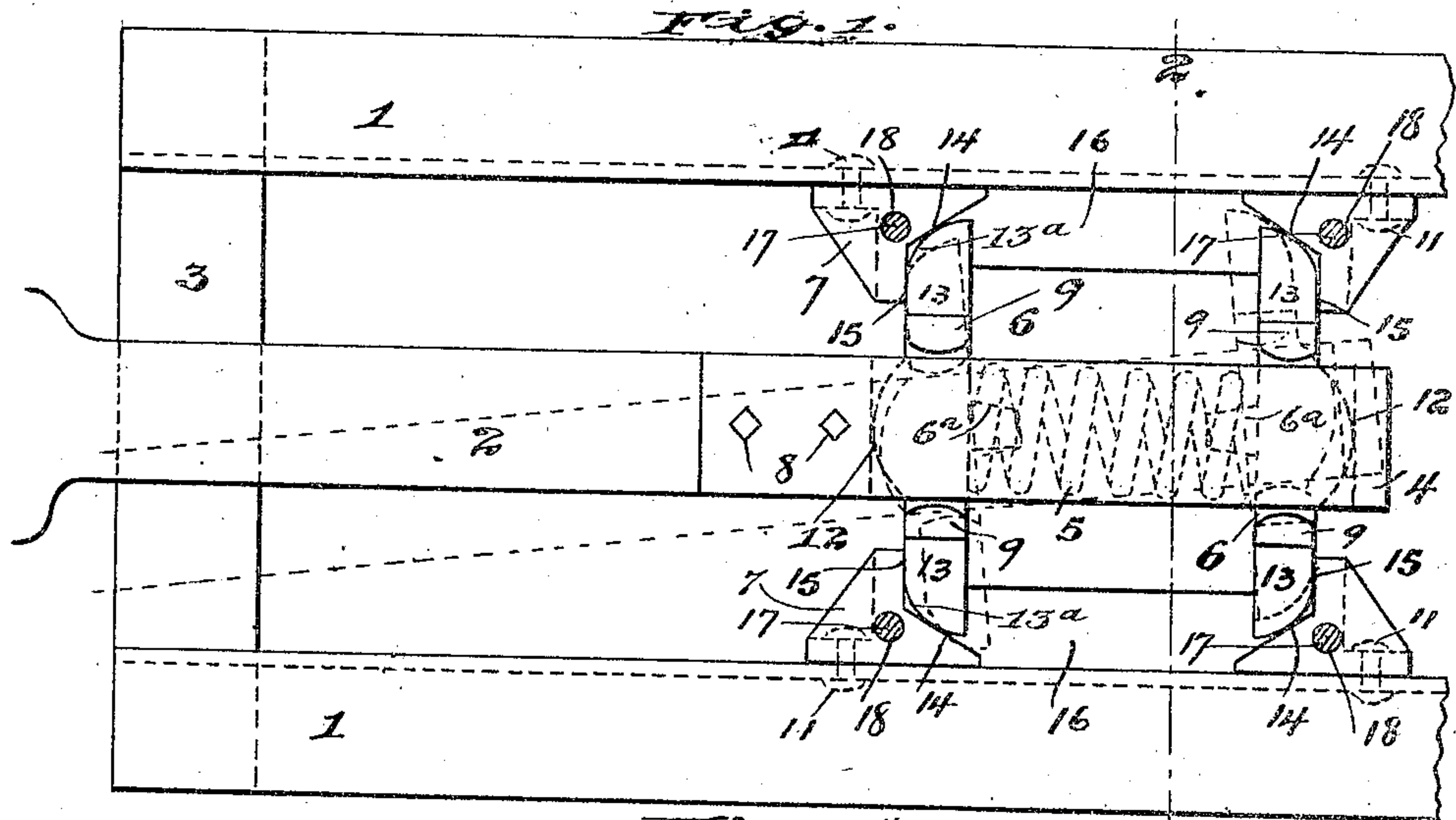


G. H. FORSYTH.  
 DRAFT RIGGING MECHANISM.  
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925,167.

Patented June 15, 1909.



Witnesses,  
 J. S. Mann,  
 S. N. Pond

Inventor,  
 George H. Forsyth,  
 By *Offield Towle*  
*Linthicum*  
*Att'y.*



# UNITED STATES PATENT OFFICE.

GEORGE H. FORSYTH, OF CHICAGO, ILLINOIS.

## DRAFT-RIGGING MECHANISM.

No. 925,167.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed April 13, 1904. Serial No. 203,721.

*To all whom it may concern:*

Be it known that I, GEORGE H. FORSYTH, 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 Draft-Rigging Mechanism, of which the following is a specification.

My invention belongs to that class of mechanism adapted to return the draw-bars of cars, when drawn to one side, to a central position. Such devices have heretofore usually consisted entirely of separate mechanisms, especially designed for this purpose. My present invention, however, belongs to a type of draw-bar centering device wherein the actuating force resides in the resistance medium of the draft rigging instead of in an independent medium, such as a coil spring transversely engaging the draw-bar. It must, therefore, be evident that my invention, among other of its meritorious features, tends toward economy in car construction by reducing the number of parts necessary to produce certain functions.

In the accompanying drawings,—Figures 1 and 3 are plan views of two possible forms embodying the principle of the invention; and Figs. 2 and 4 are respectively details in cross-section, on the lines 2—2 and 4—4 of Figs. 1 and 3.

The drawings show a common form of steel car construction, the draft rigging being provided with a resistance medium in the form of the usual coil spring. It will be evident, however, that my invention may be as readily applied to a varied construction of steel or wooden car and may be used with any form of draft rigging of either the spring or friction type.

In the drawings 1 represents channel-beams forming the center-sills of the car. The draw-bar 2 is suitably supported at its outer end by a stirrup or carry-iron 3, fastened to the under side of the channel-beams. The ordinary yoke-strap 4 is secured to the inner end of the draw-bar by means of the rivets 8, the draft rigging spring 5 being located within the yoke-strap, engaging the studs 6<sup>a</sup> and abutting

against the followers 6. The latter in turn contact centrally with ends of the draw-bar and yoke-strap and at their ends with the follower-stops 7 secured to the channel-beams 1 by rivets 11. The followers are provided with upright lugs 9 adapted to loosely engage the sides of the yoke-strap. The rounded surfaces 12 on the outer faces of the followers cooperate with the contacting surfaces at the end of the draw-bar and the yoke-strap to always cause the strains of buffing and draft to be applied at points substantially on the longitudinal axis of the resistance medium. The ends 13 of the followers are also provided with inclined or curved surfaces 13<sup>a</sup> adapted to engage cooperating oblique or inclined surfaces 14 on the follower-stops in such a manner as to tend to center the draw-bar under the thrust of the resistance medium.

In one form of my invention, as shown in Fig. 1, the followers have substantially straight surfaces near their ends at 15, these surfaces contacting with corresponding surfaces of the follower-stops, when the draw-bar is in its central or normal position. In Fig. 3 the followers are provided with extensions 19 lying beyond the curved surfaces 13<sup>a</sup> and straight surfaces 15<sup>a</sup>. In Figs. 1 and 2 there are shown supporting bars 16 for the end portions of the followers, said bars being secured to the follower-stops by the rivets 18 secured by the heads 17. In Figs. 3 and 4 a form of follower-stop construction is shown in which the place of these supporting bars is taken by the projections 16<sup>a</sup> of the follower-stops themselves. As will be clearly seen in Fig. 4 the inclined surfaces of the follower-stop do not extend throughout the full height of the follower-stop but are present only at their top and bottom portions, at which points they cooperate with the rounded surfaces or shoulders 13<sup>a</sup> of the followers themselves. The follower-stops are hollowed or recessed between their top and bottom portions to receive the projecting extremities 19 of the followers.

The action of my invention is as follows: When the draw-bar is drawn to one side, as shown by dotted lines in Figs. 1 and 3, there



is imparted to the followers, through the lateral engagement of the yoke-strap with the upright lugs of the followers, a lateral movement. During this sidewise displacement of the followers the latter, through contact of their ends with the cooperating inclined surfaces of the follower-stops, are given an angular movement during which the tension of the resistance medium is maintained. If the draw-bar is then released, the outward thrust of the resistance medium will cause the diagonally-disposed and inclined surfaces of the followers to slidably engage with their respective follower-stops; the result of such action being the return of the followers to their normal position transversely of the car. Through the engagement of the upright lugs of the followers with the sides of the yoke-strap the draw-bar will also be returned to its central position. During the angular movement of the followers, when the draw-bar is drawn to one side, the centrally-curved surfaces on the outside faces of the followers are slightly withdrawn from contact with the ends of the draw-bar and yoke-strap. As a consequence the recentering of the draw-bar takes place without rubbing friction between the latter and the followers, and therefore the action occurs the more readily.

While I have shown my invention as embodied in the constructions indicated in the drawings, it should be borne in mind that I do not limit the scope of my invention to the mechanical embodiments illustrated.

I claim:

1. The combination with a draw-bar capable of angular movement and a resistance medium, of a draft rigging follower, and rigid members of the car, said follower having separated means adapted to engage and cooperate with said rigid members of the car, whereby there is imparted to the draw-bar, when drawn to one side, a tendency to return to a central position.

2. The combination with a draw-bar capable of angular movement, a resistance medium, and a draft rigging member having lateral displacement relatively to the center of the car, of a member carried by the car cooperating therewith and adapted under the action of the resistance medium of the draft rigging to return the draw-bar, when drawn to one side, to a central position.

3. The combination with a draw-bar capable of angular movement and a resistance medium, of a draft rigging follower, and members carried by the car, said follower being provided at its extremities with means adapted to cooperate with said members of the car, whereby there is imparted to the draw-bar, under the action of the resistance medium of the draft rigging, a tendency, when drawn to one side, to return to a central position.

4. The combination with a draw-bar, capable of angular movement, a resistance medium and a draft rigging follower, of rigid members carried by the car and engaged by said follower, one of the cooperating surfaces of said parts being inclined, whereby there is imparted to the draw-bar, when drawn to one side, a tendency under the action of the resistance medium to return to a central position.

5. The combination with a draw-bar capable of angular movement, a resistance medium and a draft rigging follower, of rigid members carried by the car having inclined surfaces, said follower having inclined surfaces adapted to cooperate with the inclined surfaces of said rigid members of the car, whereby there is imparted to the draw-bar, when drawn to one side, a tendency, under the action of the resistance medium, to return to a central position.

6. The combination with a draw-bar capable of angular movement and a stop member of the car, of draft rigging including a resistance medium and a member adapted to cooperate with said stop member whereby, when said members become relatively displaced, there is imparted thereto, under the action of the resistance medium of the draft rigging, a tendency to return to a central position.

7. The combination with a draw-bar capable of angular movement, a resistance medium and stop members carried by the car, of a draft rigging member provided with abutting surfaces disposed at right angles to the longitudinal center line of the car and having inclined surfaces adapted to cooperate with said stop members of the car whereby there is imparted to the draw-bar, when drawn to one side, a tendency to return to a central position.

8. The combination with a draw-bar capable of angular movement, a resistance medium and a follower normally contacting said draw-bar or extension thereof, of means cooperating with the follower when the draw-bar is laterally displaced serving to relieve the contact between said follower and draw-bar or its extension to facilitate the return movement of the draw-bar to central position.

9. The combination with a draw-bar capable of angular movement and a follower normally contacting with the end of said draw-bar or an extension thereof, of means whereby under all conditions of lateral displacement of the draw-bar said endwise contact of the latter or its extension with the follower is relieved.

10. The combination with a resistance medium and a follower capable of endwise movement transversely of the draft rigging, of stops cooperating with the ends of said follower, said stops and follower having co-

operating means whereby, under the thrust of the resistance medium, said follower is normally maintained in central position.

11. The combination with a draw-bar capable of angular movement and a series of follower-stops having oblique or inclined walls, of a series of followers and an interposed resistance medium, said followers hav-

ing means engaging the draw-bar laterally thereof and at their ends engaging said inclined surfaces of the follower-stops. 10

GEORGE H. FORSYTH.

Witnesses:

FREDERICK C. GOODWIN,  
WM. V. MILLINGTON.