

G. L. HARVEY.

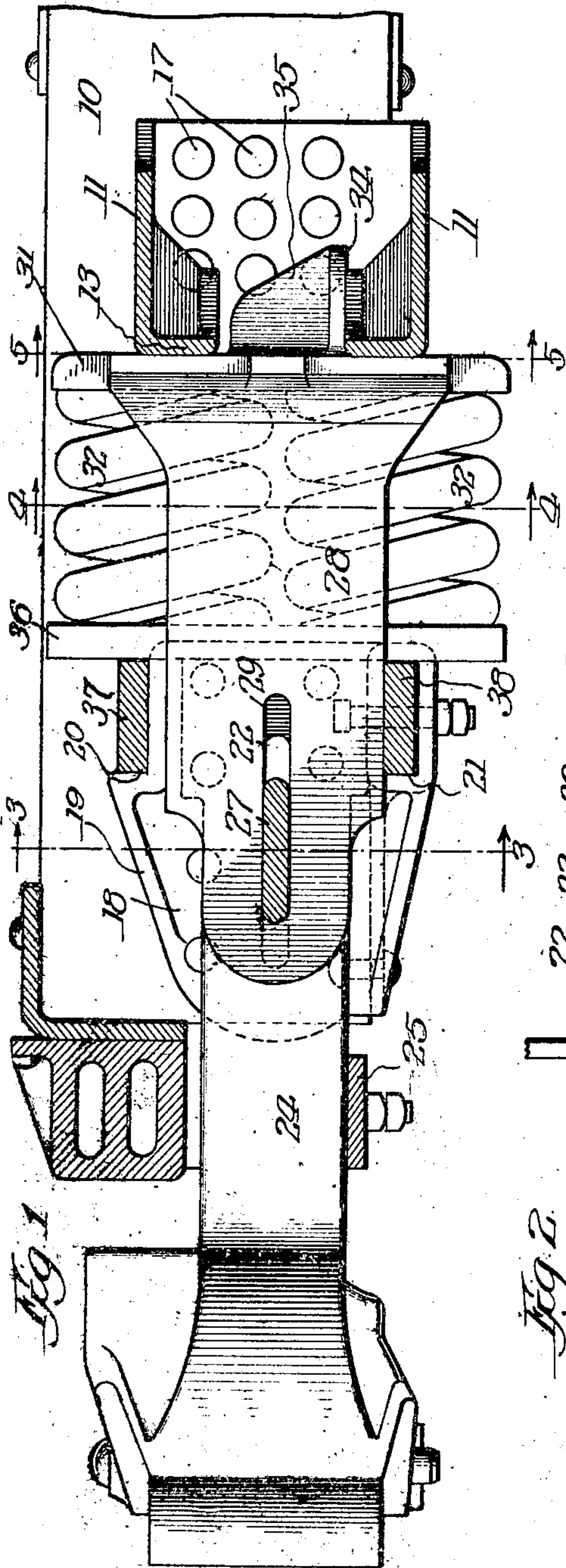
DRAFT RIGGING.

APPLICATION FILED FEB. 3, 1912.

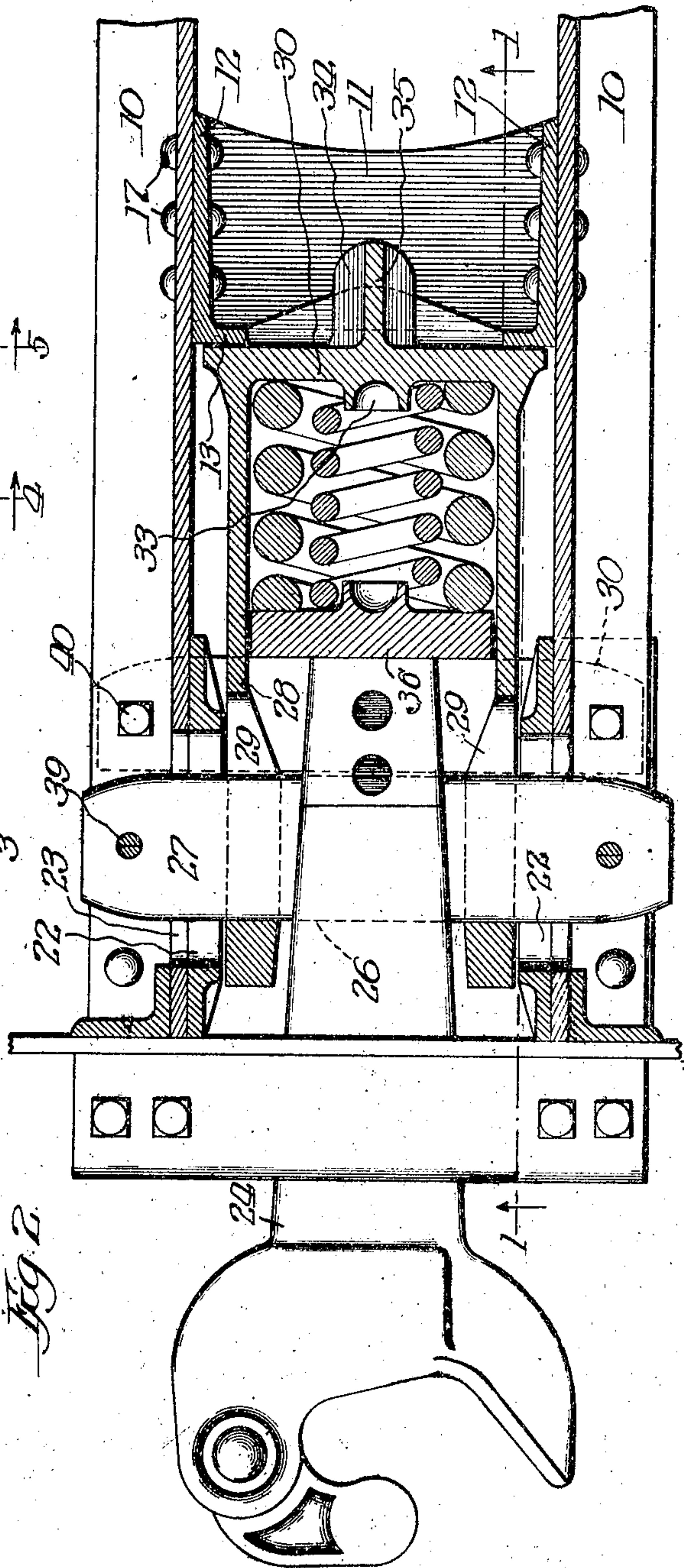
1,166,906.

Patented Jan. 4, 1916.

2 SHEETS—SHEET 1.



Witnesses:
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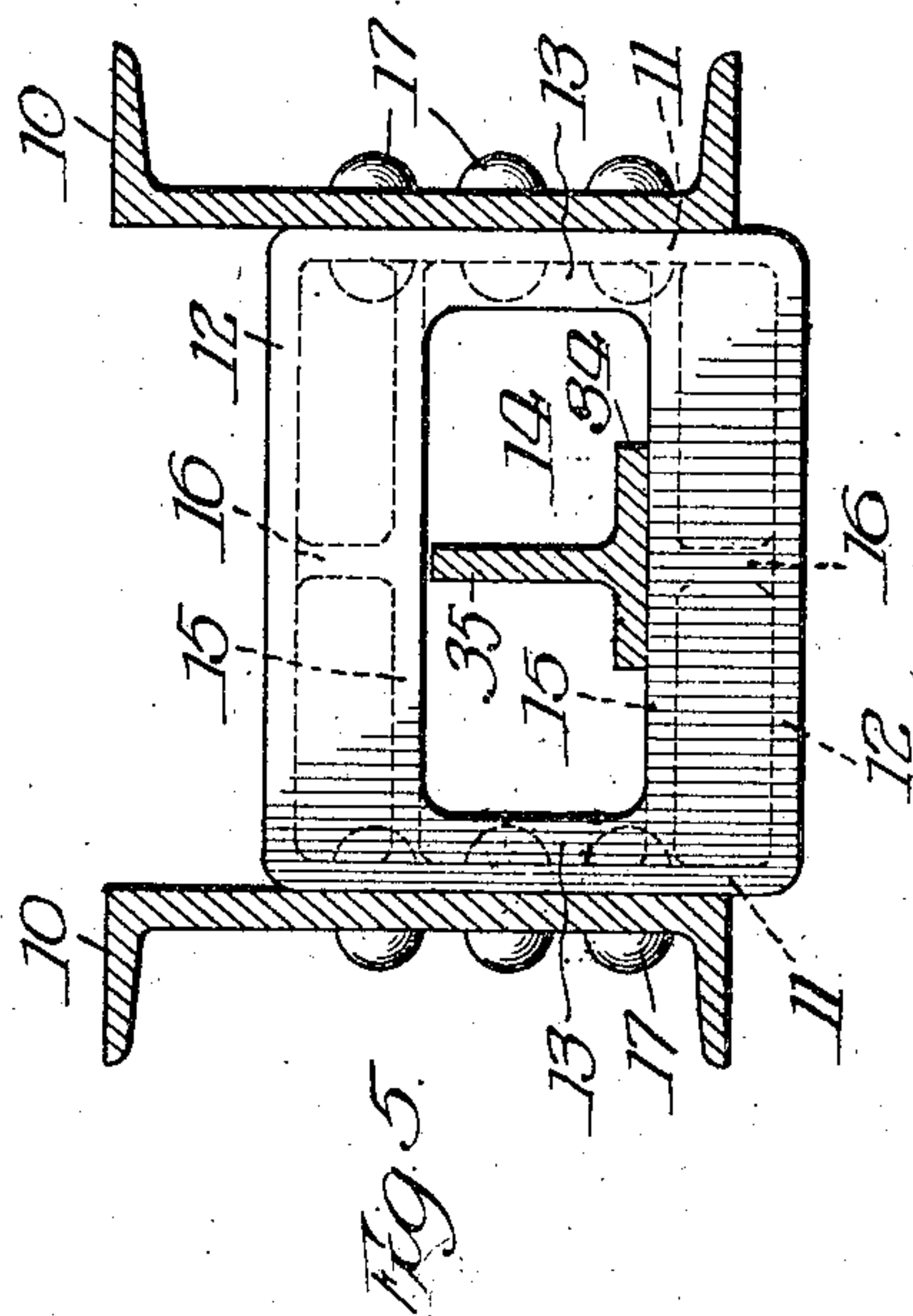
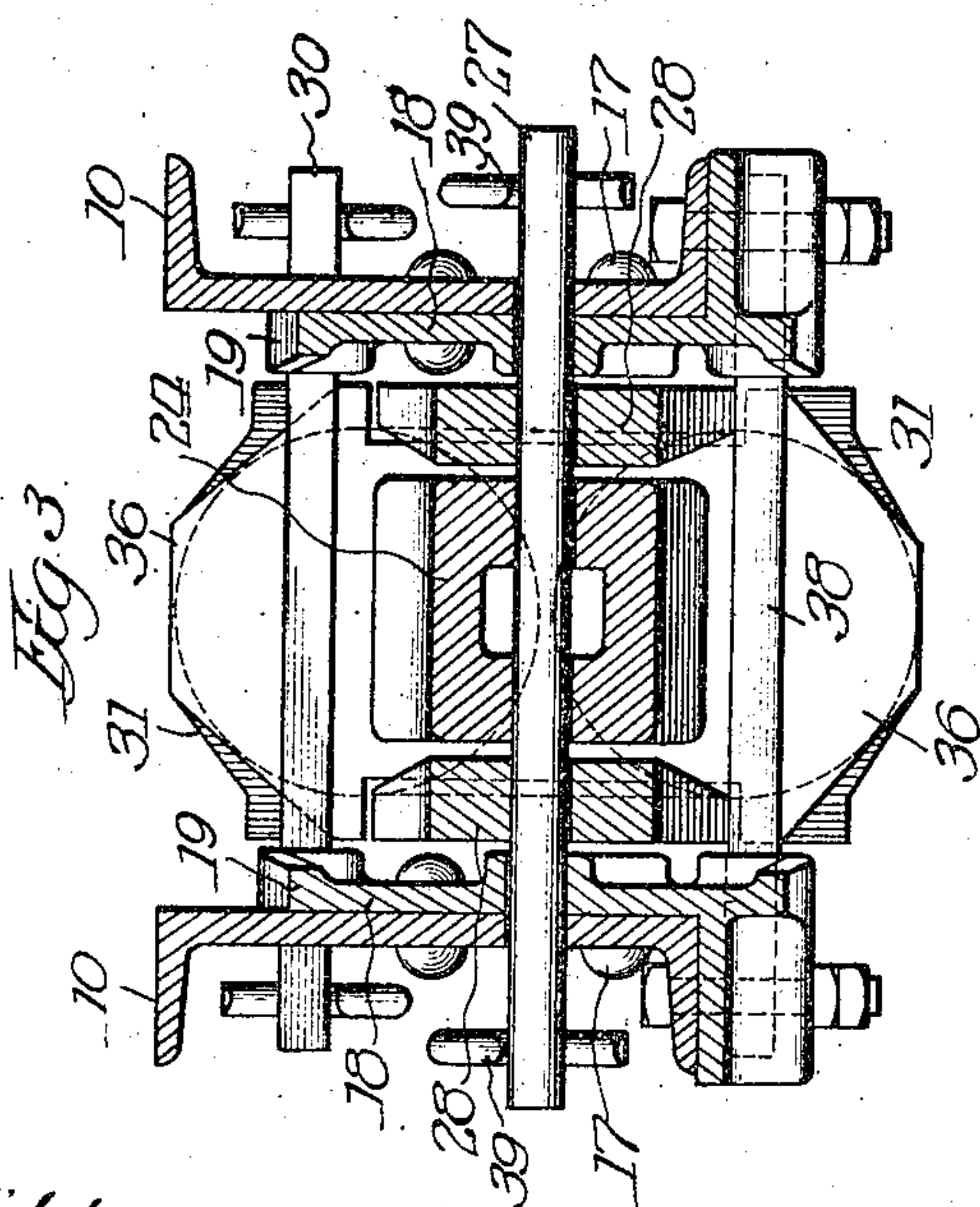
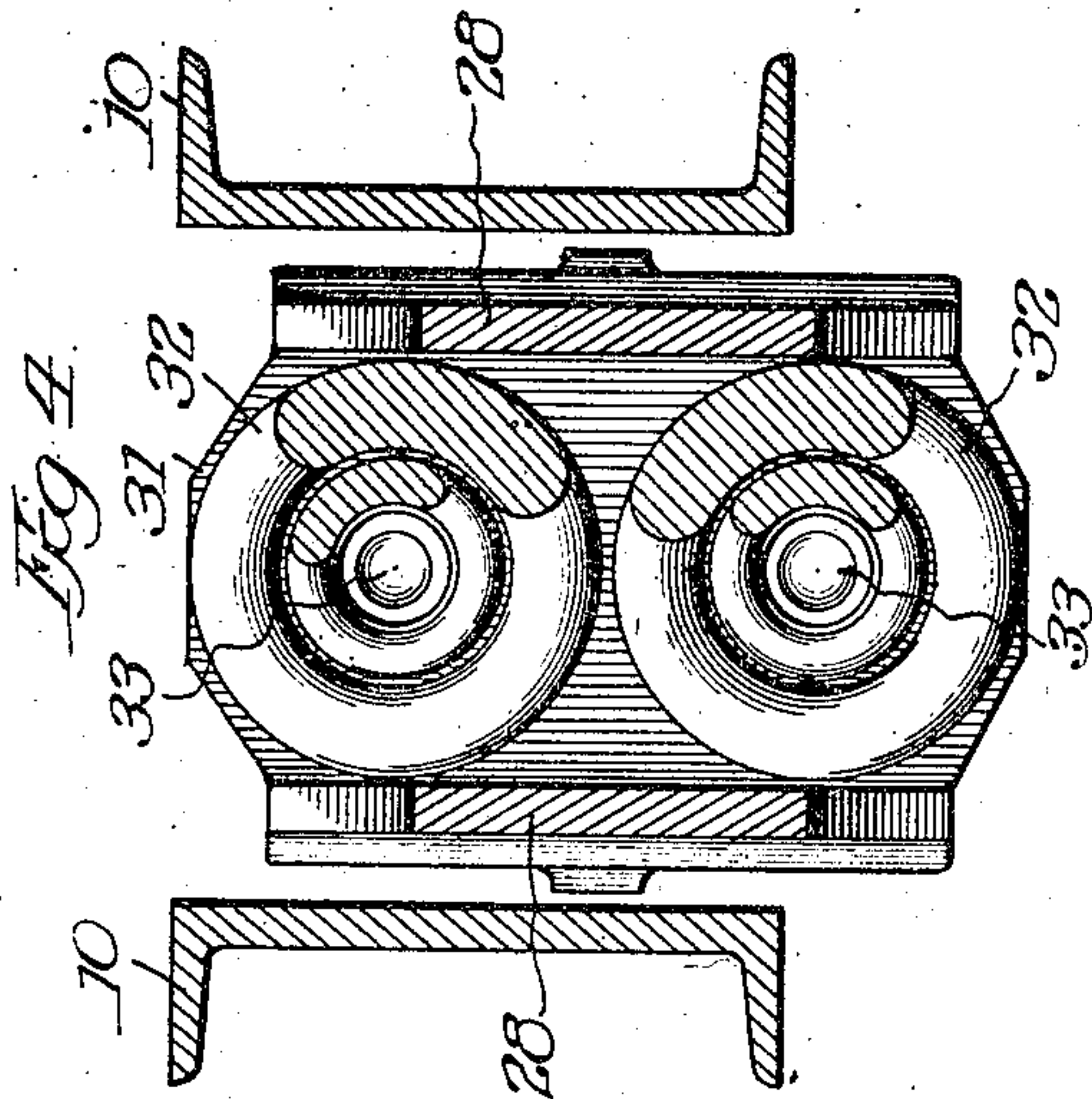
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2 SHEETS—SHEET 2.



Witnesses
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UNITED STATES PATENT OFFICE.

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DRAFT-RIGGING.

1,166,906.

Specification of Letters Patent.

Patented Jan. 4, 1916.

Application filed February 3, 1912. Serial No. 675,228.

To all whom it may concern:

Be it known that I, GEORGE L. HARVEY, a citizen of the United States, and residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Draft-Rigging, of which the following is a specification.

My invention relates to draft rigging for railroad cars and has particular reference to an extremely simple, strong and durable construction, one of the main ideas being that of elimination of loose parts.

Many of the shock absorbing devices at present in use are composed of an unnecessarily large number of parts and are weak in many particulars. The reason for this is found mainly in the lack of space within which to install a high capacity gear and the limitation as to draw-bar travel.

It has been my principal object to so construct my draft rigging that the parts may be few and comparatively heavy in construction without unnecessary added weight, at the same time utilizing the space allowed for such devices.

It has heretofore been suggested that in order to increase the cushioning capacity a plurality of springs be employed. Inasmuch as the space between the center or draft sills is limited these springs have sometimes been placed in tandem and sometimes side by side. However, when placed side by side horizontally, small springs must be used; it has also been suggested that large springs be used and placed side by side in a vertical direction, and it is to this latter type of gear that my improvement is specially directed.

In the claims I have referred to the springs as cushions made in any preferred form.

One of the principal objects of my invention is to construct a draft rigging having a yoke adapted for attachment to a coupler shank by means of a key and which yoke shall have preferably integral therewith the rear follower, usually made separate, and a guide adapted to hold the gear in proper position without additional holding means.

A further object of my invention is to provide a novel casting which shall bridge the space between the draft sills securely tying them together and having an opening within which the guide heretofore referred to may be accommodated.

A further object is the provision of keys both above and below the plane of the yoke, which keys act as stops or abutments taking the place of the ordinary abutments formed on the cheek plates ordinarily riveted to the draft sills. These keys last referred to are provided with reduced ends in order that the springs may be given their initial compression after being located between the sills.

Other and more particular objects will be described hereinafter and pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings, wherein,

Figure 1 is a side elevation partly in section showing a draft gear constructed in accordance with my invention; Fig. 2 is a plan view partly in section; Fig. 3 is a transverse section on the line 3—3 of Fig. 1; Fig. 4 is a similar view on the line 4—4 of Fig. 1, and Fig. 5 is a similar view on the line 5—5 of Fig. 1.

Referring more particularly to the drawings it will be seen that between the draft sills 10, of a railroad car, I mount a substantial tie-block. This member is preferably formed of cast steel and is composed of top and bottom walls 11, side walls 12, and end walls 13. The end opposite that which is closed by the wall 13 is open. The wall 13 is pierced by a rectangular opening 14 having top and bottom strengthening flanges 15 and further strengthening ribs 16. The casting is secured to the sills 10 by means of suitable fastening means such as rivets 17. Forward of the casting just described and attached one to each sill, is a pair of reinforcing castings formed with a body portion 18 and a surrounding strengthening flange 19. A notch 20 provides a seat for a key later to be described and a perforation 21 provides a seat for a further key. At or near the center of the casting I form an elongated slot 22, registering with a slot 23 of similar form in the draft sills 10. These castings just described are securely riveted to the draft sills.

A coupler 24 is held in place by means of carry-iron 25 and the shank of the coupler is provided with a slot 26 in which a key 27 may be inserted. The yoke contemplated by me is preferably composed of a casting, the forward ends 28 being provided with elongated slots 29, through which the key 27 is

passed. This yoke has an end wall which is extended vertically as at 31 to serve as a follower and provide a seat for cushion elements 32. Preferably also I cast with the end wall bosses 33, which shall serve as a spring centering and retaining means. Centrally of the end wall 30 of the yoke and projecting at right angles therefrom is a guide and draft rigging support as best shown in Figs. 1, 2 and 5. This member has a flat bearing portion 34, and a centrally arranged reinforcing rib 35. It will be seen that when the parts are in place the guide permits the reciprocation of the yoke without the possibility of its dislodgment through the failure of bolts and nuts. The forward ends of the cushions 32 are seated against the follower 36, this follower abutting against keys 37, 38, seated respectively in slots 20, 21, formed in the side of the casting and draft sills. These keys, as shown in Fig. 2, are reduced at their ends by reason of which the cushions may be given initial compression after being placed.

It will be noted that in my construction the yoke is under strain only during pulling and that under buffing strain the yoke is inactive except, of course, that its rear wall forms the seat for the cushion. When the limit of compression has been reached the strain is transferred from the cushions to the key 27, thence to the sills. Thus in buffing none of the shocks are received by the side arms of the yoke.

It will also be noted that by my arrangement I have provided under extreme pulling strain for the resistance of three keys whereas in the buffing I have the resistance of one key and an extremely rigid stop casting which bridges and ties together the draft sills.

In assembling, the springs, front follower and yoke may be placed between the sills, the guide member 34 being caused to register with the opening 14, then forced rearwardly until the rear of the yoke abuts the casting. The keys 37, 38 are then driven into place thus putting the cushions under initial compression. The draw-bar is then located and the large key 27 driven home. It will be understood, of course, that the keys described have suitable retaining devices such as the

cotters 39 or bolts 40. It will be seen that by this arrangement the draw-bar may be removed at any time without disturbing the draft rigging. Thereafter, of course, if desired, the draft rigging may be removed by removing the key 38 and forcing the yoke forward or until the guide 34 is free of the stop casting.

It will be obvious that by the construction described I secure a draft rigging having a minimum number of parts, one which is of strong and durable construction and which may be readily removed if desired. A particular advantage is that even if the draw-bar key 27 should become lost or broken, the draft rigging could not fall.

It will also be obvious that while I have shown my key stops or abutments as passing through the sills of the car, they might be advantageously arranged in connection with separate draft or sub-sills in cars requiring such construction.

It is further obvious that modifications in the exact construction herein shown and described may be made, all without departing from the spirit of my invention.

I claim:

1. In a draft rigging, the combination with a draw-bar and yoke, of means for operatively connecting the draw-bar and yoke, a follower, and endwise movable follower stops comprising keys arranged transversely of the draw-bar and above and below the shank thereof and engaging the draft members, substantially as described.

2. In a draft rigging, a pair of members secured to and having portions projecting below the sills and a transverse abutment supported at each end in the underhung portions of said members, said abutment acting as a stop for a draft rigging front follower, substantially as described.

3. In a draft gear, the combination of a horizontal yoke, a front follower slidably mounted in said yoke, and a pair of front stops in the form of removable keys, one positioned above and the other below said horizontal yoke, substantially as described.

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