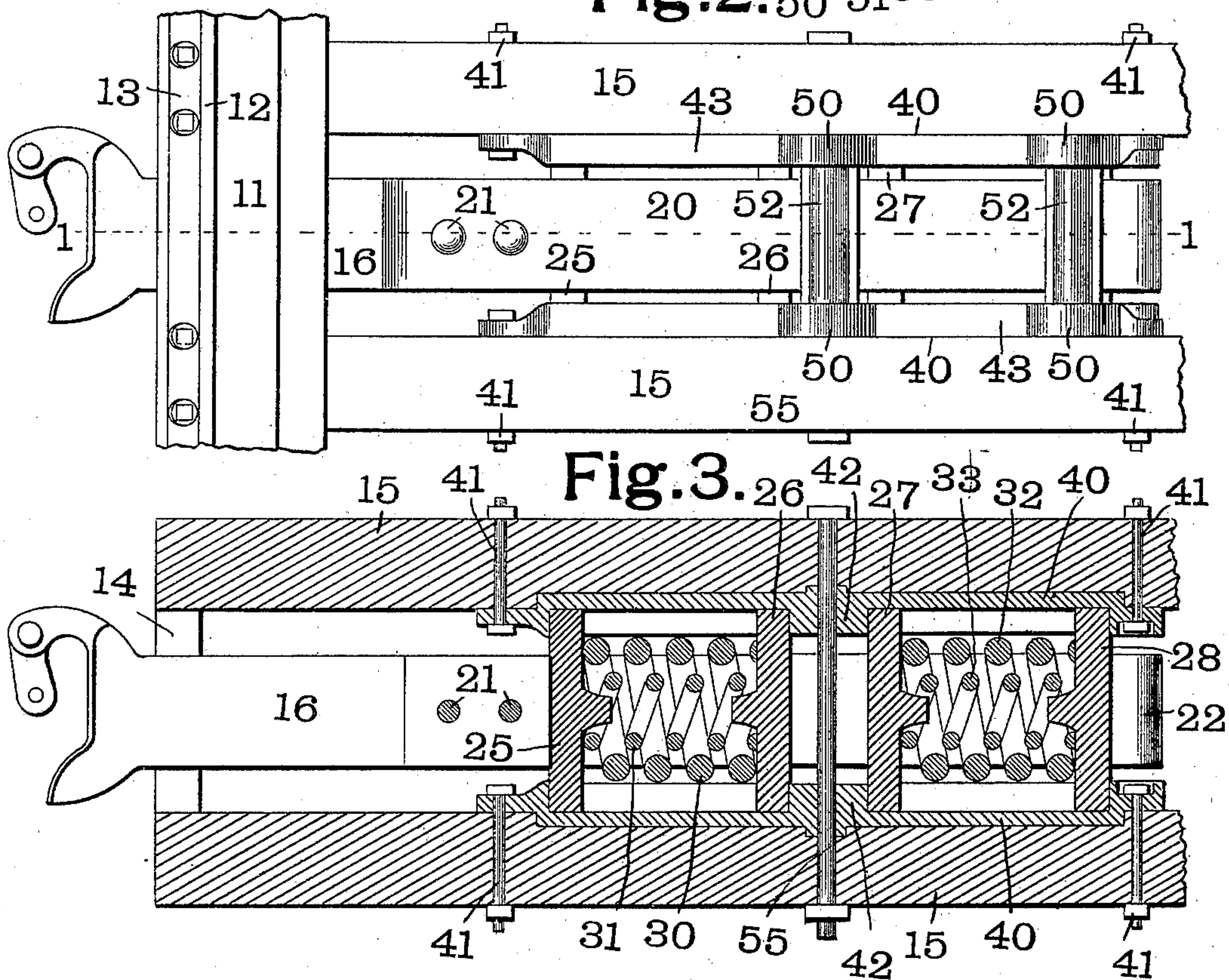
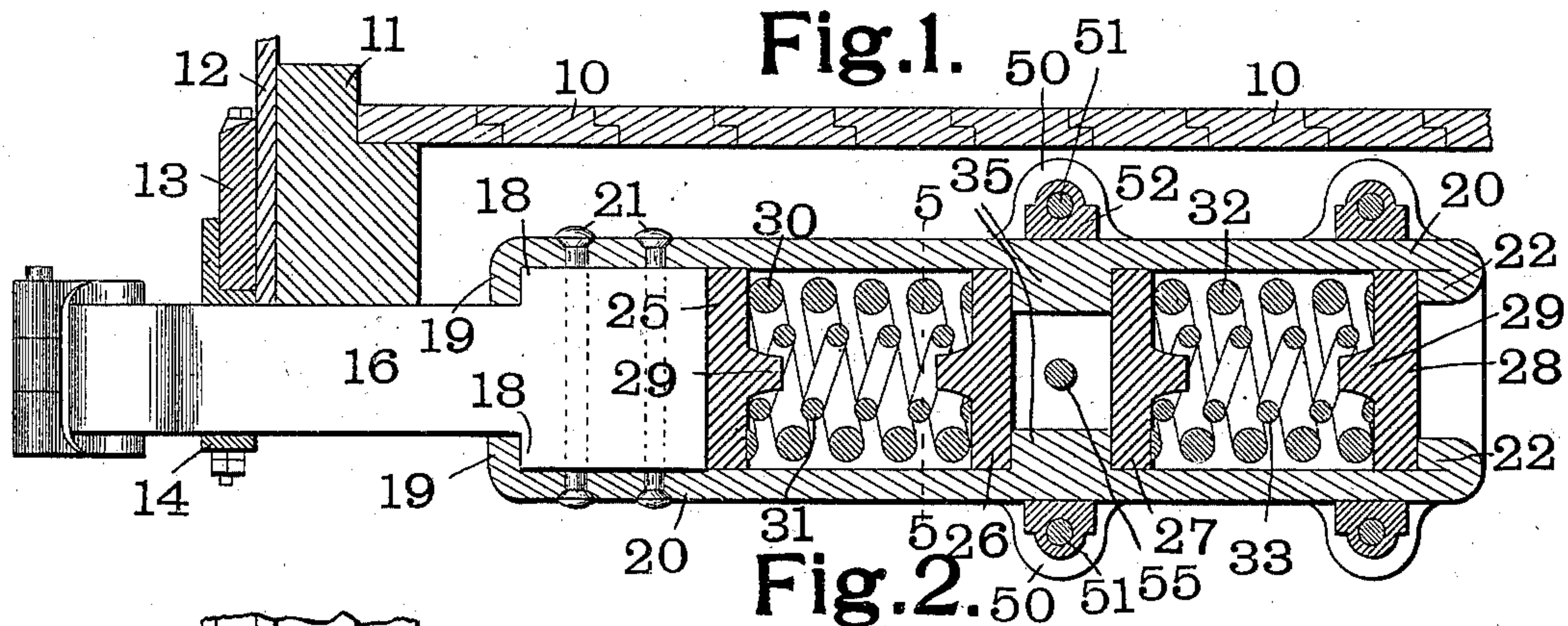


L. A. HOERR.  
DRAFT RIGGING.

(Application filed Jan. 12, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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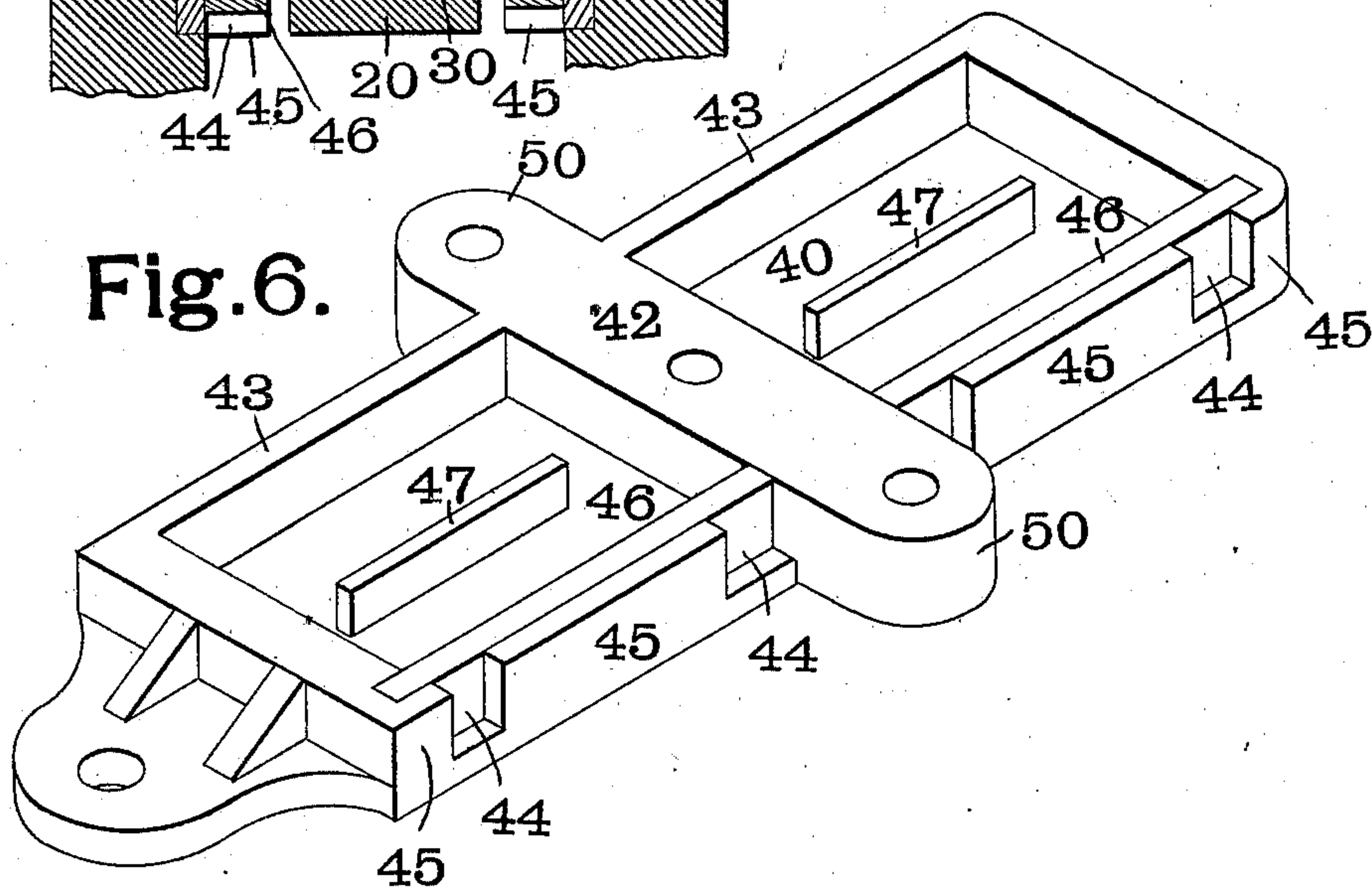
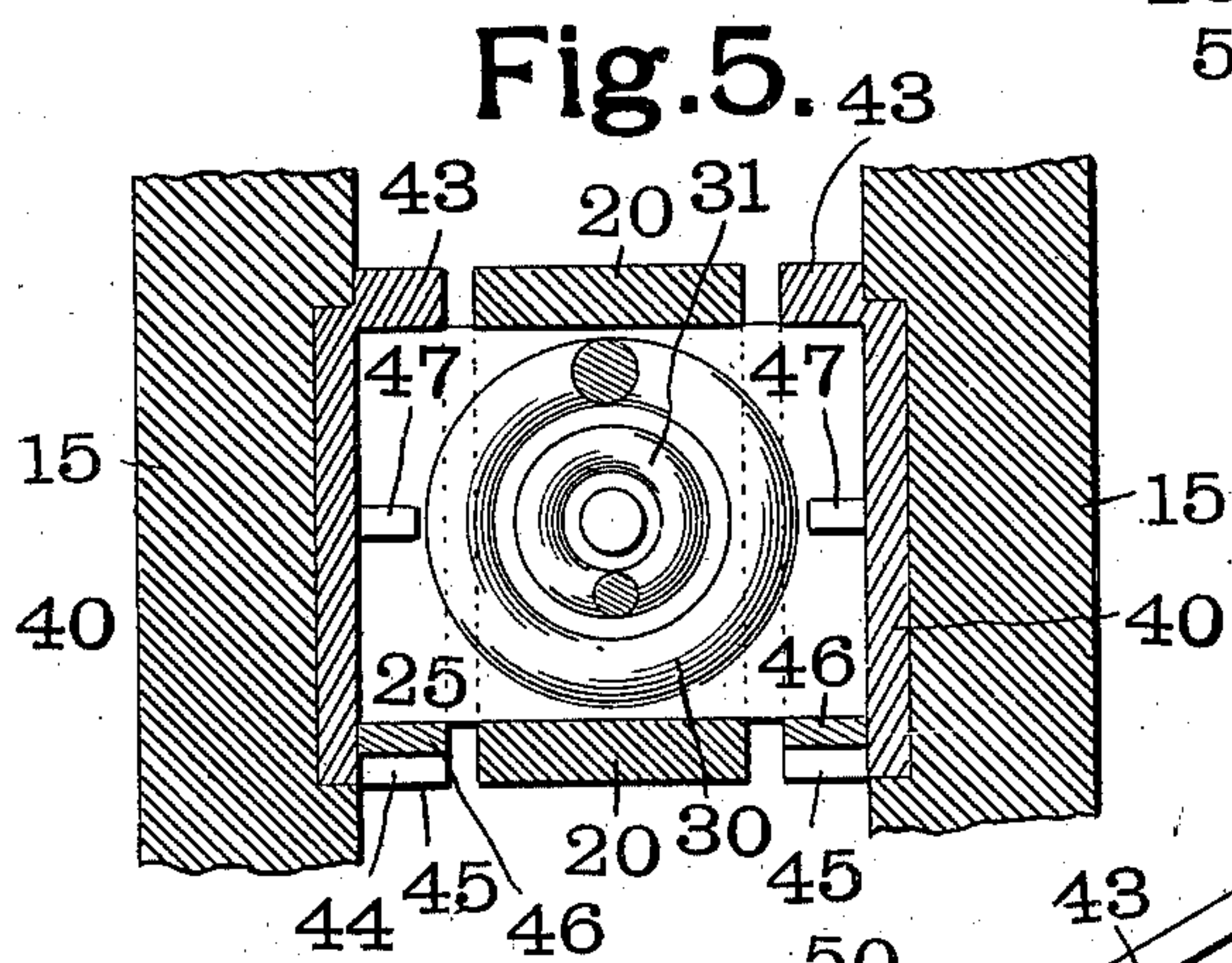
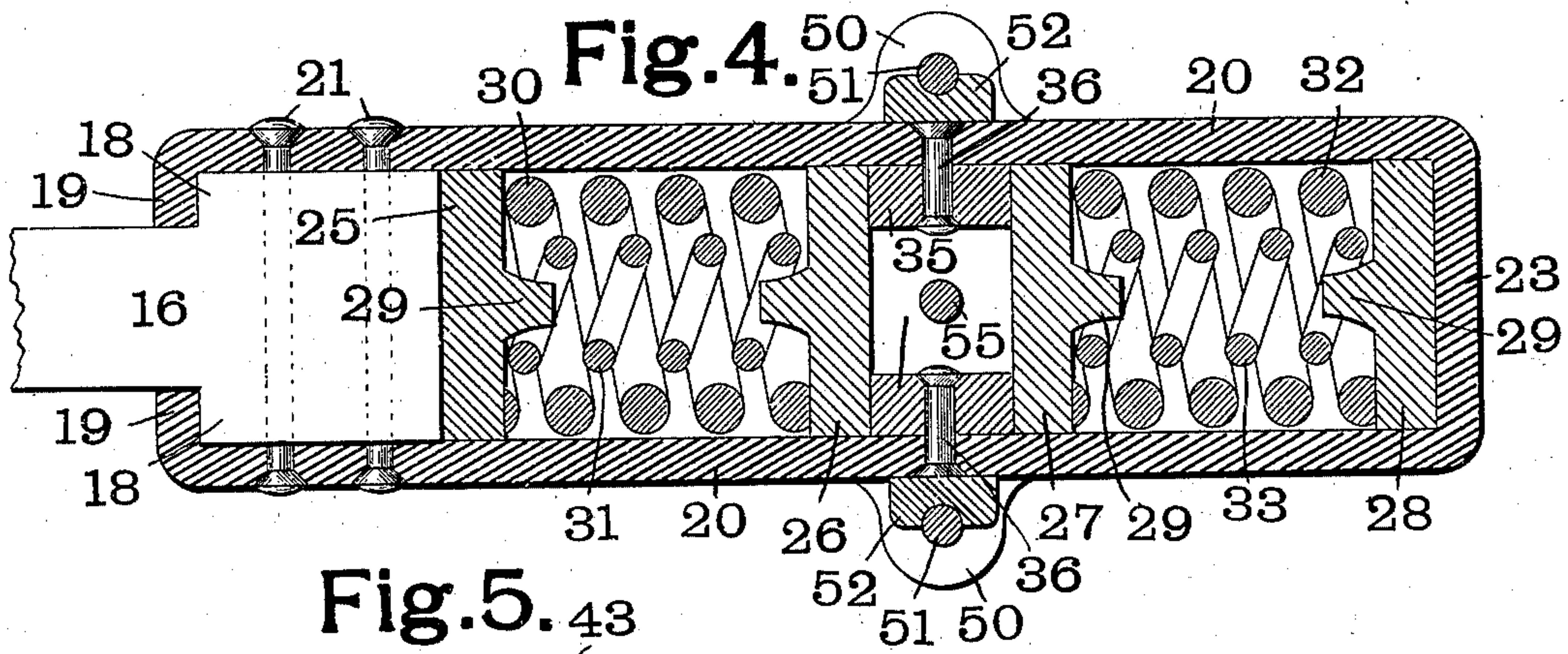


L. A. HOERR.  
DRAFT RIGGING.

(Application filed Jan. 12, 1901.)

(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

LOUIS A. HOERR, OF ST. LOUIS, MISSOURI.

## DRAFT-RIGGING.

SPECIFICATION forming part of Letters Patent No. 692,200, dated January 28, 1902.

Application filed January 12, 1901. Serial No. 42,970. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS A. HOERR, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have  
5 invented a certain new and useful Draft-Rigging, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference  
10 being had to the accompanying drawings, forming part of this specification.

My invention relates to draft-rigging for railway-cars, and more particularly to that class of draft-rigging known as "tandem" or  
15 "double-spring" draft-rigging.

The principal object of my invention is to  
20 so construct a draft-rigging of the class referred to that through-bolts passing through the straps may be dispensed with, thus avoiding the weakening of the straps and breakage of the bolts.

Another object of my invention is to provide improved means for securing the removable part of the guide-plate in position.

25 Still another object of my invention is to provide improved means for preventing the spreading of the straps.

My invention consists in part in the combination, with a draw-bar, of a pair of straps  
30 carried thereby, follower-plates between said straps, draft-springs between said follower-plates, and a pair of stops carried by said straps and bearing against said follower-plates.

35 My invention also consists in part in the combination, with a draw-bar, of a pair of straps carried by said draw-bar, draft-springs and follower-plates between said straps, a pair of guide-plates for said follower-plates, removable bars supporting said follower-plates,  
40 and supports carried by said guide-plates for supporting said removable bars.

My invention also consists in part in the combination, with a draw-bar, of a pair of  
45 straps carried thereby, follower-plates between said straps, draft-springs between said follower-plates, a pair of guide-plates for said follower-plates, and means carried by said guide-plates for preventing the spreading of  
50 said straps.

My invention also consists in various other novel features and details of construction, all

of which are described in the following specification, and pointed out in the claims affixed hereto.

In the accompanying drawings, which illustrate a draft-rigging made in accordance with my invention, Figure 1 is a vertical longitudinal section on the line 1 1 of Fig. 2. Fig. 2 is a top plan view. Fig. 3 is a horizontal  
60 longitudinal section. Fig. 4 is a vertical longitudinal section, on an enlarged scale, showing some modifications of construction. Fig. 5 is an enlarged section on the line 5 5 of Fig. 1, and Fig. 6 is an isometric projection of one  
65 of the guide-plates.

Like marks of reference refer to similar parts in the several views of the drawings.

10 is the car-decking; 11, the end sill; 12, the sheathing; 13, the dead-wood; 14, the  
70 coupler-bearing.

15 represents the draft-timbers, and 16 the draw-bar.

The above-described parts are of the usual construction. The draw-bar 16 is provided  
75 with shoulders 18, against which rest the downturned ends 19 of a pair of straps 20. The straps 20 are secured to the draw-bar 16 by means of rivets or bolts 21. The ends of the straps 20 may be turned over to form  
80 straps 22, as shown in Figs. 1 and 3, or the two straps may be connected by an integral portion 23, as shown in Fig. 4. Between the straps 20 are four follower-plates 25, 26, 27, and 28, respectively. Each of the follower-  
85 plates is provided with a central boss 29. The follower-plates are arranged in two pairs, the plates 25 and 26 forming one pair and the plates 27 and 28 the other pair. Between the plates 25 and 26 is a draft-spring 30 and an  
90 auxiliary draft-spring 31, and between the plates 27 and 28 is a draft-spring 32 and an auxiliary draft-spring 33. The auxiliary draft-springs 31 and 33 surround the bosses 29 and the draft-springs 30 and 32 surround  
95 the auxiliary springs 31 and 33. Between the follower-plates 26 and 27 are two stops 35, carried by the straps 20. These stops 35 are preferably formed integral with the straps 20, as  
100 shown in Fig. 1. They may, however, be secured to the said straps by means of bolts or rivets 36, as shown in Fig. 4. In case the stops 35 are formed integral with the straps, as shown in Fig. 1, all weakening of the straps



by means of through-bolts, such as have heretofore been used to transmit the strain from the straps to the springs, is prevented. While the use of bolts or rivets, as shown in Fig. 4, will somewhat weaken the straps, still it contains many of the valuable features of my invention, because these bolts or rivets are not subjected to a shearing strain, as a through-bolt would be subjected to when for any reason, such as unevenness of the parts, one of the straps has a greater strain exerted upon it than the other.

40 represents two guide-plates which are secured to the draft-timbers 15 and preferably set in the said timbers a slight distance, as shown in Fig. 3. The guide-plates 40 are held in position against the draft-timbers 15 by means of bolts 41, in the usual manner. The guide-plates 40 receive the ends of the follower-plates 25, 26, 27, and 28, as best shown in Fig. 3. The plates 25 and 28 bear against the ends of the guide-plates, while the plates 26 and 27 bear against columns 42, preferably formed integral with the said guide-plates. The follower-plates are held in the guide-plates at the top by means of flanges 43. It has been usual heretofore to provide the lower sides of the guide-plates with similar flanges, which are made removable to allow the insertion of the follower-plates, these removable flanges being held in position by means of bolts. These bolts, however, are liable to become broken, as the nuts work loose, thus allowing the follower-plates and springs to drop out of the draft-rigging. In my construction I provide the guide-plates with integral flanges below, which are provided with openings 44, Fig. 6, to allow the insertion of the follower-plates, thus leaving one or more integral supports 45, which support the movable plates or bars 46, on which the follower-plates move. The guide-plates 40 are also preferably provided with ribs 47, Figs. 5 and 6, which prevent lateral movement of the draft-springs 30 and 32. The guide-plates 40 are provided with lugs 50, through which pass bolts 51. The bolts 51 are provided with guide-bars 52, which bear against the straps 20. These guide-bars 52 may either entirely surround the bolts 51, as shown in Figs. 1 and 2, or they may be simply provided with a groove, in which the bolts 51 lie, as shown in Fig. 4. In case the straps 20 are formed separately, as shown in Fig. 1, I prefer to use two of these bolts and guide-bars above and two below the straps. If, however, the straps are formed integral, as shown in Fig. 4, the rear guide-bars and bolts may be dispensed with, as the integral bar 23 will hold the rear ends of the straps from being forced apart. I preferably pass through both the guide-plates 40 and the draft-timbers 15 a central through-bolt 55 to aid the bolts 41 in holding the said guide-plates in position.

In assembling the parts of my draft-rigging the follower-plates with the springs between them are first forced up through the open-

ings 44 in the lower side of the guide-plates 43, and the plates or bars 46 are then inserted, thus holding the said follower-plates and springs in position. The straps may then be placed in position and the bolts 51 and guide-bars 52 applied to hold the straps in position. The construction of my draft-rigging not only prevents weakening of the straps by means of through-bolts to communicate the strain from them to the springs, but it also has other valuable features. One of these is that when pressure is applied against the draw-bar the tendency of the straps is to spread. This forces the straps firmly against the guide-bars 52, thus causing great friction between the straps and guide-bars. This friction tends to resist the pressure, and thus aids the springs, so that the draft-rigging can resist a greater pressure in proportion to the size of the springs than one of ordinary construction.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a draft-rigging, the combination with a draw-bar, of a pair of straps carried thereby, a pair of follower-plates between said straps, draft-springs bearing against said follower-plates, and a stop carried by each of said straps and situated between said follower-plates.

2. In a draft-rigging, the combination with a draw-bar, of a pair of straps carried thereby, a pair of follower-plates between said straps, draft-springs between said follower-plates, and a stop formed integral with each of said straps and arranged between said follower-plates.

3. In a draft-rigging, the combination with a draw-bar, of a pair of straps carried thereby and unconnected at or near their central parts, a pair of stops carried by said straps at or near their central parts, a pair of follower-plates between said straps and bearing against said stops, and draft-springs bearing against said follower-plates.

4. In a draft-rigging, the combination with a draw-bar, of a pair of straps carried thereby and unconnected at or near their central parts, a pair of stops formed integral with said straps at or near their central parts, a pair of follower-plates bearing against said stops, and draft-springs bearing against said follower-plates.

5. In a draft-rigging, the combination with a draw-bar, of a pair of straps carried thereby and unconnected at or near their central parts, a pair of stops carried by said straps at or near their central parts, a pair of follower-plates bearing against said stops, draft-springs bearing against said follower-plates, and means for preventing said straps from spreading at or near their central parts.

6. In a draft-rigging, the combination with a draw-bar, of a pair of straps carried thereby, follower-plates between said straps, draft-springs arranged between said follower-



plates, guide-plates for said follower-plates, and means carried by said guide-plates for preventing the spreading of said straps at or near their central portions.

5 7. In a draft-rigging, the combination with a draw-bar, of a pair of straps carried thereby, follower-plates between said straps, draft-springs between said follower-plates, guide-plates for said follower-plates, and bolts connecting said guide-plates for preventing the  
10 spreading of said straps at or near their central portions.

8. In a draft-rigging, the combination with a draw-bar, of a pair of straps carried thereby, 15 follower-plates between said straps, draft-springs between said follower-plates, a pair of guide-plates for said follower-plates, bolts connecting said guide-plates, and guide-bars between said bolts and straps for preventing  
20 the spreading of said straps.

9. In a draft-rigging, the combination with a draw-bar, of a pair of straps carried thereby, follower-plates between said straps, draft-springs between said follower-plates, and a  
25 pair of pivotally-mounted members, one above and the other below said straps, for clamping said straps.

10. In a draft-rigging, the combination with a draw-bar, of a pair of straps carried thereby, 30 follower-plates between said straps, draft-springs between said follower-plates, a pair

of guide-plates for said follower-plates, a pair of pivotally-mounted members, one below and the other above said straps, carried by said guide-plates and clamping said straps.

11. In a draft-rigging, the combination with a draw-bar, of a pair of straps carried thereby, follower-plates between said straps, draft-springs between said follower-plates, a pair of guide-plates for said follower-plates, bolts 35 connecting said guide-plates, and guide-bars between said bolts and straps and rotatably around said bolts for clamping said straps.

12. In a draft-rigging, the combination with a draw-bar, of a pair of straps carried thereby, 45 draft-springs and follower-plates between said straps, guide-plates for said follower-plates, columns dividing each of said guide-plates into two compartments, a pair of lugs intermediate of the length of each guide-plate on the lower side, and a pair of sup-  
50 porting-plates for each guide-plate carried by said lugs and free to be removed laterally from said guide-plates.

In testimony whereof I have hereunto set 55 my hand and affixed my seal in the presence of the two subscribing witnesses.

LOUIS A. HOERR. [L. S.]

Witnesses:

JAMES H. BRYSON,  
JESSIE R. WATKINS.