

No. 693,334.

Patented Feb. 11, 1902.

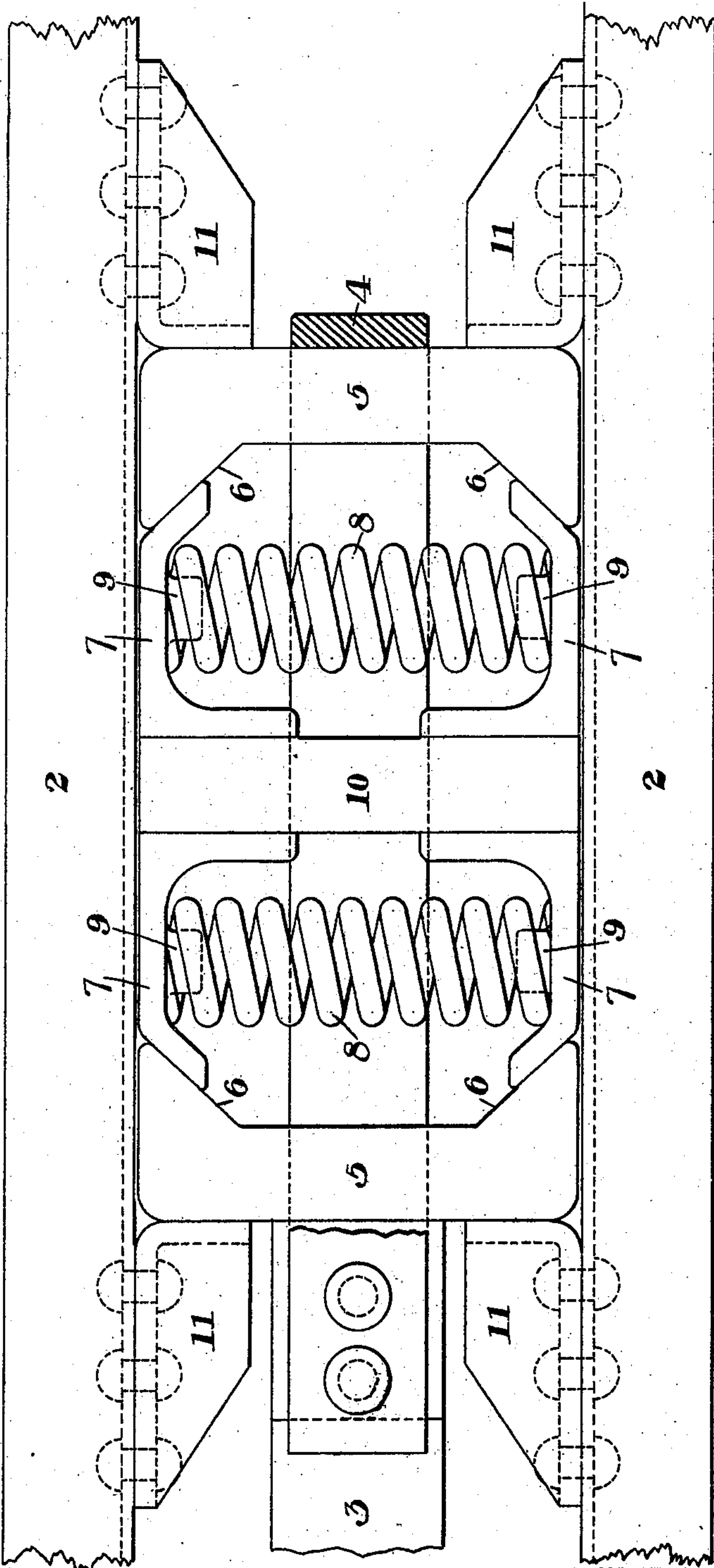
W. M. PIPER.
DRAFT RIGGING.

(Application filed Jan. 16, 1901. Renewed Aug. 17, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



WITNESSES

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2 Sheets—Sheet 2.

Fig. 3.

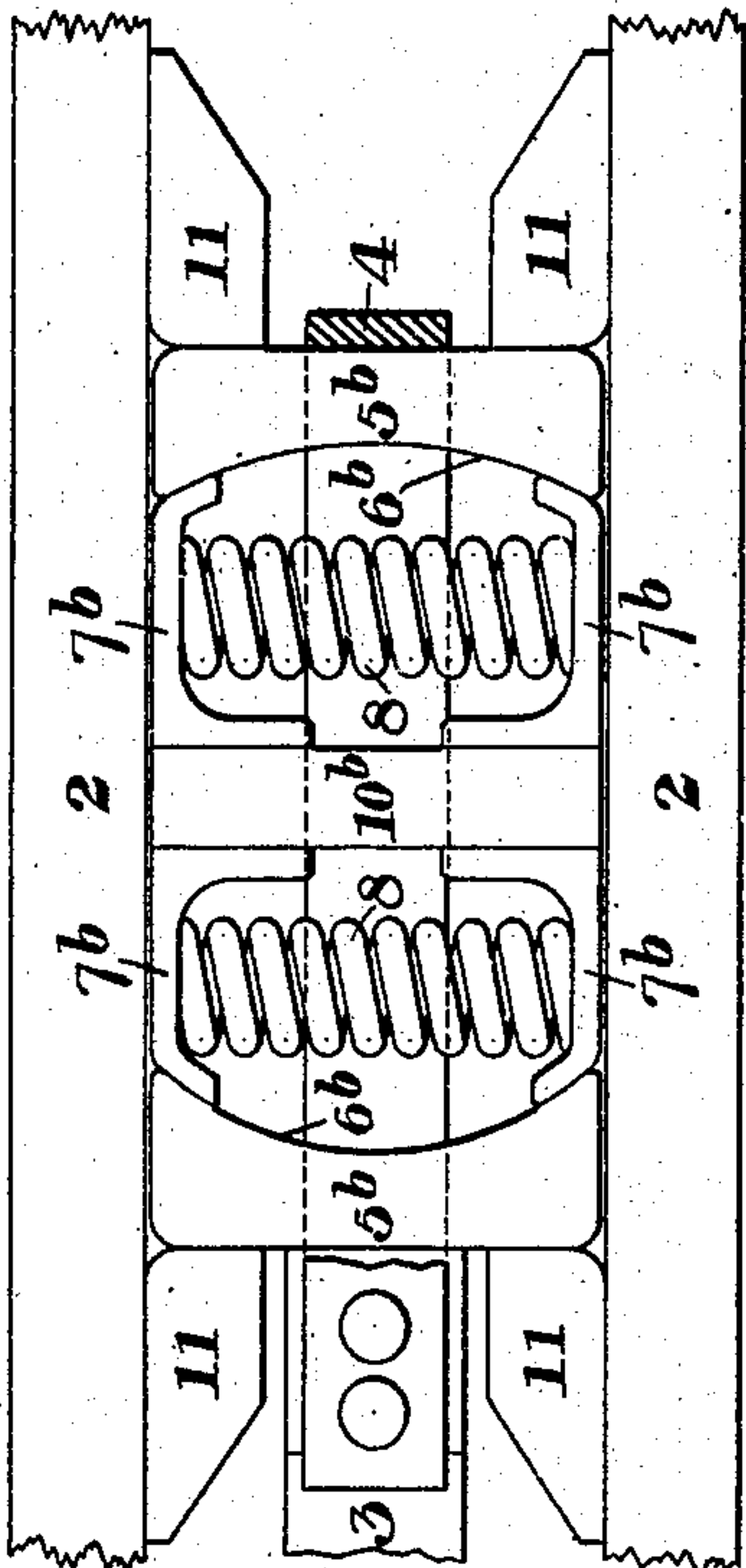
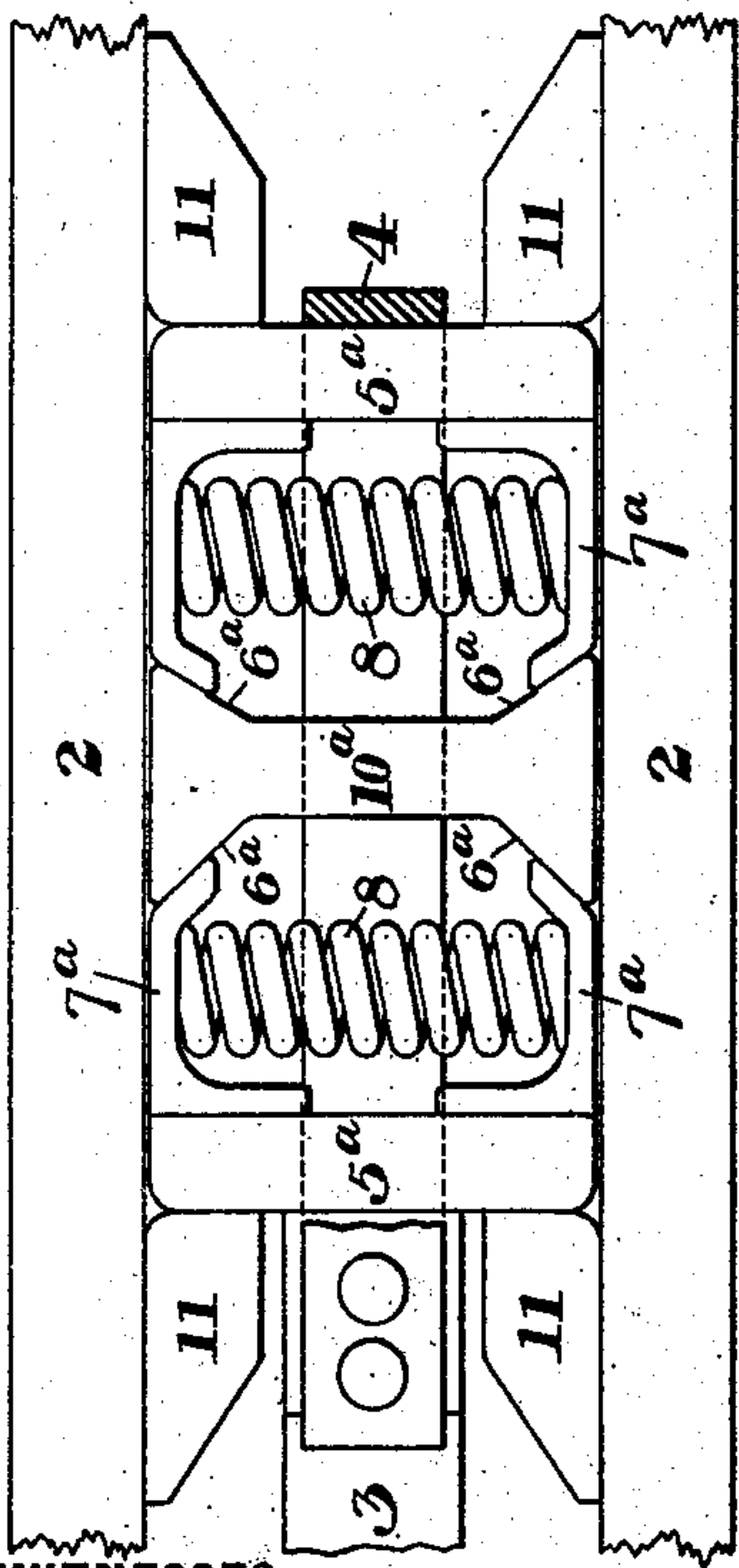


Fig. 2.



WITNESSES

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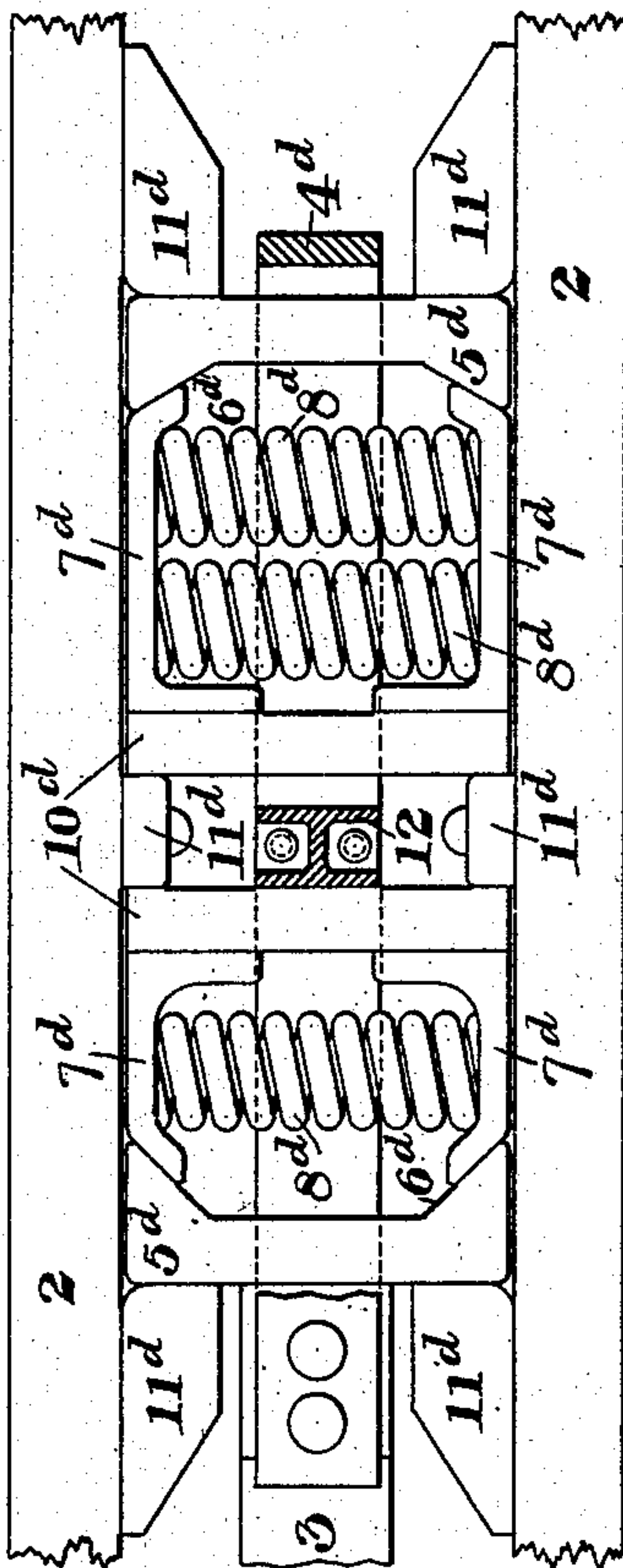


Fig. 5.

Fig. 4.

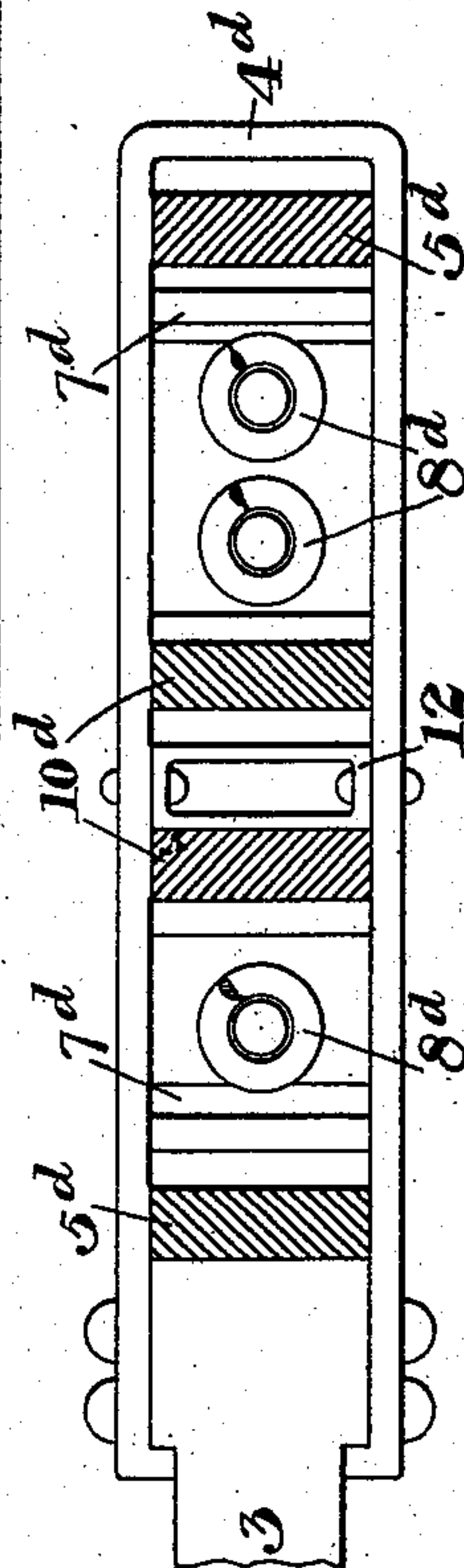
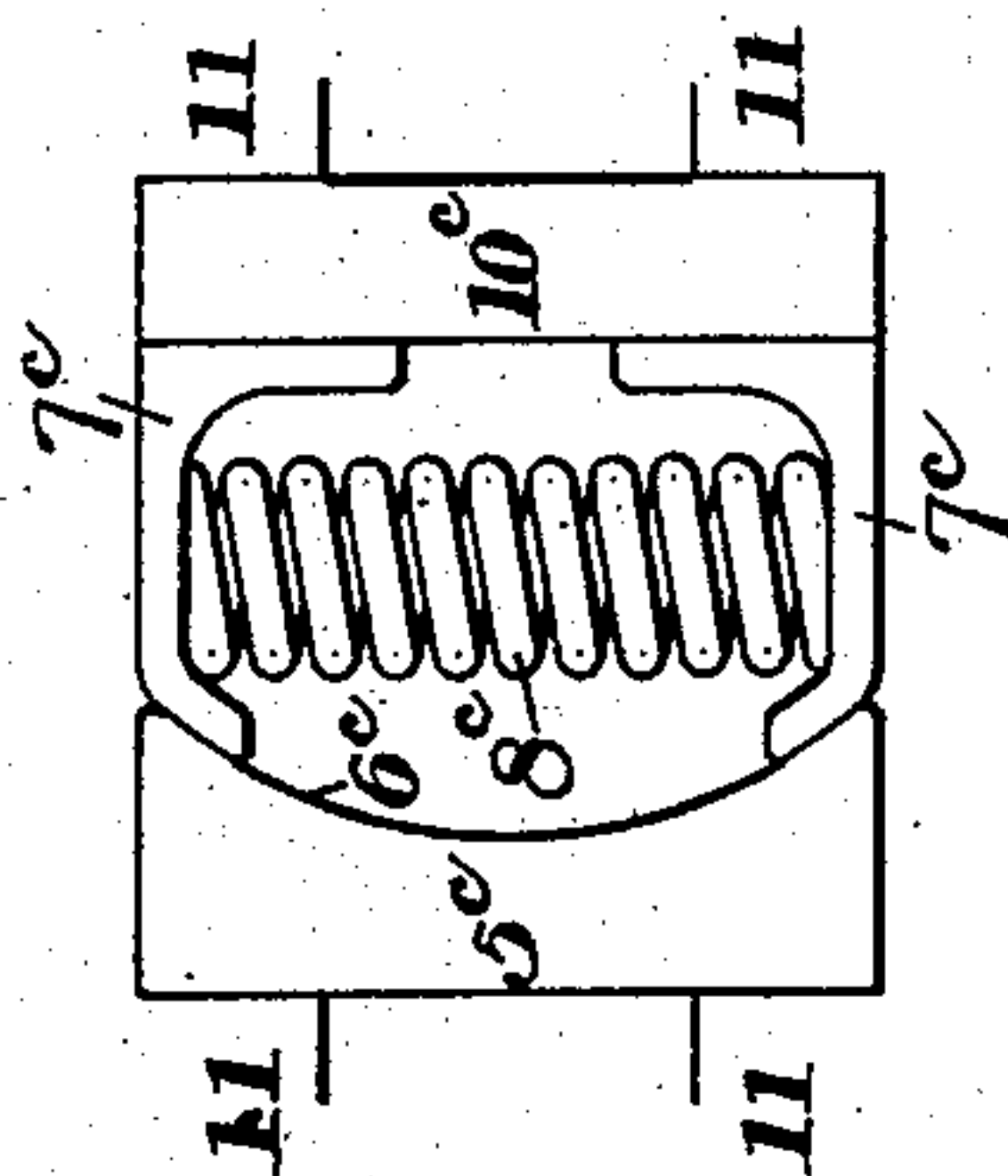


Fig. 6.

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UNITED STATES PATENT OFFICE.

WILLIAM MORGAN PIPER, OF ALLEGHENY, PENNSYLVANIA.

DRAFT-RIGGING.

SPECIFICATION forming part of Letters Patent No. 693,334, dated February 11, 1902.

Application filed January 16, 1901. Renewed August 17, 1901. Serial No. 72,419. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MORGAN PIPER, of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Draft-Rigging, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

10 Figure 1 is a plan view, partly broken away, of a draft-rigging constructed in accordance with my invention. Figs. 2, 3, 4, and 5 are similar views showing modified forms, and Fig. 6 is a longitudinal section of the form of Fig. 5.

15 My invention relates to that class of draft-riggings wherein spring-pressed blocks or parts are actuated by coacting inclined surfaces when a pulling or buffing strain is exerted upon the draw-bar; and its object is to increase the frictional resistance of the device without materially enlarging the space occupied or increasing the number of parts.

20 In the drawings, referring to the form of Fig. 1, 2 2 represent the draft timbers or iron, and 3 the draw-bar having yoke 4. Fitting within the ends of this yoke are the transverse blocks 5 5, having inclined surfaces 6 6, which coact with similar surfaces upon blocks 7 7, which are arranged to slide toward and from each other in plane transverse to the axis of the draw-bar. These blocks 7 are normally forced apart and held in the position shown by springs 8 8, interposed between them and held in position by suitable bosses or projections 9, entering the ends of the spiral spring. Between the two sets of blocks 7 7 is interposed a transverse follower 10, having flat front and rear faces which fit 35 upon the flat end faces of the blocks 7 7.

40 In the operation of the device when a pulling or buffing strain is exerted upon the draw-bar one of the end blocks 5 5, through the inclines 6, forces the blocks 7 7 inwardly against the friction of the inclined surfaces and resistance of the springs, and this one set of blocks 7, sliding over the flat face of the follower 10, gives an increased frictional resistance. At the same time the follower 10 is 45 forced along and, pressing upon the other set of blocks 7 7, causes them to move inwardly under the same resistances as the first set.

A strong frictional resistance is thus afforded, and when the strain is removed the springs force the parts back to their normal position, 55 with the blocks 5 resting against the stops 11, secured to the draft-irons.

In the form of Fig. 2 the end blocks 5^a are made with flat transverse faces, and the follower 10^a is provided with the inclined faces 60 6^a, coacting with similar faces on the end blocks 7^a. The action in this form is similar to that of the first form, the blocks 7^a moving inwardly on the inclined surfaces at one end, their other flat faces sliding over the flat 65 faces of the end blocks 5^a.

In the form of Fig. 3 the end blocks 5^b are provided with curved faces 6^b instead of flat inclines, the parts being otherwise similar to those of Fig. 1.

70 In Fig. 4 I show a simple form, in which a single end block 5^c is used with a single set of blocks 7^c and a single follower 10^c. In this form the pulling strain will act through one of the blocks 5^c or 10^c upon the blocks 7^c, 75 while buffing strain will act through the other of said blocks. The blocks 7^c are moved inwardly against the action of the springs 8^c and the frictional resistance between its flat faces and the block 10^c and the curved faces 80 and the block 5^c.

In the form of Figs. 5 and 6 I show the parts arranged to act in succession, the one set of blocks moving a certain distance before the other blocks are acted upon. In this 85 form I employ two followers 10^d, between which is placed a stop 12, which is secured at its top and bottom to the yoke 4^d, as shown in Fig. 6. In this form I have also shown two springs 8^d between the rear set of blocks 90 7^d and one spring between the front set of blocks 7^d, though this may be varied as desired. In this form the stops 11^d are so placed that in the normal position of the parts the end blocks 5^d are held a short distance inside 95 the abutting ends of the yoke 4^d, so that the yoke will move a certain distance in either direction before one of its ends acts upon one of the end blocks 5^d. In the operation of this form the buffing or pulling strain first 100 acts through the facing block or stop 12 and through one of the followers 10^d, which actuates one set of blocks 7^d. After a certain endwise movement of the yoke the end of

5 this yoke contacts with the other of the blocks
5^d than that coacting with the blocks 7^d first
actuated, and the yoke thus brings the sec-
ond set of blocks into play at a determined
interval after the first set. The strain is thus
taken up gradually, while the system is still
simple and of comparatively few parts.

10 The advantages of my invention will be ap-
parent to those skilled in the art since an
increased frictional resistance is afforded by
reason of the flat-face followers without com-
plicating or increasing materially the expense
of the rigging. Moreover, by the use of the
forms of Figs. 5 and 6 or similar form a suc-
cessive action of the sets is afforded.

15 Many changes may be made in the form and
arrangement of the parts without departing
from my invention.

I claim—

20 1. In a draft-rigging, a transverse movable
block having inclined surfaces, a pair of
blocks having inclined surfaces coacting
therewith and movable toward and from each
other, a flat-face transverse follower bearing
25 upon flat opposite end faces of the pair of
movable blocks, and a spring to retain a pair

of blocks in their normal position; substan-
tially as described.

2. In a draft-rigging, a pair of transversely-
extending blocks, and an intermediate trans- 30
verse follower between them, at least one of
said parts having inclined actuating faces,
pairs of blocks arranged to move toward and
from each other, and having inclined faces co-
acting with the inclined faces before men- 35
tioned, and having also flat transverse fric-
tion-faces, and springs arranged to hold the
pairs of blocks in normal position; substan-
tially as described.

3. A draft-rigging having two sets of spring- 40
pressed friction-block devices, a yoke sur-
rounding said devices, and a spacer-block be-
tween the devices and secured to the yoke,
said spacer-block being arranged to actuate
one set of blocks before the yoke acts upon 45
the second set; substantially as described.

In testimony whereof I have hereunto set
my hand.

WILLIAM MORGAN PIPER.

Witnesses:

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WARREN W. SWARTZ.