

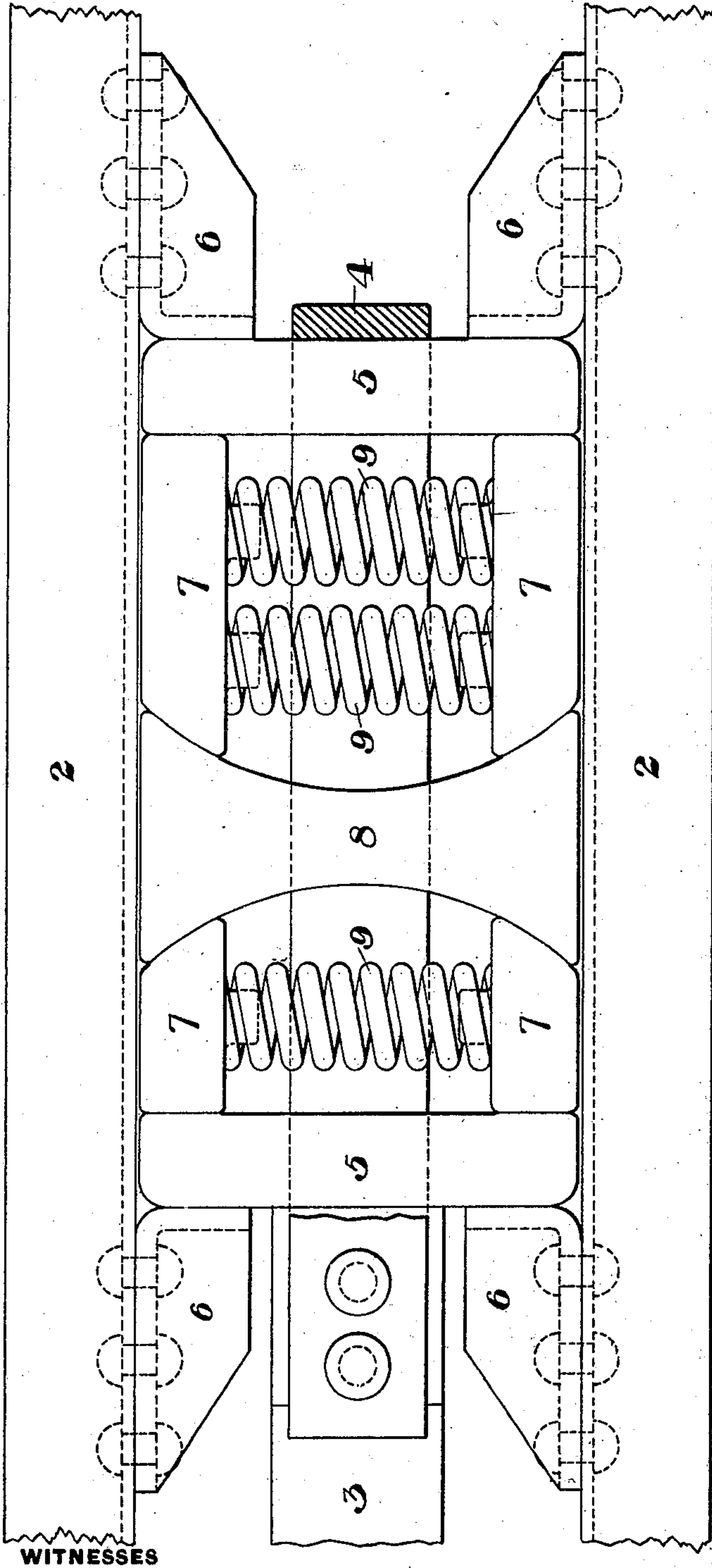
W. M. PIPER.  
DRAFT RIGGING.

(Application filed Jan. 16, 1901. Renewed Sept. 12, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



WITNESSES

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Fig. 8.

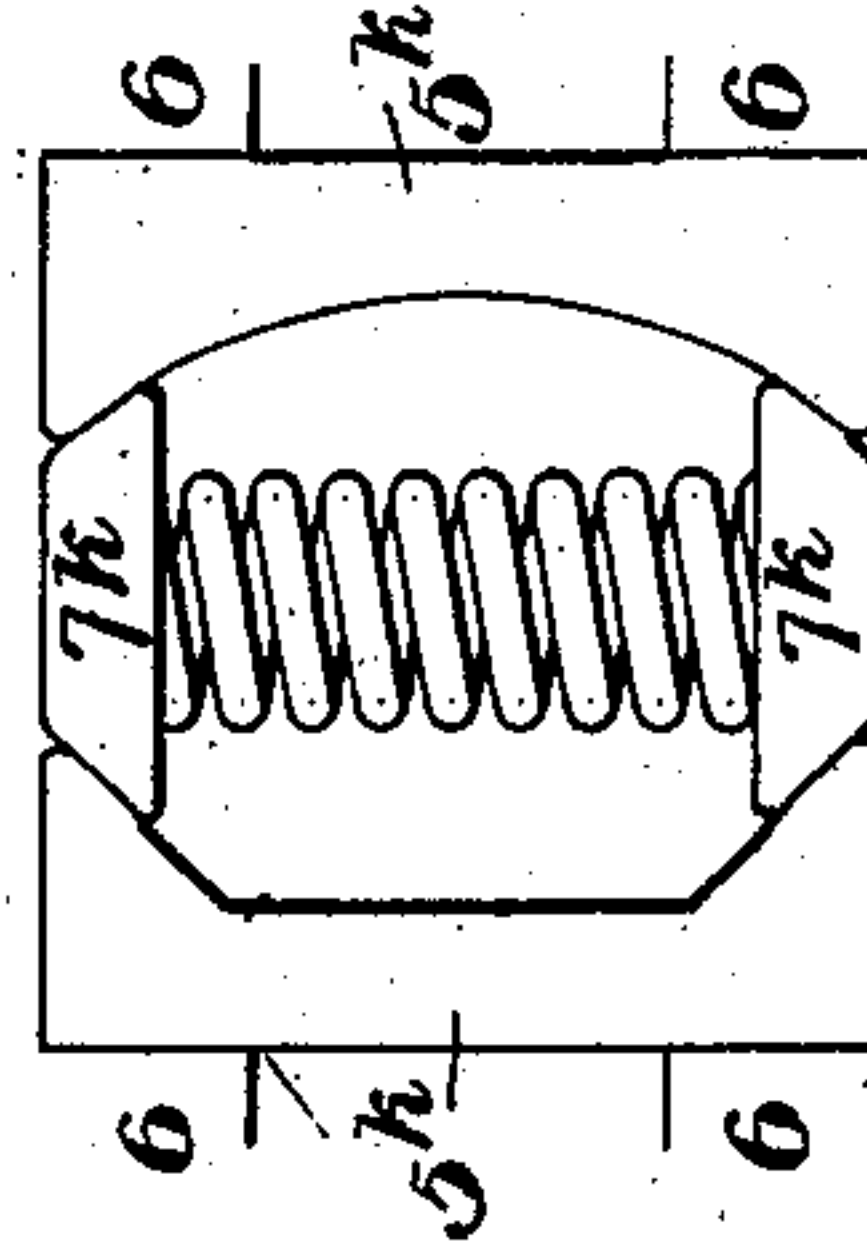


Fig. 7.

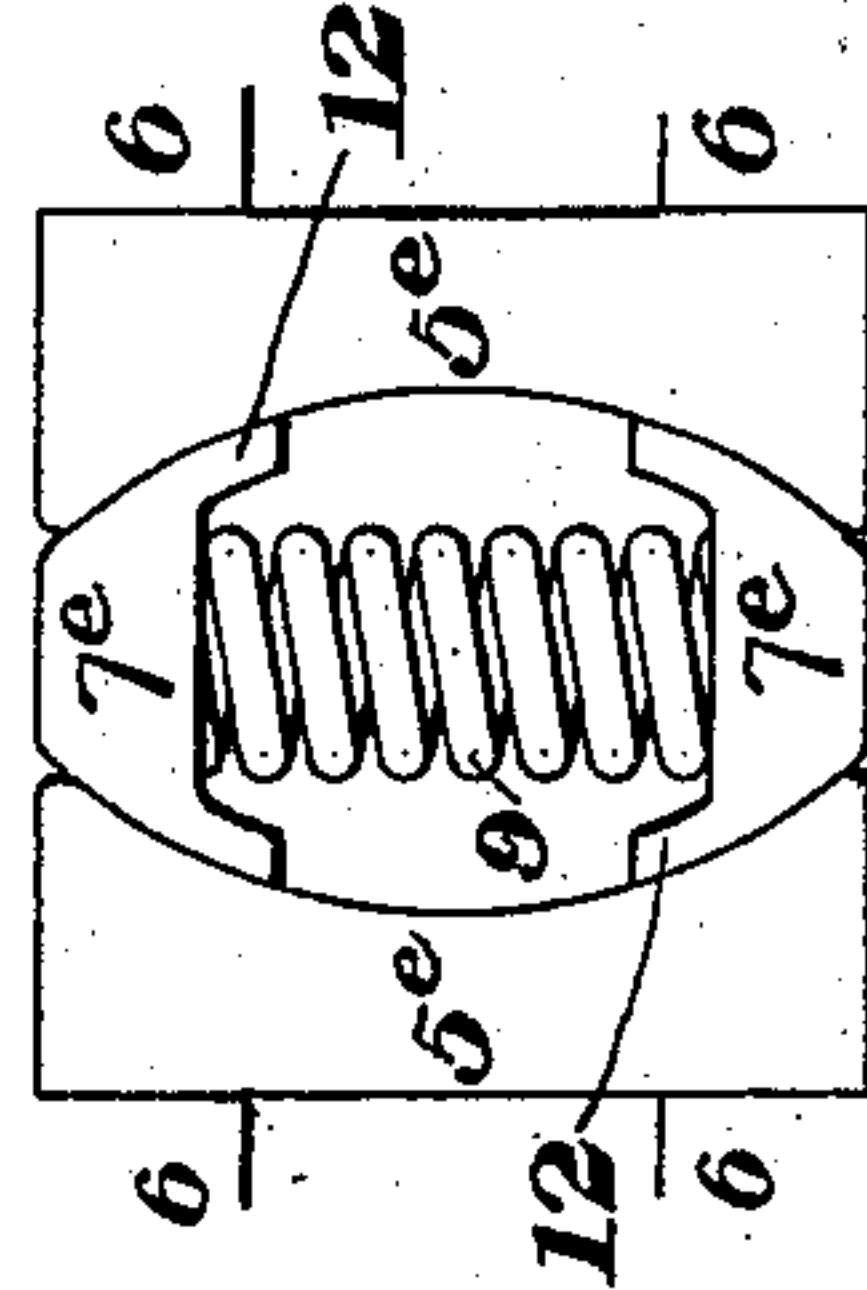
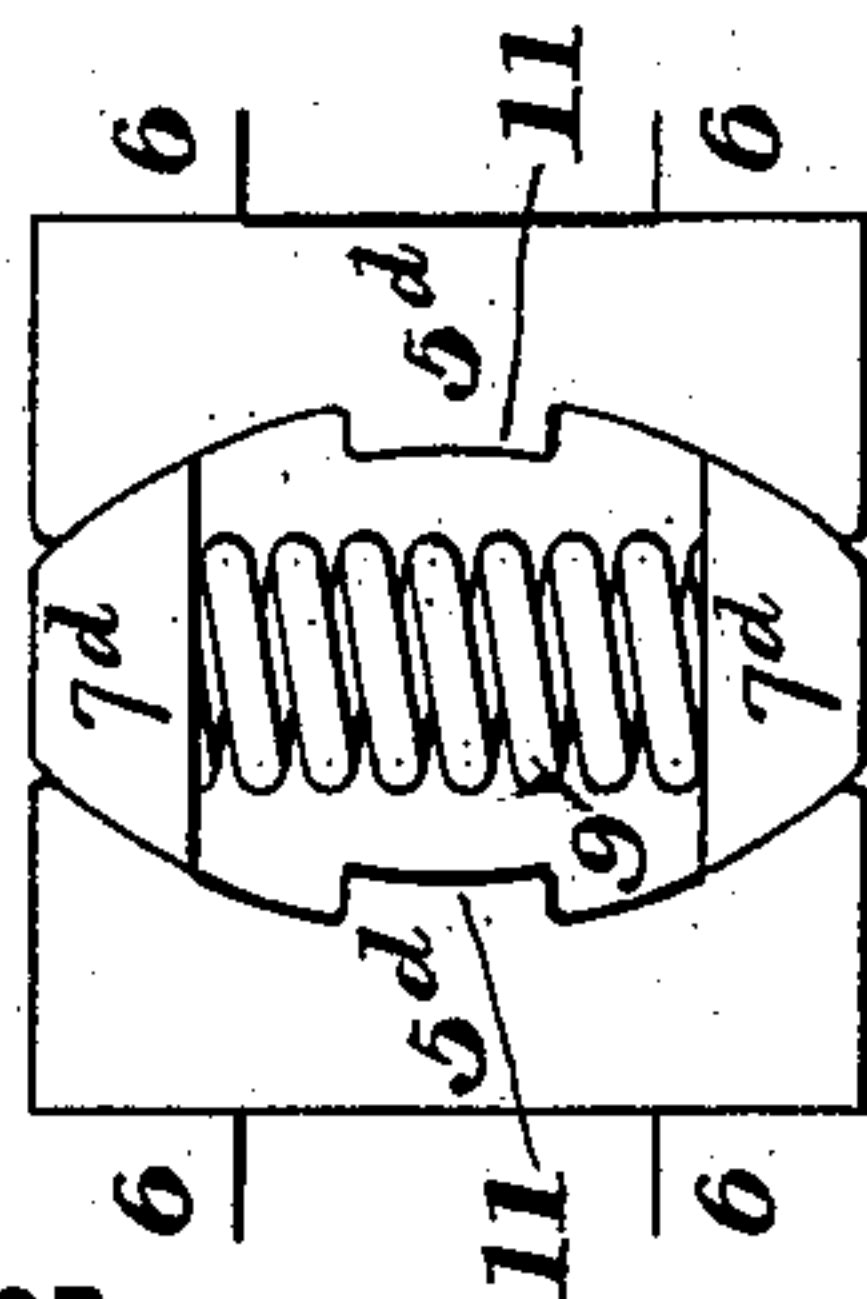


Fig. 6.



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Fig. 3.

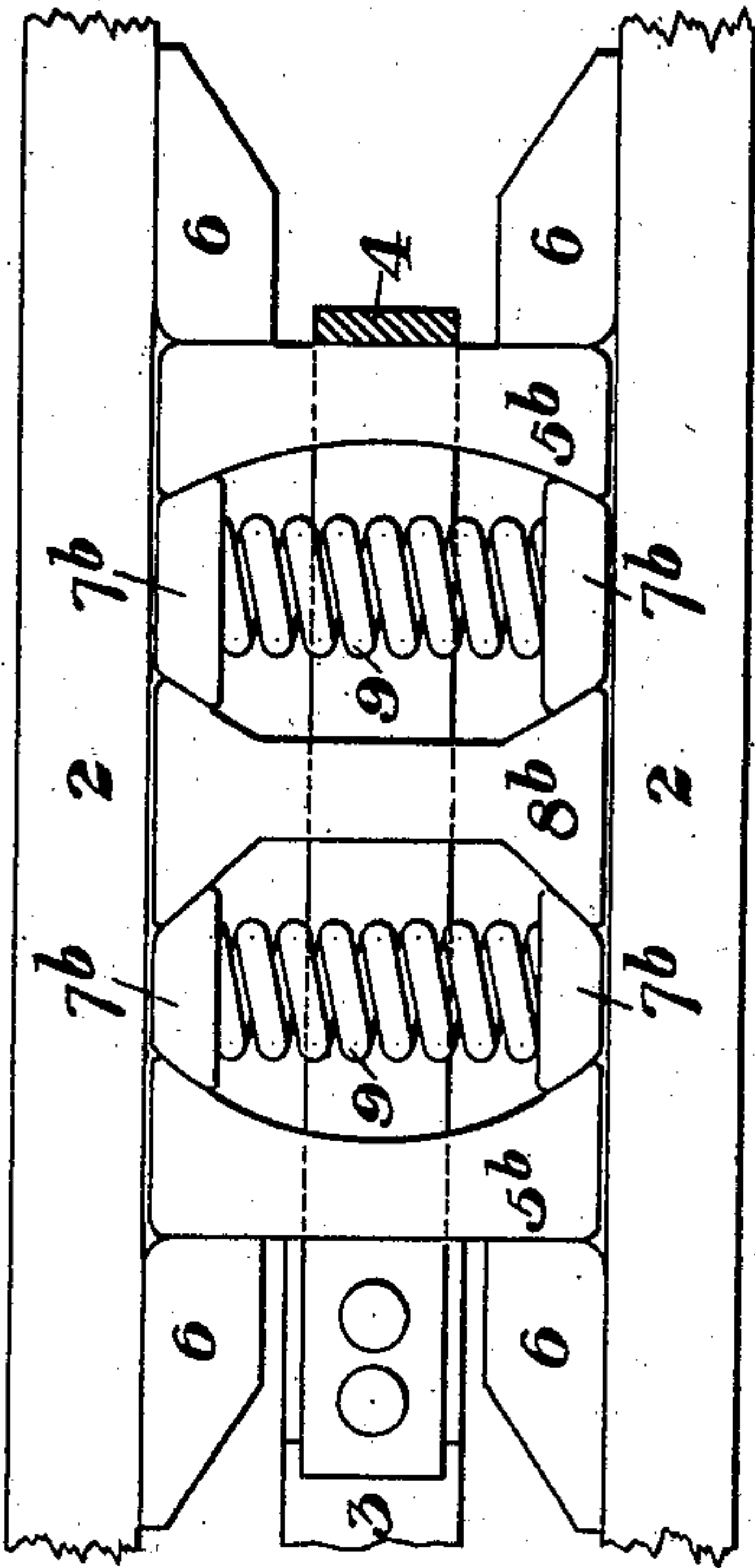
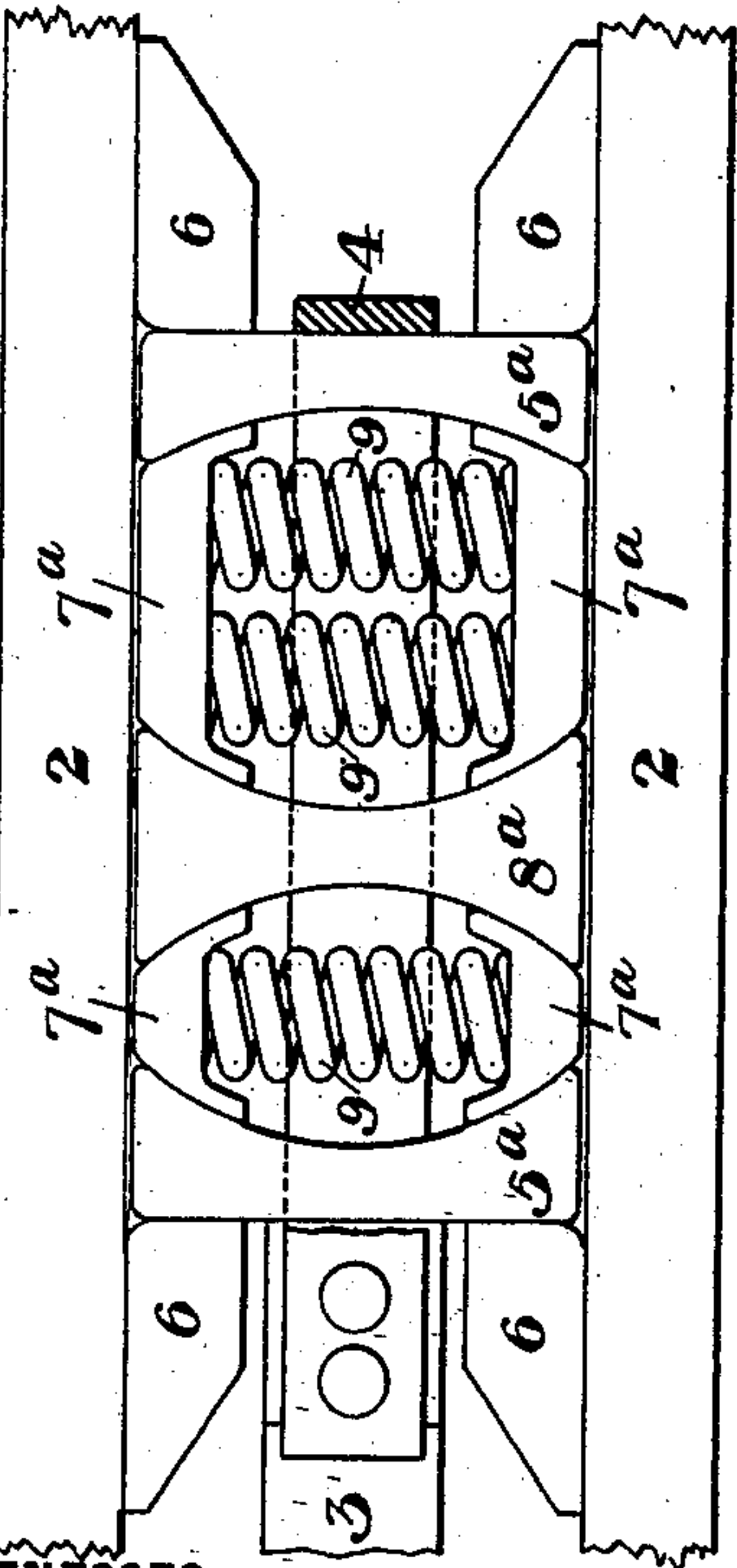


Fig. 2.



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Fig. 4.

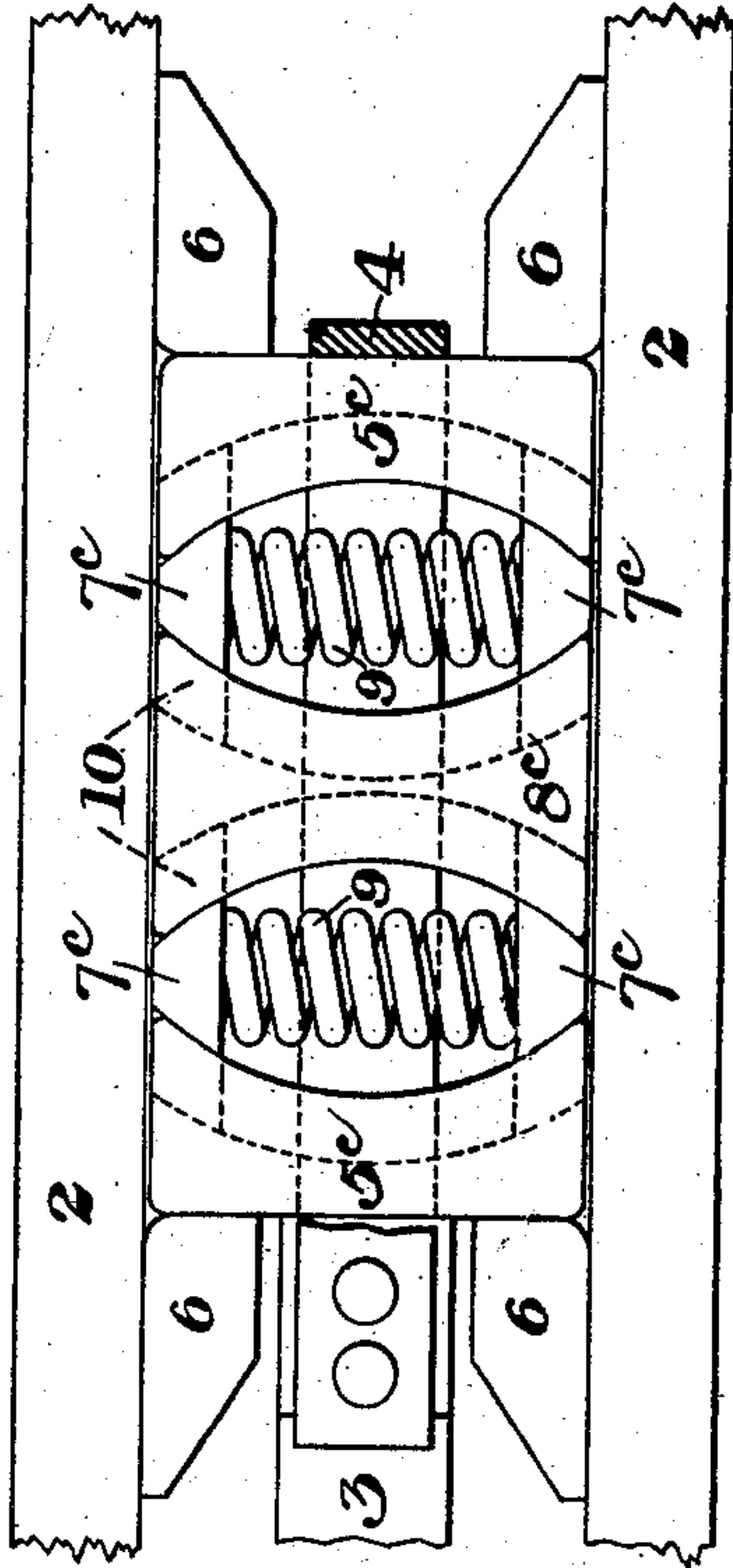
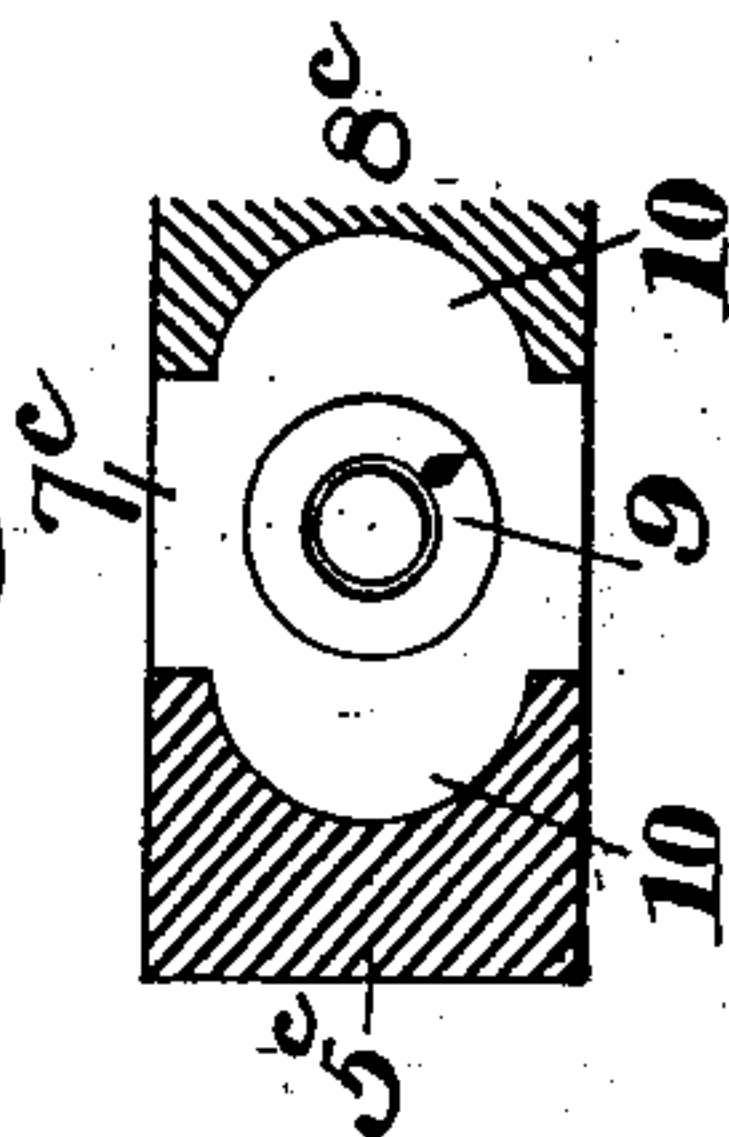


Fig. 5.



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# UNITED STATES PATENT OFFICE.

WILLIAM MORGAN PIPER, OF ALLEGHENY, PENNSYLVANIA.

## DRAFT-RIGGING.

SPECIFICATION forming part of Letters Patent No. 693,332, dated February 11, 1902.

Application filed January 16, 1901. Renewed September 12, 1901. Serial No. 75,174. (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—

Figure 1 is a top plan view showing one form of draft-rigging constructed in accordance with my invention. Figs. 2, 3, and 4 are similar views showing a modified form. Fig. 5 is a broken sectional view showing the guiding of the pairs of blocks in the form of Fig. 4, and Figs. 6, 7, and 8 are diagrammatic plan views showing simpler forms of the invention.

My invention relates to the class of spring-pressed friction-blocks of draft-riggings, and is designed to improve this type of riggings by increasing the friction-surface and consequent resistance without additional parts or complicating of the rigging.

In the form of Fig. 1, 2 represent the draft-irons, and 3 is the draw-bar, having the yoke 4. 5 5 are transverse followers within the ends of the yoke and only resting against fixed stops 6 6. Coacting with each follower 5 5 is a pair of wedge-blocks 7 7, having at one end curved faces which coact with correspondingly-curved faces upon the follower 8, interposed between the two sets of wedge-blocks. The blocks are normally forced apart by springs 9, and I prefer to use one spring for one set of blocks and a plurality of springs for the other set, as shown. The use of the curved wedging-surfaces is of advantage in increasing the friction and making the parts easier to manufacture.

In the operation of the device, one of the end followers 5 being acted upon by the yoke actuates one set of wedge-blocks, and thus, through the follower 8, actuates the other set. The pairs of blocks move inwardly toward each other against the pressure of the springs and frictional resistance, the springs returning the parts to place when the strain is removed.

In Fig. 2 I show a form similar to that of Fig. 1, except that the end followers 5<sup>a</sup> are provided with concave curved faces acting

upon similar convex faces on the wedge-blocks.

In the form of Fig. 3 the end followers 5<sup>b</sup> are similar to those of Fig. 2, while the intermediate follower is formed with flat inclines coacting with similar flat inclined faces on the wedge-blocks. In this form a single spring is used for each set of wedge-blocks.

In the form of Fig. 4 I show the parts arranged similarly to those of Fig. 2, except that all the followers are provided with curved grooves in their friction-faces, within which fit end extensions 10 on the wedge-blocks, thus further increasing the friction between the followers and the blocks. These guiding-grooves may of course be used on any one or more of the followers 5<sup>c</sup> or 8<sup>c</sup>.

In Fig. 6 I show a simple form wherein only two transverse blocks or followers 5<sup>d</sup> are employed with a single pair of wedge-blocks 7<sup>d</sup>. I have shown the coacting friction-faces as curved in this figure and the transverse curved blocks as provided with stop-shoulders 1', which prevent the inward movement of the wedge-blocks beyond a determined point, and thus prevent the danger of breaking the springs.

In Fig. 7 I show a form similar to that of Fig. 6, except that the blocks are stopped in their inward movement by lugs or projections 12 on the wedge-blocks themselves, these lugs contacting with each other as the wedge-blocks reach the end of their travel.

In Fig. 8 I show a form in which one end follower 5<sup>k</sup> has flat inclines, while the other has a curved incline. The wedge-blocks 7<sup>k</sup> are similarly shaped for the flat incline at the one end and the convex incline at the other.

The advantages of my invention result from the use of the curved inclines constituting the wedge-bases in place of the flat incline previously used and, further, from the stops for limiting the movement of the wedge-blocks and the use of the guiding-grooves in the transverse blocks.

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

I claim—

1. In a draft-rigging, a transverse block having curved inclined faces, and spring-pressed wedge-blocks, having similarly-curved in-

clines coacting therewith; substantially as described.

2. In draft-riggings, a pair of end followers and an intermediate follower, at least one of which has curved inclined faces, and two pairs of wedge-blocks movable toward and from each other between the followers and having curved faces coacting with the above-named curved faces; substantially as described.

3. In a draft-rigging, a pair of end followers having inner curved faces, an intermediate

follower having opposite inclined faces, and two pairs of oppositely-located spring-pressed wedge-blocks coacting with the above-named faces of the followers and arranged to move toward and from each other transversely of the draw-bar axis; substantially as described.

In testimony whereof I have hereunto set my hand.

WILLIAM MORGAN PIPER.

Witnesses:

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WARREN W. SWARTZ.