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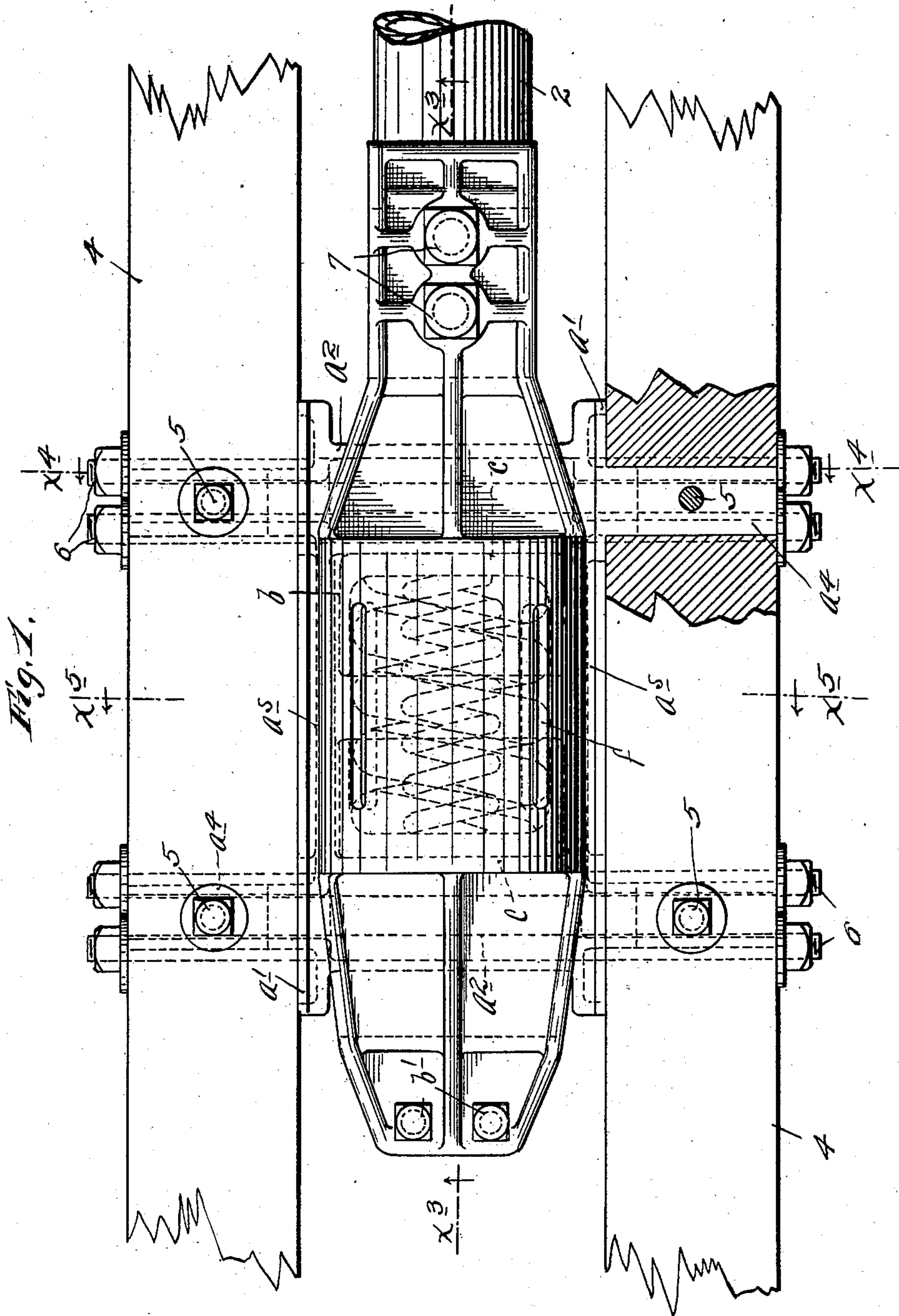
Patented Nov. 13, 1900.

E. POSSON.  
DRAFT RIGGING FOR CARS.

(Application filed June 25, 1900.)

(No Model.)

6 Sheets—Sheet 1.



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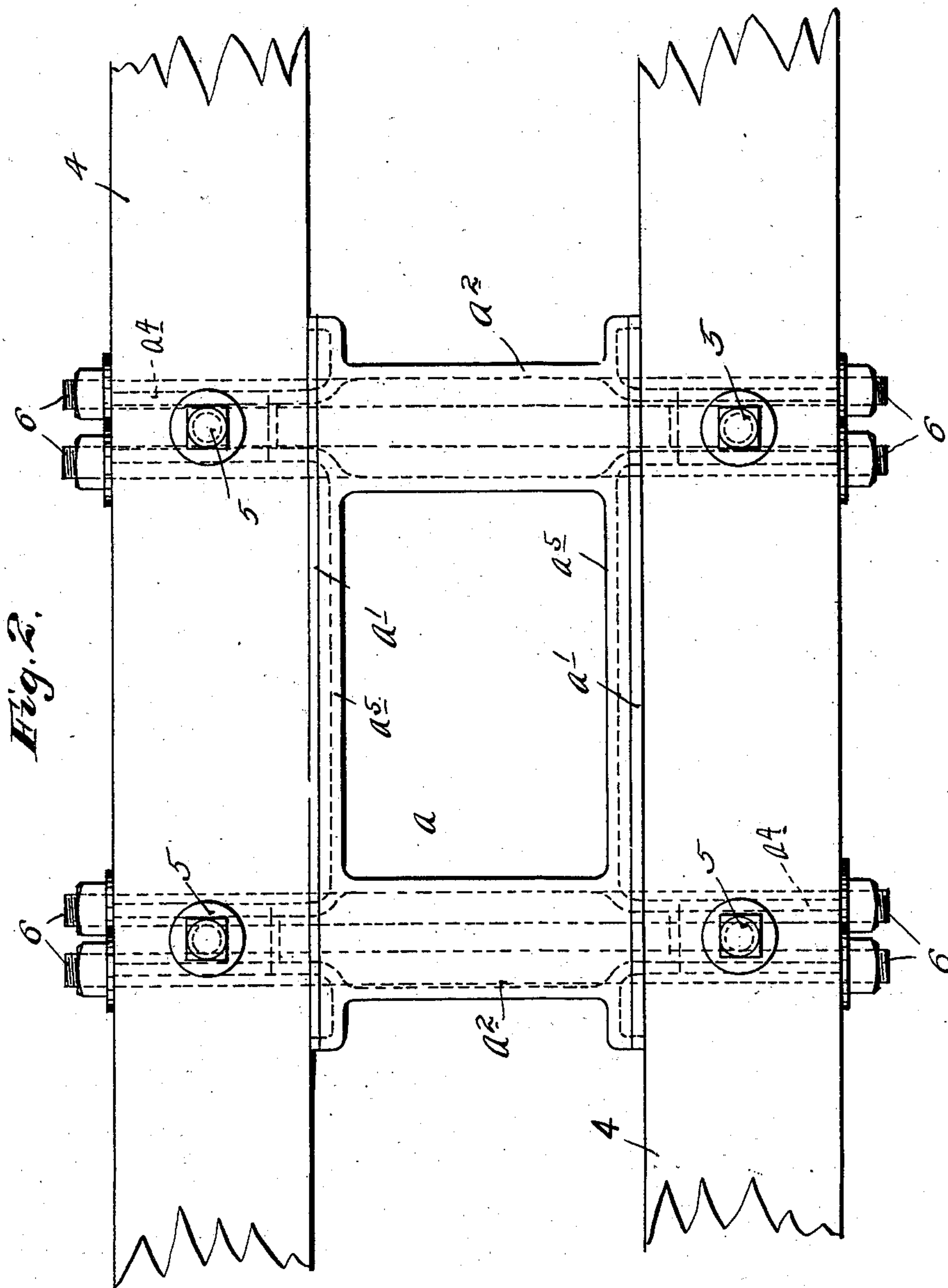
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6 Sheets—Sheet 2.



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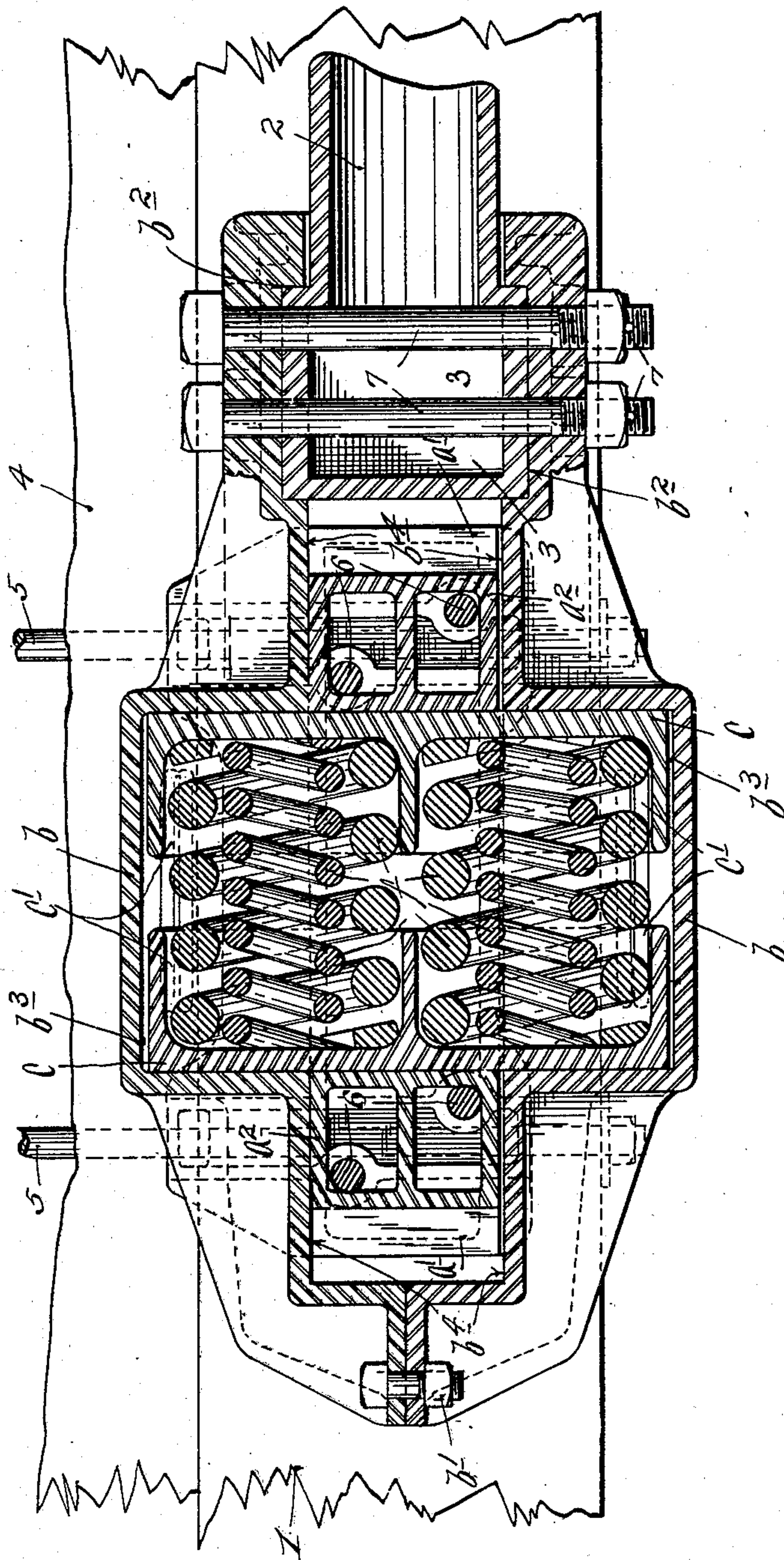
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Fig. 3.



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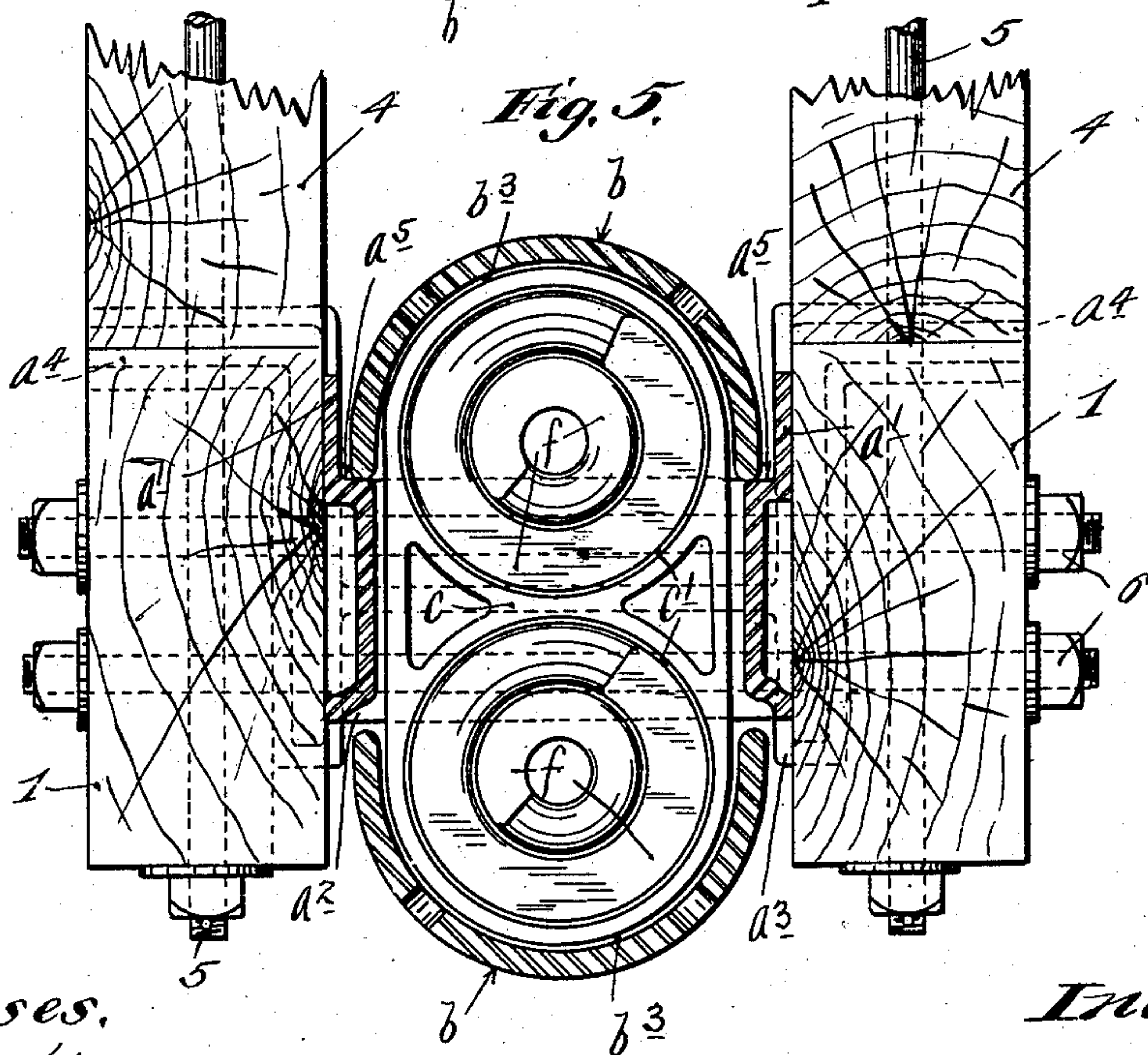
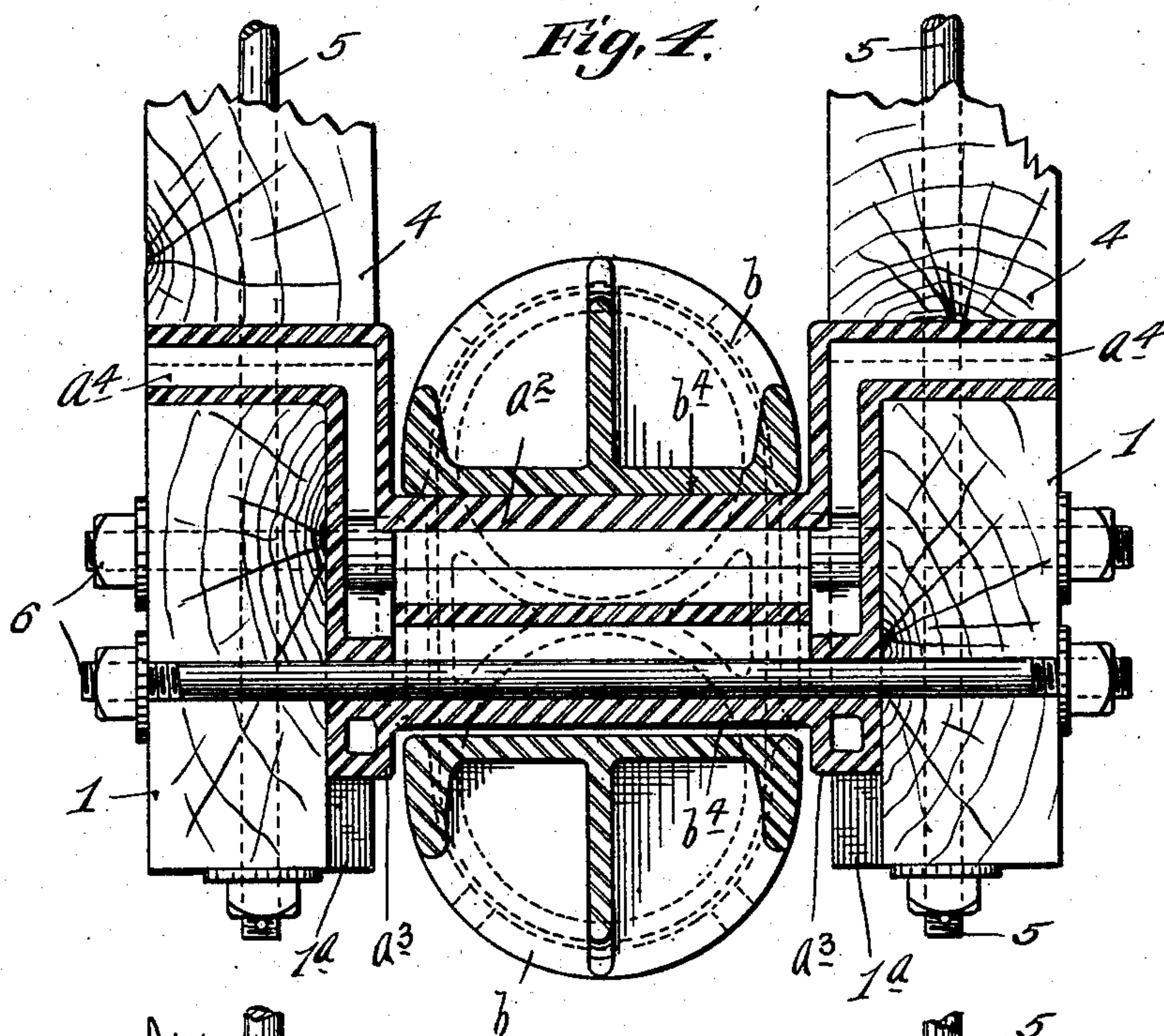
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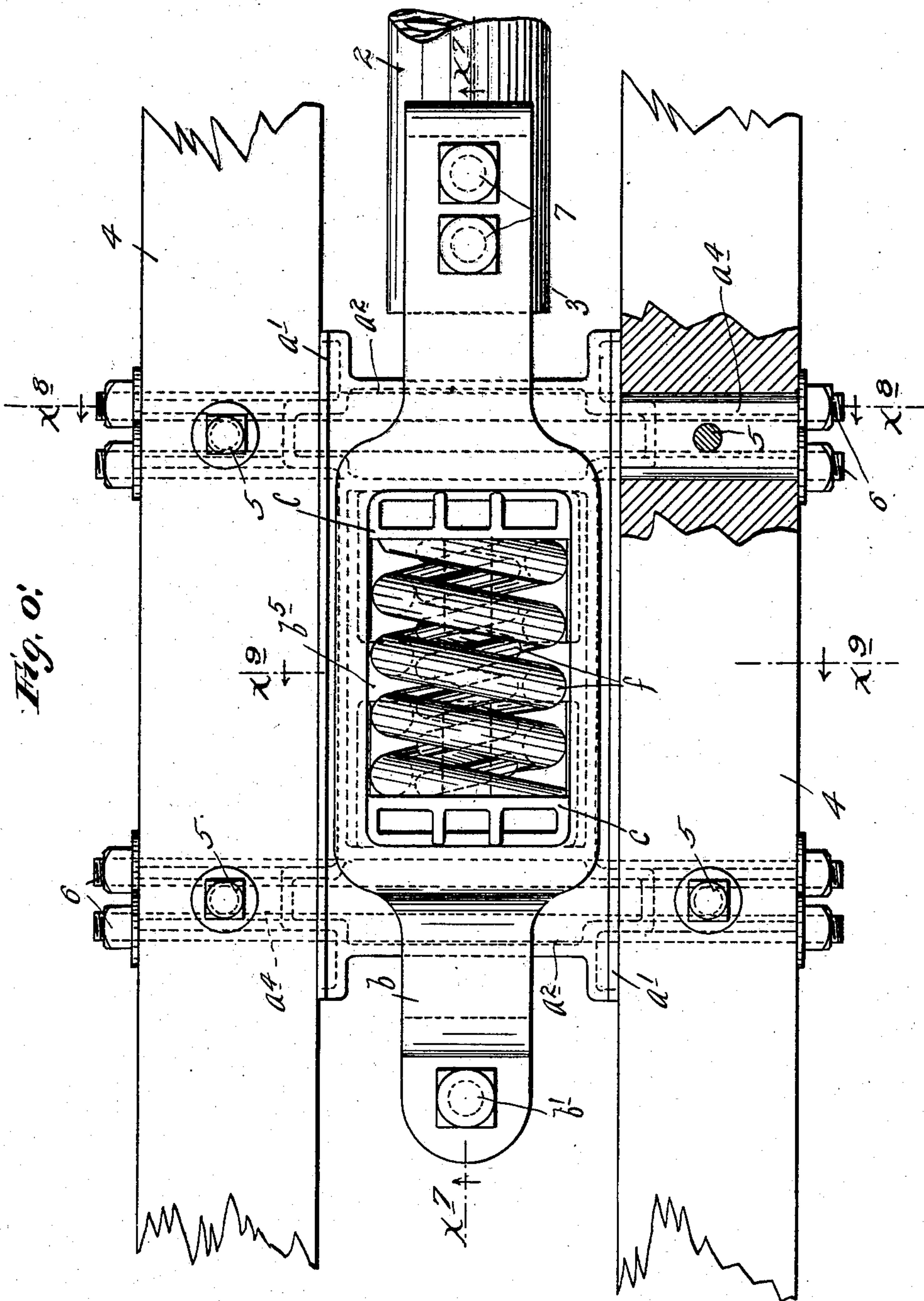
Patented Nov. 13, 1900.

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(Application filed June 25, 1900.)

(No Model.)

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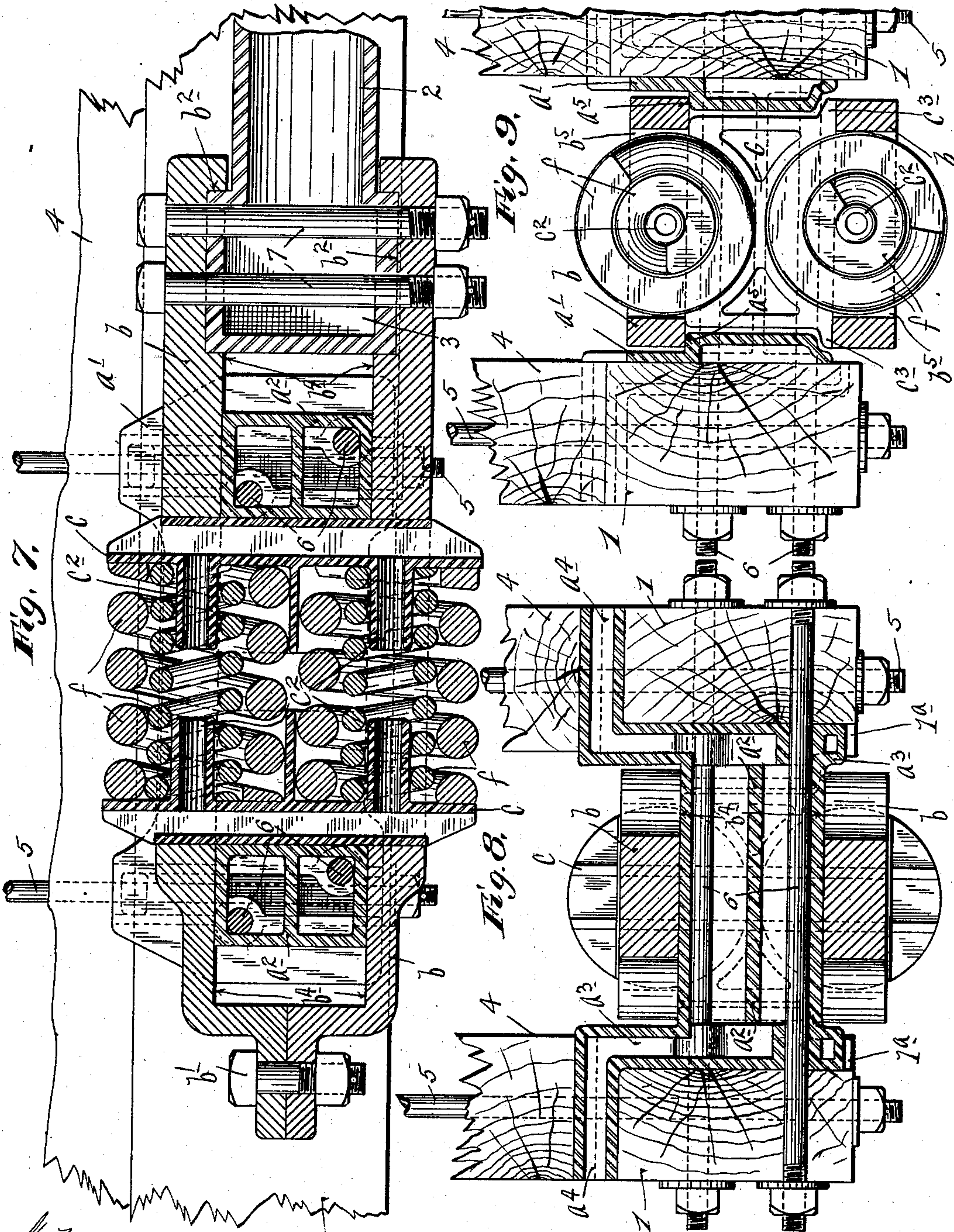
Patented Nov. 13, 1900.

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DRAFT RIGGING FOR CARS.

(Application filed June 25, 1900.)

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6 Sheets—Sheet 6.



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# UNITED STATES PATENT OFFICE.

EDWARD POSSON, OF ST. PAUL, MINNESOTA.

## DRAFT-RIGGING FOR CARS.

SPECIFICATION forming part of Letters Patent No. 661,585, dated November 13, 1900.

Application filed June 25, 1900. Serial No. 21,423. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD POSSON, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Draft-Rigging for Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention has for its object to provide an improved draft-rigging for cars and is on the same general line as that set forth and claimed, broadly, in the companion application filed by me of even date herewith, entitled "Draft-rigging for cars."

To the ends above indicated, the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a plan view, with some parts broken away, illustrating my improved draft-rigging. Fig. 2 is a plan view showing the so-called "draft bridge or frame" secured to the draft-timbers of the car, other parts of the draft-rigging being removed. Fig. 3 is a vertical section taken approximately on the line  $x^3 x^3$  of Fig. 1. Fig. 4 is a transverse vertical section taken approximately on the line  $x^4 x^4$  of Fig. 1. Fig. 5 is a transverse vertical section taken approximately on the line  $x^5 x^5$  of Fig. 1. Fig. 6 is a view corresponding to Fig. 1, but illustrating a somewhat modified construction. Fig. 7 is a vertical section taken on the line  $x^7 x^7$  of Fig. 6. Fig. 8 is a transverse vertical section taken on the line  $x^8 x^8$  of Fig. 6, and Fig. 9 is a transverse vertical section taken on the line  $x^9 x^9$  of Fig. 6.

In my present invention the draft-springs instead of being arranged in tandem are arranged side by side, either in a vertical or a horizontal plane, but preferably one over the other, as hereinafter illustrated, so as to adapt the device to be applied between the ordinary draft-timbers of the car.

The numeral 1 indicates the draft-timbers

of the car-body, and the numeral 2 indicates the draft-bar of the coupler, which draft-bar is shown as terminated at its inner end in an approximately cubical head 3.

In this construction, as in my companion application, I employ what I term a "draft-bridge" of skeleton form in lieu of the ordinary draft-box. This draft-bridge (indicated as an entirety by the letter  $a$ ) is in this case designed for coöperation with draft-springs and followers arranged in parallel or side by side or, as illustrated, one over the other instead of in tandem. The side bars or plates  $a'$  of the draft-bridge are connected at or near their ends by transversely-extended bridge-beams  $a^2$ , integrally formed therewith and cast hollow. On their outer faces and in line with the ends of the beams  $a^2$  the side plates  $a'$  are formed with vertically-elongated rectangular lugs or projections  $a^3$ , that fit counter-sunk seats  $1^a$ , in the form of vertical grooves cut in the inner faces of the draft-timbers 1. At their upper ends the lugs  $a^3$  are formed with horizontally and outwardly turned arms or extensions  $a^4$ , that fit in seats formed partly in the draft-timbers 1 and partly in the car-sills 4, and thus serve as keys to prevent endwise movements of the said timbers one upon the other.

The numeral 5 indicates long vertical bolts that are passed through the timbers 1 and 4 and through the bottom of the car in the ordinary manner. Transversely-extended nuted bolts 6 are passed through the draft-timbers 1 and through the aligned lugs  $a^3$  and bridge-beams  $a^2$  to securely clamp the draft-bridge  $a$  to the said timbers 1. However, the draft and bumping strains are taken principally on the vertical lugs  $a^3$ , so that the bolts 6 are nearly or quite relieved from shearing strains.

The draft yoke or stirrup is formed in sections  $b$ , split at their inner ends and detachably connected by short nuted bolts  $b'$ . At their forward ends the yoke-sections  $b$  are provided with sockets or recesses  $b^2$ , which receive and closely fit the head 3 of the draft-bar 2, and thus relieve the bolts 7, which are passed therethrough and through the said head 3 from shearing strains. At their intermediate portions said yoke-sections  $b$  are formed with follower-seats  $b^3$ , that are in



length approximately equal to the distance between the bridge-beams  $a^2$ . These seats or recesses  $b^3$  as preferably constructed are approximately semicylindrical. Extending from the ends of the seats  $b^3$  the said yoke-sections  $b$  are provided with bearing-surfaces  $b^4$ , that closely engage the upper and lower surfaces of the said bridge-beams  $a^2$ . These bearing-surfaces  $b^4$  are considerably longer than the bridge-beams  $a^2$  are wide, so that under the bumping and draft strains such movements of the draft-bar and its yoke are afforded as will permit the proper compression of the draft-springs, presently to be noted. The followers provided for coöperation with the draft yoke or stirrup above described are in the form of flanged and oblong castings  $c$ , provided with twin sockets  $c'$ , which receive the ends of the draft-springs  $f$ . The ends of the followers  $c$  fit in the semicylindrical seats  $b^3$  of the yoke-sections  $b$  and are held in working positions when said yoke-sections are secured together. The springs  $f$  are held by the said followers in parallel arrangement one over the other. The intermediate portions of the followers  $c$  are by the springs  $f$  normally held against the inner surfaces of the bridge-beams  $a^2$ . The construction above described is especially designed for malleable-iron castings, and hence the parts are cored out and ribbed to make all parts thin, as is required for malleable work. The parts might, however, as well be steel castings. Preferably the side plates  $a'$  of the draft-bridge are formed with ledges  $a^5$ , upon which the downturned walls of the cylindrical seat of the upper yoke-section  $b$  rest to give an additional support for the draft-yoke and parts carried thereby. The action under the draft and bumping strains is obvious. Such strains are simultaneously thrown onto both springs  $f$ . By separating the sections of the draft yoke or stirrup  $b$  the springs and followers may be removed from the sections of the yoke and the draft-bar may be removed from working position.

The construction illustrated in Figs. 6 to 9, inclusive, is very much the same as that above described, but has certain differences, which will here be noted. The yoke-sections  $b$  instead of being provided with follower-pockets are shown as cut entirely through, as indicated at  $b^5$ . The followers  $c$  instead of having twin pockets are provided with projecting sleeves  $c^2$ , which project axially into the springs  $f$ , and the followers  $c$  are formed with projecting flanges  $c^3$ , that rest upon the lower yoke-section  $b$  to support the said followers and springs. The upper yoke-section  $b$  rests upon the ledges  $a^5$  of the side plates  $a'$  of the draft-bridge  $a$  as well as upon the

upper surfaces of the bridge-beams  $a^2$ . With the yoke-sections  $b$   $b^5$  formed as above described and illustrated in Figs. 6 to 9, inclusive, they may be made of wrought-iron forgings, as all small ribs and recesses are dispensed with. However, the construction illustrated in the other views of the drawings is for many reasons much preferred.

From the foregoing description and statements made it will be understood that my invention is capable of considerable modification.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a draft-rigging, the combination with an anchored draft bridge or frame, of a draft-bar provided with a draft-yoke embracing said draft bridge or frame, a pair of followers coöperating with said draft-yoke and said draft-bridge, and springs arranged in parallel and compressed between the said pair of followers, substantially as described.

2. The combination with an anchored draft bridge or frame, of a draft-bar provided with a separable draft yoke or stirrup embracing said draft-bridge, a pair of elongated followers held in position by the connected sections of said yoke or stirrup for coöperation with the shoulders thereof and with the said draft-bridge, and a pair of draft-springs located one over the other and compressed between said followers, substantially as described.

3. The combination with a rectangular draft bridge or frame, of the draft-bar provided with the head 3, the separable draft yoke or stirrup  $b$  secured to said head 3 by bolts 7 and provided with the semicylindrical follower-seats  $b^3$  and bearing-surfaces  $b^4$ , the followers  $c$  with twin pockets  $c'$ , and the springs  $f$  seated in said pockets  $c'$  and compressed between the said followers  $c$ , said parts operating substantially as described.

4. The combination with the rectangular draft-bridge  $a$  having the lugs or flanges  $a^3$  terminated in the key-sections  $a^4$ , of a draft-bar provided with a draft yoke or stirrup embracing said draft-bridge, and springs and followers coöperating with said draft-bridge and draft-yoke, substantially as described.

5. A draft frame or device having an integrally-formed and projecting key portion for engagement with alined seats in a pair of adjacent beams or timbers, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD POSSON.

Witnesses:

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