No. 721,570. PATENTED FEB. 24, 1903.

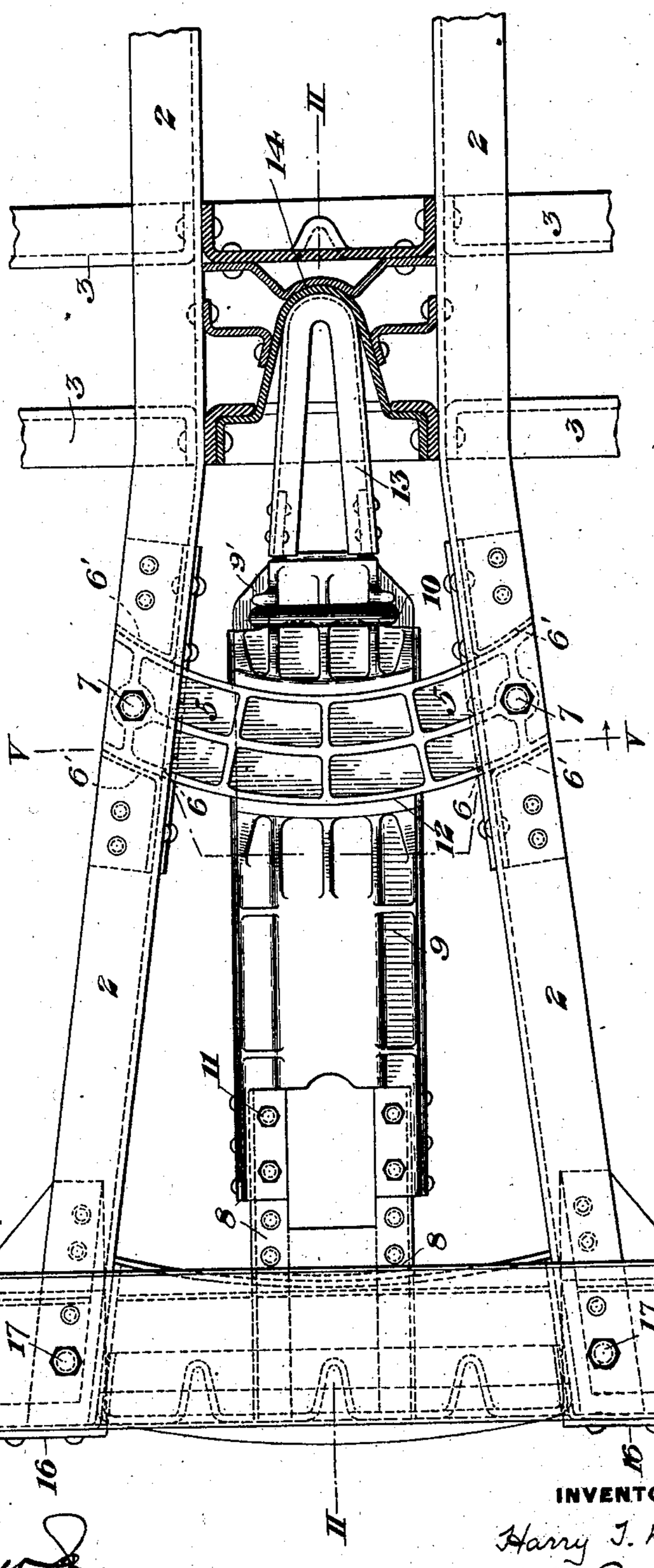
H. T. KRAKAU.

DRAFT RIGGING ATTACHMENT.

APPLICATION FILED JUNE 13, 1902.

NO MODEL. 4 SHEETS—SHEET 1.

Fig. 1.

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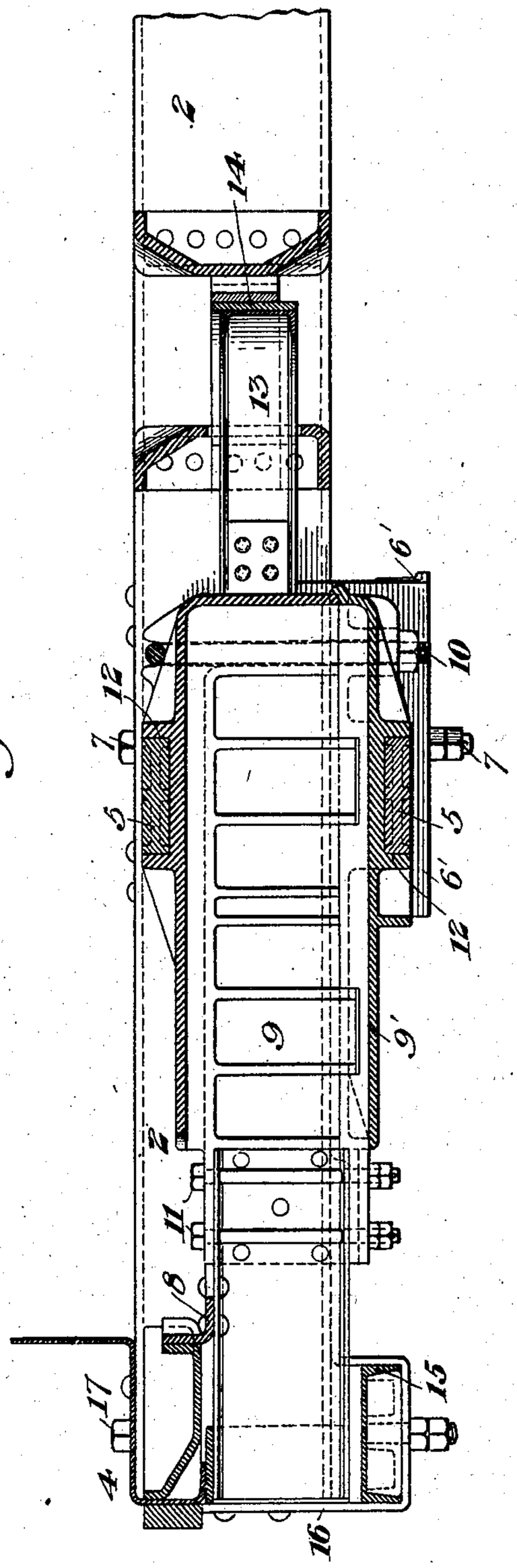
NO MODEL. 4 SHEETS—SHEET 2.

Fig. 2.

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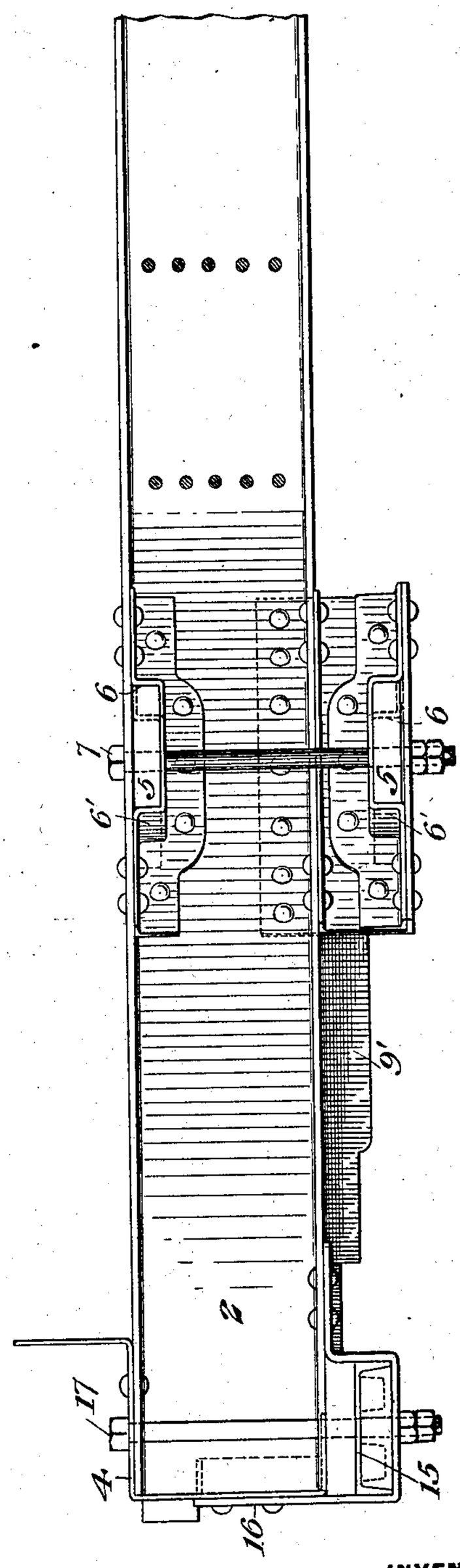
NO MODEL. 4 SHEETS—SHEET 3.

Fig. 3.

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## DRAFT RIGGING ATTACHMENT.

APPLICATION FILED JUNE 13, 1902.

NO MODEL. 4 SHEETS—SHEET 4.

Fig. 4.

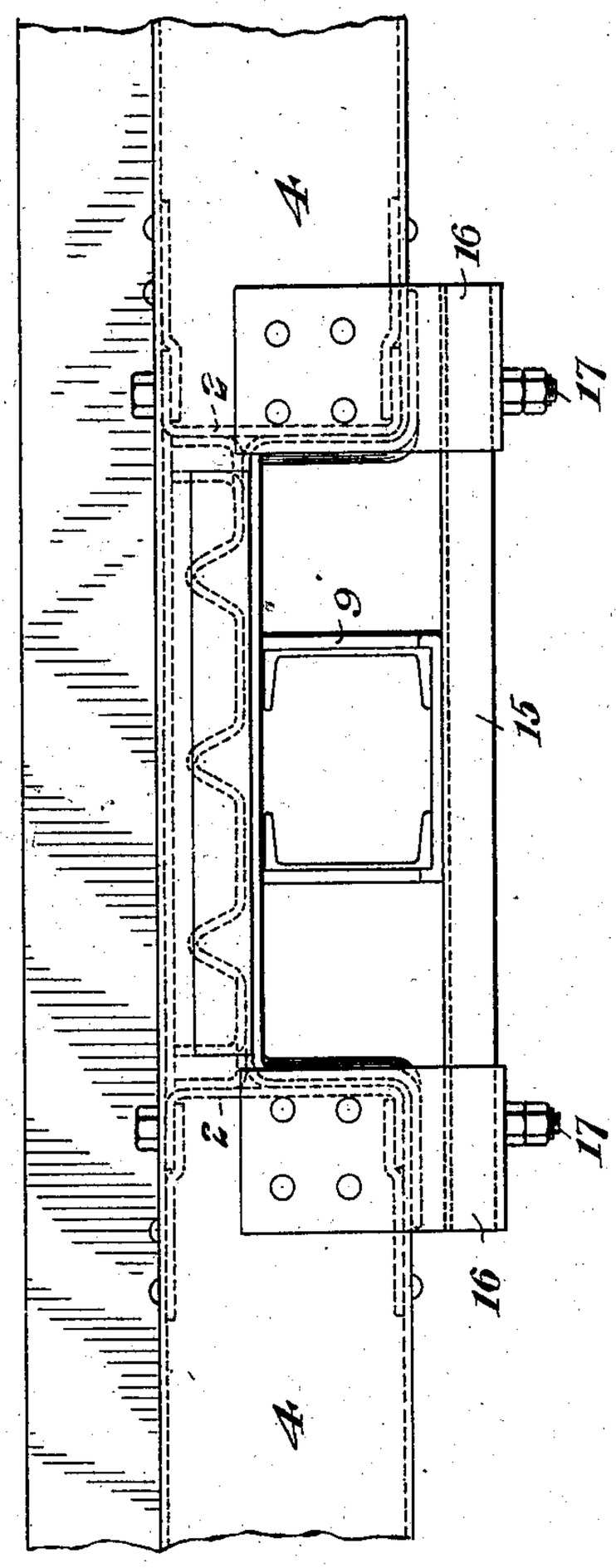
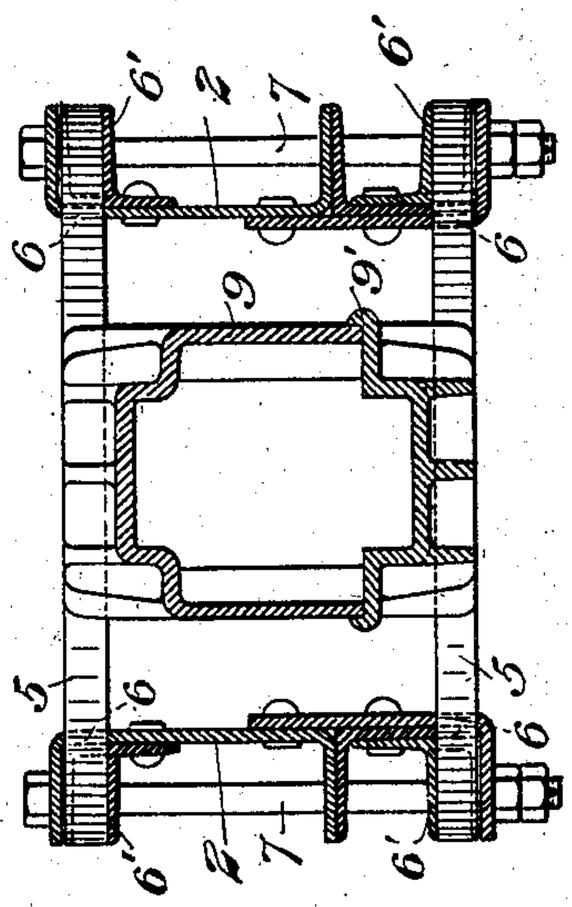



Fig. 5.

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# UNITED STATES PATENT OFFICE.

HARRY T. KRAKAU, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

## DRAFT-RIGGING ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 721,570, dated February 24, 1903.

Application filed June 13, 1902. Serial No. 111,489. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY T. KRAKAU, of Cleveland, Cuyahoga county, Ohio, have invented a new and useful Draft-Rigging Attachment, 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 plan view, partly in horizontal section, of part of the framework of a car provided with my improvement. Fig. 2 is a vertical longitudinal section on the line II II of Fig. 1. Fig. 3 is a side elevation of Fig. 1. Fig. 4 is an end elevation thereof, and Fig. 5 is a vertical cross-section on the line V V of Fig. 1.

A primary purpose of my invention is to provide means for adapting draft-riggings to use on metal cars, especially draft-riggings of the sort that have a radial motion on an axis near or coincident with the axis of the bolster. The difficulty of repair which attends most steel-car constructions is a problem met in my improved device, which enables the draft-rigging to be readily detached for repair or replacement.

In the drawings, 2 2 are center sills, 3 is the bolster, and 4 is the end sill. From the bolster the center sills preferably diverge somewhat to the end sill, to which they are riveted. 5 5 are supports on which the draft-rigging carrier is radially movable. These supports are preferably segmental bars curved on an arc concentric with the pivotal center of the car-bolster and secured to the center sills 2 preferably by being fitted in sockets 6, which may be made by cutting the sills and reinforcing the cut portions by bent angle-pieces 6′. The upper and lower segment-bars are secured to the sills preferably through bolts 7 7. The draft-rigging structure is a frame composed of draft-irons 8 8, which may be made of channel-beams secured to a carrier 9, consisting of a casting made of longitudinally-divided sections 9 and 9′, Fig. 5, secured together at one end preferably by a U-shaped bolt 10, which fits around the sections and passes through the lower section 9′, below which it is provided with nuts. At the other end the sections 9 and 9′ may be held by through-bolts 11, which also pass through the draft-irons. The carrier 9 has at top and bottom pockets 12, adapted to receive the segment-bars 5 5. At its rear is an extension 13, preferably made of a separate piece of channel-iron of U form bearing at its rear end in a socket 14, which is secured to the center sills 2 and forms a central bearing on which the draft-rigging structure can turn. This socket 14 is preferably open at the forward end and is built up of sections, as shown in Fig. 1, in order to impart to it the necessary strength.

The draft-rigging is supported at its forward end by a carry-iron 15, suspended in place by hangers 16, which pass as loops from the front of the end sill under the carry-iron and are riveted to the under side of the center sills.

In operation the draft-rigging frame, comprising the draft-irons and the carrier 9 and carrying the draw-bar and the resistance attachments—*i. e.*, the contained springs, followers, or friction attachments—is adapted to swing horizontally on the center 14 and on the segment-bars 5. The strain of buffing is taken up not only by the segment-bars, but by the socket, and the socket serves also to guide the draft-rigging in its swinging motion and to prevent it from binding on the segment-bars, and the bearing in the socket 14 being on the center line of draft affords the best conditions for receiving the strain.

If it is desired to take out the draft-rigging for repair or replacement, it is only necessary to unbolt and remove the lower segment-bar 5 and detach the carry-iron by removing the bolts 17, by which it is held in the hangers. The entire draft-rigging can then be removed.

My improved device is adapted to receive draft-riggings of any suitable internal construction. It may be modified in many ways in its form and construction.

I claim—

1. A radially-movable draft-rigging, in com-

bination with an intermediate support on which it is mounted, said draft-rigging having an extension back of said support provided with a bearing at the center of the radial motion; substantially as described.

2. A radially-movable draft-rigging in combination with an intermediate support on which it is mounted, said draft-rigging having an extension back of said support in line with the draft-rigging and provided with a bearing at the center of the radial motion; substantially as described.

3. A radially-movable draft-rigging, in combination with an intermediate support on which it is mounted, said draft-rigging having an extension back of said support provided with a bearing in an open socket at the center of the radial motion; substantially as described.

4. A radially-movable draft-rigging, in combination with an intermediate segment on which it is mounted, said draft-rigging having an extension back of said segment provided with a bearing at the center of the radial motion; substantially as described.

5. A draft-rigging having a sectional draft-rigging carrier, and a U-shaped extension at the rear of the carrier adapted to have a pivotal bearing on the car; substantially as described.

6. A draft-rigging having a sectional draft-rigging carrier, a cross-bar on which said carrier is supported, and a rear extension for said carrier bearing against the car; substantially as described.

7. In a draft-rigging, a radially-movable frame adapted to carry the draw-bar and the resistance attachments, in combination with means for supporting it, and diverging center sills between which the frame is set; substantially as described.

8. A radially-movable draft-rigging, in combination with diverging center sills between which the draft-rigging is set, and a segment-bar secured to the center sills; substantially as described.

9. In combination with a draft-rigging, a carry-iron, and looped hangers extending under the carry-iron and secured to the center sills; substantially as described.

10. A radially-movable draft-rigging, in combination with an open socket at the center of the radial motion in which said draft-rigging has a bearing; substantially as described.

11. A radially-movable draft-rigging in combination with an open socket at the center of the radial motion in which said draft-rigging has a bearing, said socket being fixed to the car; substantially as described.

In testimony whereof I have hereunto set my hand.

HARRY T. KRAKAU.

Witnesses:
THOMAS W. BAKEWELL,
H. M. CORWIN.