

No. 722,900.

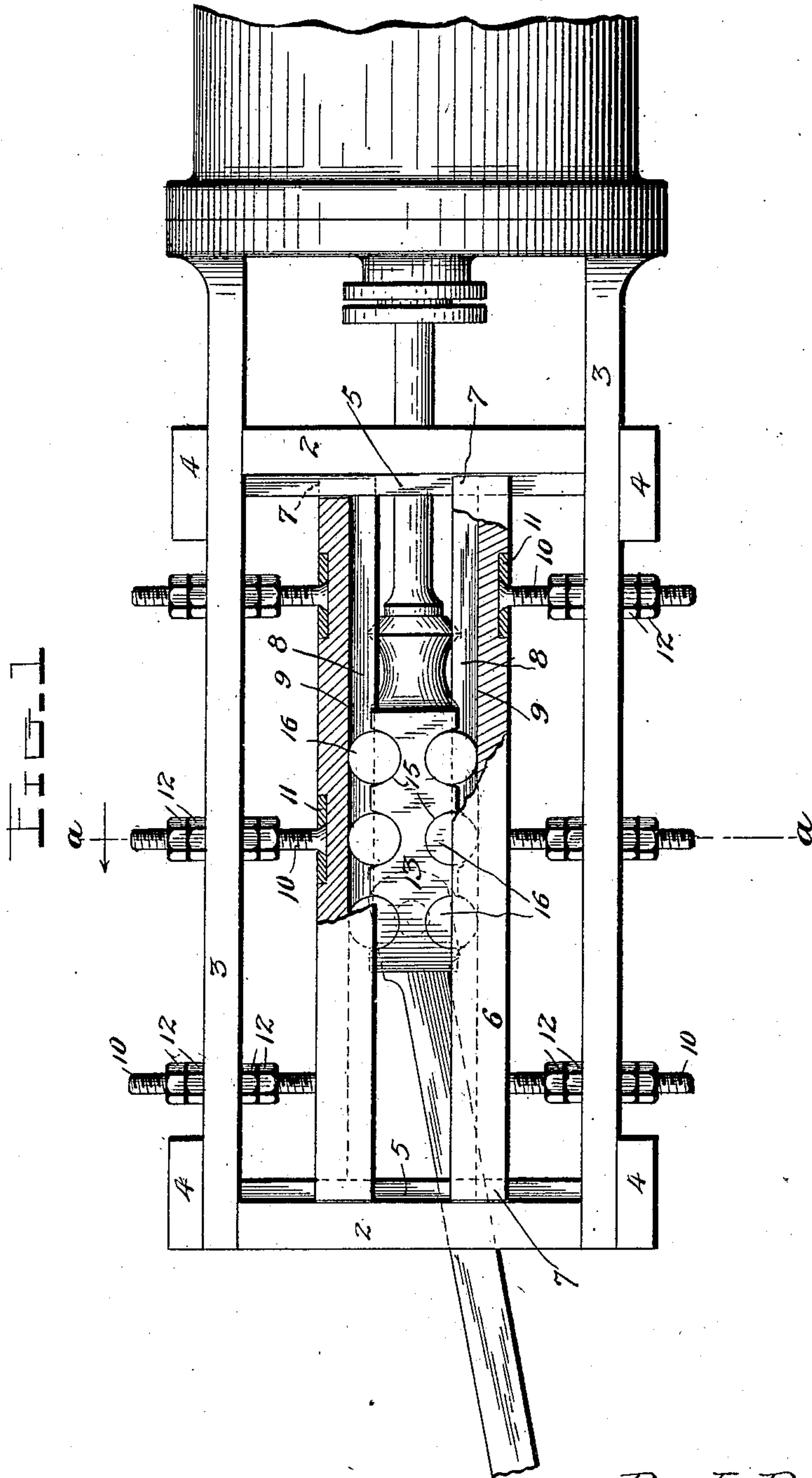
PATENTED MAR. 17, 1903.

B. J. REILLY,
CROSS HEAD.

APPLICATION FILED OCT. 23, 1902.

NO MODEL.

2 SHEETS—SHEET 1



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Witnesses

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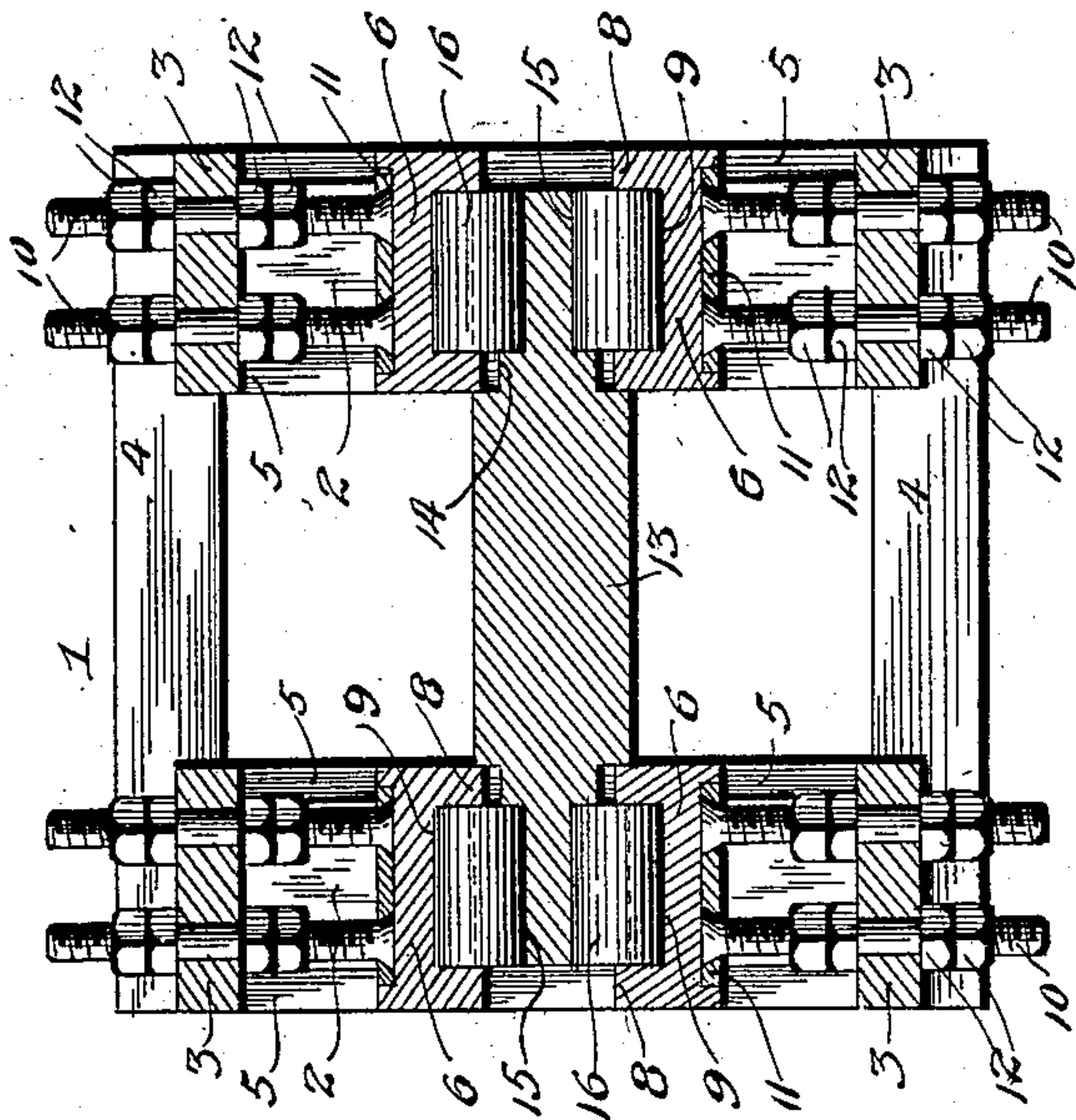
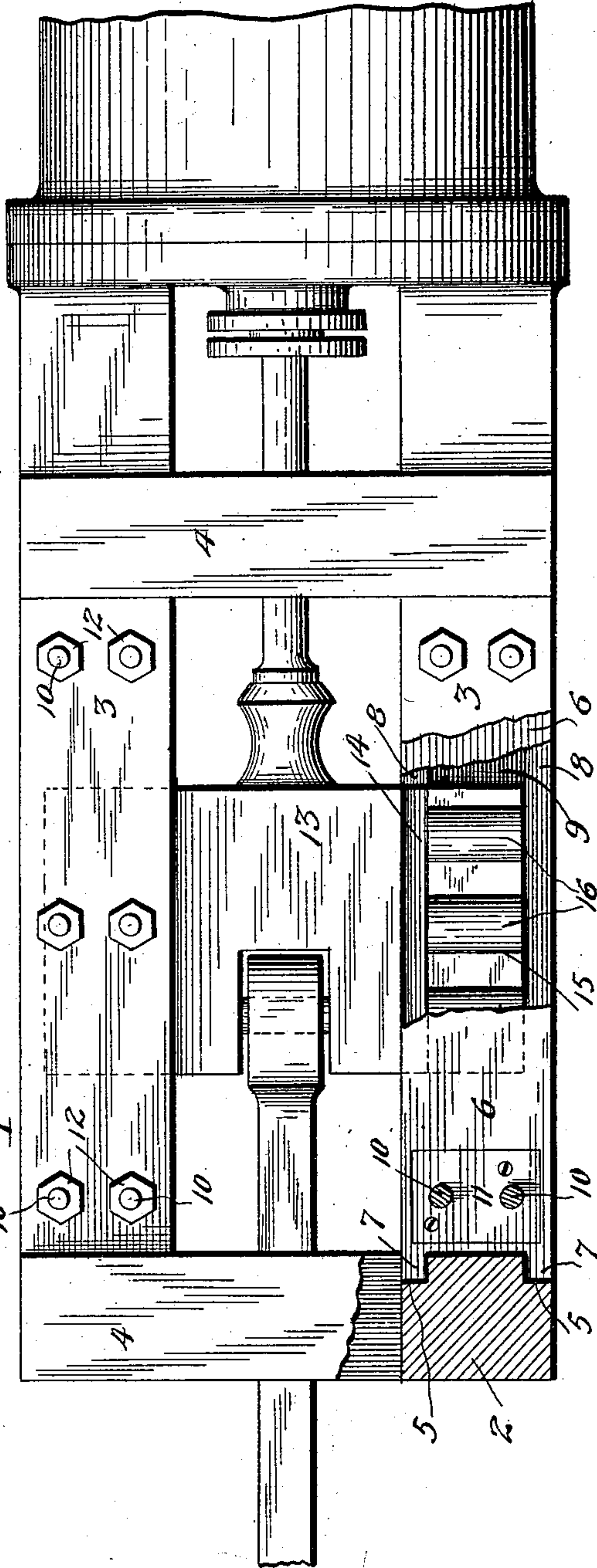


FIG. 2

FIG. 3



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UNITED STATES PATENT OFFICE.

BERNARD J. REILLY, OF RIVERTON, ILLINOIS, ASSIGNOR OF ONE-HALF TO
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CROSS-HEAD.

SPECIFICATION forming part of Letters Patent No. 722,900, dated March 17, 1903.

Application filed October 23, 1902. Serial No. 128,466. (No model.)

To all whom it may concern:

Be it known that I, BERNARD J. REILLY, a citizen of the United States, residing at Riverton, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Cross-Heads; and I do 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 invention is an improved cross-head for steam-engines and other motors and machines; and it consists in the peculiar construction and combination of devices hereinafter fully described, and pointed out in the appended claims.

The object of my invention is to effect improvements in the construction of the cross-head and in the guides therefor, whereby the guides and cross-head may be adjusted as may be required to maintain them in perfect alinement, whereby friction between the cross-head and the guides is reduced, and whereby lateral vibration of the cross-head is minimized or entirely prevented.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a cross-head and guides constructed in accordance with my invention. Fig. 2 is a transverse sectional view of the same, taken on the plane indicated by the line *a a* of Fig. 1; and Fig. 3 is a top plan view, partly in section.

The guide-frame 1 is in practice rigidly secured and may be of any suitable construction. It is here shown as comprising vertical corner-guides 2, longitudinal bars 3, which form the side bars of the frame and connect the upper and lower ends of the vertical guides 2, and cross-bars 4 at the ends of the guide-frame and which connect the ends of the side bars 3 together. In the opposing inner sides of the guides 2 are vertical grooves 5.

Disposed between each pair of the vertical guides 2 and at the sides of the guide-frame are pairs of adjustable guides 6. The same are provided at their ends with projecting guide-flanges 7, which operate in the guide grooves or recesses 5 and are formed by the ends of side rails or flanges 8, which project from the opposing sides of the guides 6 and form ways 9 in the opposing sides of the guides

6, as shown. Each adjustable guide 6 is supported near its ends and preferably also at or near its center by means of adjusting-screws 10. The latter are disposed in pairs arranged side by side, as shown in Fig. 2, and have their inner ends secured in or to plates 11, which are on the outer sides of the adjustable guide 6, and the said adjusting-screws pass through openings in the longitudinal bars 3 of the guide-frame and are provided with adjusting-nuts 12, which bear on the upper and lower sides of the said bars 3. By thus disposing the adjusting-screws 10 in pairs and spacing them apart transversely of the guide-frame and adjustable guides 6 the latter are supported near their outer sides and are prevented from rocking or shifting laterally.

The cross-head 13 is provided in its upper and lower sides with longitudinal guide-grooves 14, which are engaged by the inner flanges or side rails 8 of the adjustable guide 6, and thereby the cross-head is prevented from moving laterally between the said adjustable guides. The side portions of the cross-head which are coincident with the ways 9 are provided in their upper and lower sides with transverse semicylindrical bearings 15, in which antifriction-rollers 16 are journaled. The length of the said rollers is equal to the width of the guideways 9 between the side flanges or rails 8, and thereby the said rollers are prevented from moving endwise in their bearings and are retained therein, as will be understood.

By the provision of the adjustable guides 6 and the adjusting-screws 10 the cross-head may be at all times maintained in perfect alinement.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my invention will be readily understood, it is thought, without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a cross-head, a guide-frame having vertical guideways at its ends and adjustable guides for the cross-head, said guides being provided at their ends with guide-flanges which engage the vertical guideways of the guide-frame, substantially as described.
2. In combination with a cross-head, a guide-frame, adjustable guides for the cross-head in the guide-frame, and adjusting-screws for the said adjustable guides, the said adjusting-screws being disposed in pairs and spaced apart laterally and bearing on the adjustable guides near the sides of the latter for the purpose set forth, substantially as described.
3. In combination with a cross-head having longitudinal guide-grooves in its upper and

lower sides, a guide-frame, and guides in the said frame having longitudinal side flanges engaging the guide-grooves of the cross-head to prevent lateral movement of the latter, substantially as described.

4. In combination with a guide-frame, adjustable guides therein having longitudinal guideways in their opposing sides, said guideways having side flanges, a cross-head and antifriction supporting-rollers operating in the guideways of the adjustable guides and disposed between the side flanges of said guideways, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

BERNARD J. REILLY.

Witnesses:

C. J. WHITNEY,
J. H. McDONALD.