

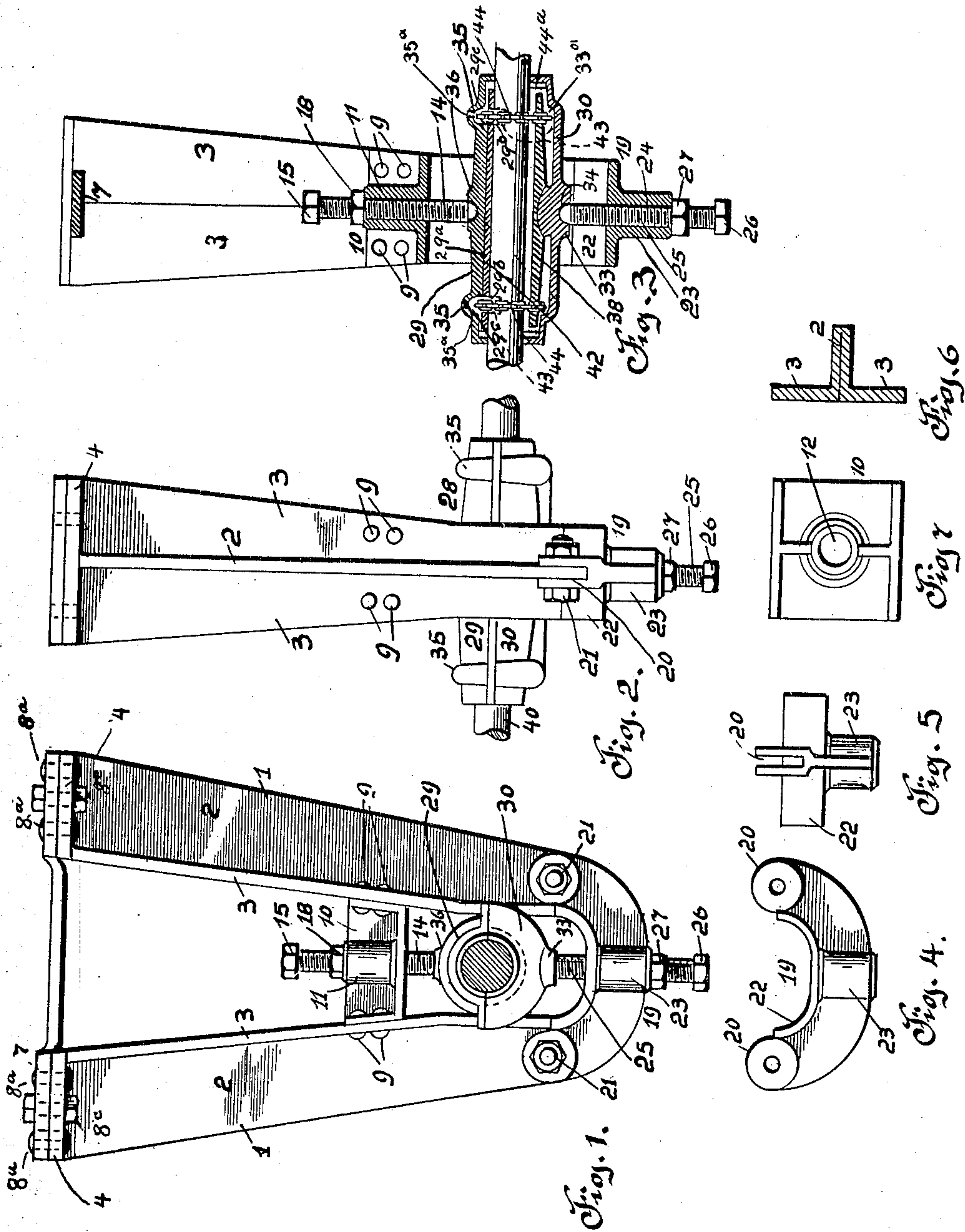
No. 871,136.

PATENTED NOV. 19, 1907.

E. E. McINTYRE.
SHAFT HANGER.

APPLICATION FILED OCT. 18, 1905.

3 SHEETS—SHEET 1.



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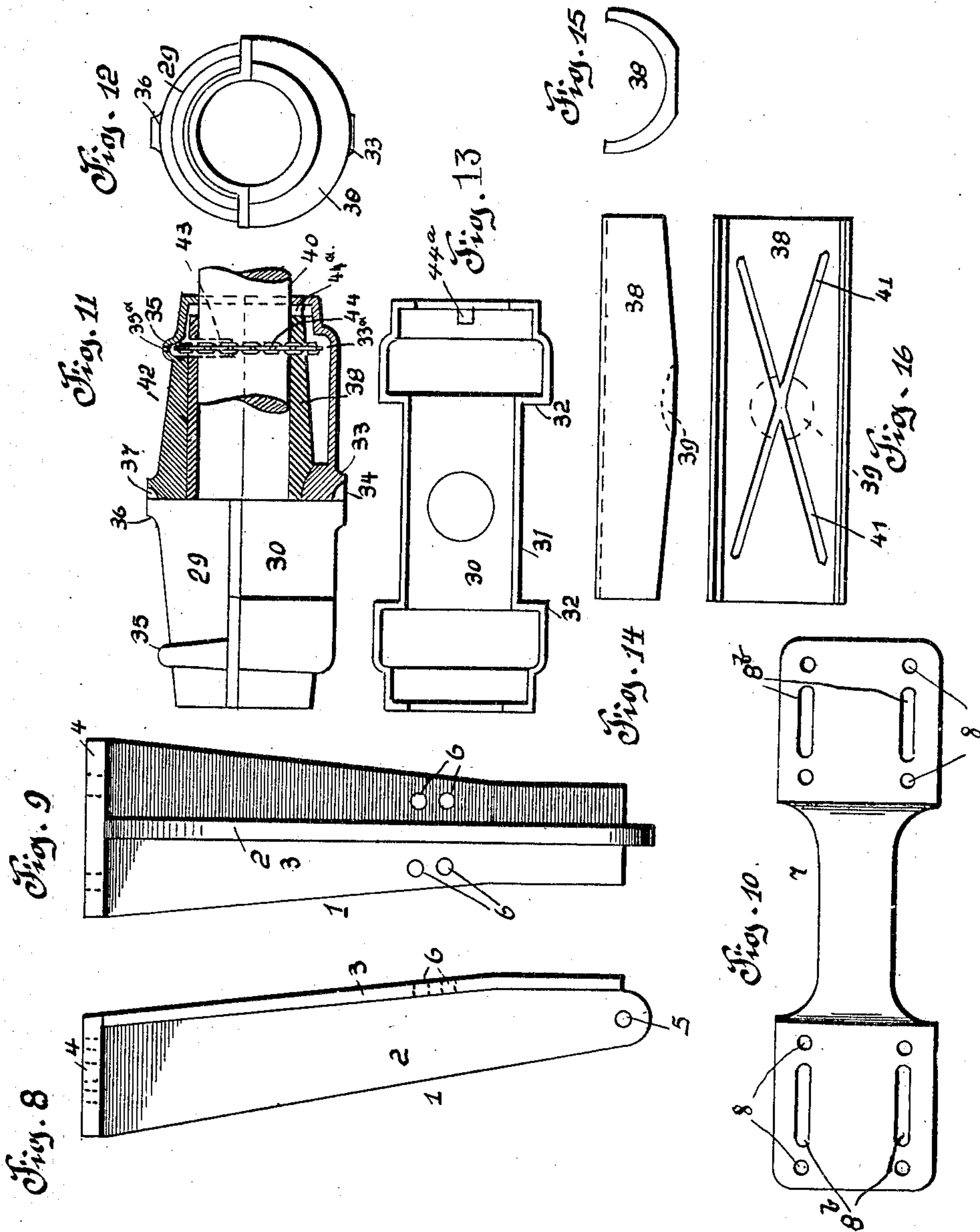
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

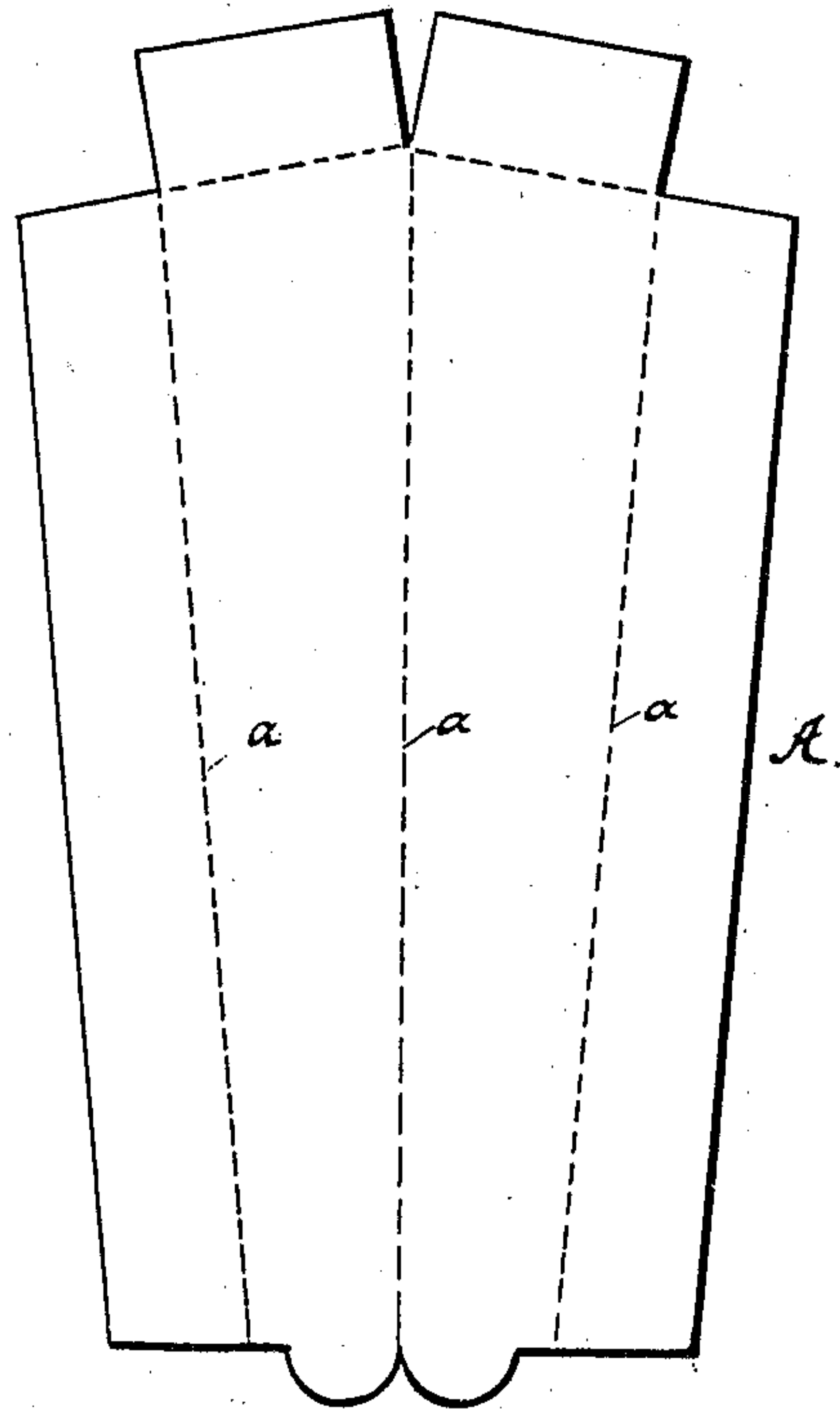


Fig. 17.

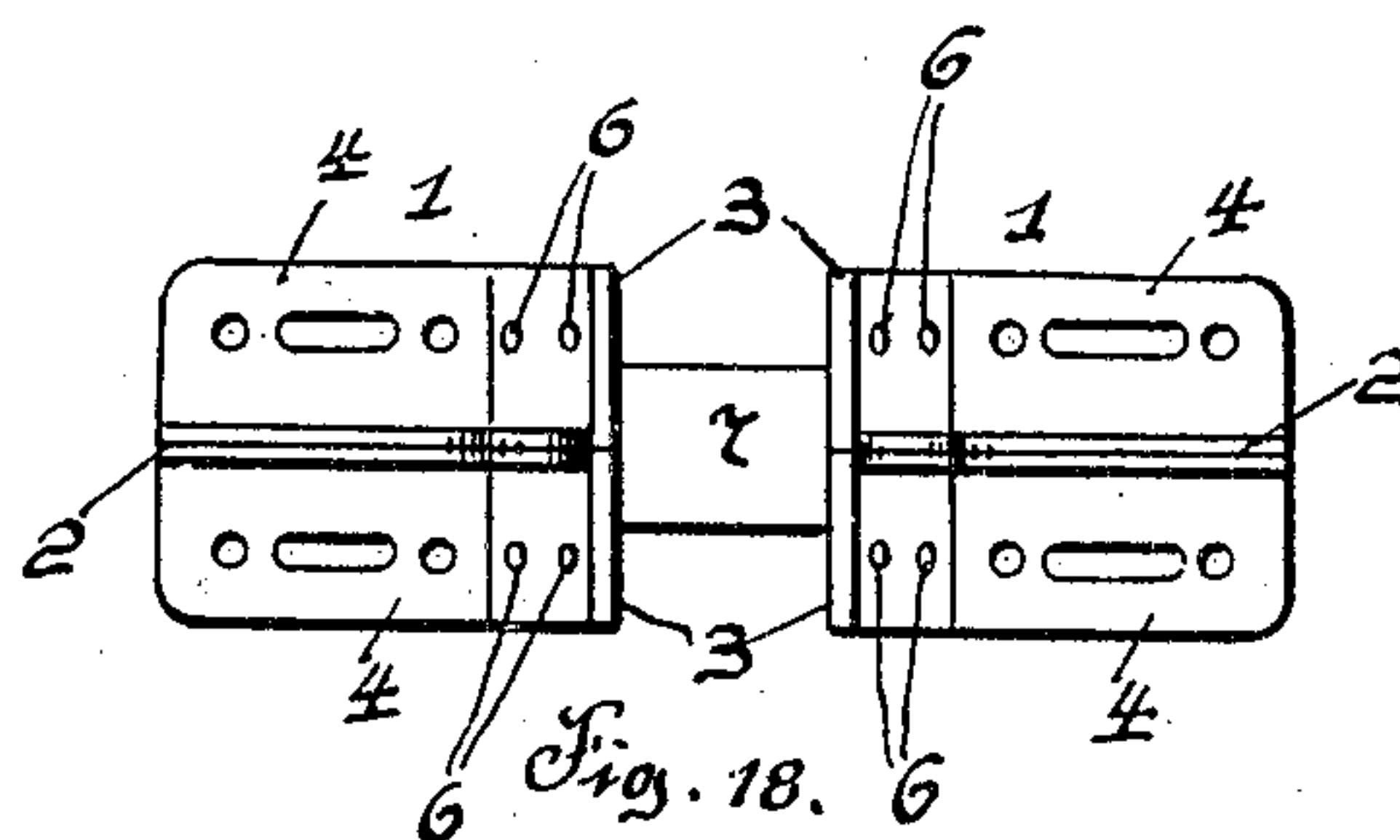


Fig. 18.

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UNITED STATES PATENT OFFICE.

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SHAFT-HANGER.

No. 871,136.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed October 18, 1905. Serial No. 283,276.

To all whom it may concern:

Be it known that I, ELMER E. MCINTYRE, citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Shaft-Hangers, of which the following is a specification, reference being had therein to the accompanying drawing

10 This invention relates to certain new and useful improvements in shaft hangers, and the primary object of the invention is to construct shaft hangers of novel construction of pressed or forged steel.

15 My invention aims to provide a hanger in which a shaft may be adjustably mounted and in connection with the hanger and the adjustable shaft bearing, I employ novel means for preventing longitudinal displacement of the shaft when journaled in said hanger.

With the above and other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts to be hereinafter more fully described and then specifically pointed out in the claims, and referring to the drawing accompanying this application, like numerals of references designate corresponding parts throughout the several views, in which:—

Figure 1 is a side elevation of my improved hanger, Fig. 2 is a front elevation, Fig. 3 is a vertical sectional view of the hanger, Fig. 4 is a side elevation of a detachable bearing support, Fig. 5 is a front view of the same, Fig. 6 is a cross sectional view of one of the depending legs of the hanger, Fig. 7 is a plan of the cross head of the hanger, Fig. 8 is a side elevation of one of the legs of the hanger, Fig. 9 is a front elevation of the same, Fig. 10 is a plan of the tie plate of the hanger, Fig. 11 is a side elevation of the bearing or journal box of the hanger, partly in section, Fig. 12 is an end elevation of the same, Fig. 13 is a plan of the lowermost part of the journal box, Fig. 14 is a side elevation of the bearing block of the journal box, Fig. 15 is an end view of the same, Fig. 16 is a top plan view of the bearing block, Fig. 17 is a plan view of the blank employed in constructing the legs of the hanger, and Fig. 18 is an end view of the legs of the hanger.

To put my invention into practice, I employ two steel plates or blanks as shown in Fig. 17 which are bent to form legs 1, each leg being substantially T-shaped in cross section and comprising a web 2 and oppositely projecting flanges 3. Each leg tapers and has its largest end formed with pierced horizontal flanges 4 forming bearings for the upper coupling plate as hereafter described, while the smaller ends of the legs are pierced as at 5. The flanges 3 intermediate the ends of each leg are provided with apertures 6. The legs 1 are suitably secured to a tie plate 7, by means of the bearings 4, said legs being positioned upon said tie plate whereby the flanges 3 of each leg will confront one another. The tie plate 7 is pierced as at 8, to permit of the bearings 4 being secured to the tie plate by rivets 8^a. The tie plate 7 is slotted as at 8^b in order that the hanger may be adjustably secured to a ceiling, overhead beam or girder by bolts and nuts 8^c, said bolts passing through the slots of the tie plate 7.

The intermediate portion of the tie plate 7 is depressed to form depending shoulders bearing against the inner edges of the flanges 3, and thus serving as a spreader between the legs of the device, and effectually preventing a tendency of the legs to be collapsed by any pressure to which they may be subjected.

Mounted between the legs 1, and secured to the flanges 3 by rivets 9 is an intermediate cross head 10, said head being formed with a central vertically disposed boss 11 having an opening 12 formed therein. Mounted in said opening is a screw 14 having a head 15 and said screw is adjustably retained within the boss by a jam nut 18, which bears upon the top of said boss, as clearly illustrated in Figs. 1 and 3.

Secured to the lower pierced ends of the legs 1, is a bearing support 19, said support being substantially semi-circular in form and having bifurcated pierced ends 20, 20, said ends being secured to the ends of the legs 1 by nuts and bolts 21. The upper edge of the bearing support is formed with flanges 22, the upper edges of which engage the flanges 3 of the legs when the bearing support is secured to said legs. The bearing support is formed with a central vertically disposed boss 23 having a screw threaded opening 24 formed therein, and in said opening is mounted a screw 25 having a head 26 and a lock

nut 27. The screw 25 is adapted to vertically align with the screw 14 of the intermediate cross head 10.

A journal box 28 is mounted between the 5 screws 14 and 25. The journal box is clearly illustrated in Figs. 3, and 11 to 16 inclusive. The box consists of an outer casing formed in two parts 29 and 30, each part being substantially semi-cylindrical in form, 10 the part 29 being adapted to fit upon the part 30. The part 30 of the journal box is formed with a contracted center portion 31 providing semi-circular shoulders 32, and when the part 30 is mounted between the 15 legs 1 and the screws 14 and 25, the shoulders 32 are adapted to engage the edges of the flanges 3 of said legs. The part 30 is provided centrally of its length with an enlargement 33 which extends within the contracted portion 31 of the part 30 and also 20 outside thereof and in the outer side of the enlargement is formed a recess 34 in which the upper end of the screw 25 is adapted to seat.

25 The part 29 is provided with a lining of Babbitt metal and this lining is provided with substantially semi-circular slots 29^b adjacent to its ends, while the ends of the part 29 are provided with semi-circular recesses 29^c.

30 The part 29 at each end is provided with oiling ports 35^a which permit of oil being placed in the part 29. Centrally of the top of said part 29 is formed an enlargement or boss 36 35 having a semi-spherical recess 37 formed therein, to receive the end of the screw 14.

In the lower part 30 of the journal box is mounted a bearing block 38 which is cylindrical in form. The bearing block is preferably made out of pressed steel having a 40 lining of Babbitt metal and centrally of its length is provided with a recess 39 to receive the enlargement 33 formed upon the inner side of the part 30. In the bearing block is supported the shaft or axle 40 to be journaled 45 in the hanger. The curved inner sides of the bearing block are provided with diagonally disposed grooves 41, 41, these grooves being adapted to convey a lubricant to the bearing surface of the shaft 40 which frictionally en- 50 gage the curved sides of the bearing block. Surrounding the bearing block 38 and the shaft 40 at each end thereof is a chain 44 said chain being loosely mounted upon the shaft and passing around in the slots 29^b and 55 through a lubricant receptacle 33^a formed in the bottom of the part 30 of the journal box. Oil is admitted to the lubricant receptacle through the ports 35^a, said lubricant passing around the ends of the journal box. As the 60 shaft revolves the chains 44 are adapted to convey oil or the like lubricant from said receptacle to the top of the shaft where it will be distributed. The lower part 30 of the journal box is provided with an upwardly

extending lug 44^a at each end thereof which 65 is adapted to engage the shaft and prevent the lubricant from caking or becoming coated upon the shaft in the oil passage at each end of the journal box.

It will be observed that the different parts 70 of my improved hangers are constructed of pressed steel, and that these parts can be easily and quickly assembled to provide a strong and durable bearing or hanger for a shaft or axle. It is possible to adjust the 75 journal box of the hangers at any desired time the shafting or axles journaled in the boxes need alining, this being accomplished by the screws of the hangers.

I desire it to be understood that each and 80 every part of my improved hanger, with the exception of the chains 44 and the Babbitt metal lining 29^a, are made of pressed or forged steel and by so forming said parts, I can manufacture my improved hangers at a 85 comparatively small cost and with the least expenditure of labor necessary to produce hangers.

The blank A, shown in Fig. 17 is folded and pressed along the dotted lines *a* to form 90 the web 2 consisting of two thicknesses of metal, and the laterally extending flanges 3. The legs are firmly braced and reinforced by the central webs.

What I claim and desire to secure by Let- 95 ters Patent, is:—

1. A shaft hanger comprising supporting legs each formed from a single plate and bent upon itself longitudinally to constitute a web and with the free edges of the members of 100 said web bent at right angles in opposite directions to form lateral longitudinal flanges, and said web members bent at right angles at one end to form oppositely extending bearings, a tie plate connecting the bearings of 105 said legs, a bearing support connecting the legs at their other ends, a screw adjustably operating through said bearing support, a cross head connected between said legs intermediate their ends and having a central ap- 110 ertured boss, a screw adjustably mounted in said boss, and a two part journal box supported between said screws.

2. A shaft hanger comprising supporting legs each formed from a single plate and bent 115 upon itself longitudinally to constitute a web and with the free edges of the members of said web bent at right angles in opposite directions to form lateral longitudinal flanges, and said web members bent at right angles 120 at one end to form bearings, a tie plate connecting the end bearings of said legs, a bearing support connecting the legs at their other ends, a cross head connected between said legs intermediate their ends, a journal bear- 125 ing, and means for adjustably supporting said journal bearing between said cross head and bearing support.

3. A shaft hanger comprising supporting legs each formed from a single plate and bent upon itself longitudinally to constitute a web and with the free edges of the members of said web bent at right angles in opposite directions to form lateral longitudinal flanges and said web member bent at right angles to form oppositely extending bearings, a tie plate connecting the bearings of said legs,

and a bearing support connecting the legs at 10 their free ends.

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

ELMER E. McINTYRE.

Witnesses:

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