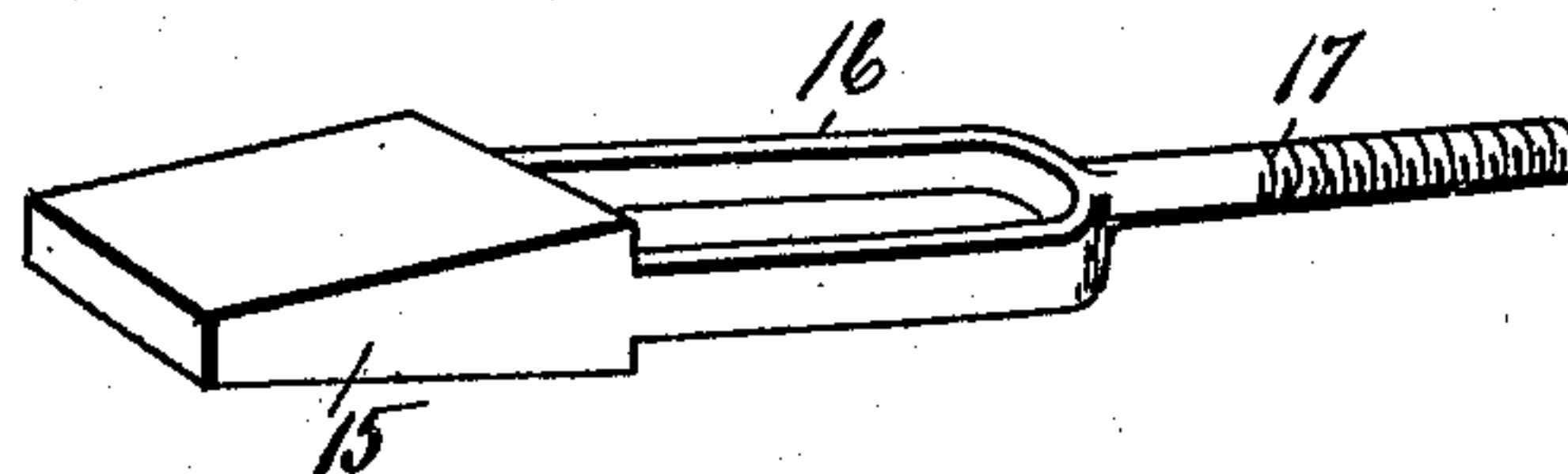
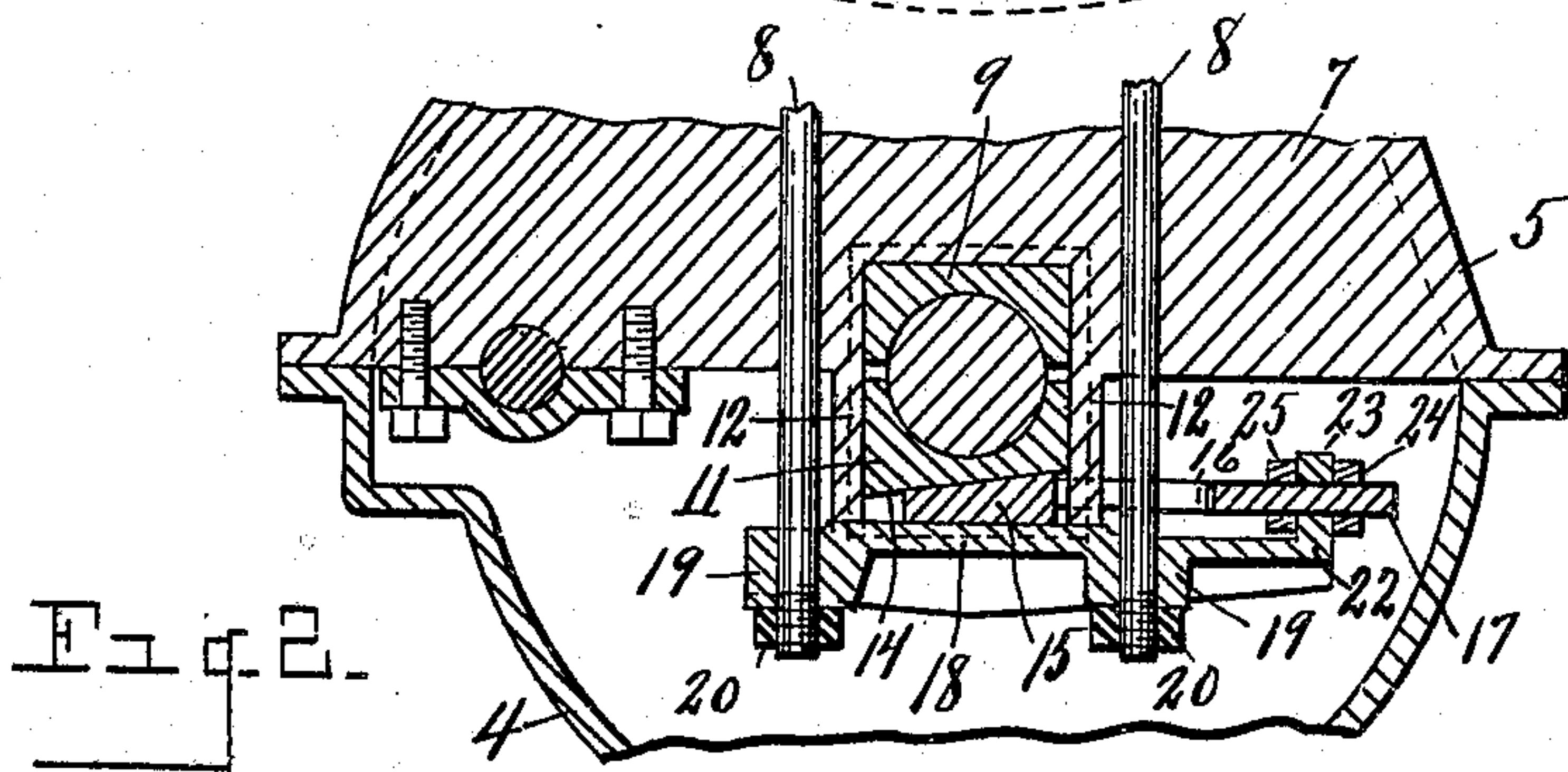
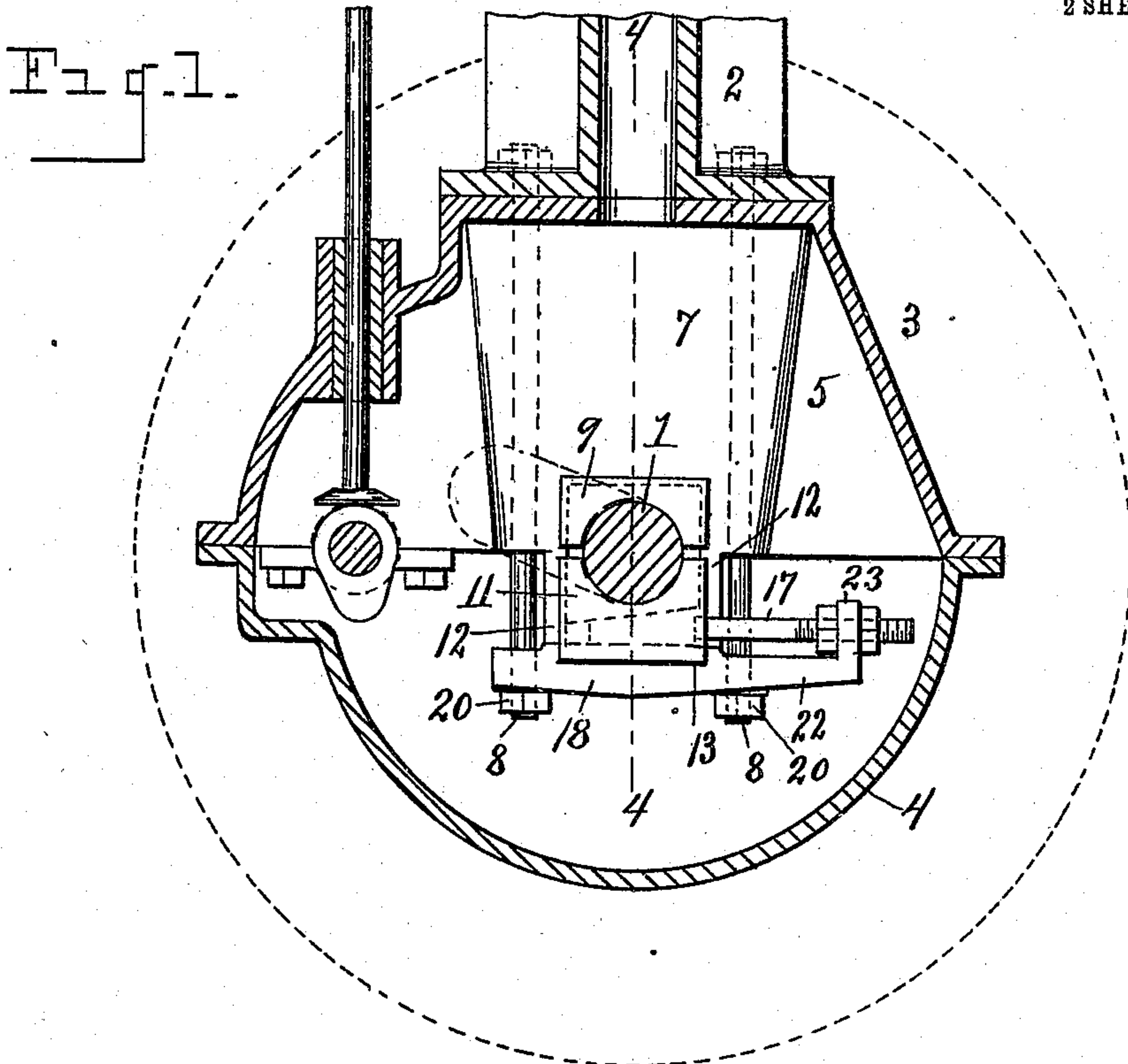


J. F. & H. E. DODGE.
ADJUSTABLE BEARING BOX.
APPLICATION FILED AUG. 17, 1905.

919,700.

Patented Apr. 27, 1909.

2 SHEETS—SHEET 1.



WITNESSES.

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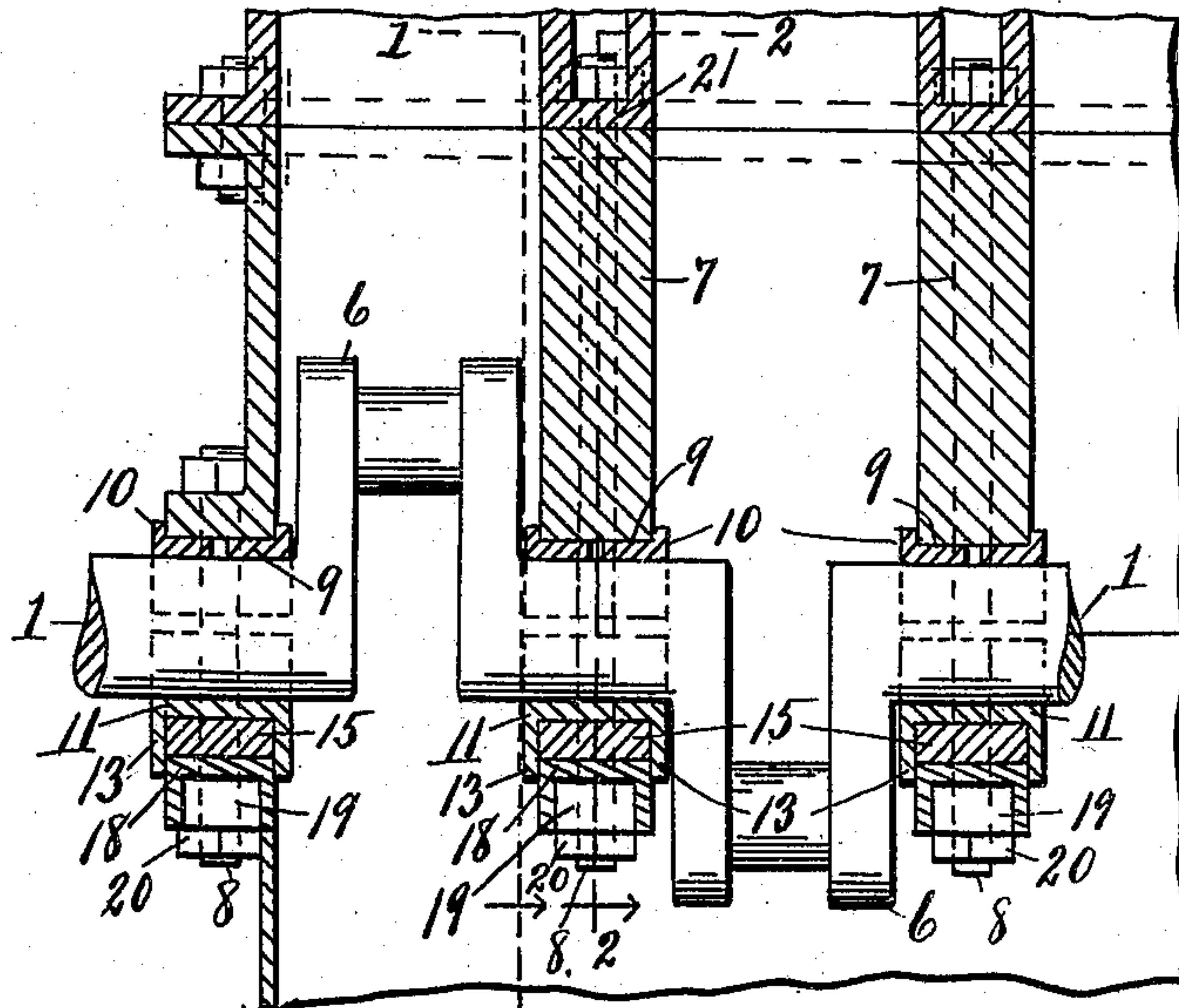


Fig. 4.

Fig. 5.

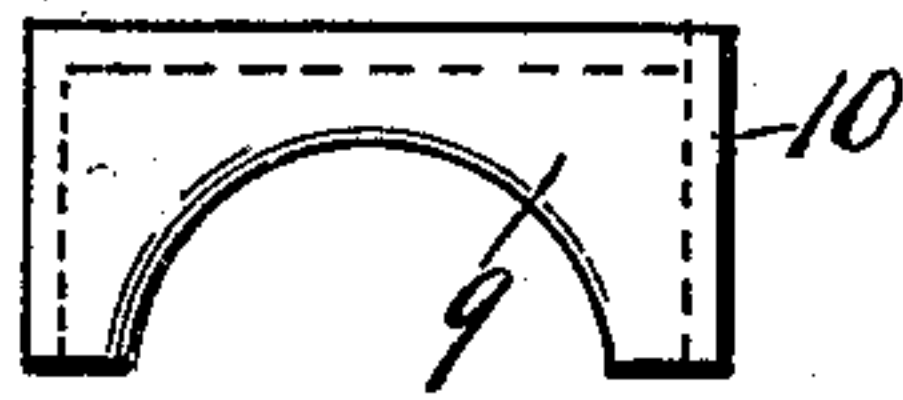


Fig. 9.

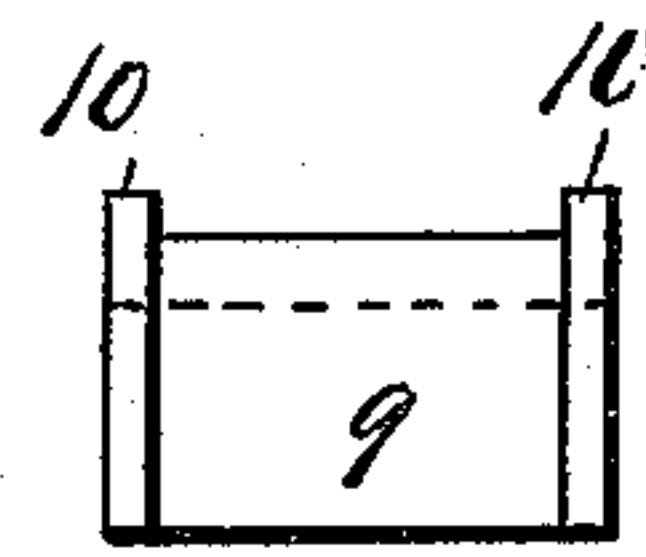


Fig. 6.

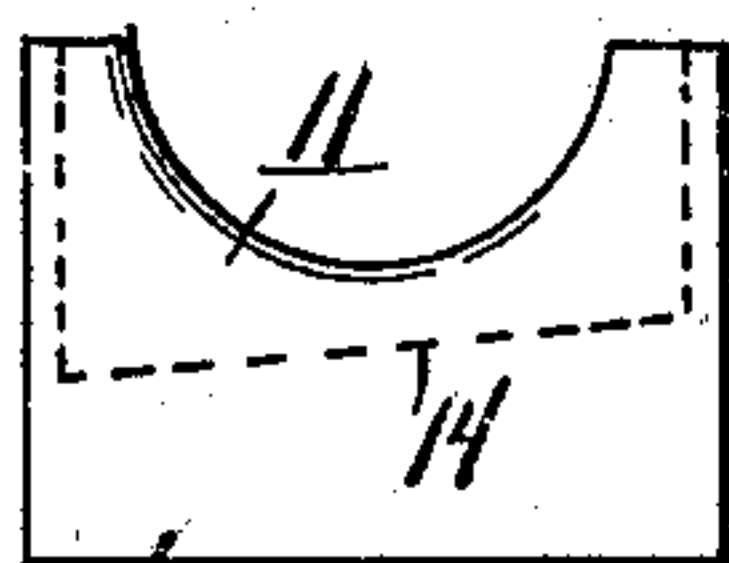


Fig. 10.

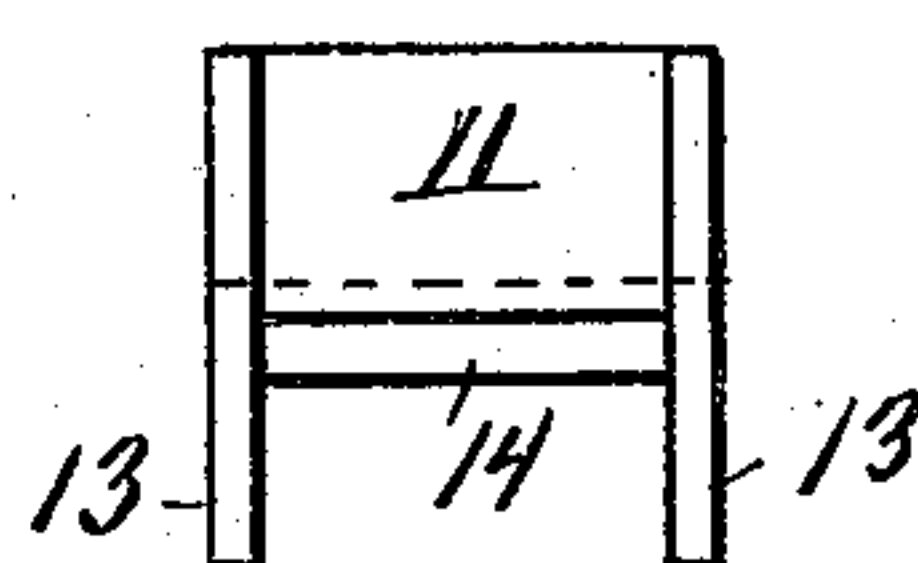


Fig. 7.

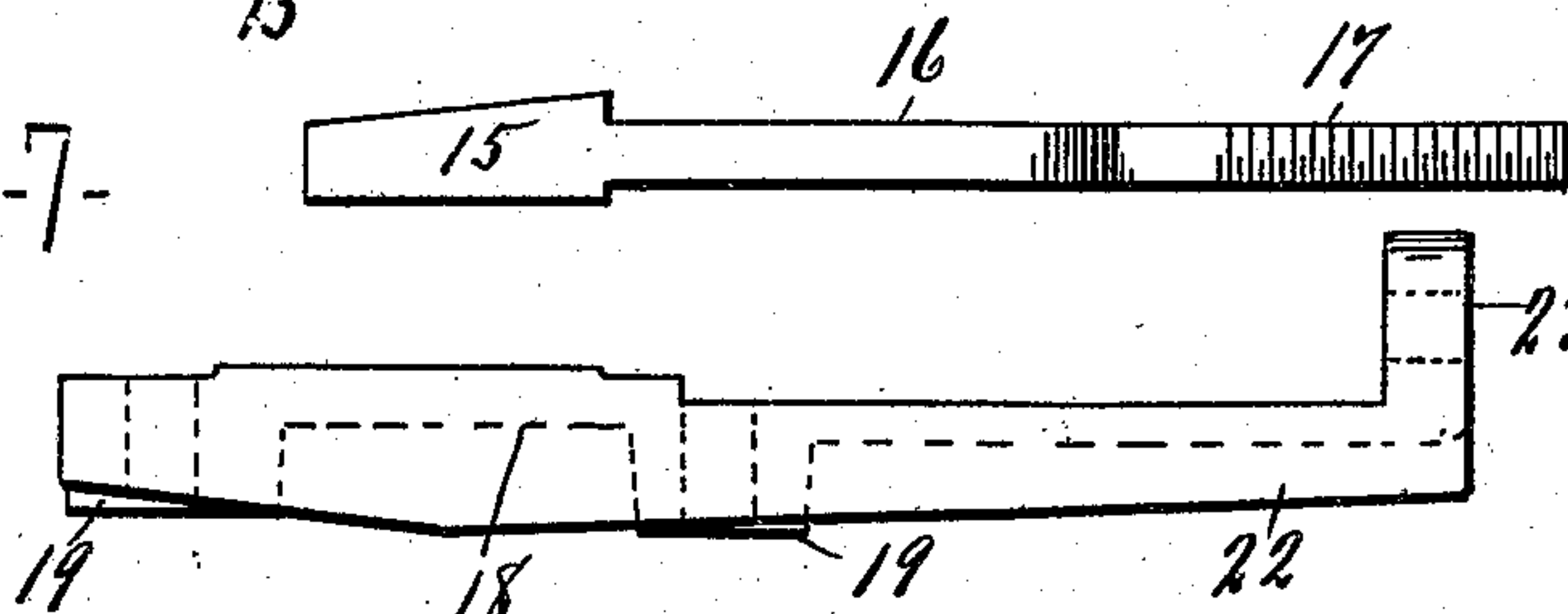
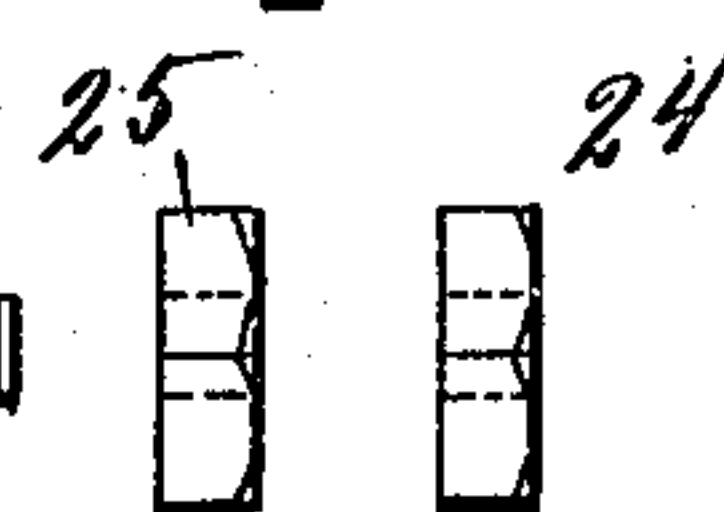


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOHN F. DODGE AND HORACE E. DODGE, OF DETROIT, MICHIGAN.

ADJUSTABLE BEARING-BOX.

No. 919,700.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed August 17, 1905. Serial No. 274,534.

To all whom it may concern:

Be it known that we, JOHN F. DODGE and HORACE E. DODGE, citizens of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in Adjustable Bearing-Boxes; and we 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to a crank box adjuster, especially designed for use in connection with explosive engines for vehicle propulsion, and consists in the construction and arrangement of parts hereinafter fully set forth and pointed out particularly in the claims.

The object of the invention is to provide simple and efficient means for adjusting the journal box of the crank shaft, or other shafting, whereby all of the wear may be readily taken up and a perfect bearing at all times maintained.

The above object is attained by the structure illustrated in the accompanying drawings, in which:—

Figure 1 is a transverse sectional view through the crank case of an engine and crank shaft therein, as on line 1—1 of Fig. 4. Fig. 2 is a similar section with the parts broken away, as on line 2—2 of Fig. 4. Fig. 3 is a perspective view of the adjusting wedge with yoke and threaded stem. Fig. 4 is a fragmentary view in longitudinal section, as on line 4—4 of Fig. 1. Figs. 5 and 6 are end elevations of the parts of the crank box. Fig. 7 is an edge elevation of the adjusting wedge and yoke. Fig. 8 is an edge elevation of the cross bar which supports the bearing box and adjusting wedge. Figs. 9 and 10 are end elevations of the parts of the box.

This invention is shown in connection with a multiple cylinder engine, wherein the crank shaft 1 is provided with a plurality of bearing boxes fitted with our improved means of adjustment. As the several bearing boxes and the adjustable features are exactly alike, it will suffice to explain the invention with reference to one of said boxes or bearings. The lower ends of the cylinders 2 are mounted upon a hollow base 3 which, together with the semi-cylindrical oil

receptacle 4 secured to said base, forms the crank case of the engine through which the shaft 1 extends.

Crossing the interior of the base transversely are the integral webs 5 which are located between the cranks 6 of the shaft and which at their central portion are increased in thickness as at 7 to allow for the passage therethrough of the vertical hanger or tie bolts 8. The upper half 9 of the crank box is confined in a recess formed in the lower edge of the enlarged portion 7 of the web and is held against lateral displacement by the marginal flanges 10 thereon. The lower portion 11 of the crank box is confined in place by the downwardly extending guides 12 depending from the central portion 7 of the web between which the lower part of the box is held against lateral displacement by the marginal flanges 13 thereon, said upper and lower portions of the box embracing the crank shaft, as shown. The under face of the lower portion 11 of the box is inclined, as at 14, between the side flanges 13. Engaging said inclined face is a slidable wedge 15 upon which the lower part of the box rests, said wedge having a yoke 16 which embraces one of the vertical guides 12 and from which extends a threaded stem 17. Supporting said slidable wedge is a cross bar 18 having apertured bosses 19 through which pass the lower ends of the tie bolts 8 which receive the nuts 20 by means of which said cross bar is drawn tightly against the lower ends of the guides 12, the upper ends of said tie bolts passing through and being secured in the flange 21 between the bases of the cylinders, as clearly shown in Fig. 4. Upon one end of the cross bar 18 is a projecting arm 22, having an upwardly extending ear 23 through which passes the threaded stem 17 on the yoke of the adjustable wedge. Screwed upon said threaded stem on each side of the ear 23 are the nuts 24 and 25 through the medium of which said wedge may be adjusted to compensate for the wear on the crank box. By loosening the outer nut 24 and turning the inner nut 25 as though to screw it outwardly upon the stem, the wedge 18 will be forced inwardly under the lower portion of the crank box, thereby crowding said lower portion upwardly and taking up all play in the journal incident to the wear of the parts. After adjustment, the wedge may be securely locked by tightening the nut 24. By means of the cross

bar 18 and tie bolts 8 which support the bearing parts, the thrust upon the crank shaft is carried by said bolts and transmitted to the base of the cylinder, thereby relieving
 5 the crank case from all strain and so mounting the bearings as to keep them in axial alinement.

By means of the slidable wedge, the bearing may be so perfectly adjusted as to
 10 obviate all lost motion and pounding and at the same time prevent undue friction at the journal by excessive pressure of the box thereon incident to imperfect adjustment.

Having thus fully set forth our invention, 15 what we claim as new and desire to secure by Letters Patent is:—

1. In an adjustable crank shaft bearing for explosive engines, the combination with the base of the engine cylinder, of a web depending from said base having box guides, a
 20 two-part bearing box confined between said guides, a crank shaft embraced by the bearing parts of said box, a movable bar crossing the ends of said guides and supporting the bearing parts and shaft, tie bolts extending from the base of the cylinder and engaging the opposite ends of said bar to draw said
 25 bar against the ends of said guides and carry the thrust on the bearing parts, and an adjustable wedge interposed between said bar and the lower box member.

2. In a bearing box, the combination with the shaft, of the two-part box, guides be-

tween which the parts of the box are confined, a bar crossing the ends of the guides 35 supporting the box members, means for holding said bar against the ends of said guides, said bar having a projecting ear with an aperture therethrough, a wedge interposed between the bar and the lower part of 40 the box, said wedge having a threaded stem passing through the aperture in the ear of said bar, and nuts upon said stem engaging the opposite faces of said ear.

3. In an adjustable crank shaft bearing 45 for explosive engines, the combination with the base of the engine cylinder, of suspension tie rods connected to said base and depending therefrom, a supporting bar engaged by and crossing between the lower ends of said 50 tie rods to which said bar is connected, movable bearing parts supported wholly by said suspended cross bar, a shaft embraced by the parts of the bearing, means for preventing lateral movement of the bearing 55 parts, and an adjustable wedge engaging the lower of the bearing parts and interposed between said part and said cross bar.

In testimony whereof, we sign this specification in the presence of two witnesses.

JOHN F. DODGE.
 HORACE E. DODGE.

Witnesses:

ELMER H. STONE,
 O. B. BAENZIGER.