

No. 730,808.

PATENTED JUNE 9, 1903.

O. S. WALKER.  
ADJUSTABLE BEARING BOX.  
APPLICATION FILED MAR. 26, 1902.

NO MODEL.

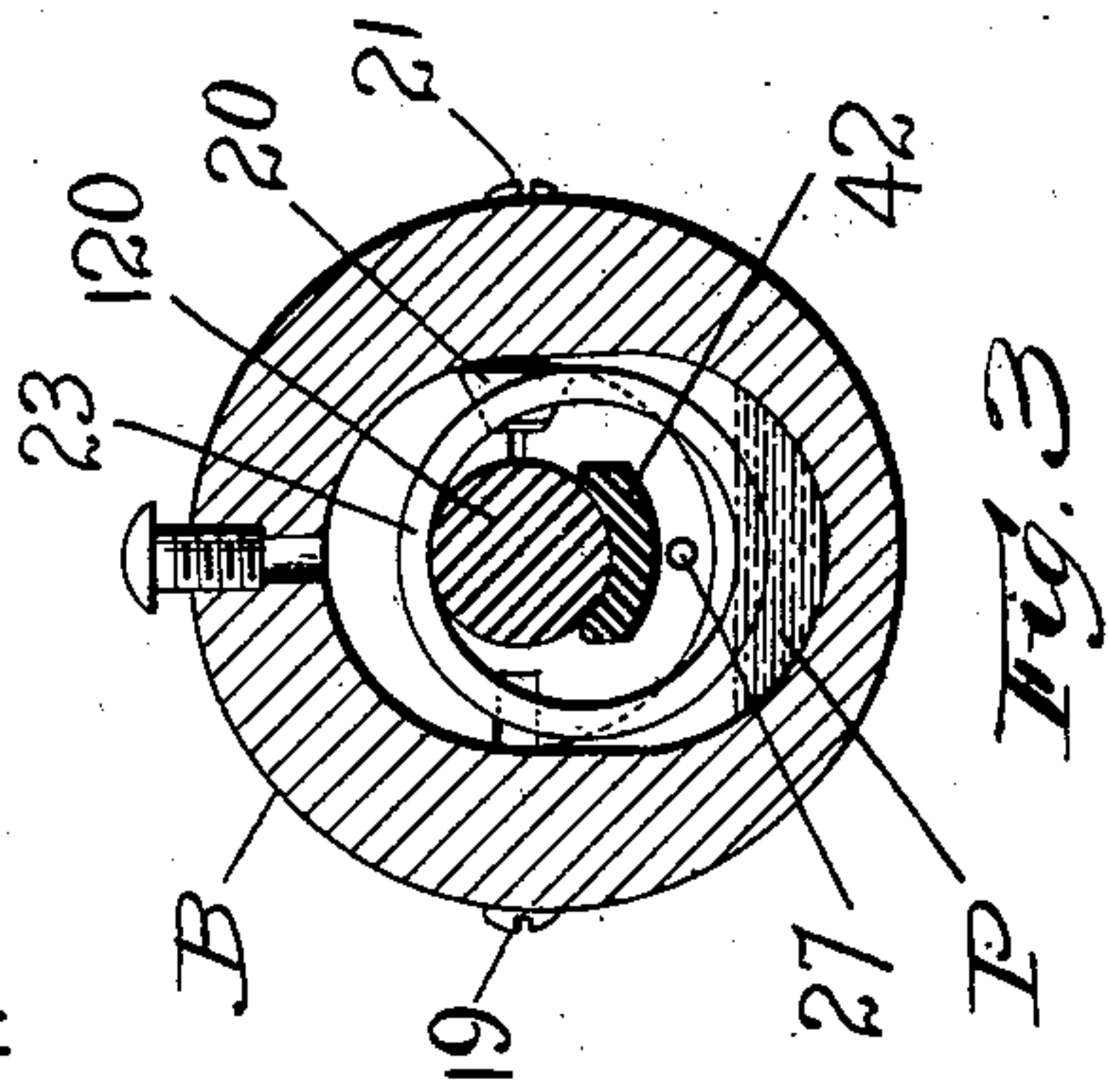
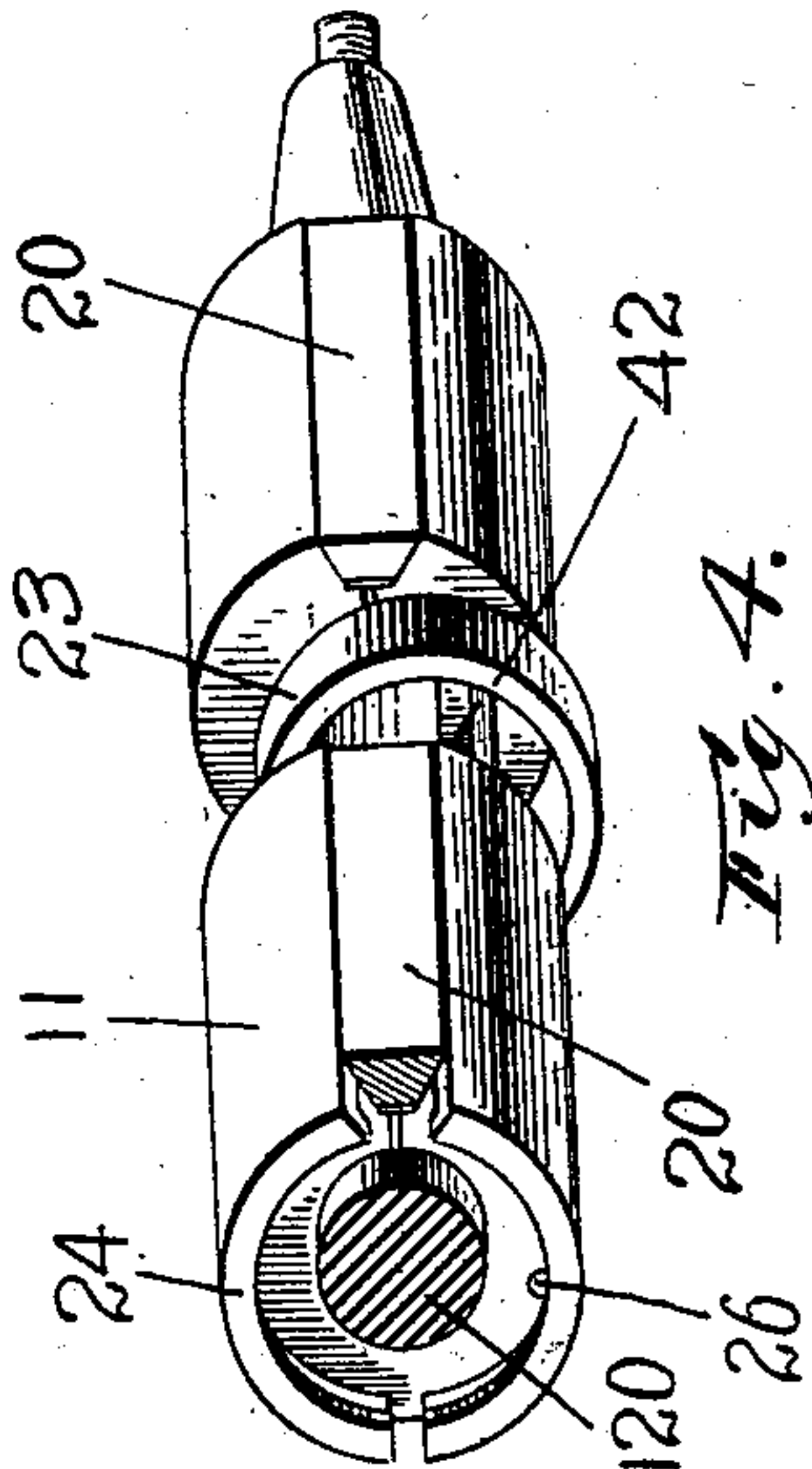
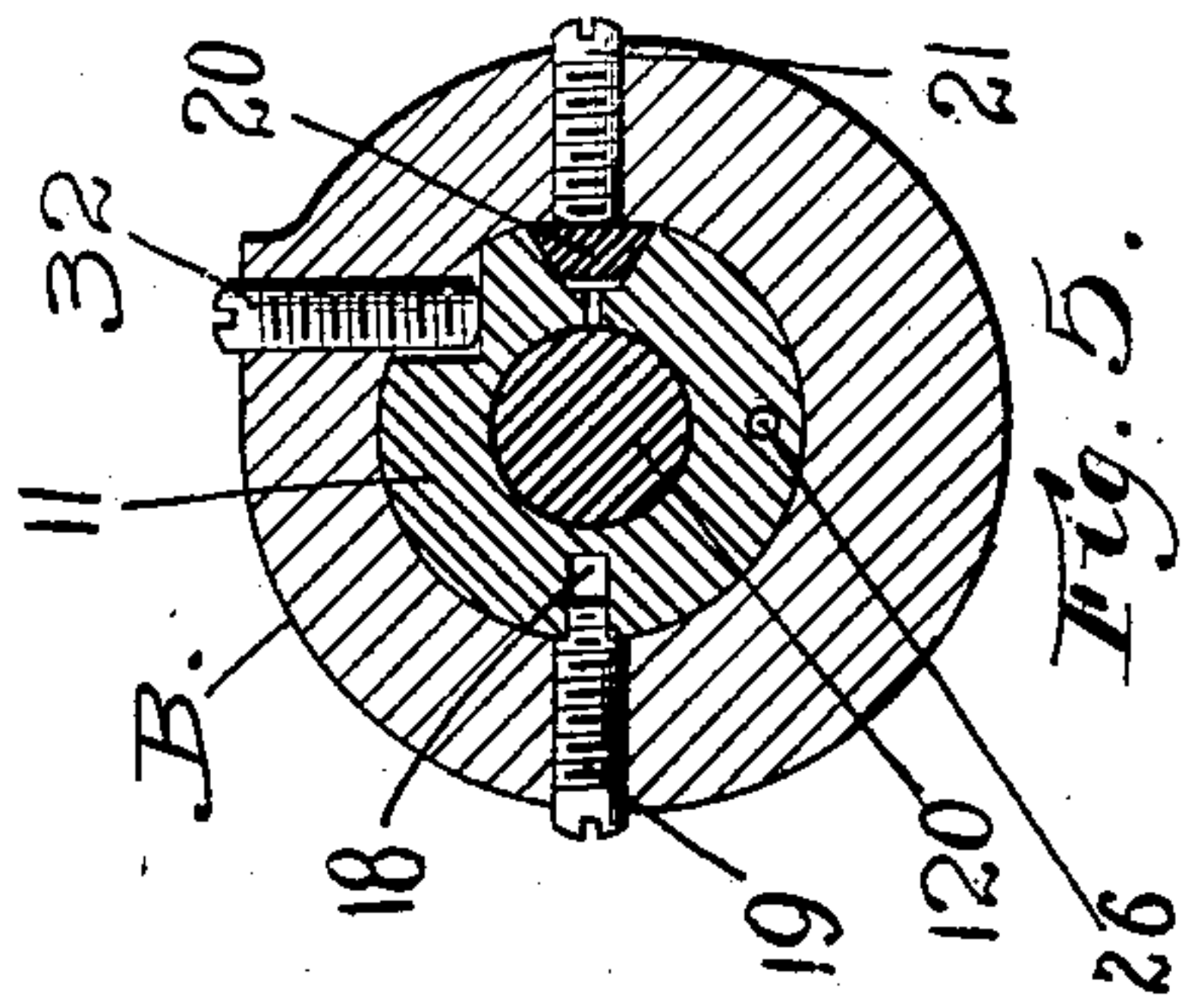
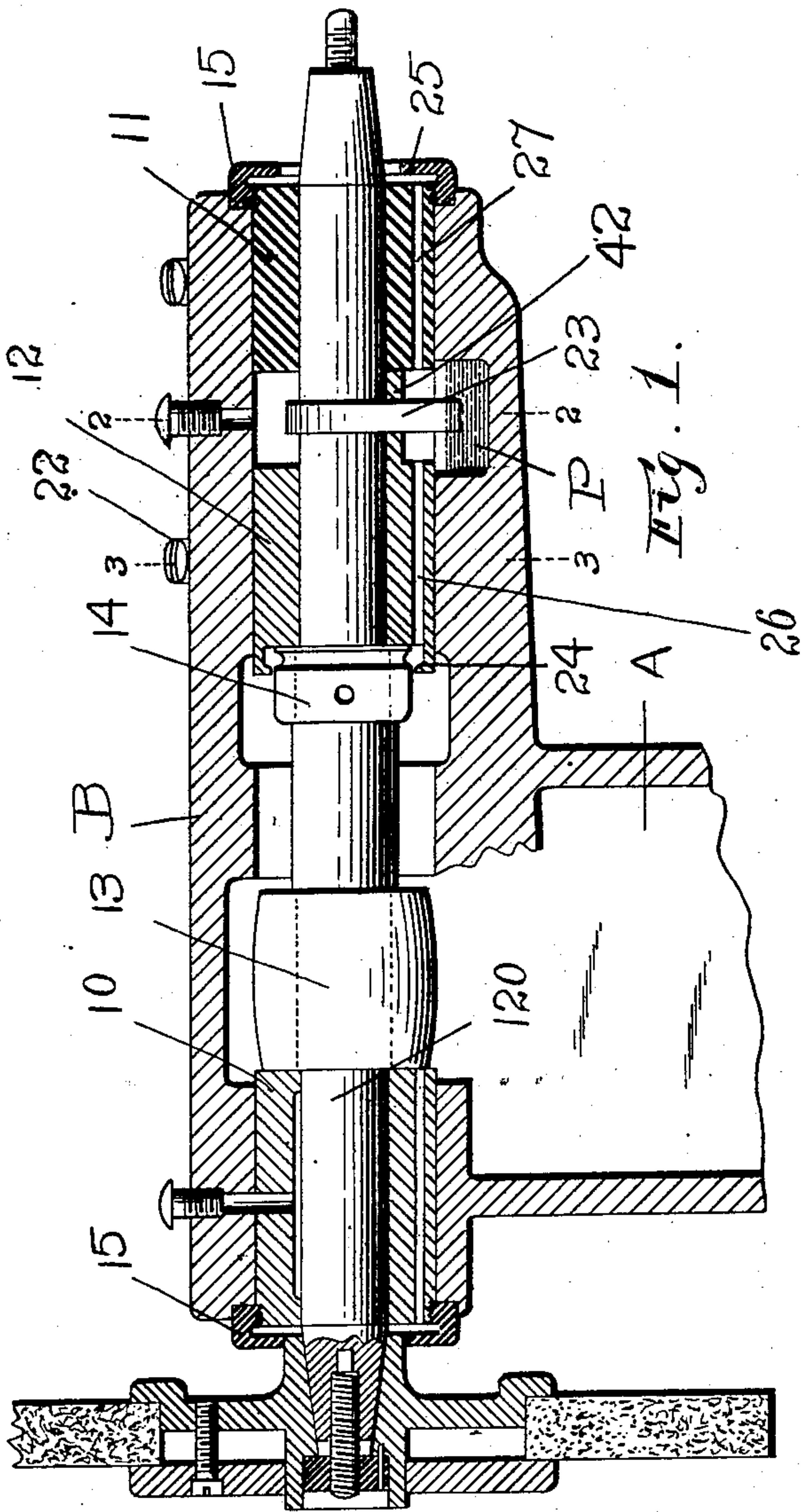
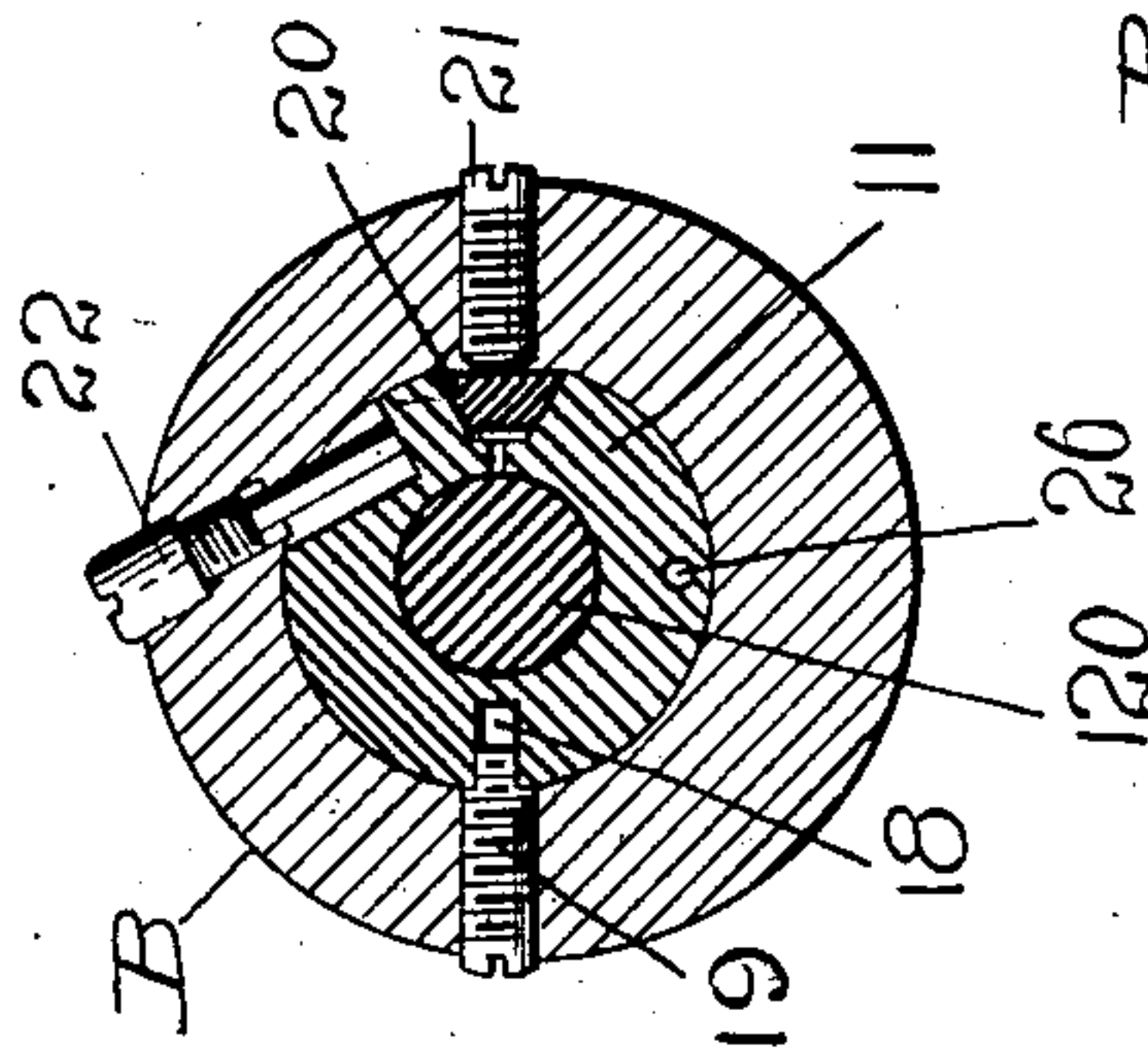


Fig. 2.



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# UNITED STATES PATENT OFFICE.

OAKLEY S. WALKER, OF WORCESTER, MASSACHUSETTS.

## ADJUSTABLE BEARING-BOX.

SPECIFICATION forming part of Letters Patent No. 730,808, dated June 9, 1903.

Application filed March 26, 1902. Serial No. 100,094. (No model.)

*To all whom it may concern:*

Be it known that I, OAKLEY S. WALKER, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Adjustable Bearing-Box, of which the following is a specification.

This invention relates to that class of bearings which can be set up or adjusted to compensate for wear.

The especial objects of this invention are to provide a strong, simple, and inexpensive form or adjustable bearing in which the same devices which are employed for adjusting the size of the bearing will also act to secure the bearing-box rigidly in place in its sleeve.

To these ends this invention consists of the adjustable bearing, as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a fragmentary sectional view illustrating the application of my invention to the bearings of a grinder. Fig. 2 is a transverse sectional view of the same, taken on the line 3 3. Fig. 3 is a sectional view taken on the line 2 2. Fig. 4 is a perspective view illustrating the application of a lubricating-ring to a split box constructed according to this invention; and Fig. 5 is a view similar to Fig. 2, illustrating a slightly-modified form of construction.

In many different kinds of machines—for example, in emery grinding machinery—it is desirable to provide adjustable bearings which may be taken up to compensate for wear. Constructions which have heretofore been employed for taking up the wear of bearings have ordinarily been objectionable on account of their comparatively expensive construction and for the reason that in most of the constructions which have heretofore been employed it has not been feasible to maintain perfect alinement for the bearings of the shaft.

The especial object of the present invention is therefore to provide a simple and inexpensive form of adjustable bearing in which the same devices which are employed for adjusting the size of the bearing will also serve to clamp the bearing-box in fixed position in its sleeve or barrel. To accomplish

this object, an adjustable bearing constructed according to my invention comprises a sleeve or barrel within which the bearing is housed, a split box, a key or stop for preventing the box from turning in the sleeve, a wedge, a stop for limiting the expansion of the split box by its wedge, and means for setting in said wedge to expand the box to the desired size and clamp the same in position.

In the accompanying drawings I have illustrated the application of my invention to an emery grinding-machine. It is to be understood, however, that my invention is of general application and may be applied to many other different classes of machines from that herein specifically illustrated.

Referring to the drawings and in detail, A designates the column of an emery grinder. Formed with the column A is a sleeve or barrel B. The sleeve or barrel B is bored or drilled out, so as to be provided with a hole of uniform diameter. Fitting into the barrel B are the split boxes 11 and 12. Journaled in the split boxes is a shaft 120, having a pulley 13 and collar 14 secured thereon. The split boxes and shaft are secured in place in the sleeve B by stop-collars 15. The construction of the split boxes and the devices employed for adjusting the same and clamping them in position are similar, and a description of one set of such devices will therefore be sufficient. As shown in Fig. 2, the boxes are splined or slotted longitudinally, as at 18, and the sleeve B is provided with slatted ended screws or keys 19 to hold the split boxes from turning. Opposite the screws or keys 19 the boxes are split and are provided with recesses for receiving the wedges 20. The wedges 20 may be set in by screws 21 to expand the split boxes. The amount to which the split boxes may be expanded is limited by the stop-screws 22. The stop-screws 22 are threaded into the sleeve B, and the ends of the stop-screws fit into notches in the split boxes. The surfaces engaged by the ends of the stop-screws 22 are preferably parallel to the sides of the wedges 20, as shown in Fig. 2, although in some constructions I prefer to have stop-screws 32 tapped into the barrel B at right angles to the setting-up screws 21, as shown in Fig. 5. By means of this construction when the stop-screws have



been set to proper position the setting-in screws 21 will not only serve to expand the split boxes, but when said screws 21 are screwed in they will also cause the wedges to  
 5 clamp the boxes down rigidly into engagement with the lower part of the sleeve B, thus maintaining perfect alinement between the split boxes, no matter to what extent the bearings have to be taken up to compensate  
 10 for wear.

Bearings constructed according to my invention may be lubricated or oiled in any of the ordinary ways. The drawings show a special construction for securing a circulation of lubricating-oil through the bearings.  
 15 It is to be understood, however, that these lubricating means form no part of my present invention and that such means are not claimed specifically herein.

As shown most clearly in Figs. 1 and 4, the box or bearing 12 is provided with a projecting bridge-piece 42, which extends across the space between the split boxes 11 and 12 and forms a bearing for the under side of the shaft  
 20 120. Inclosing the bridge-piece 42 and shaft 120 is an oil-carrying ring 23, which hangs down into an oil-pocket P. By hanging the oil-carrying ring 23 on the shaft 120 the travel of the oil-ring 23 will convey oil from the  
 25 pocket P to the upper part of the shaft and the bridge-piece 42 will act as a gutter or trough for trapping more or less of the oil, compelling the same to work its way through the bearings 11 and 12—that is to say, as distinguished from the ordinary arrangement of  
 30 oiling-rings my construction provides for the positive circulation of oil through the boxes 11 and 12, as the oil which is carried onto the trough-shaped bridge-piece 42 can escape only  
 35 by flowing out through the ends of the boxes 11 and 12. The oil which works out through the box 12 will be prevented from escaping by a flange 24, and will be returned to the oil-pocket P through an oil-channel 26, while  
 40 the oil which works out through the box 11 will be prevented from escaping by the flange 25 of the collar 15 and will be returned to the oil-pocket P by the oil-channel 27.

I am aware that numerous changes may be

made in practicing my invention by those  
 50 who are skilled in the art without departing from the scope thereof as expressed in the claims. I do not wish, therefore, to be limited to the construction I have herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of a bearing-sleeve, a split box, a key holding the split box from turning, a stop, a wedge engaging the split  
 60 box between its key and its stop, and means for actuating the wedge to expand the box between its key and stop and lock the same firmly in place.

2. The combination of a bearing-sleeve, a split box, a key preventing the box from turning, a stop-screw, a wedge engaging the split  
 65 box between its key and stop-screw, and a setting-in screw for operating the wedge to expand that part of the split box between its  
 70 key and stop-screw to lock the same rigidly in place in the bearing-sleeve.

3. The combination of a bearing-sleeve, a split box having a keyway along one side and a wedge-receiving recess along its opposite  
 75 side, a key for holding the split box from turning, stop-screws, a wedge engaging the recess in the split box and located between the stop-screws and key, and setting-in screws  
 80 for operating the wedge to expand the box between the stop-screws and key and clamp the same into rigid engagement with the bearing-sleeve.

4. The combination of a bearing-sleeve, a split box, a key preventing the split box from  
 85 turning, a wedge, stop-screws arranged perpendicularly to the face of the wedge at opposite sides thereof from the key, and setting-in screws for operating the wedge to expand the box and lock the same firmly in  
 90 place in the sleeve.

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

OAKLEY S. WALKER.

Witnesses:

PHILIP W. SOUTHGATE,  
 LOUIS W. SOUTHGATE.