L. BARTLETT.

PUNCH FILLER FOR BEARINGS.

APPLICATION FILED OCT. 22, 1919. RENEWED JAN. 17, 1921.

1,396,090. Patented Nov. 8, 1921.

Fig. 1.

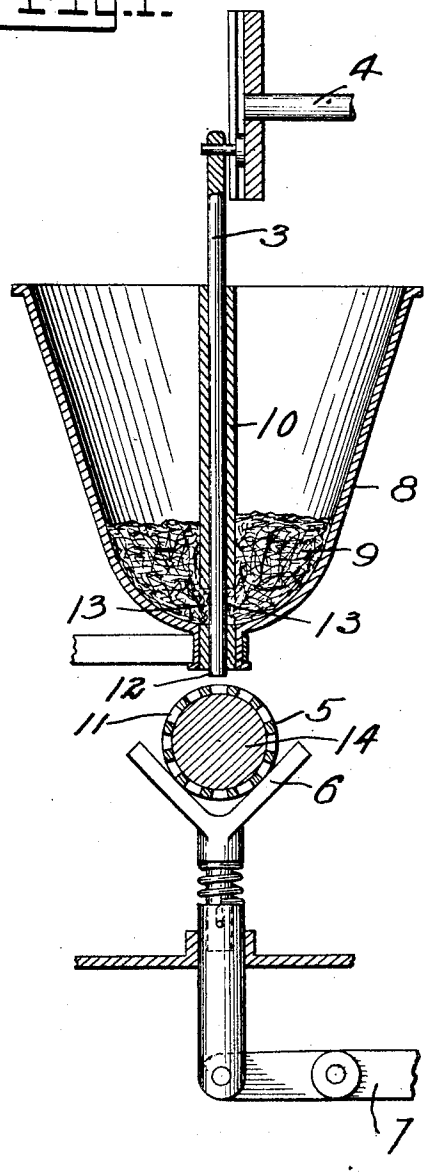
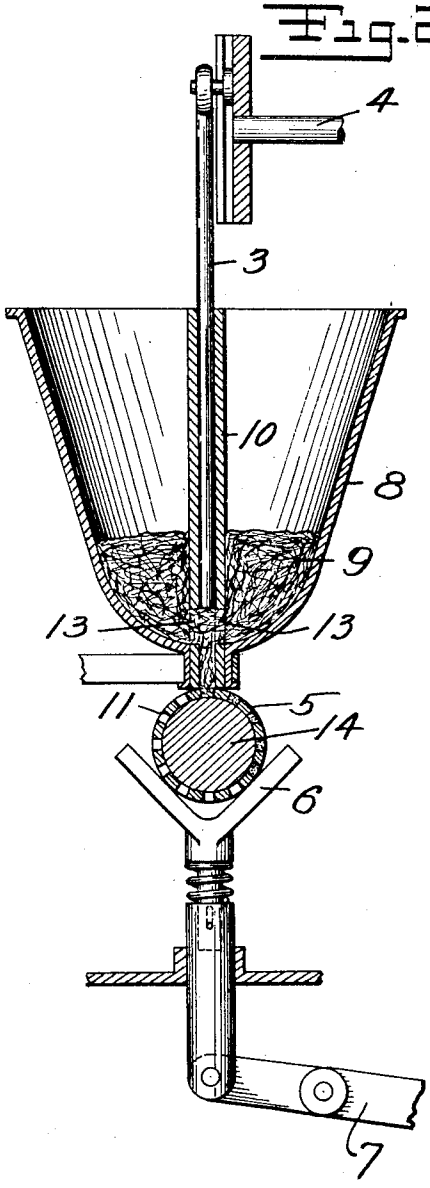


Fig. 2.



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UNITED STATES PATENT OFFICE.

LEONARD BARTLETT, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO RELIANCE MACHINE & SPECIALTY CO., OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

PUNCH-FILLER FOR BEARINGS.

1,396,090. Specification of Letters Patent. Patented Nov. 8, 1921.

Application filed October 22, 1919, Serial No. 332,557. Renewed January 17, 1921. Serial No. 437,966.

To all whom it may concern:

Be it known that I, LEONARD BARTLETT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Punch-Filler for Bearings, of which the following is a specification.

This invention relates to bearings, and especially to "oilless bearings" of the character described in my companion application filed Oct. 17, 1919, Serial No. 331,376; and the object of this invention is to provide means for mounting the lubricating plugs in the bearing with an ordinary punch press, common in every machine shop.

The invention is illustrated in the accompanying drawing, in which—

Figure 1, is a view of my invention applied to a power punch—the illustration of which has been omitted; and

Fig. 2, is a view of the same with the parts in a different position.

In the drawing like numerals of reference refer to the same parts in each of the views.

In the practice of my invention I connect the plunger of my device, indicated by 3 with the operative part 4, connected with any power punch.

In carrying out the invention I mount the inner part of the bearing 5 in a holder 6, operable with a lever 7, by the operator at will.

I also provide a hopper 8 in which may be mounted the lubricating powder 9, adapted to be fed through the orifice in the plug, or bushing 10, which is of a length to extend to the top of the hopper 8, as shown.

Within the part 10, the plunger 3 is free to slide; while the bearing 5 is provided with a plurality of perforations 11 which are to be packed with lubricating material under pressure.

The operation is as follows: The lubricating powder having been placed in the hopper, and the inner part of the bearing containing the perforations having been mounted in the holder 6, the plunger 3 is lowered till the end 12 projects below the hopper, as clearly shown in Fig. 1. Then by operating the lever 7, the bearing is raised till the end 12 enters one of the perforations 11. The plunger 3 is then raised till the powder can flow through the perforations 13 in the plug, from whence it can descend to fill the perforation in the bearing, as clearly shown in Fig. 2. It will be understood that when the bearing is raised, as described above, to be centered with the end 12 of the plunger it remains in an elevated position till filled with lubricating powder; and after being filled with the powder it is held in an elevated position till the plunger is again brought down, thereby packing the lubricating material, or powder in that perforation.

It will be understood, too, that the part 5 of the bearing is mounted on a mandrel 14, rotatable in any desired manner, so that the bearing part can be rotated at will to bring the successive perforations 11 underneath the plunger for the purpose of filling and packing the lubricating material in the perforations to form the plugs. At the same time, the mandrel will prevent the plunger forcing the lubricating powder through the perforations; but the powder will be firmly packed in the successive perforations, as will be understood. This operation can be repeated till all the perforations are filled.

It may be stated that in placing the lubricating powder in the perforations to form the bearing it is desirable to pack the material in the several perforations. This method permits of the packing in a cheap and efficient manner, and in an inexpensive way.

I claim:

1. A punch filler for oilless bearing provided with perforations comprising a machine provided with a suitable plunger, means to hold the bearing under said plunger with one of the perforations in position for filling, and means to depress said plunger into the perforation for filling, for the purpose set forth.

2. A punch filler for oilless bearing comprising a power press, a suitable plunger therein, means to hold a bearing provided with a plurality of perforations under said plunger in a manner whereby the plunger will enter one of the perforations, and means to depress said plunger.

3. The method of filling the perforations in an oilless bearing with lubricating plugs comprising a pressure punch adapted to hold the bearing, the feeding of the material into perforations in the bearing, and the applying pressure to said material with said punch.

4. The method of filling the perforations in an oilless bearing comprising the filling of each perforation with lubricating material, holding the same against interior displacement, and applying pressure to the outer end of each perforation filled with material.

5. The herein described filler for oilless bearings comprising a power punch, a plunger, a holder adapted to position a perforated tube relative to said punch, a device for filling each perforation in said tube with lubricating material, and means to bring said plunger into contact with the exterior of the lubricating material in each perforation.

6. The combination with a power punch of a filling device comprising a mandrel adapted to hold a perforated bearing in position and close the inner end of the perforation to be filled, a feeding device adapted to supply material to be packed in the perforations of said bearing, and a plunger connected with the power punch and operable thereby adapted to pack the material in the perforations successively.

7. The combination with a power punch of a filling device comprising a mandrel adapted to hold a perforated bearing in position and close the inner end of the perforation to be filled, a hopper adapted to hold the material to be packed in the several perforations, a passageway leading from the hopper to the perforation to be filled, and a plunger connected with the power punch adapted to pack the material in said perforation, said plunger being adapted to close said passageway in its descent.

8. The combination with a power punch of a filling device comprising a mandrel adapted to hold a perforated bearing in position and close the inner end of the perforation to be filled, a hopper adapted to hold the material to be packed in the several perforations, a passageway leading from the hopper to the perforation to be filled, and a plunger connected with the power punch adapted to pack the material in said perforation, said plunger being adapted to close said passageway in its descent, said mandrel being rotatable whereby the perforations may be positioned successively beneath said plunger.

Dated this 10th day of October, 1919.

LEONARD BARTLETT.