

No. 865,058.

PATENTED SEPT. 3, 1907.

J. ROBERTSON.  
LUBRICATING AND DUST PROOF GLAND.

APPLICATION FILED APR. 22, 1907.

Fig. 1.

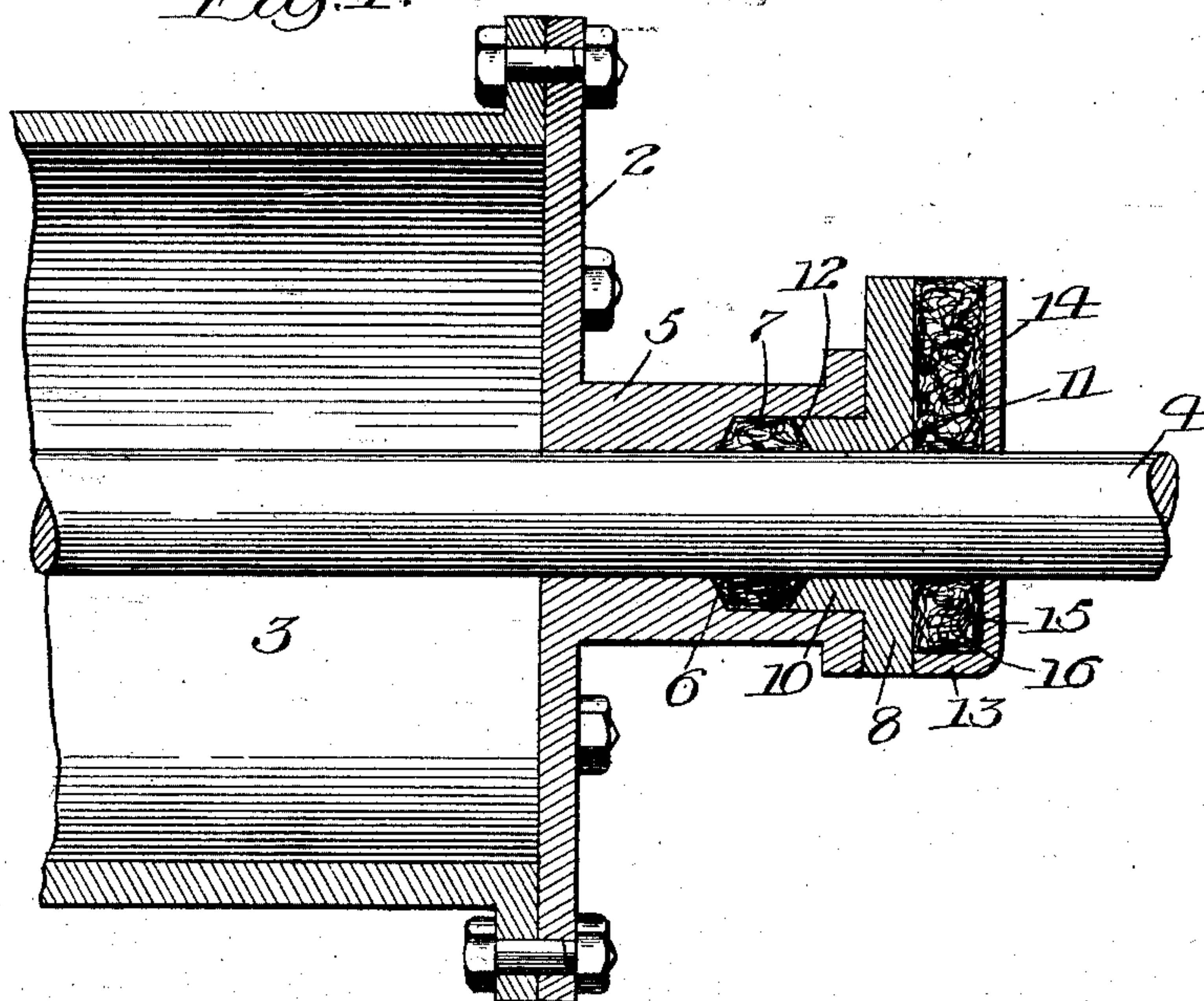


Fig. 2.

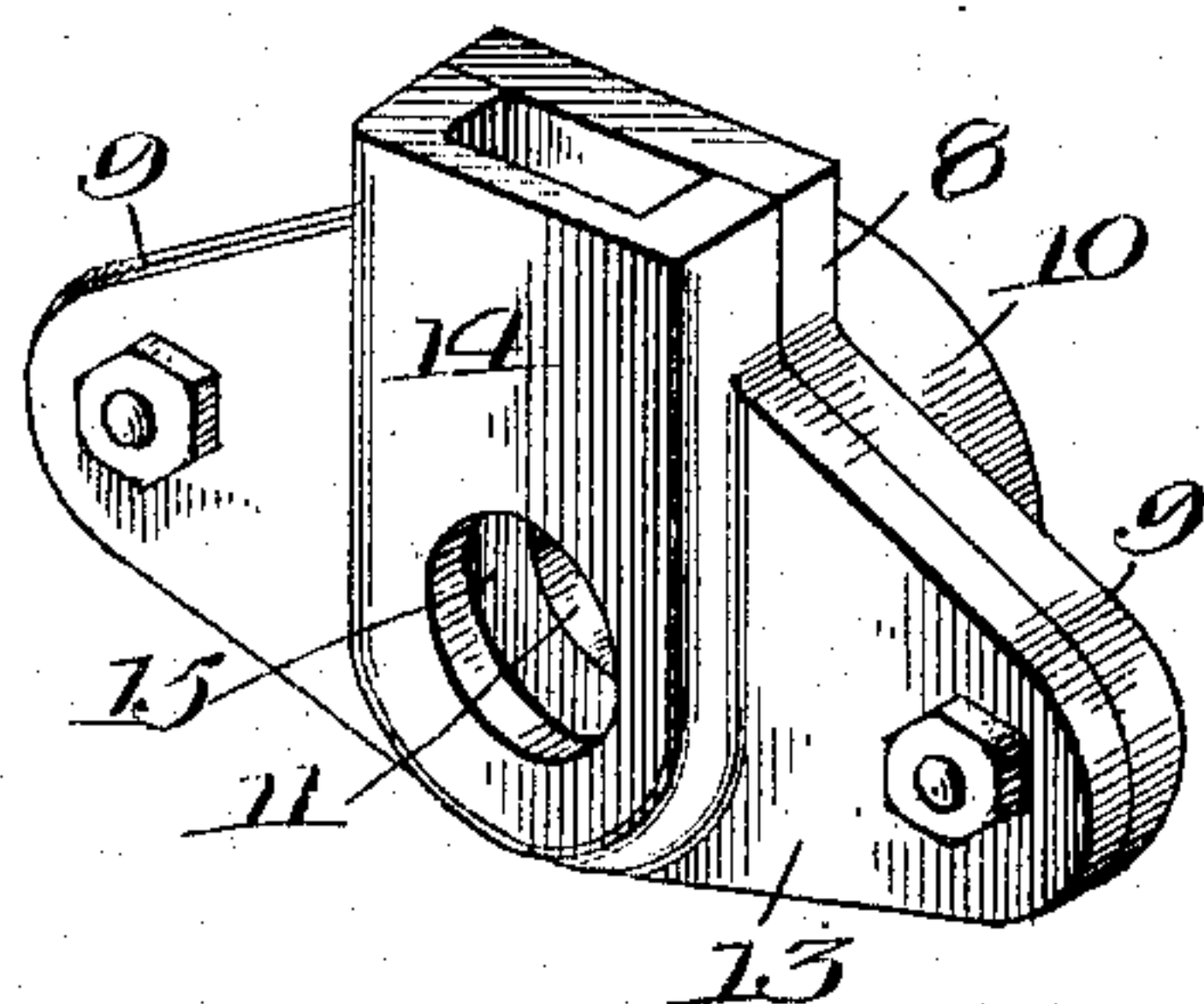


Fig. 3.

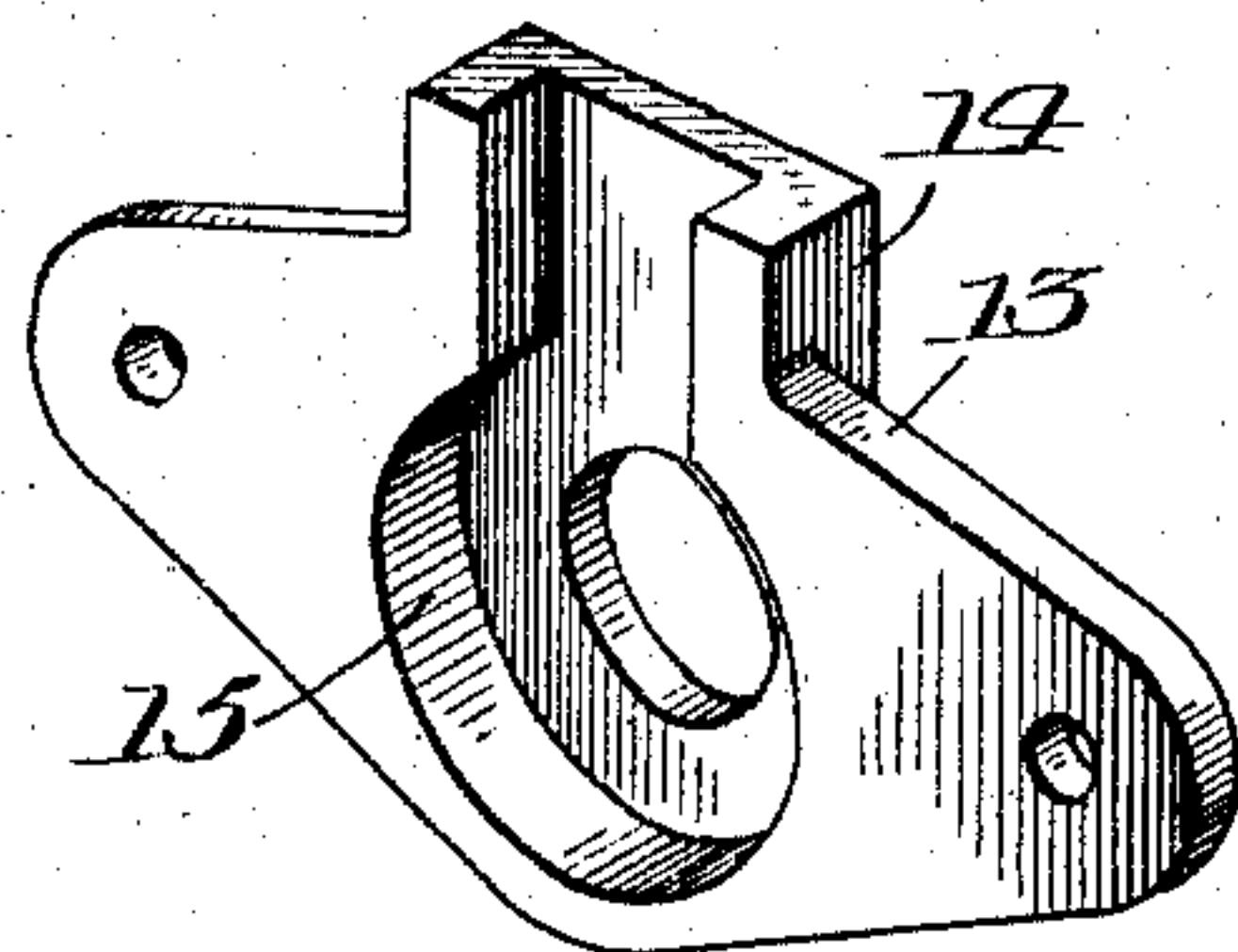
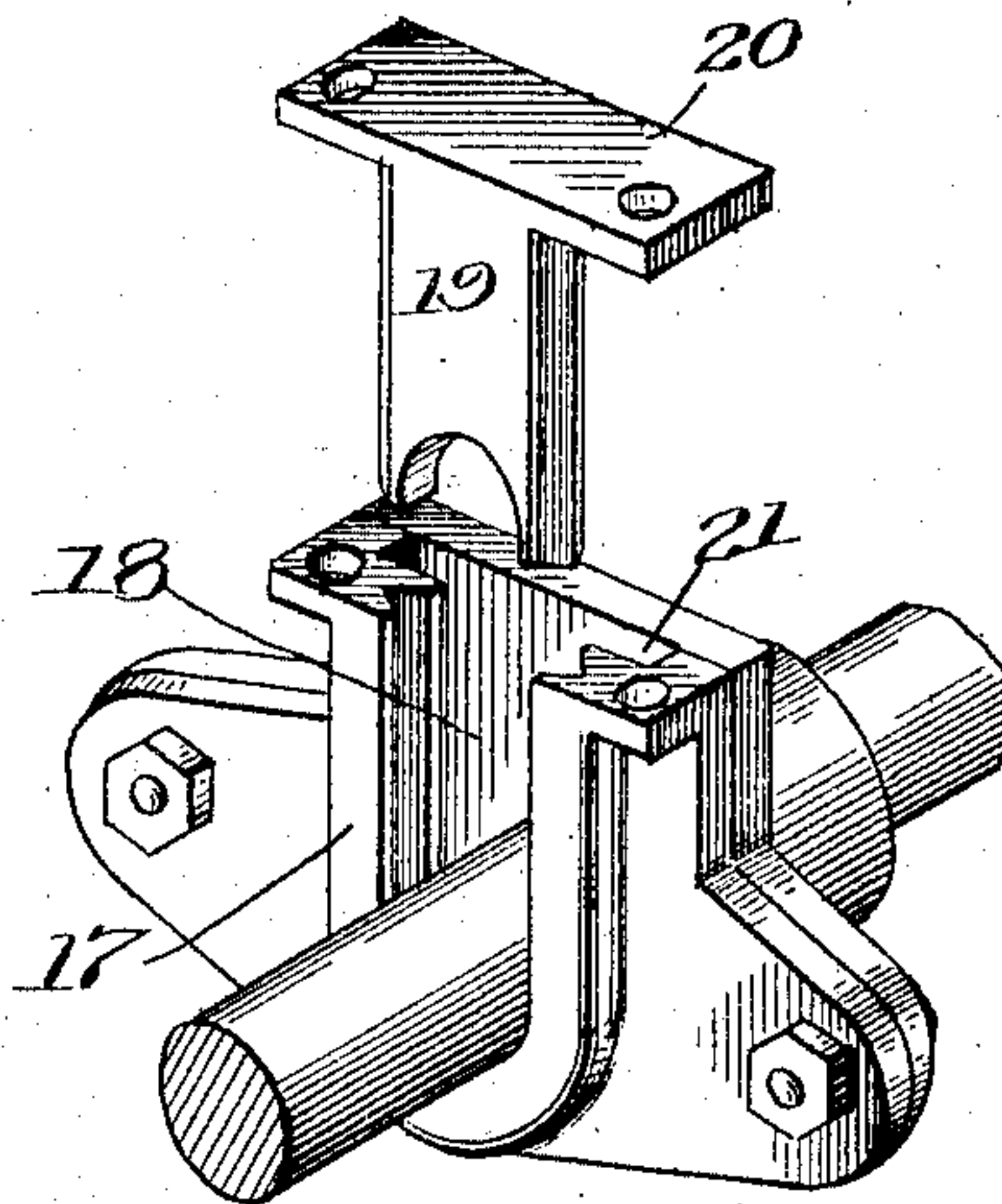


Fig. 4.



Witnesses:  
O. M. Merrill  
E. P. Lundy.

Inventor  
John Robertson:  
by Frank D. Thawson  
att'y



# UNITED STATES PATENT OFFICE.

JOHN ROBERTSON, OF CHICAGO, ILLINOIS.

## LUBRICATING AND DUST-PROOF GLAND.

No. 865,058.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed April 22, 1907. Serial No. 369,621.

*To all whom it may concern:*

Be it known that I, JOHN ROBERTSON, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Lubricating and Dust-Proof Gland, of which the following is a clear, full, and exact description.

My invention relates to improvements in gland-nuts such as are employed in the piston bearings of the cylinder-heads of engines, pumps, or similar machinery wherein the action of the dust or foreign matter is very destructive.

It is the object of my invention to provide a gland-nut that will be positively dustproof and at the same time will also provide novel means for lubricating the piston or shaft journaled therein so that the same will operate freely and with a minimum amount of friction. This I accomplish by the means hereinafter fully described and as more particularly pointed out in the claims.

In the drawings:—Figure 1 is a central vertical longitudinal section of a head and a portion of the cylinder of a steam-engine, showing my improved gland-nut applied thereto. Fig. 2 is a front perspective view of my improved gland-nut detached from the cylinder-head and having the packing removed. Fig. 3 is a perspective view of the rear portion of the front plate showing the construction of the packing seat or compartment therein. Fig. 4 is a perspective view of a slightly modified form of my invention.

Referring to the drawings, 2 represents the head of a suitable cylinder 3 in which a reciprocating piston-rod 4 is journaled in a bearing-stud 5 that extends outwardly from the central portion of the face of said head. This bearing-stud is preferably cylindrical in shape and the portion of its bore farthest from said head is enlarged so as to provide a beveled shoulder 6 against which a fibrous or other suitable gasket 7 is forced and seated when the gland-nut has been clamped into place. This gland-nut preferably consists of a plate 8 having a smooth outer surface and oppositely arranged flanges 9, 9, the ends of which are provided with transverse threaded openings for the accommodation of suitable clamping-bolts. The back of the plate is provided with a laterally projecting integral sleeve stud 10 that is of sufficient diameter to fit snugly into the enlarged portion of the bore of bearing-stud 5 of the cylinder-head.

The usual opening 11 is provided through the central portion of this sleeve 10 through which the piston is adapted to reciprocate and the inner edge of said sleeve is, preferably, countersunk or beveled, as shown at 12, around the piston opening. This countersunk portion 12 on the sleeve coöperates with the oppositely beveled shoulder 6 in the bore of the bearing stud, and, when

said gland-nut is clamped into place, the packing will be wedged against the piston-rods and form a positively tight joint. The outline of the outer or face-plate 13 preferably corresponds with that of the gland-nut with the exception that its outer surface is provided with an elongated enlargement or boss 14. Surrounding the piston opening in the outer plate is an annular recess or compartment 15 that is, preferably, filled with waste 16 or other suitable absorbent material that is adapted to be saturated with oil or other lubricating agent. Thus it will be seen that when the sleeve of the gland-nut is placed in its proper position and clamped into the bearing-stud 5 of the cylinder-head, the packing 7 between the shoulder therein and the countersunk end of said sleeve is thereby wedged against the piston-rod tight enough to avoid the escape of the fluid in the cylinder 3. The waste in the compartment 15 lubricates the piston as it reciprocates in its bearings and at the same time wipes the same sufficiently to avoid any particles of dust that may have accumulated on said piston from entering and grinding or cutting the bearings.

In the construction illustrated in Fig. 4 the various parts are substantially the same as those just described except that the enlargement or boss 17 on the front of the outer plate has an elongated slotted portion 18, the edges of the side-walls of which are provided with V-shaped grooves. A suitable sliding plate or door 19 normally closes this slot 18 and said door has a segmental recess cut in its lower end that partially surrounds the piston. By this construction the plate containing the lubricating chamber may be readily removed from the gland-nut without necessitating the withdrawal of the piston from the cylinder or having to disconnect the same from the pitman or other mechanism connected thereto. It is also adapted to be easily applied to a bearing or gland that is in use by simply tapping screw-holes into said gland-nut at points alining with those in the lubricating-plate and securing the same in place by bolts or screws. The upper edge of the door is provided with a laterally projecting horizontal top-plate 20 that fits over and forms a cover for the packing or lubricating compartment 21 in said plate. This door is adapted to be secured in place by bolts or screws that are tapped through its top-plate 20 into the flanged portion of the front-plate of the gland-nut.

What I claim as new is:—

1. The combination with a piston and bearings therefor, of a gland-nut, a removable plate fitting the flanged face of said nut provided with a lubricant-receiving chamber and having an elongated slot cut in one of its edges whereby said plate is adapted to be removed from said piston, and a plate normally closing said slot.

2. The combination with a piston and bearings therefor, of a gland-nut, a removable plate fitting the flanged face of said nut provided with a lubricant-receiving chamber

and having an elongated slot cut in one of its edges whereby said plate is adapted to be removed from said piston, and a removable sliding plate normally closing said slot.

- 5 3. The combination with a piston and bearings therefor, of a gland-nut the sleeve of which engages packing in said bearings, a slotted plate secured to the outer face of the flanged end of said nut, provided with an opening concentric with the axis of the sleeve and having a portion of the opposing face recessed to receive lubricating material, and

a removable plate normally closing the slot in said first 10 mentioned plate.

In testimony whereof I have hereunto set my hand and seal this 18th day of April, A. D., 1907.

JOHN ROBERTSON. [L. S.]

Witnesses:

FRANK D. THOMASON,  
E. K. LUNDY.