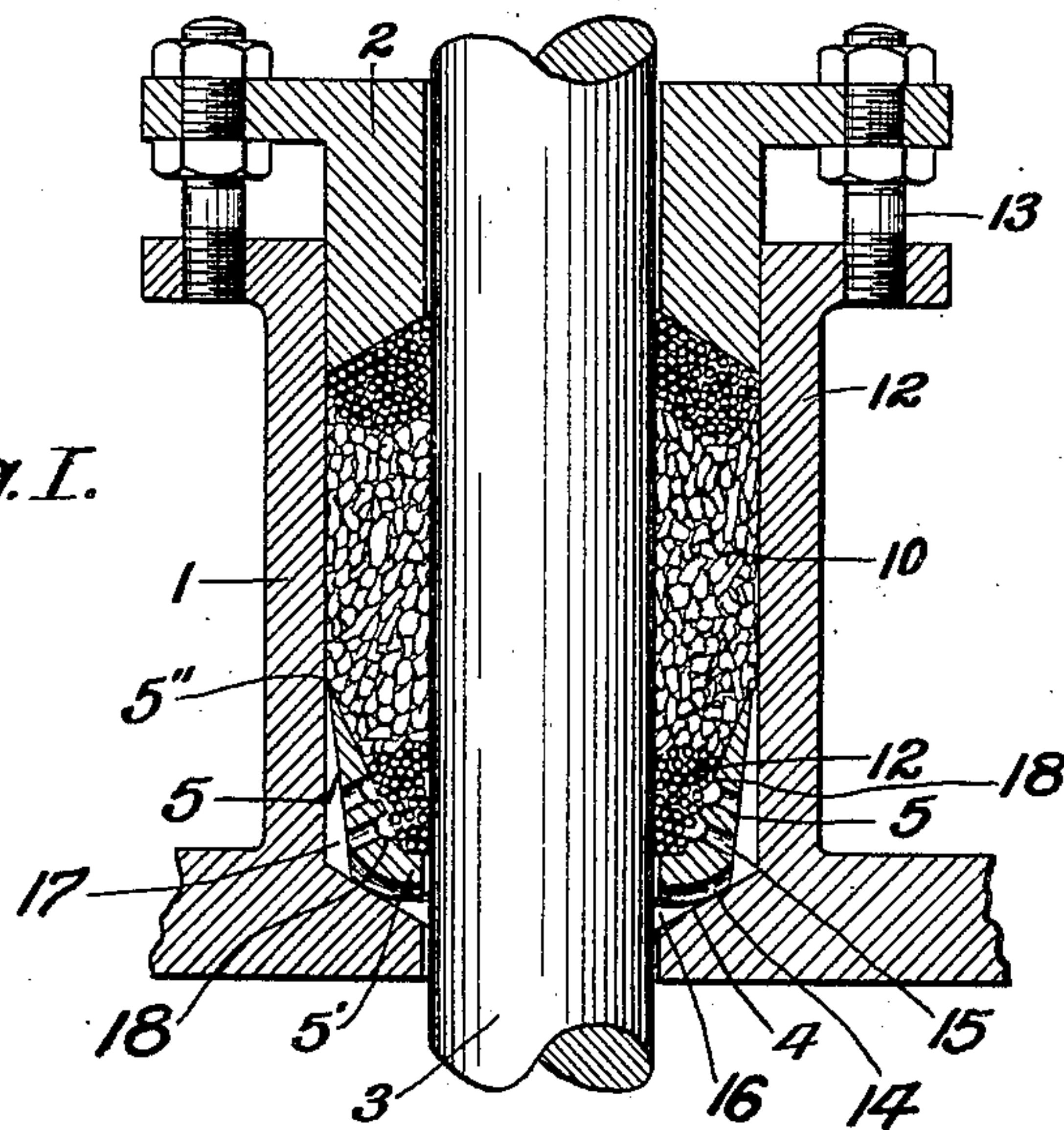


P. DORSEY.  
 ROD PACKING.  
 APPLICATION FILED DEC. 11, 1909.

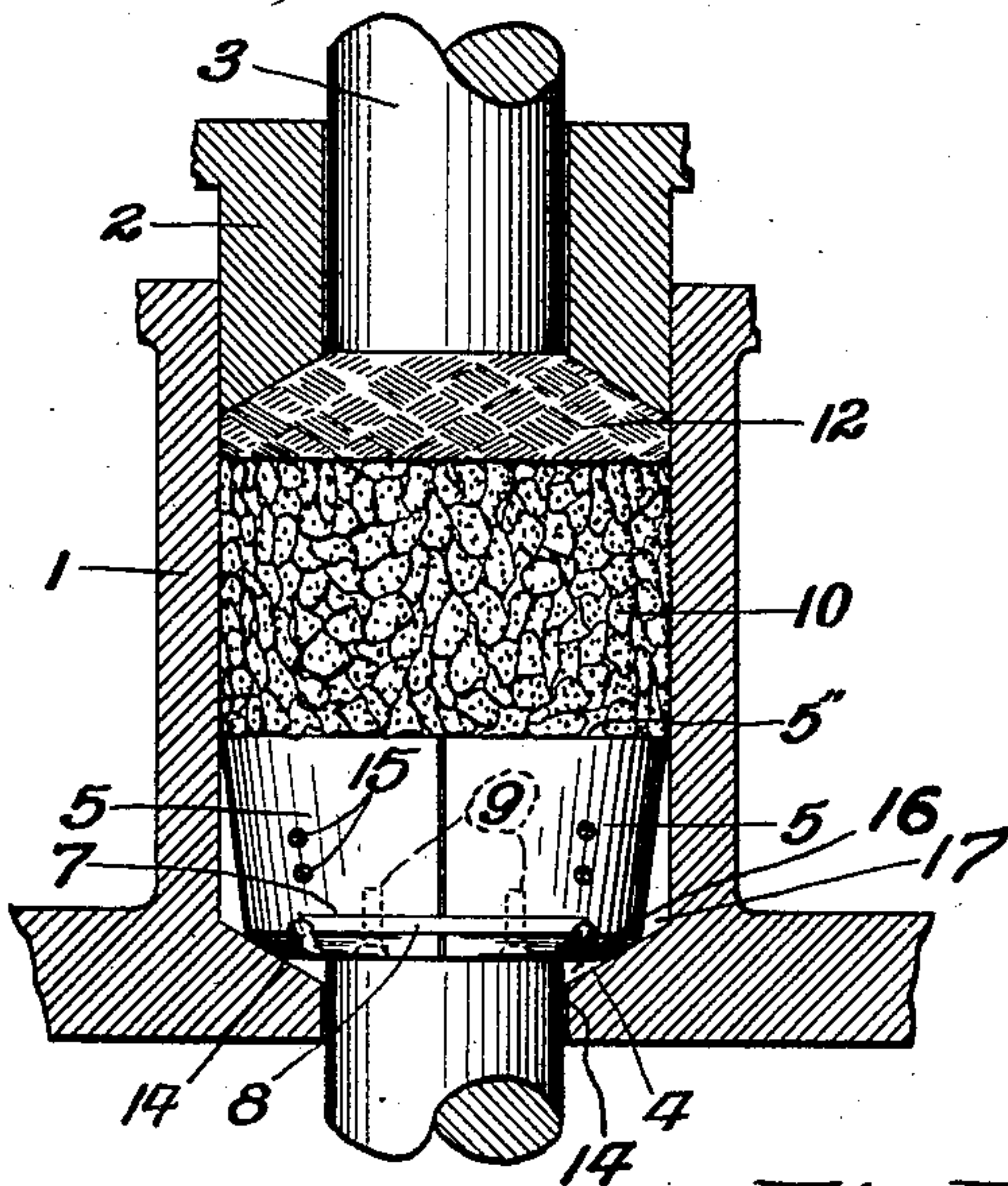
969,255.

Patented Sept. 6, 1910.

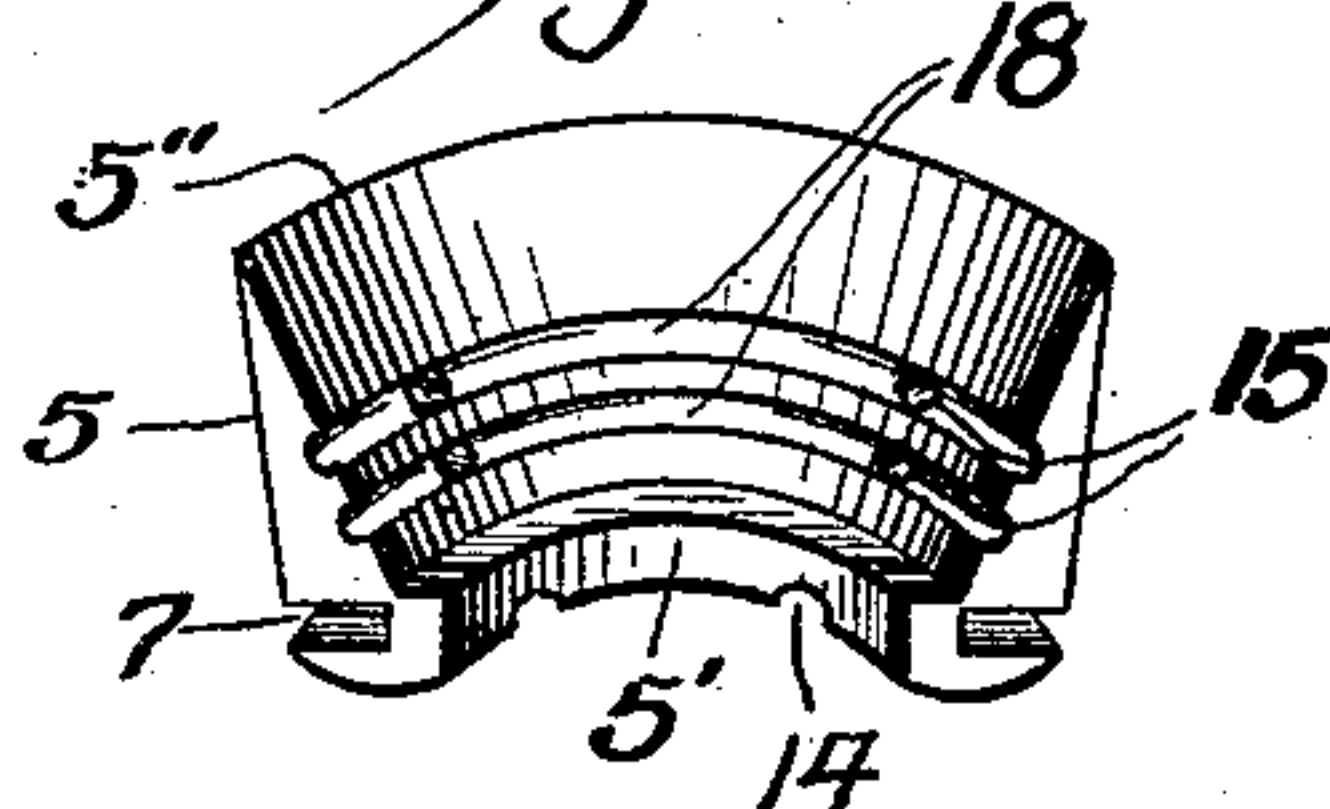
*Fig. I.*



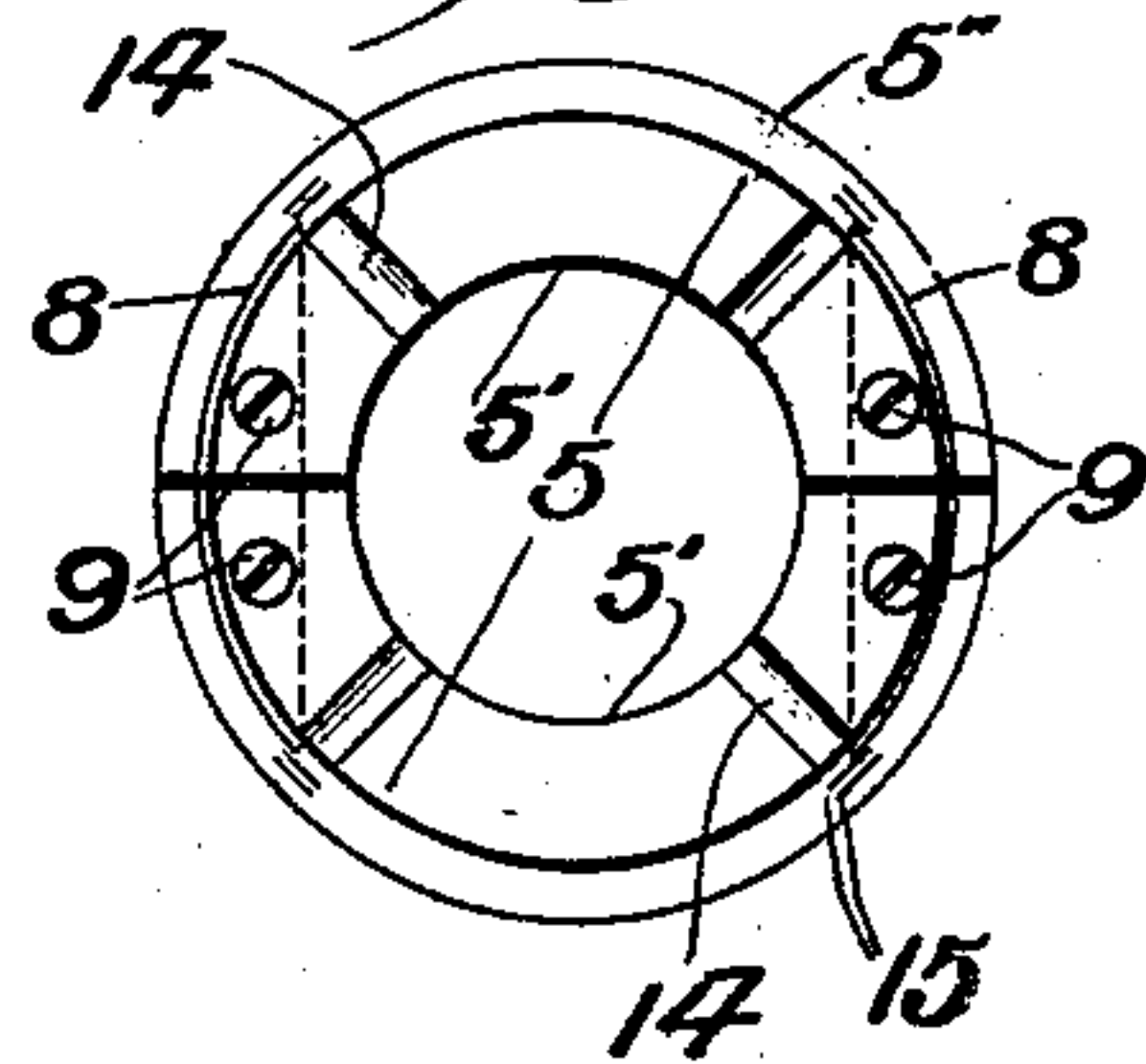
*Fig. II.*



*Fig. III.*



*Fig. IV.*



*Fig. V.*



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# UNITED STATES PATENT OFFICE.

PARMER DORSEY, OF HUTCHINSON, KANSAS.

## ROD-PACKING.

969,255.

Specification of Letters Patent.

Patented Sept. 6, 1910.

Application filed December 11, 1909. Serial No. 532,637.

To all whom it may concern:

Be it known that I, **PARMER DORSEY**, a citizen of the United States, residing at Hutchinson, in the county of Reno and State of Kansas, have invented certain new and useful Improvements in Rod-Packing; and I do declare the following to be a full, clear, and exact description of the invention, such which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to rod packing, and more particularly to a device of a class utilizing a granular material for packing the piston rods of engines, compressors, etc.

One object of my invention is to provide an improved device which may be applied to any stuffing box of standard construction without altering the stuffing box, or its gland, in any respect.

One of the objects of my invention is to provide a simple, inexpensive device by which the usual lateral motion of the reciprocating rod shall be less resisted than in ordinary stuffing boxes, thereby reducing wear on the rod and on the device itself.

A further object of the invention is to provide a rod packing of such construction, that steam from the cylinder may be utilized for augmenting the pressure of the packing upon the rod.

The invention consists in the matters pointed out in the appended claims, and the preferred embodiment thereof is illustrated in the accompanying drawings, in which:—

Figure I is a longitudinal section of a stuffing box containing a rod packing constructed according to my invention. Fig. II is a view of the packing in elevation, the stuffing box being in section. Fig. III is a perspective view of one of the parts 5, without the keys. Fig. IV is an end view of the ring 5—5, detached. Fig. V is a detail view of one of the keys.

Referring more in detail to the parts: 1 designates a stuffing box, and 2, a gland, of known construction; and 3, a portion of a piston or other reciprocating rod.

The inner end of the bore of the stuffing box is beveled, as shown at 4. Contacting this beveled annular shoulder 4, is my improved packing ring, 5—5, one half of which is well shown in Fig. III. This ring, considered as a whole, is triangular in cross section, or in other words has a thickened base 5' and tapers toward an edge 5'' at the end opposite the base. From the base end toward the edge 5'', the exterior of the ring increases in diameter, thus being tapered externally as well as internally. The base 5' is rounded in section, as shown at 5<sup>a</sup>, and therein has the chief point of advantage, as will be presently explained. This rounded base seats against the beveled shoulder 4 of the stuffing box. The rod bore of the ring 5—5 should be larger than the diameter of the rod, as shown.

The ring member 5—5 is made in two halves or sections, 5, by division along a diametrical line. This construction permits the said ring to be placed upon a piston rod without disconnecting the rod from the crosshead, as would otherwise have to be done.

For locking together the halves of said ring, I cut grooves 7 in the periphery of each half, adjacent the ends thereof. These grooves have straight bottoms and are adapted to receive a pair of segmental shaped keys 8. I prefer to lock said keys in place by means of screws 9, which pass through each key and into screw-tapped holes in the ring halves 5. The screws can easily be inserted while the ring is assembled upon the rod 3, exterior to the stuffing box, before the insertion of the gland. It is then pushed back into position in the stuffing box, then the packing is inserted, and lastly the gland.

The packing as shown in Figs. I and II comprises a body of granular material 10, preferably containing graphite. The pack-



ing further comprises two annular pieces of metallic packing 12, the same consisting of copper rope, or braided wire and being placed at the ends of the said granular material 10, for the purpose of preventing any of the latter from entering between the rod, and the ring 5—5, and the gland 2.

In order to provide additional pressure of the packing 12 upon the rod 3, I provide the ring 5—5 with ducts 14 and 15 which permit the steam or other fluid to pass from the space 16 into the space 17 around the ring 5—5, and thence through the ring to the periphery of said packing 12. The ducts 14 are in the form of radial grooves, cut in the base end of the ring 5—5. The ducts 15 consist of perforations drilled through the ring as most clearly shown in Fig. I. Communicating with the inner ends of said perforations are annular interior grooves 18, which distribute the steam or other fluid completely around packing 12. The packing is of such texture that it will not enter or fill said grooves, thus there are permanently open annular spaces about the packing.

The fluid passes from the cylinder, around the rod 3, through ducts or grooves 14, then through perforations 15 into the annular spaces 18, thereby greatly increasing the pressure of the packing upon the rod, and necessarily reduces leakage through the stuffing box to a minimum. As the rod 3 reciprocates, it will have some lateral play, as is usual, and the rounded base 5' of the split ring 5—5 will permit this ring to yield readily to such motion of the rod.

Certain modifications, not herein mentioned, fall within the scope of my invention.

Having thus described my invention, what I claim as new therein and desire to secure by Letters-Patent is:—

1. The combination with a rod and a stuffing box having an inclined shoulder, of a divided metal ring made in two separable halves surrounding the rod within the stuffing box and having a rounded base contacting said shoulder.

2. The combination with a rod and a stuffing box having an inclined shoulder, of a metal ring surrounding the rod within the stuffing box and having a rounded base contacting said shoulder and having an enlarged tapered bore adapted to receive packing.

3. The combination with a rod and a stuffing box having an inclined shoulder, of a metal ring surrounding the rod within the stuffing box and having a rounded base con-

tacting said shoulder, having an enlarged tapered bore adapted to receive packing, and its exterior diameter increasing from the base end to the opposite end.

4. In a stuffing box, a metal ring having a substantially triangular cross section and having a base rounded in cross section.

5. In a rod packing, a ring adapted to seat against one end of a stuffing box, said ring being divided diametrically into two sections, said sections being peripherally grooved, and keys fitted in said grooves.

6. In a rod packing, a ring adapted to seat against one end of a stuffing box, said ring being divided diametrically into two sections, said sections being peripherally grooved, adjacent their ends, and segmental keys fitted in said grooves.

7. In a rod packing, a ring adapted to seat against one end of a stuffing box, said ring being divided diametrically into two sections, said sections being peripherally grooved, keys fitted in said grooves, and screws passing through each key into the ring, said screws being parallel to the axis of the ring.

8. In a rod packing, a ring adapted to seat against one end of a stuffing box, and having a tapered bore adapted to receive packing, said ring being divided diametrically into two sections, said sections being peripherally grooved, keys fitted in said grooves, and screws passing through each key into the ring, said screws being parallel to the axis of the ring.

9. In a rod packing, a metal ring having a tapered bore larger than the piston rod bore, a gland, braided wire packings seated against the gland and the ring, and a granular packing between the braided wire packings.

10. In a rod packing, a two-piece metal ring having a tapered bore larger than the piston rod bore, a gland, braided wire packings seated against the gland and the ring, and a granular packing between the braided wire packings.

11. A cylinder having a stuffing box, a rod, a packing in the box, a metallic ring surrounding said packing at the cylinder end of the box, and ducts in said ring permitting access of the fluid from the cylinder to the exterior of said packing.

12. In a stuffing box, a rod, a packing, a metallic ring surrounding said packing at the cylinder end of the box, grooves in the cylinder end of said ring, and perforations through said ring communicating with a space around said ring.

13. In a stuffing box, a rod, a packing, a

metallic ring surrounding said packing at the cylinder end of the box, said ring having an annular interior groove and perforations through said ring communicating with  
5 said groove.

14. A cylinder having a stuffing box, a rod, a packing in the box, a split metallic ring surrounding said packing at the cylinder end of the box, and ducts in said ring  
10 permitting access of the fluid from the cylinder to the exterior of said packing.

15. In a stuffing box, a rod, a packing, a split metallic ring surrounding said packing at the cylinder end of the box, grooves in the  
15 cylinder end of said ring, and perforations

through said ring communicating with a space around said ring.

16. In a stuffing box, a rod, a packing, a split metallic ring surrounding said packing at the cylinder end of the box, said ring hav- 20  
ing an annular interior groove and perforations through said ring communicating with said groove.

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

PARMER DORSEY.

Witnesses:

MYRTLE M. JACKSON,  
K. M. IMBODEN.