

No. 753,810.

PATENTED MAR. 1, 1904.

H. ROBERTS.
METALLIC PACKING.

APPLICATION FILED MAY 22, 1903.

NO MODEL.

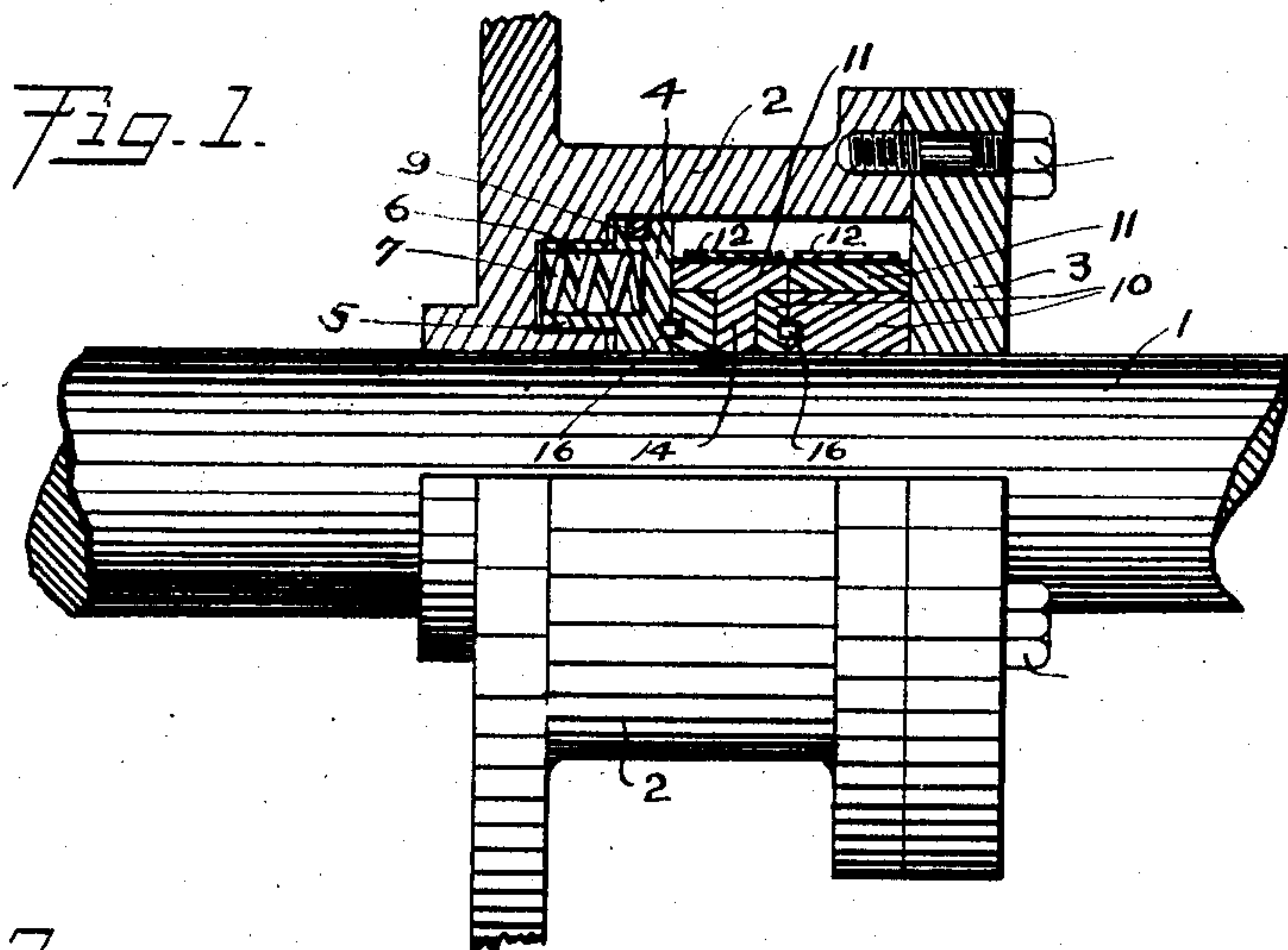


Fig. 2.

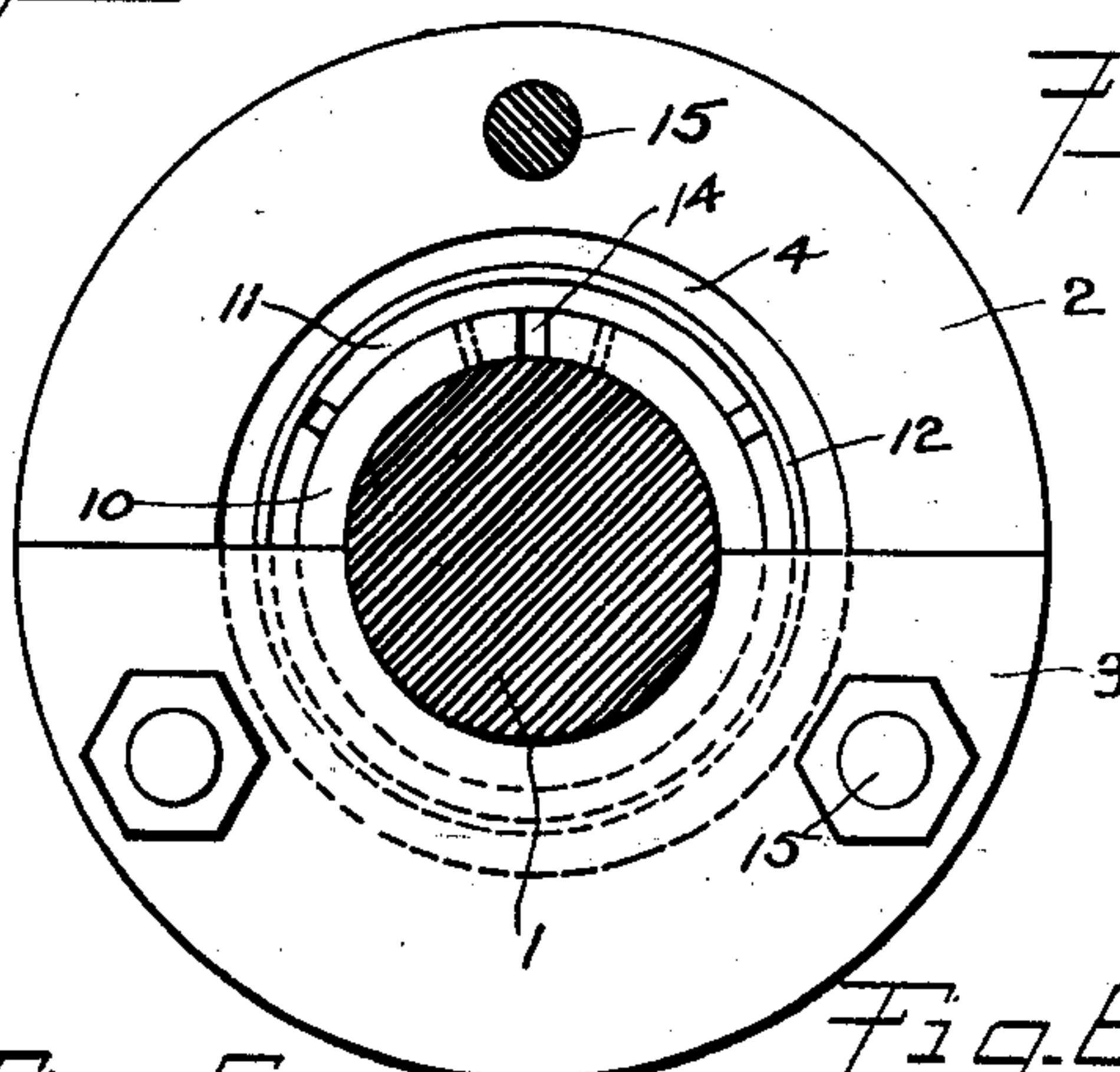


Fig. 3.

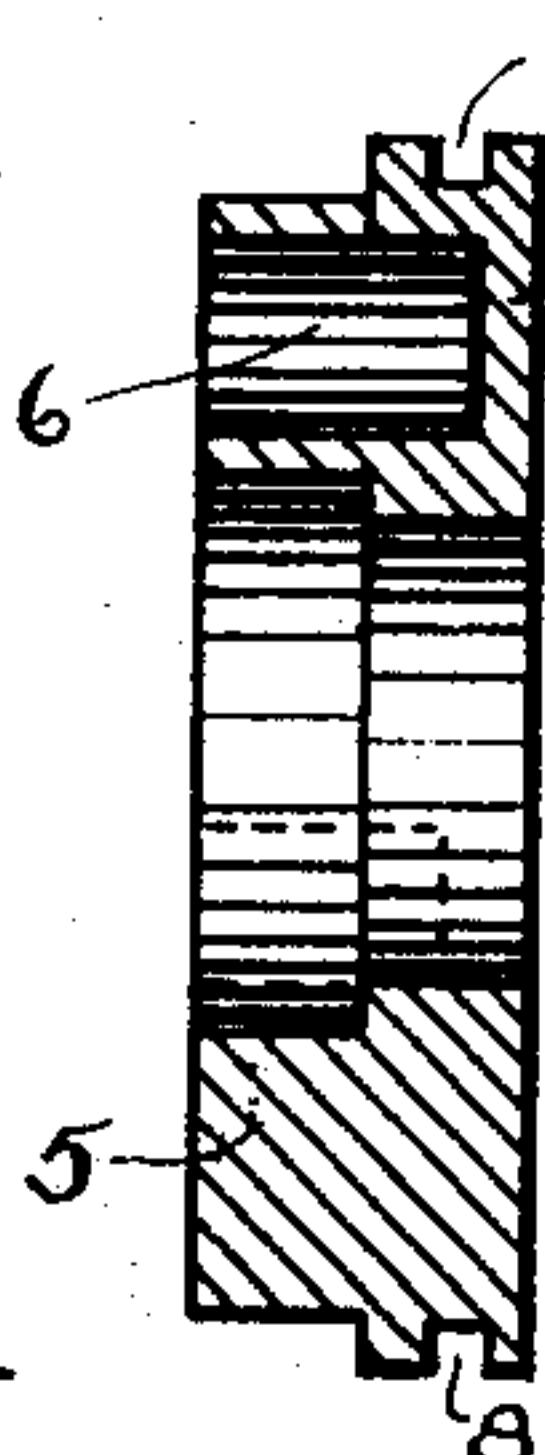


Fig. 4.

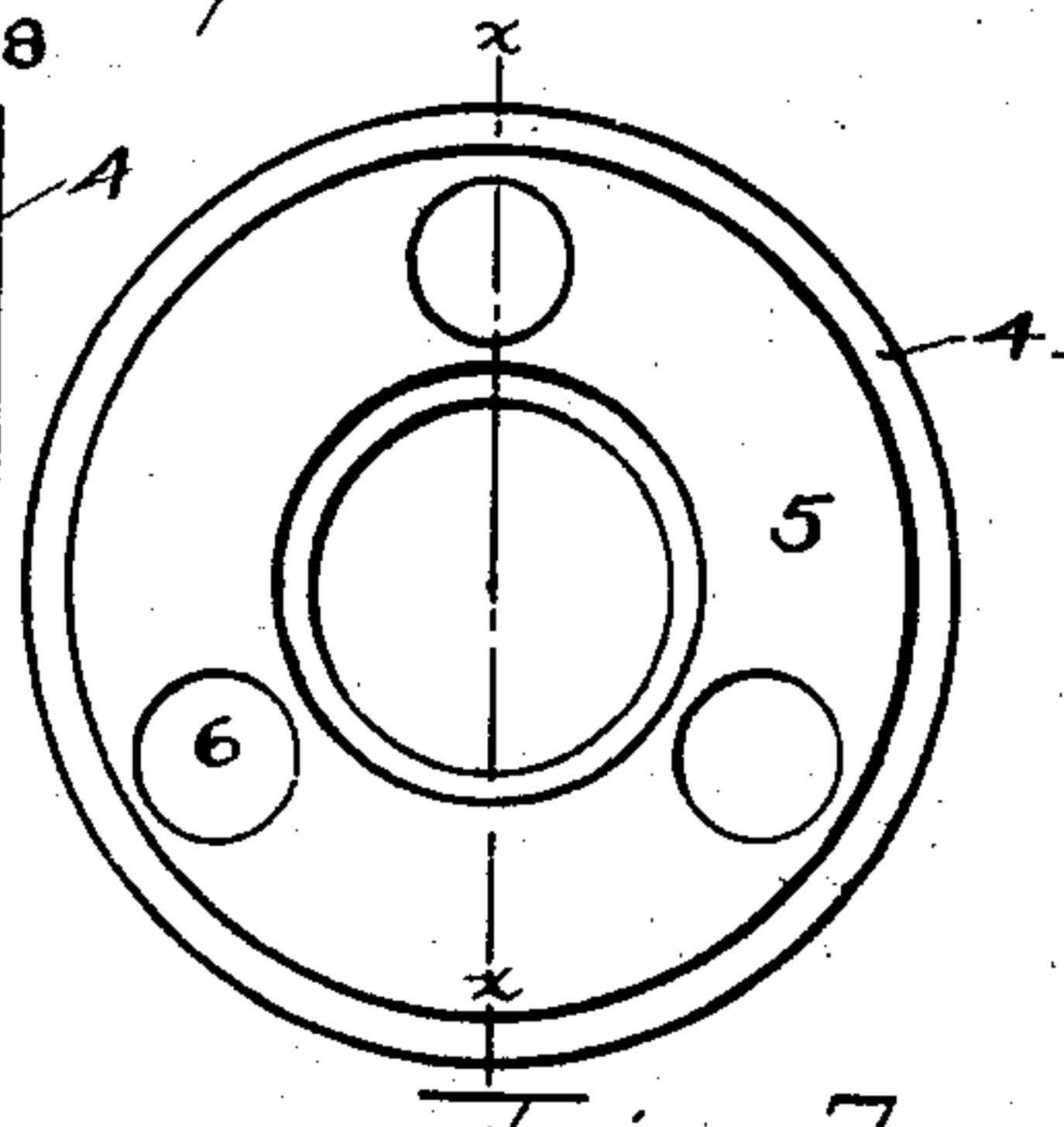


Fig. 5.

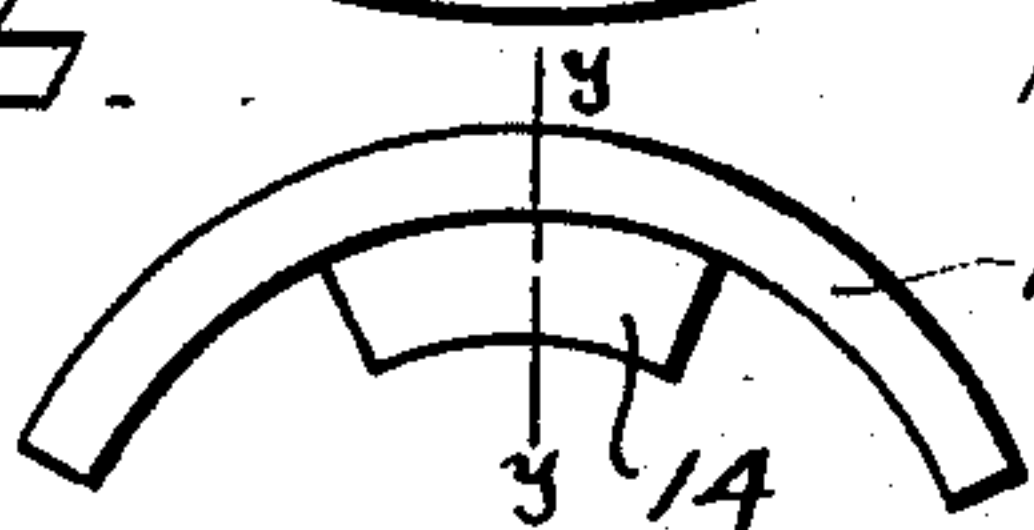


Fig. 6.

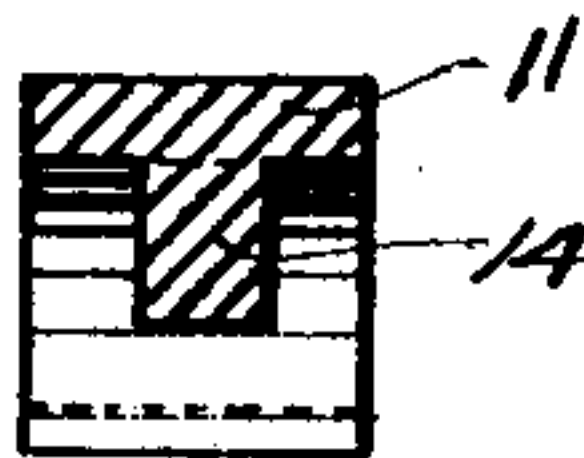


Fig. 7.

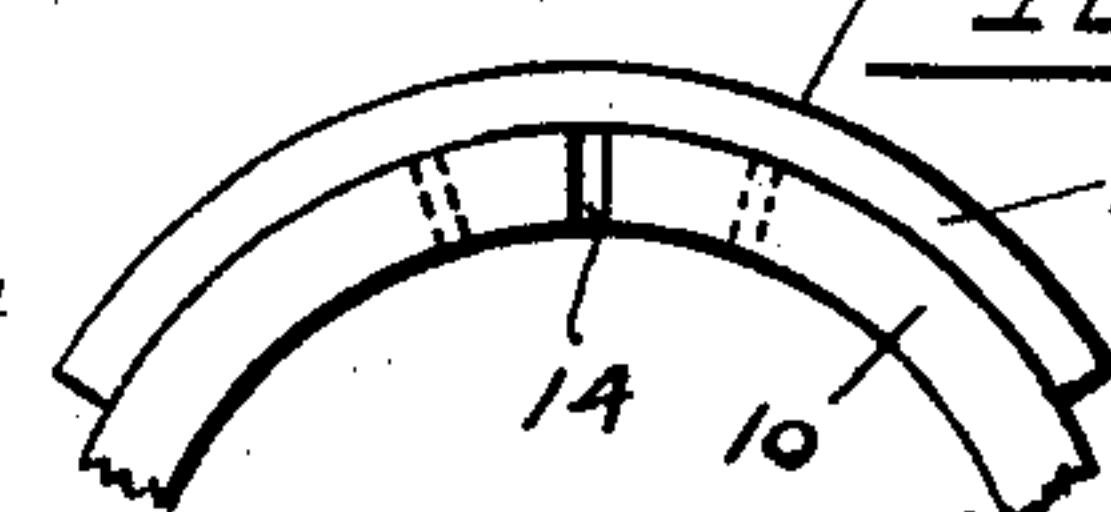


Fig. 8.

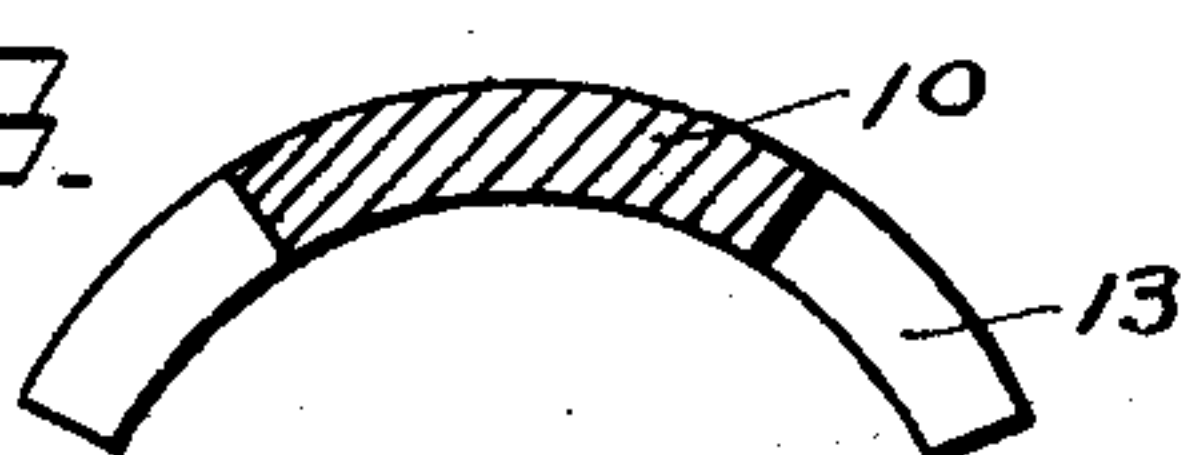
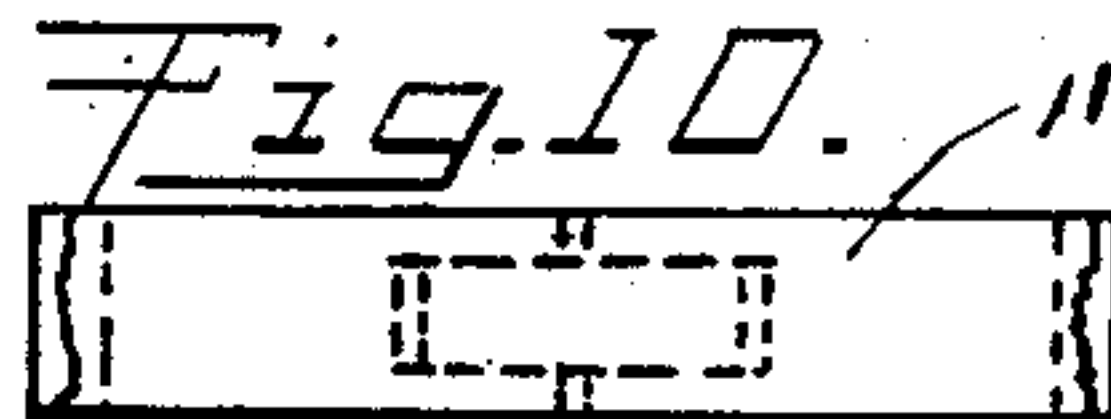
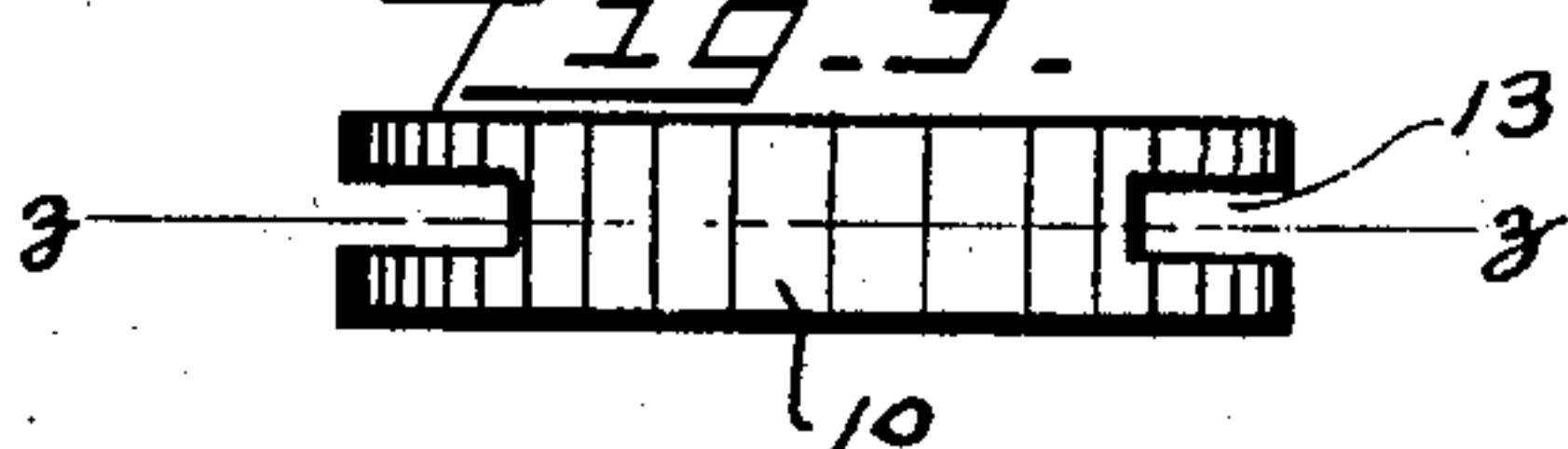


Fig. 9.



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UNITED STATES PATENT OFFICE.

HENRY ROBERTS, OF OMAHA, NEBRASKA.

METALLIC PACKING.

SPECIFICATION forming part of Letters Patent No. 753,810, dated March 1, 1904.

Application filed May 22, 1903. Serial No. 158,293. (No model.)

To all whom it may concern:

Be it known that I, HENRY ROBERTS, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Metallic Packings; and I do hereby 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.

My invention relates to metallic rod-packing; and it is the object thereof to provide a simple and easily-applied metallic packing for piston and valve rods and the like.

My invention consists in the interlocking packing-segments, in the holding means for maintaining the said segments in position, and in the improved form of compression-ring employed for maintaining contact of the rings in a direction parallel with the rod.

In the accompanying drawings, Figure 1 is a side view of a rod and packing-gland provided with my packing, one-half thereof being shown in section. Fig. 2 is an end view of the same, one-half of the gland-head being removed. Fig. 3 is a detail sectional view of the compression-ring, the section being taken on the line *x x* of Fig. 4. Fig. 4 is an end view of the same. Fig. 5 is a side view of one of the tongued packing-segments. Fig. 6 is a sectional view of the same on line *y y* of Fig. 5. Fig. 7 is a detail showing the manner of fitting together the tongued and the slotted packing-segments. Fig. 8 is a sectional view of one of the slotted segments, the section being taken on line *z z* of Fig. 9. Fig. 9 is a plan view of one of the slotted segments, and Fig. 10 is a plan view of the segments shown in Fig. 7.

In the drawings, 1 represents a piston or valve rod passing through a packing-gland 2, having the gland-head 3 thereon, secured by studs 15, all the foregoing being of ordinary construction. Inside the gland and at the rear or end thereof adjacent to the cylinder or steam-chest is placed the compression-ring 4, which fits snugly around the rod 1. On the rear side of the said compression-ring is a raised portion 5, which fits snugly into a re-

cess formed in the rear end of the gland, as shown. In the said raised portion 5 are holes 6, in which are placed the small coil-springs 7. The outer edge of the ring 4 fits snugly to the inside of the gland and has a groove 8 therein, in which is an ordinary snap-ring 9.

Between the compression-ring and the gland-head are placed any suitable number of my packing-rings. Two such rings are shown in the drawings. Each of the rings consists, preferably, of the three inner slotted segments 10, the three outer tongued segments 11, and the circular clamping-spring 12, although the number of segments may be varied as desired, a greater or smaller number being used, as required. The inner segments 10 have the slots 13 in each end thereof, and said ends are slightly separated when the segments are placed about the rod, as shown. The outer segments 11 fit snugly around the inner segments and have the tongues 14 thereon, which enter the slots 13 and extend inwardly as far as the rod. The ends of the segments 11 are slightly separated, and a small space is left between the sides of the tongues 14 and the ends of the slots 13, so that as the packing-segments become worn they may adjust themselves to fit closely to the rod. The flat spring 12 is placed around each packing-ring or set of segments for holding the same in position and pressing the segments against the rod to make a tight joint therewith and to take up wear. When a number of the packing-rings are used in one gland, the joints of one ring are preferably placed midway between the joints of the next ring, and said relative position may be maintained by means of the dowel-pins 16. (Shown in Fig. 1.)

Instead of using the flat springs 12 for compressing and holding in position the packing-segments I may employ coiled spiral springs for this purpose.

Any suitable number of the packing-rings may be used in one gland, the number varying to meet the requirements of the various uses to which the packing may be placed; but it will be understood that my invention contemplates such minor variations.

Now, having described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. A metallic rod-packing comprising a compression - ring, spring - containing recesses
5 contained therein, and packing-rings, each of said packing-rings comprising a plurality of segments placed around the rod and having slots in the adjacent ends thereof, an equal
10 number of segments lying around the foregoing segments and having tongues thereon extending into the slots therein as far as the rod, and a circular spring for holding said
segments together and pressing the same toward the rod.

15 2. A metallic rod - packing comprising a gland, packing-rings, a compression-ring, and springs for pressing together said packing-

rings and compression-ring in a direction parallel to the rod, each of said packing-rings comprising two sets of segments, equal in number, one of said sets of segments lying adjacent to the rod, the other set of segments overlying the former, one of said sets of segments having tongues thereon entering slots in the adjacent ends of the other set, and a circular
25 spring around the outer set of segments for holding the same together and pressing the same toward the rod.

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

HENRY ROBERTS.

Witnesses:

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HOWARD J. COWGILL.