

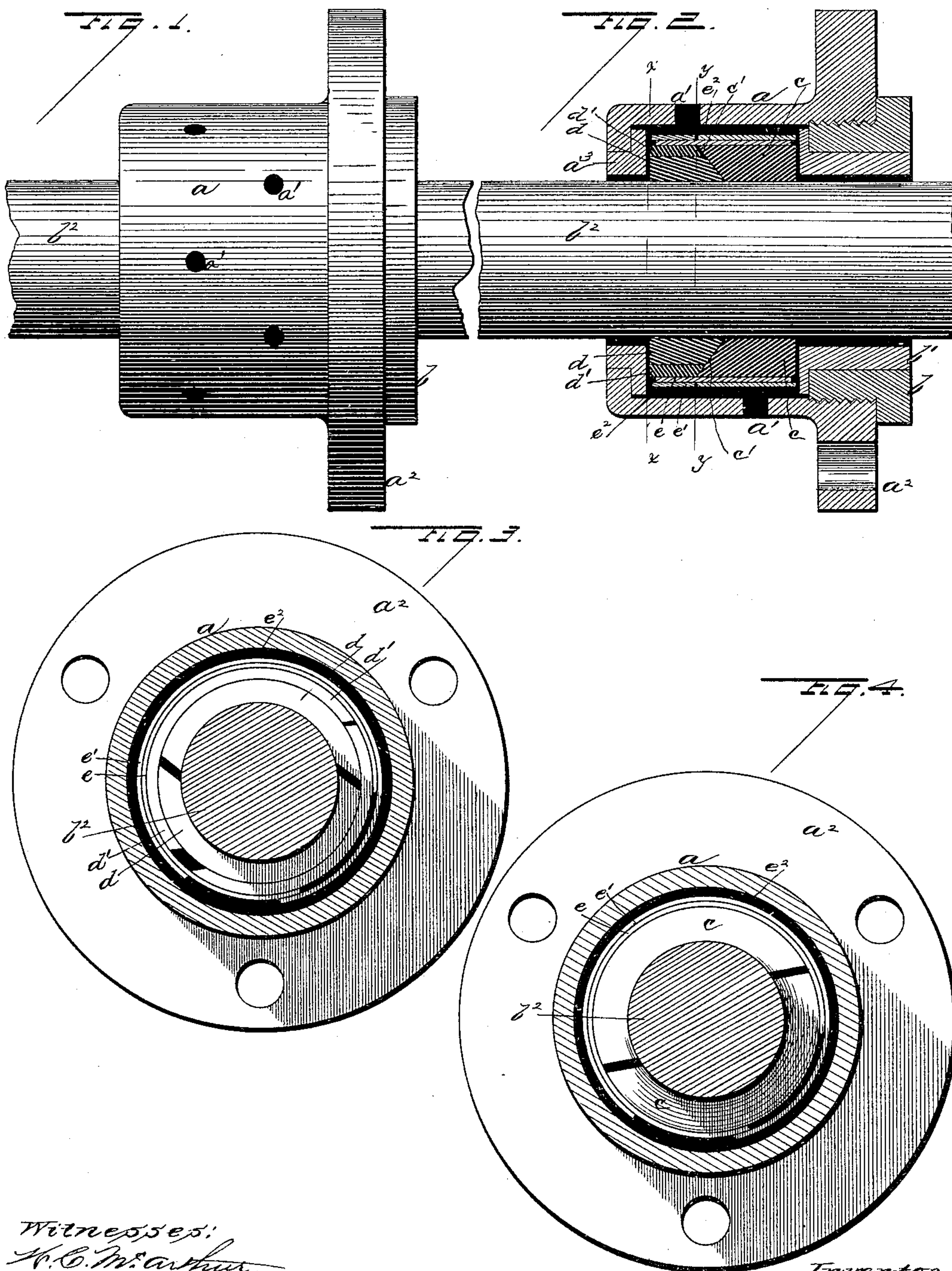
(No Model.)

J. COCKFIELD & C. D. HIGGINS.

METALLIC PACKING FOR PISTON AND VALVE RODS.

No. 389,288.

Patented Sept. 11, 1888.



Witnesses:
H. C. McArthur,
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UNITED STATES PATENT OFFICE.

JOSEPH COCKFIELD AND CLINTON D. HIGGINS, OF BOONE, IOWA.

METALLIC PACKING FOR PISTON AND VALVE RODS.

SPECIFICATION forming part of Letters Patent No. 389,288, dated September 11, 1888.

Application filed January 4, 1888. Serial No. 259,778. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH COCKFIELD and CLINTON D. HIGGINS, citizens of the United States, residing at Boone, in the county of Boone and State of Iowa, have invented certain new and useful Improvements in Metal Packing for Piston and Valve Rods, &c., of which the following is a specification, to wit:

This invention relates to metal packings for piston and valve rods; and it consists in certain peculiarities of the construction and arrangement of the same, substantially as will be hereinafter more fully set forth and claimed.

In order to enable others skilled in the art to which our invention pertains to make and use the same, we will now proceed to describe its construction and operation, referring to the accompanying drawings, in which—

Figure 1 is a side elevation of our gland and a part of the rod. Fig. 2 is a longitudinal section of the gland and sectional packing; Fig. 3, a cross-section on the line $x x$, showing the end of the packing-rings in elevation; and Fig. 4, a similar view on the line $y y$, showing the beveled joint between the packing-rings in elevation.

a represents a gland of any suitable size formed with perforations a' in its side, and a flange, a^2 , for securing it in place upon a cylinder, valve-chest, or other place where it is to be used. In the inner end of this gland is fitted a flanged bushing, a^3 , of brass or similar material, and in the outer end is screwed a cap, b , also fitted with a flanged bushing, b' , and both these bushings are centrally bored for the passage of the piston or valve rod b^2 . Upon the rod between the bushings we place our metallic packing, consisting of a metal ring, c , made in two parts divided transversely, as in Fig. 4. The inner end of this ring is beveled, as at c' , and fitted against it is the correspondingly-beveled edge of the rings $d d'$, one of which lies upon the other, and both divided into two parts, as in Fig. 3. These rings are placed upon the rod and form square joints against the bushings, by which they are pressed together. The parts of the rings are held together by the open spring-rings $e e'$,

one of which clasps the packing-rings closely and the other upon the first. It will be noted that the diameter of the packing-rings is such that they do not fill up the gland, but an annular space, e^2 , is left around the packing, to which steam is freely admitted through the perforated sides of the gland, and this pressure tends to compress the sections of the packing upon the rod, and at the same time, by reason of the beveled adjoining ends of the rings, force them firmly against the bushings. This beveled feature also admits of an automatic adjustment of the packing to accommodate any uneven motion or play of the rod in consequence of lost motion between the cross-head and guide, wear, &c.

It will of course be understood at once that the various sections of the rings are so placed as to break joints, as will be seen in the drawings. It will also be seen that the gland is so attached to the cylinder or chest as to project therein and admit the steam-pressure to the packing; but as this is a simple matter of mechanical construction readily comprehended we have not deemed it necessary to illustrate it.

We desire of course to use any suitable material in the construction of our invention, and shall apply it to piston-rods, valve-rods, or any other desirable parts of machinery to which it is applicable.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination, with the perforated gland a , provided with the bushings a^3 and b' , and the rod b^2 , of the packing consisting of the rings $c d d'$, and the spring-rings $e e'$, placed upon the rod with a space, e^2 , around them, substantially as and for the purpose shown and described.

In testimony whereof we affix my signatures in presence of two witnesses.

JOSEPH COCKFIELD.
CLINTON D. HIGGINS.

Witnesses:

E. E. FOX,
W. G. COLEMAN.