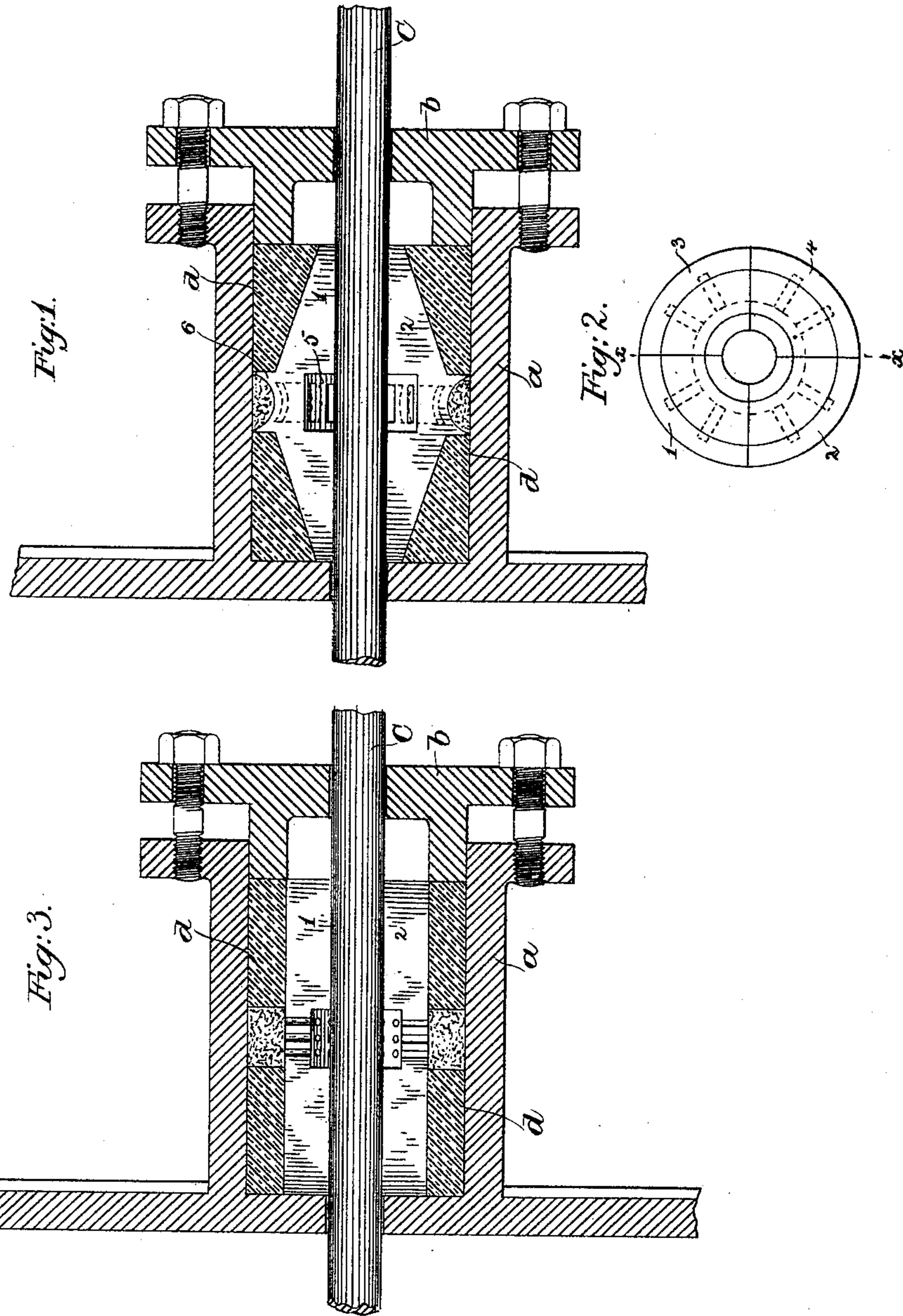


(No Model.)

D. W. CROSBY.
PACKING FOR PISTON RODS.

No. 414,024.

Patented Oct. 29, 1889.



Witnesses:

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UNITED STATES PATENT OFFICE.

DANIEL W. CROSBY, OF BOSTON, MASSACHUSETTS.

PACKING FOR PISTON-RODS.

SPECIFICATION forming part of Letters Patent No. 414,024, dated October 29, 1889.

Application filed December 10, 1888. Serial No. 293,094. (No model.)

To all whom it may concern:

Be it known that I, DANIEL W. CROSBY, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Packing for Piston-Rods, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to construct a metallic packing for piston-rods.

In accordance with this invention a metallic tube, preferably made in longitudinal sections, surrounds the rod, the said tube at an intermediate point having an internal annular chamber to receive steam and water of condensation which escape from the chamber through perforations made in the tube. The metallic tube is placed in a stuffing-box and tightly packed with cork for its entire length, except at a point adjacent the internal annular chamber, at which point absorbent material is used—such, for instance, as sponge. The metallic tube may be made much larger in diameter at its center than at its end, so that bearing-points will be provided approaching the inner side wall of the stuffing-box. The cork packing will yield sufficiently to permit the metallic packing to rock to compensate for any irregularities in the reciprocating movement of the piston-rod.

Figure 1 shows in longitudinal section, taken on the line *x x*, Fig. 2, a stuffing-box and packing embodying this invention; Fig. 2, an end view of the metallic packing or tube shown in Fig. 1 removed, and Fig. 3 a modification to be referred to.

The stuffing-box *a*, gland *b*, and piston-rod *c* are all as usual, the gland being screwed, bolted, or otherwise secured to the stuffing-box.

The metallic tube (shown in Figs. 1 and 2 as made in four longitudinal sections 1 2 3 4) surrounds the piston-rod *c*, said tube being made much larger in diameter at its middle than at its ends, and being formed with an annular

chamber 5, substantially at the middle, and also with an external annular chambered projection 6. Perforations are formed in the tube to establish communication between the internal and external chambers. The metallic tube is placed in the stuffing-box *a* and packed tightly with cork *d*, and in the external chamber of the annular projection 6 absorbent material—as sponge—is placed. When the parts are in position and the gland screwed down, the metallic packing is free to rock as the cork yields, to compensate for irregularities in the reciprocation of the piston-rod. The internal chamber serves to receive the steam and water of condensation which pass through the perforations and are absorbed by the absorbent material.

Referring to Fig. 3, the tube is made of the same diameter from end to end, but in sections, as aforesaid, and the chambered annular projection is omitted, the space, however, being occupied with absorbent material.

I claim—

1. The stuffing-box and gland, combined with the perforated rocking metallic sectional tube surrounding the rod, the cork filling, and the absorbent material, substantially as described.

2. The stuffing-box and gland, combined with the metallic sectional tube surrounding the rod, made larger in diameter at the middle than at its ends and having the internal steam-receiving chamber 5, the perforations leading therefrom, the chambered projection 6, the cork packing surrounding said metallic tube, and the absorbent material in the chamber of the projection 6, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DANIEL W. CROSBY.

Witnesses:

BERNICE J. NOYES,
FREDERICK L. EMERY.