(No Model.)

D. H. CHADDACK.

ROD PACKING.

No. 412,874. Patented Oct. 15, 1889.

Fig. 1.

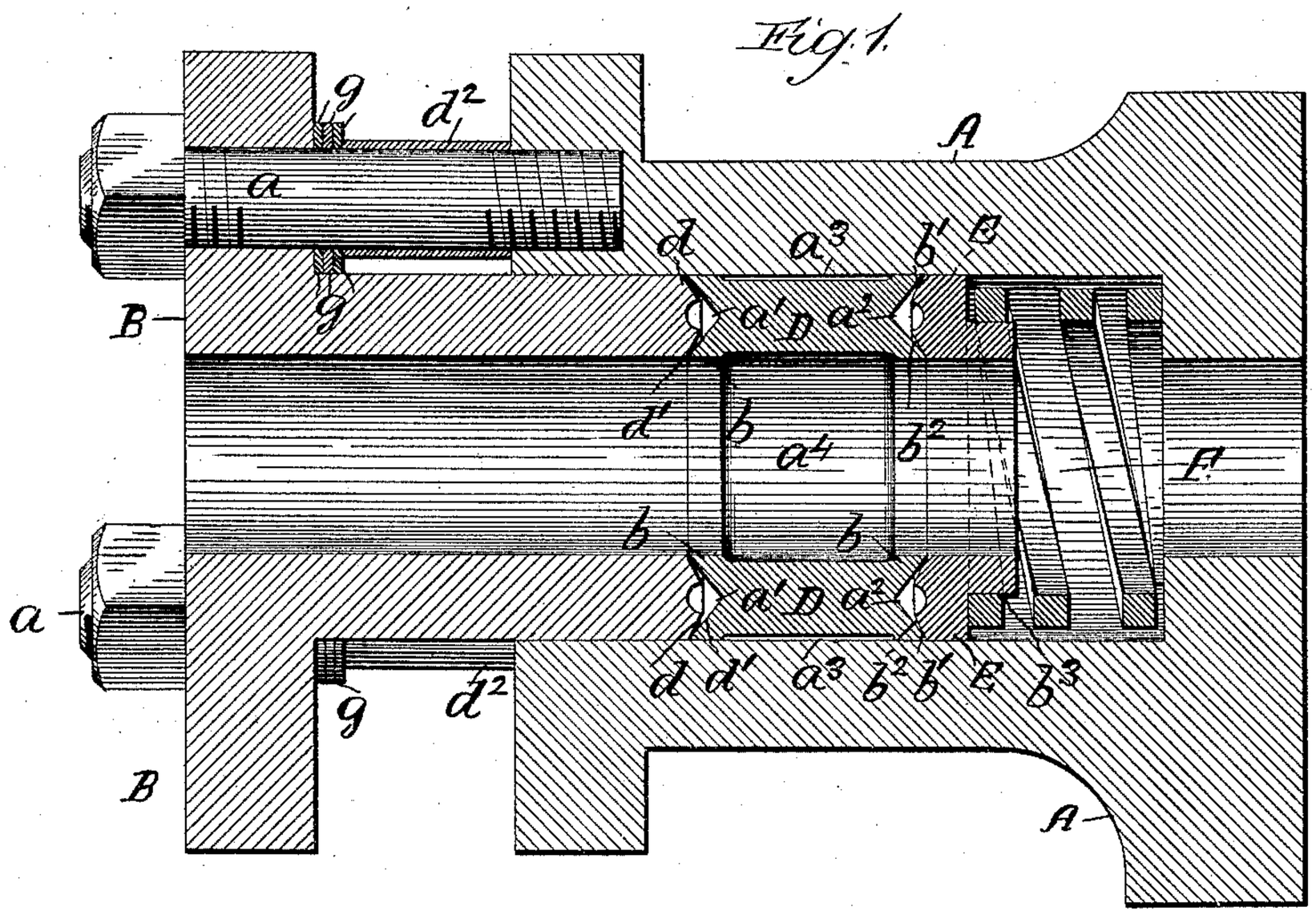


Fig. 2.

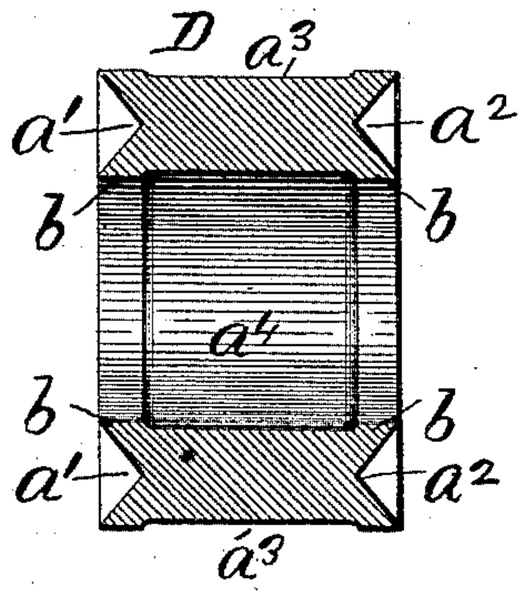
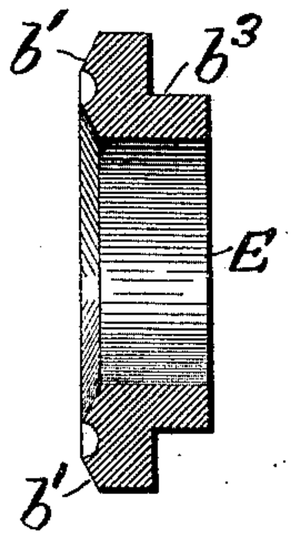


Fig. 3.



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DAVID H. CHADDACK, OF CHICAGO, ILLINOIS.

ROD-PACKING.

SPECIFICATION forming part of Letters Patent No. 412,874, dated October 15, 1889.

Application filed June 25, 1889. Serial No. 315,566. (No model.)

To all whom it may concern:

Be it known that I, DAVID H. CHADDACK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Rod-Packing, of which the following is a full, clear, and exact description, that will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to improvements in metallic packing for piston and valve rods, as will be hereinafter set forth.

Figure 1 is a longitudinal section of a stuffing-box and parts, showing the relative position of the packing; Fig. 2, a longitudinal section of the packing-ring proper, and Fig. 3 a section of a cap-ring.

Referring to the drawings, A represents the stuffing-box, B the packing-gland, and *a a* the bolts for adjustably securing the gland to the stuffing-box. The packing-ring D is provided in the face of its respective ends with the annular V-shaped grooves a' a^2 and on its periphery with the wide channel a^3. The packing-ring is also provided with the interior circumferential channel a^4, corresponding to the exterior channel. It will be observed that this leaves but the narrow bearing-surfaces *b* having contact with the rod. The exterior channel a^3 is to facilitate the easy removal of the packing-ring, as the bearing-surface on the inclosing-walls of the stuffing-box is equal to that on the rod, so that when the back gland is removed a light puff of steam will force out the packing-ring. The cap-ring E is placed back of the packing-ring and has its side bearing against the packing-ring beveled as at b', so as to extend a little way into the groove in the packing-ring. The bevel on the cap-ring does not correspond to the angle of the sides of the groove a^2, but is sharper, so as to have a bearing only near the respective edges, and thus wedging more in an outward direction and leaving the space b^2 between the cap and packing-ring. The cap-ring is provided on the rear side with the annular shoulder b^3, forming a bearing for one end of the spiral spring F, seated in the bottom of the stuffing-box and retaining the cap-ring in place. The inner end or face of the packing-gland is beveled, as at *d*, to engage with the groove a' in the joining-surface of the packing-ring, leaving the space d' and operating precisely in the same manner as the relation and action of the cap-ring at the opposite end of the packing-ring. Those parts of the gland-bolts lying between the outer end of the stuffing-box and flange on the gland have the sleeve d^2 and a number of washers *g* mounted thereon. The object of this feature is to provide for the even setting up on the packing to compensate for the wear, as by taking one of the washers from each bolt the gland will be screwed in perfectly even and the packing and rod will wear on all sides alike, which is not possible under the ordinary arrangements. By this construction and manner of applying the packing, a perfectly steam-tight joint is formed and the friction reduced to the lowest possible minimum.

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

1. A metallic packing-ring provided in its ends with annular grooves, and having channels in its outer and inner circumferential surface and leaving the narrow bearing-surfaces *b*, substantially as set forth.

2. The combination, with a metal packing-ring having inner and outer circumferential channels and the groove a^2, the cap-ring beveled on the face and engaging with said groove and bearing against the outer edges of the packing-ring, and spiral spring seated in the bottom of the stuffing-box and bearing against said cap-ring, substantially as and for the purpose set forth.

3. The combination, with the packing-ring provided in its outer end with the groove a', of the packing-gland having the inner joining end beveled, so as to wedge into said groove and spread the bearing-surface of the packing-ring, substantially as and for the purpose set forth.

4. The combination, with a metal packing-

ring provided exteriorly and interiorly with channels and having V-shaped grooves in the respective ends, as described, of the cap-ring beveled to wedge into said grooves, the spiral spring seated in the bottom of the stuffing-box, and the packing-gland beveled on its inner end and wedging into the companion groove in the packing-ring, substantially as and for the purpose set forth.

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