

(No Model.)

J. J. CROWLEY.

METALLIC PACKING FOR STUFFING BOXES.

No. 291,160.

Patented Jan. 1, 1884.

Fig. 2.

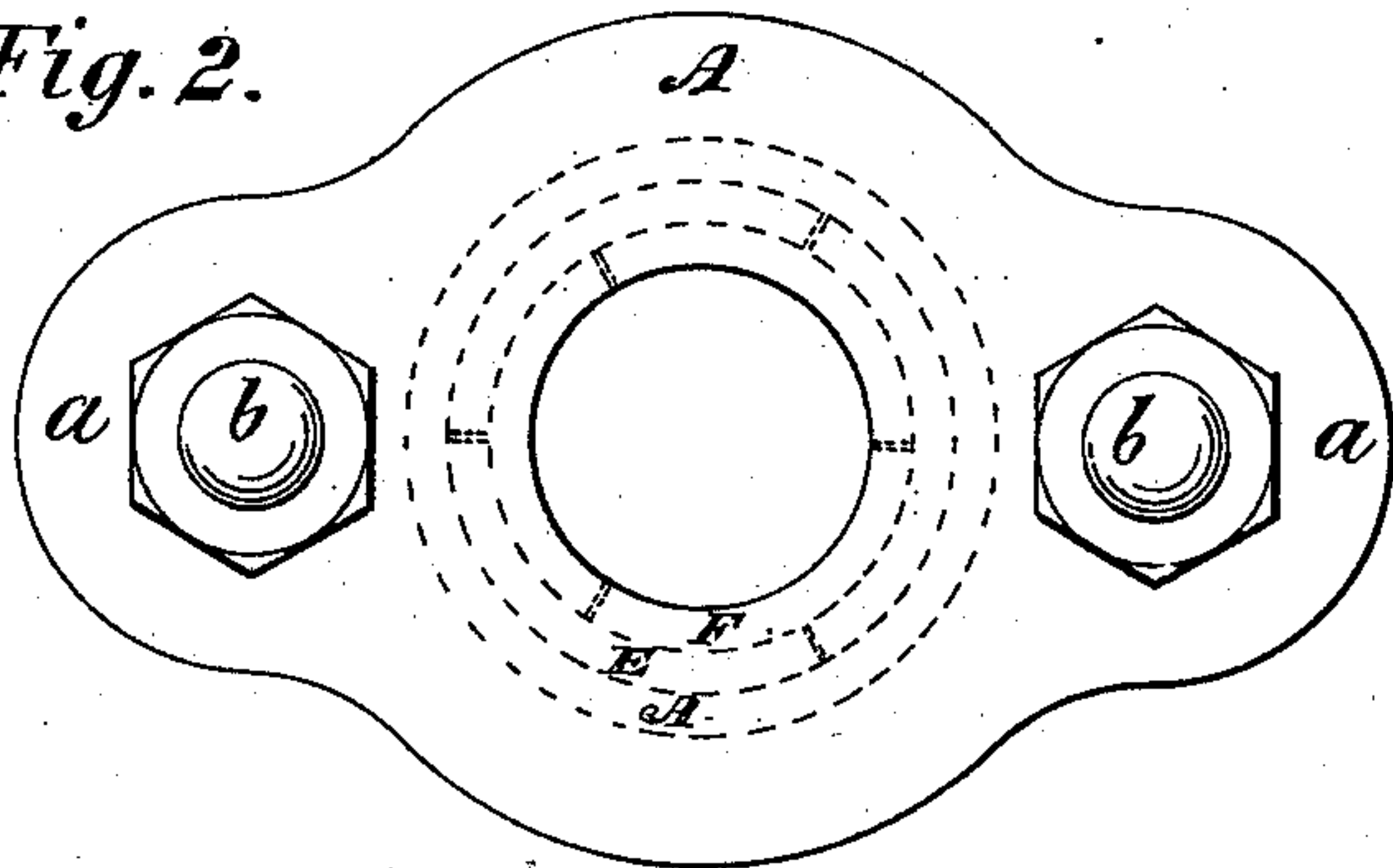


Fig. 1.

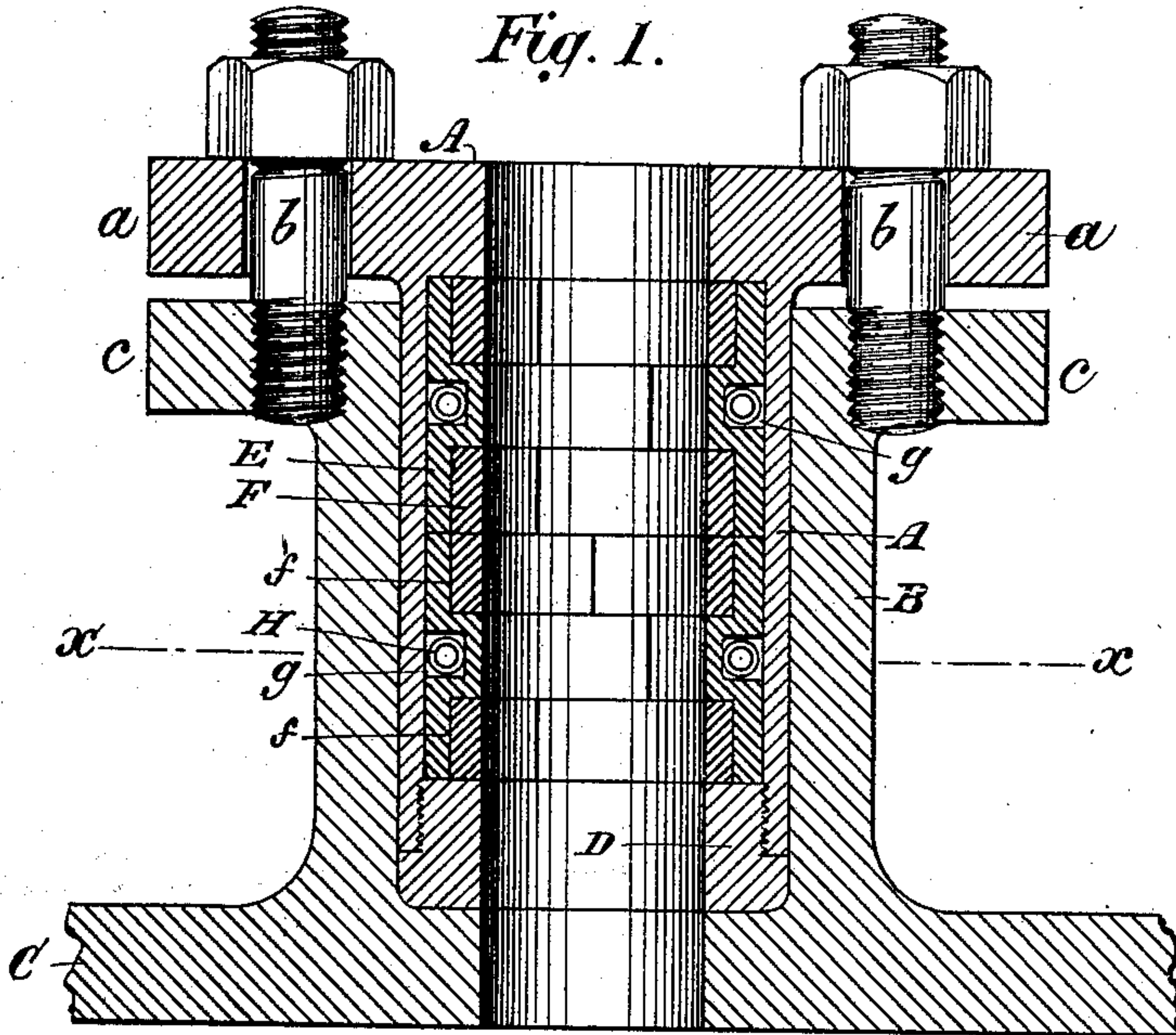
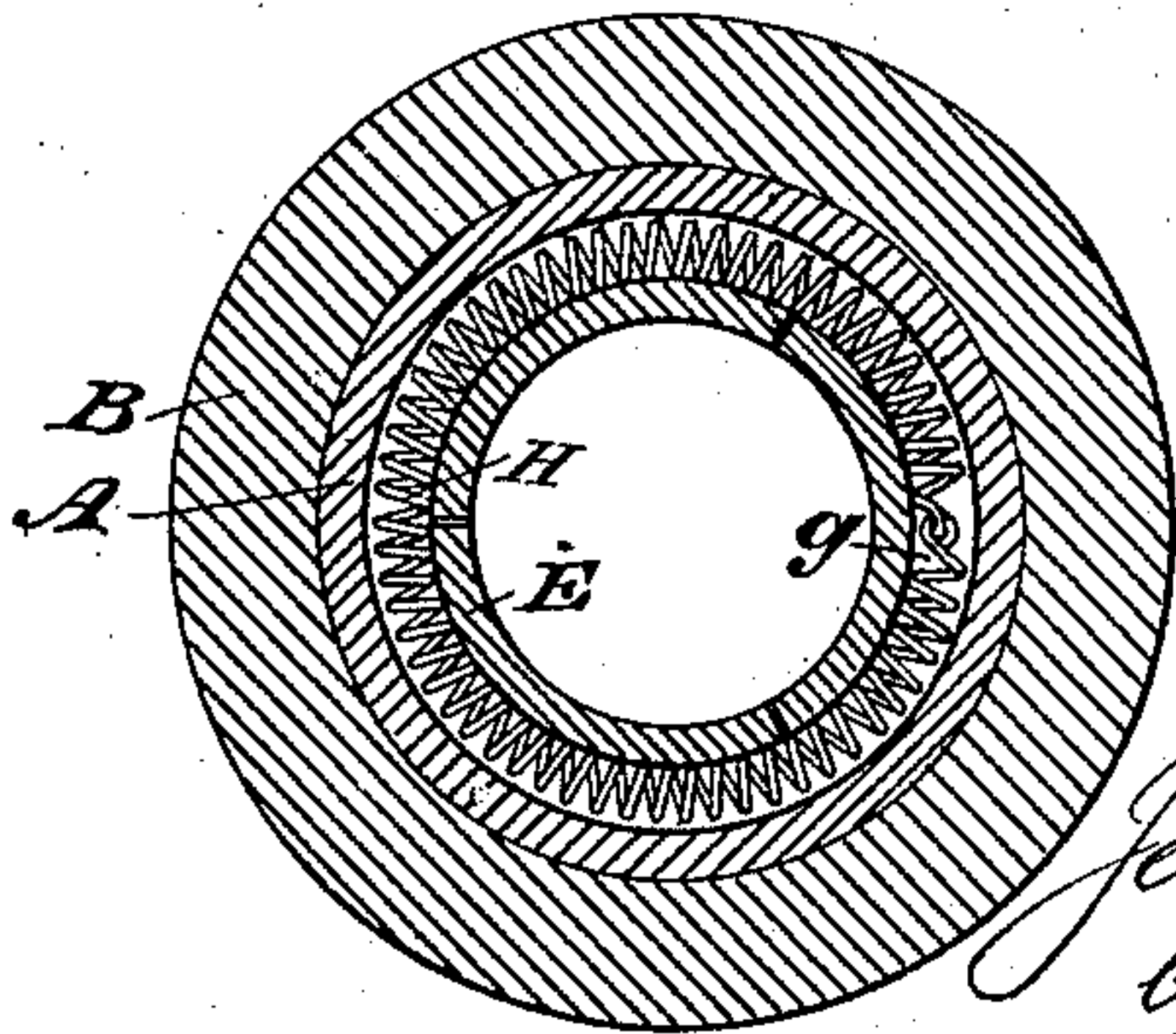


Fig. 3.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JEREMIAH J. CROWLEY, OF SAVANNAH, GEORGIA, ASSIGNOR OF TWO-THIRDS TO JOHN D. RICHARDSON, OF BROOKLYN, AND FRANCIS L. MANCHESTER, OF NEW YORK, N. Y.

## METALLIC PACKING FOR STUFFING-BOXES.

SPECIFICATION forming part of Letters Patent No. 291,160, dated January 1, 1884.

Application filed August 24, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JEREMIAH J. CROWLEY, of Savannah, in the county of Chatham and State of Georgia, have invented a new and useful Improvement in Metallic Packing for Stuffing-Boxes, of which the following is a specification.

My invention has for its object to provide a metallic packing for stuffing-boxes of engines, pumps, and other apparatus that, after once being put in place and secured, will be capable of self-adjustment to compensate for the wear of the rod around which it is fitted, thereby rendering unnecessary any further attention or adjustment to prevent leakage.

My invention consists in the novel construction and arrangement of metallic packing-rings and springs to act thereon, hereinafter particularly described and claimed.

It further consists in the combination, with an ordinary stuffing box or gland adapted for the purpose of the before-mentioned metallic packing-rings and springs to act thereon.

In the drawings, Figure 1 is a central section of a gland and packing constructed according to my invention. Fig. 2 is an end view of the same, and Fig. 3 is a transverse section through the plane *x x*, Fig. 1.

Similar letters refer to similar parts in the various views.

A designates a stuffing-box gland having flanges *a a*, to be secured by means of the studs *b b* and their nuts to corresponding flanges, *c c*, in the stuffing-box B, which forms a part of the cylinder-head C. The gland A is represented as bored out from its lower end nearly to the upper end, to receive the divided packing-rings *E E* and *F F*, which are secured therein by the follower D, which is screwed into or otherwise attached to the lower end of the gland. The divisions of these rings may lie in a radial or other transverse direction, and each ring may be divided into any number of parts or members, but preferably into three, as shown in Fig. 3. The packing-rings *E*, which may be termed the "outer packing-rings," are made to fit easily in the interior of the gland, and are made of substantially T-shaped transverse section, or with rabbeted

recesses *f f* on their inner side, into which the inner divided packing-rings, *F F*, are fitted, as shown in Fig. 1.

In the interior of the outer rings, *E E*, are grooves *g g*, extending all around, into which are placed coiled springs *H*, which encircle the said rings *E E*, and which are united at their ends for the purpose of pressing the rings *E E*, and through these on the inner rings, *F F*, in order to keep them constantly in contact with the rod around which they are fitted. The packing-rings may be of various kinds of metal or alloy, but Babbitt metal is preferable, and there may be one or more grooves around the inside of each ring for collection of any water of condensation which might enter the rings. This water will form a water-packing. The rings *E E* and *F F* simply require to be fitted together, and to the stuffing box or gland and the rod in and around which they are to be used, by boring and turning in a lathe, and afterward cut into the desired divisions, no grinding being necessary. Springs may be applied otherwise than encircling the entire circumference of the rings *E*—as, for instance, there may be substituted therefor one or more short independent radially-arranged coiled springs to each portion or member of the outer divided rings, *E E*, the latter having on their exterior surface circular recesses to receive the said coiled springs, which will act against the interior of the gland and press on the rings and keep them tight against the rod in the same manner as that described.

This invention admits of various modifications in its practical application. When applied to either old or new stuffing boxes, it may be applied as shown in the drawings, the gland being bored out sufficiently larger than the rod to receive the rings. The stuffing-box may be bored from either end to secure the packing-rings, and the follower inserted or applied after the rings and secured. The gland should be inserted far enough to rest upon the bottom of the cavity provided for it in the stuffing-box, and there secured permanently by the bolts *b b* and nuts or other means commonly provided for adjusting the gland, but should not be screwed down so hard as to bind



the rings and interfere with their automatic adjustment by the springs.

When the packing-rings are inserted into the gland, as represented in the drawings, the gland itself is in reality the stuffing-box, but the gland may be dispensed with by fitting the packing-rings into the stuffing-box itself in substantially the same manner in which they are represented fitted to the gland, in which case the whole depth of the stuffing-box may be completely filled with the rings, which may be simply confined therein by an annular cap-plate applied over the mouth of the box and encircling the piston-rod.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A stuffing-box packing composed of one or more divided outer rings, E, having inter-

nal recesses, *g g*, divided inner rings, F, fitted to the recesses *g g* of said rings E, and a spring or springs applied to press externally upon the outer divided rings, E, substantially as herein described.

2. The combination, with a stuffing-box or gland, of outer divided packing-rings, E, of substantially T-shaped transverse section, inner divided packing-rings, F, fitted to the rabbeted recesses in the interiors of the said packing-rings E, and coiled springs G, encircling the said packing-rings E, and arranged within recesses in the exteriors thereof, substantially as herein described.

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Witnesses:

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