

(No Model.)

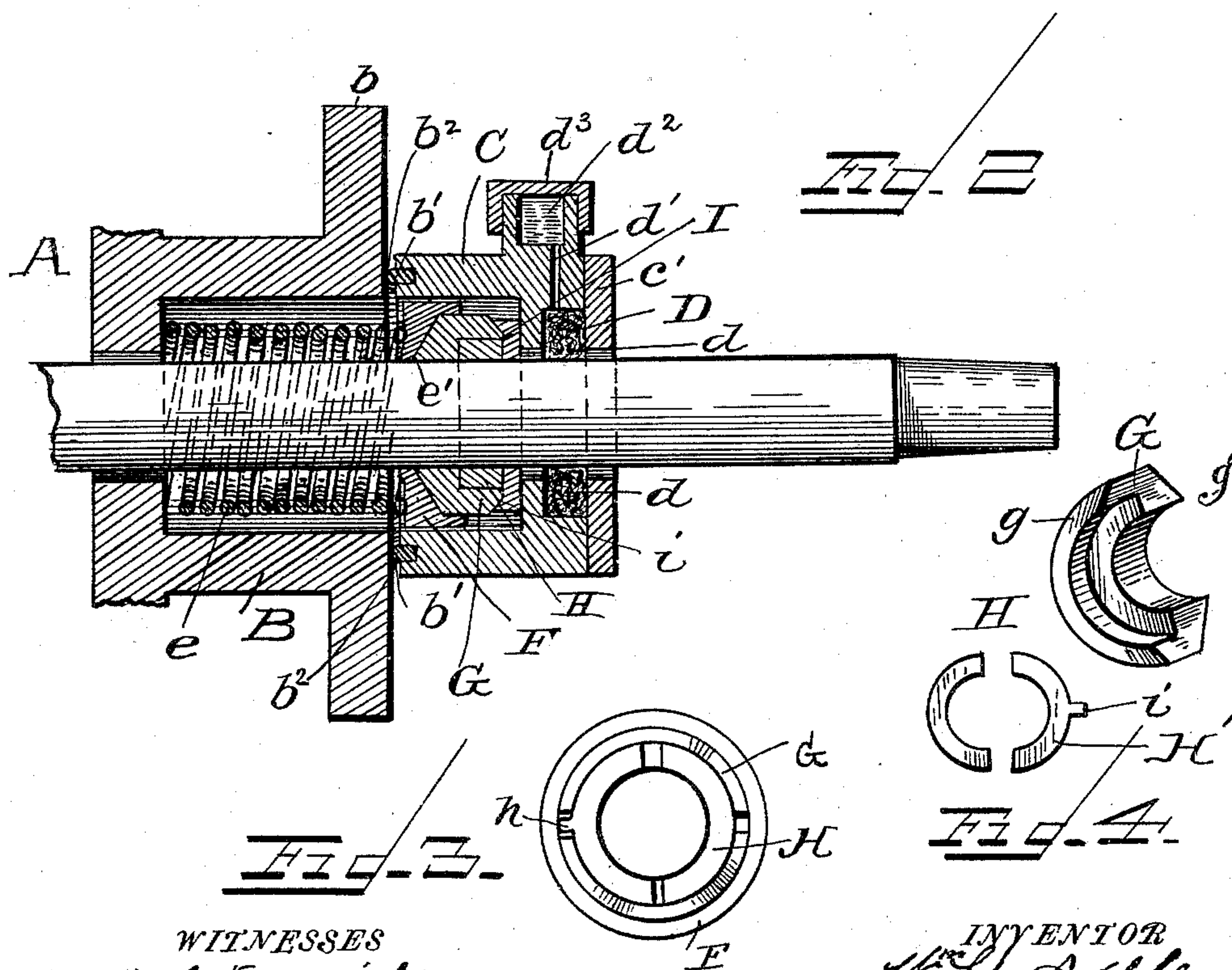
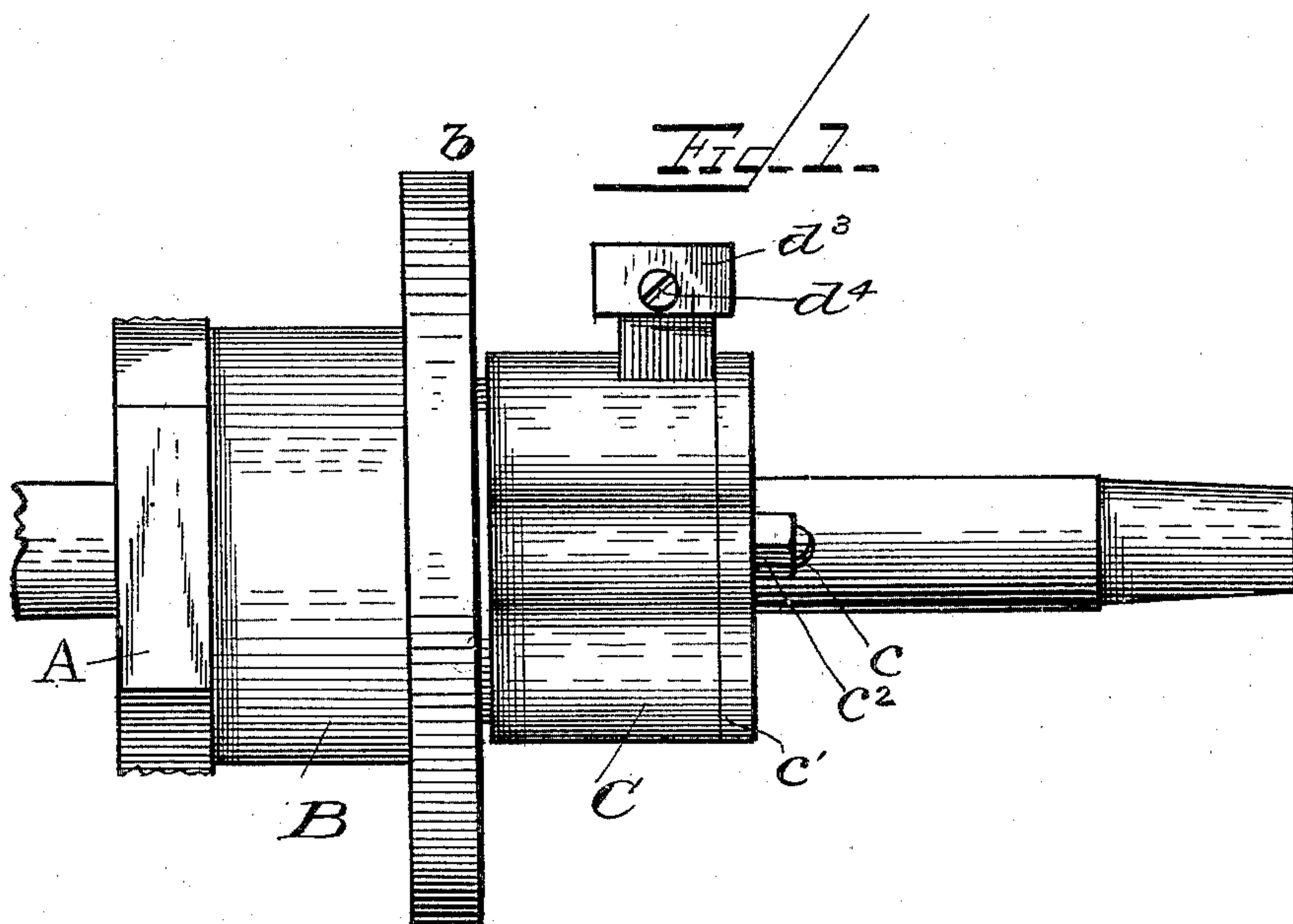
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W. H. APPLE.

STUFFING BOX PACKING FOR PISTON RODS.

No. 493,671.

Patented Mar. 21, 1893.



WITNESSES

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(No Model.)

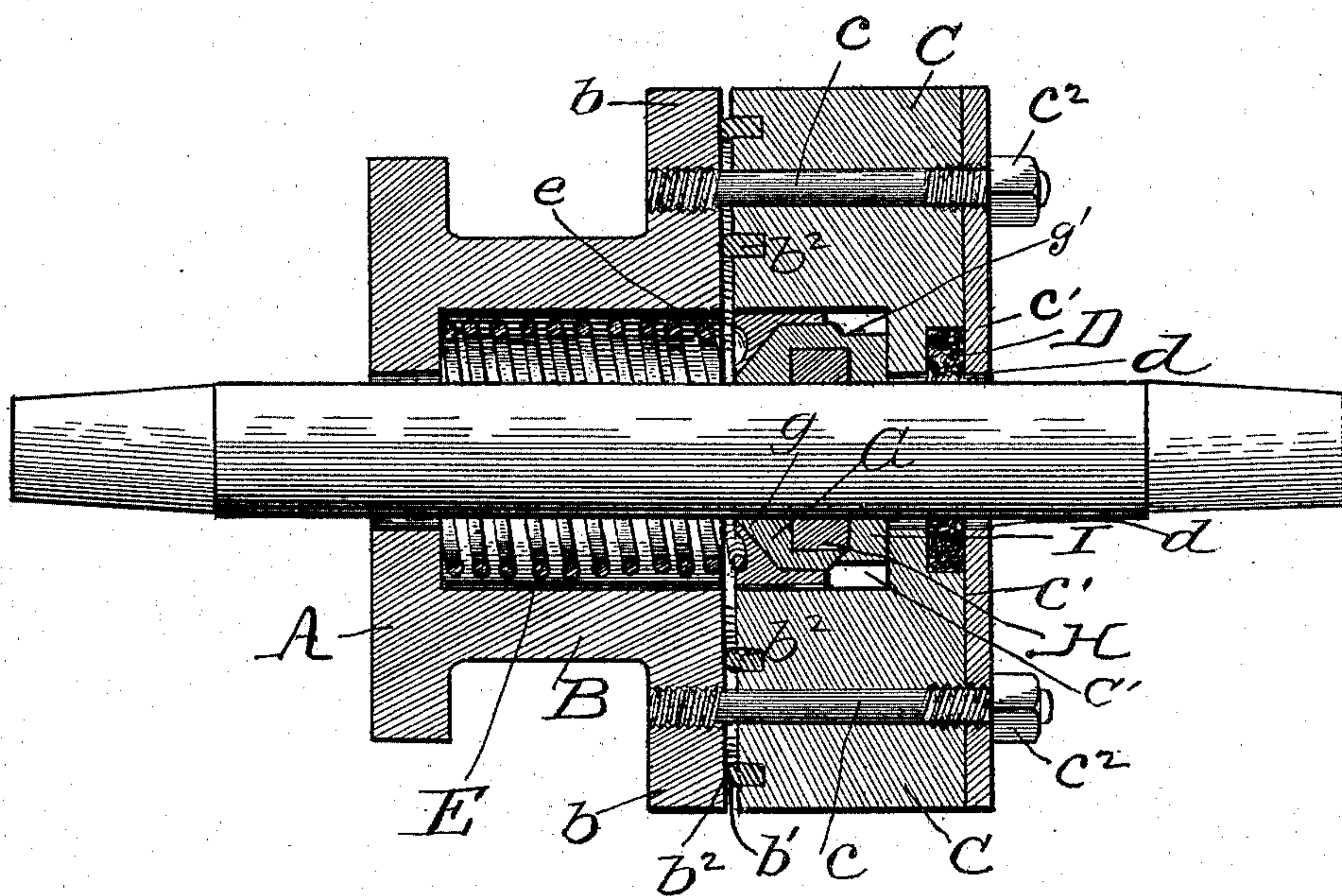
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Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM H. APPLE, OF ASHLAND, KENTUCKY.

STUFFING-BOX PACKING FOR PISTON-RODS.

SPECIFICATION forming part of Letters Patent No. 493,671, dated March 21, 1893.

Application filed August 13, 1892. Serial No. 443,002. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. APPLE, a citizen of the United States, residing at Ashland, in the county of Boyd and State of Kentucky, have invented certain new and useful Improvements in Stuffing-Box Packings for Piston-Rods; 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 has relation to improvements in stuffing-box packing for the piston rods and valve stems of steam engines, and the object is to provide a packing for these parts that will be simple, reliable and effective, and to these ends the novelty consists in the construction, combination and arrangement of the several parts of the same as will be hereinafter more fully described and particularly pointed out in the claim.

In the accompanying drawings the same letters of reference indicate the same parts of the invention.

Figure 1 is a longitudinal view of a section of the cylinder head and piston rod of an engine with my improved stuffing-box packing applied thereto. Fig. 2 is a longitudinal section of the same. Fig. 3 is a front view of the packing rings removed from the stuffing-box. Fig. 4 is a rear view of the packing rings and an enlarged view in perspective of a half section of one of said rings, and Fig. 5 is a longitudinal section of the device as shown in Fig. 2 and taken on a line at a right angle thereto.

A is the cylinder head and cast integral therewith is the stuffing-box, B, having flange, b, provided with studs, c, by means of which the secondary box, C, is adjustably secured thereto. This latter box, C, is provided with a removable cover, c', secured thereto by the nuts, c², on the studs, c, and between the face, b', of the flange, b, and the adjoining portion of the box, C, is a pair of annular packing rings, b², which are preferably formed of a ductile or semi-ductile metal such as will insure a steam-tight joint between the parts.

D is a recess in the front face of the box, C, and it is filled with any suitable fibrous lubri-

cating packings such as d, which is held in place by the cover, c'. This recess, D, is connected by a passage, d', with an oil chamber, d², by means of which the packing, d, is supplied with a lubricant, and said chamber is provided with a removable cover, d³, secured thereto by a set-screw, d⁴.

Located in the stuffing-box, B, and encircling the piston rod, is a helical spring, E, the inner end of which rests in the bottom of the box, and the forward end rests in a semicircular groove, e, in the solid ring, F, which is cup-shaped forwardly, and the bottom, e', of the cup is beveled to correspond to the angle, g, of the divided packing ring, G. This divided ring, G, is likewise provided with an annular recess in which is located a second divided ring, H, the divisions or joints of the latter being at a right angle to the divisions of the ring, G, and the section, H', of said ring, H, is provided with a teat, h, which projects between one of the divisions of the ring, G, which preserves the relative position of the two rings. The forward face of the ring, G, is beveled at g', and a solid retaining ring, I, has a correspondingly beveled interior face, i, which rests against the bottom of the recess, C', in the box, C, so that as the spring, E, presses the solid ring, F, forwardly, the divided packing rings, G and H, are compressed between it and its counterpart, I, the tendency being to force the divided rings to hug the piston rod snugly, and thus form a compensating or self-adjusting packing around the rod. The packing rings, G and H, are, of course, of any suitable anti-friction metal and the lubricating packing, d, being inside of and protected by the cap, c', prevents the access of dust or grit to the metallic packing, G and H, and thus the possibility of cutting the same or the rod itself, thus insuring or prolonging the life of the wearing parts.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

In a packing box, the combination with the solid ring F, having a beveled recess in its front face, and the split ring G, having its rear

face beveled to correspond with the recess in
ring F, and its front face beveled and formed
with an annular recess, of the annular split
ring H, having a teat *h*, adapted to engage with
5 a radial division of the ring G, and the ring I,
of greater diameter than ring H, having an
annular recess in its rear face, and engaging
with the beveled edge of ring G, whereby said

ring I is concealed and held in place, substan-
tially as described. 10

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

WILLIAM H. APPLE.

Witnesses:

HAROLD MEANS,
F. S. EIFOOT.