

(No Model.)

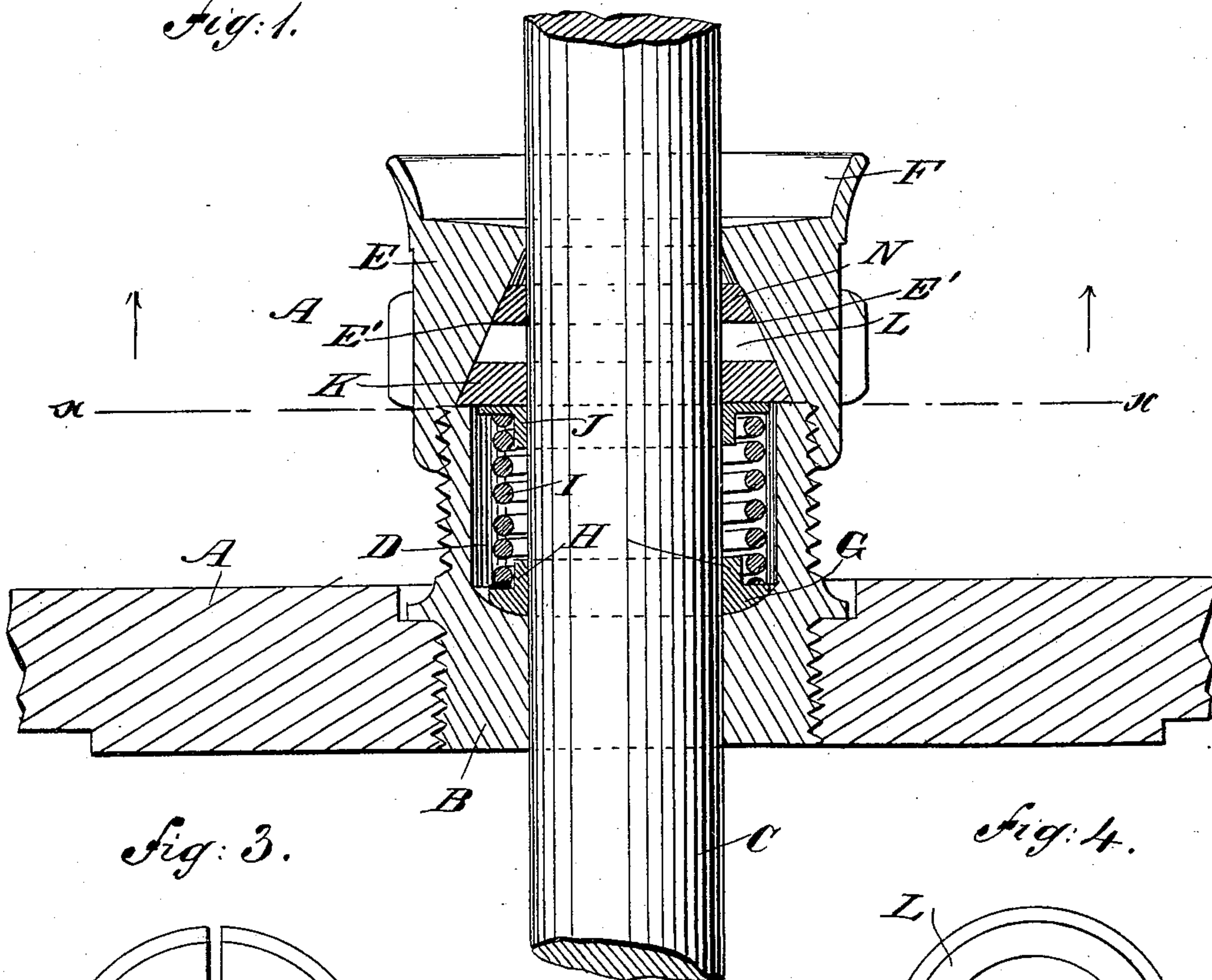
F. G. KELLOGG.

PISTON ROD PACKING.

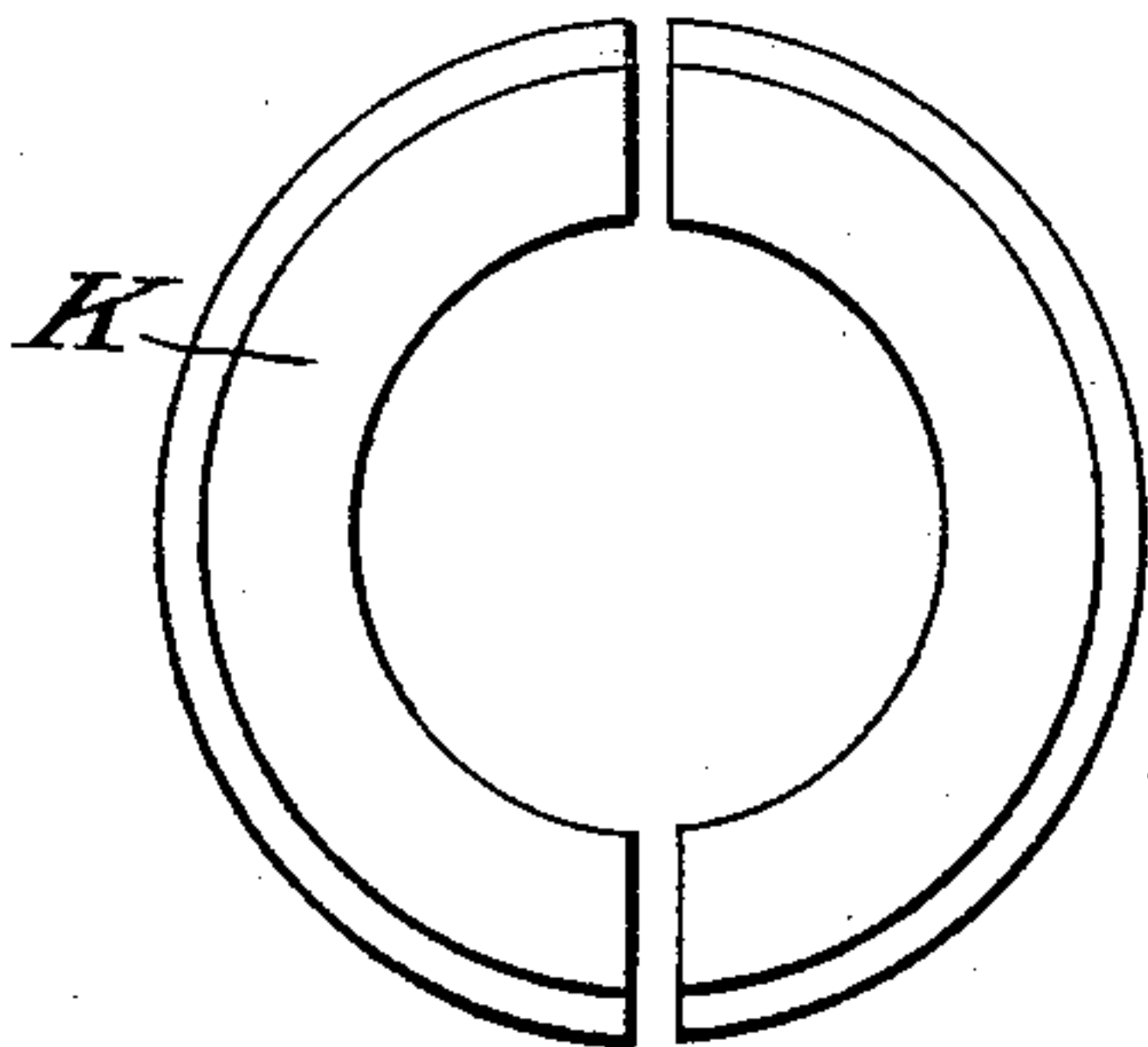
No. 407,533.

Patented July 23, 1889.

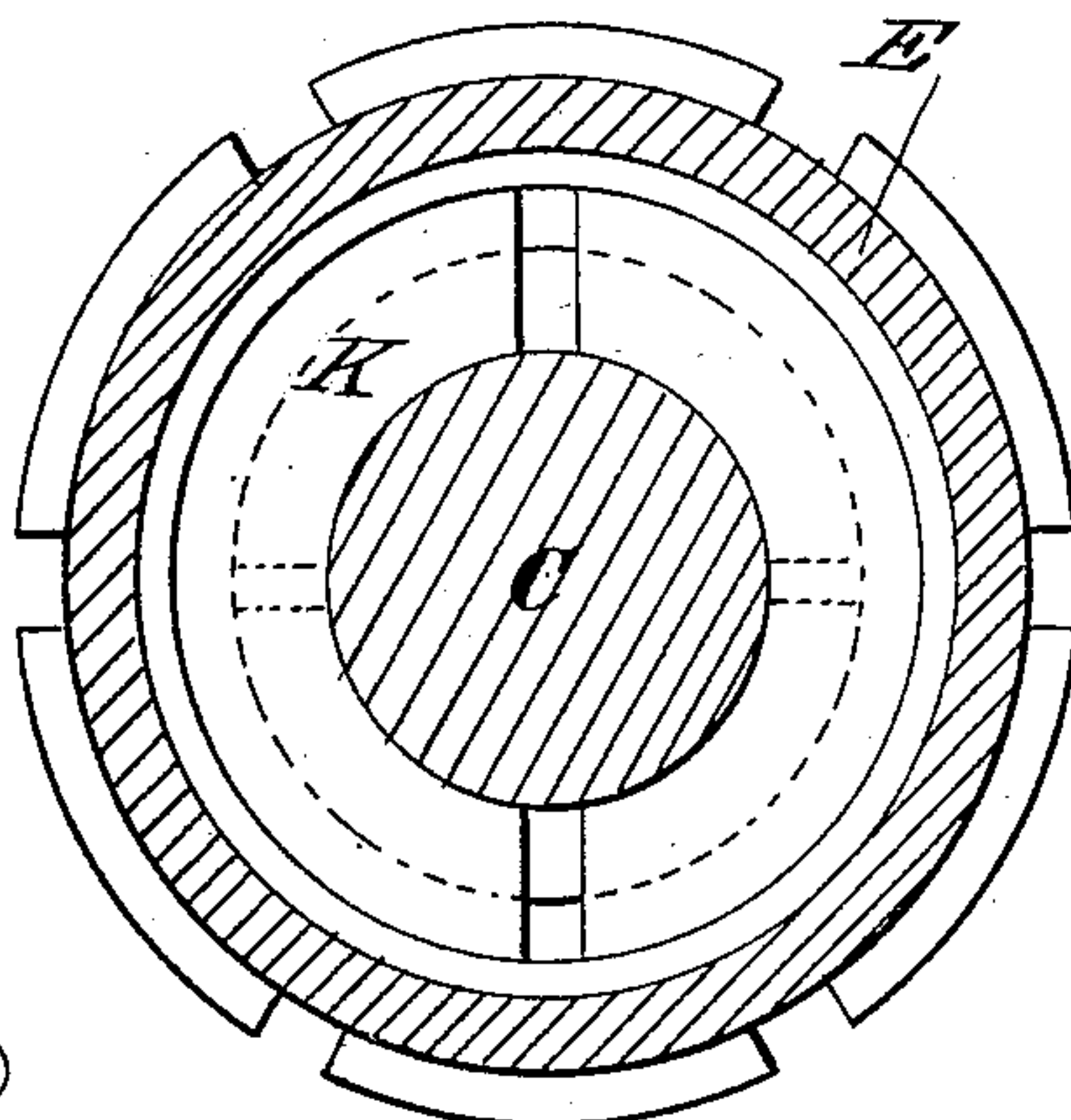
*Fig: 1.*



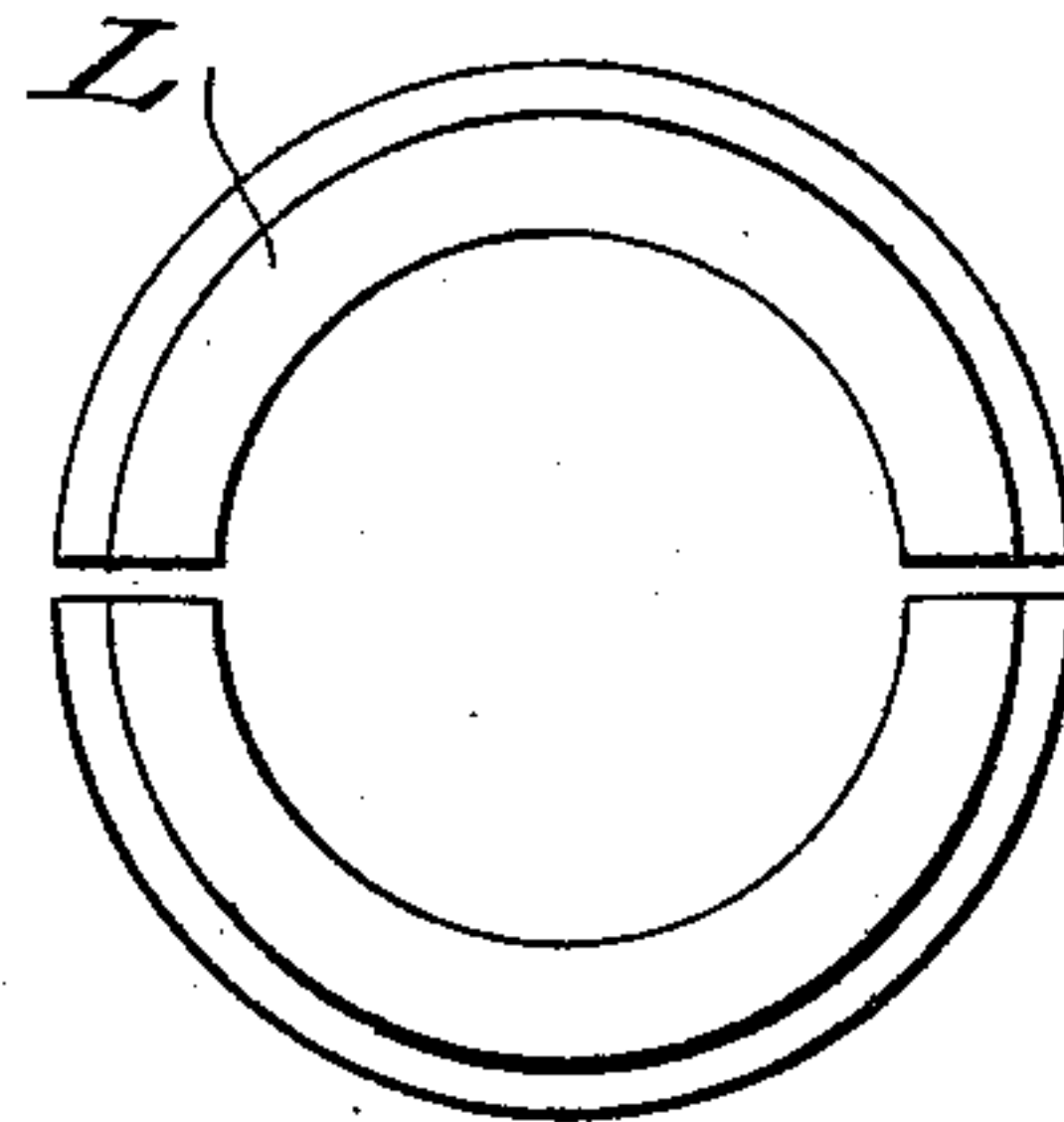
*Fig: 3.*



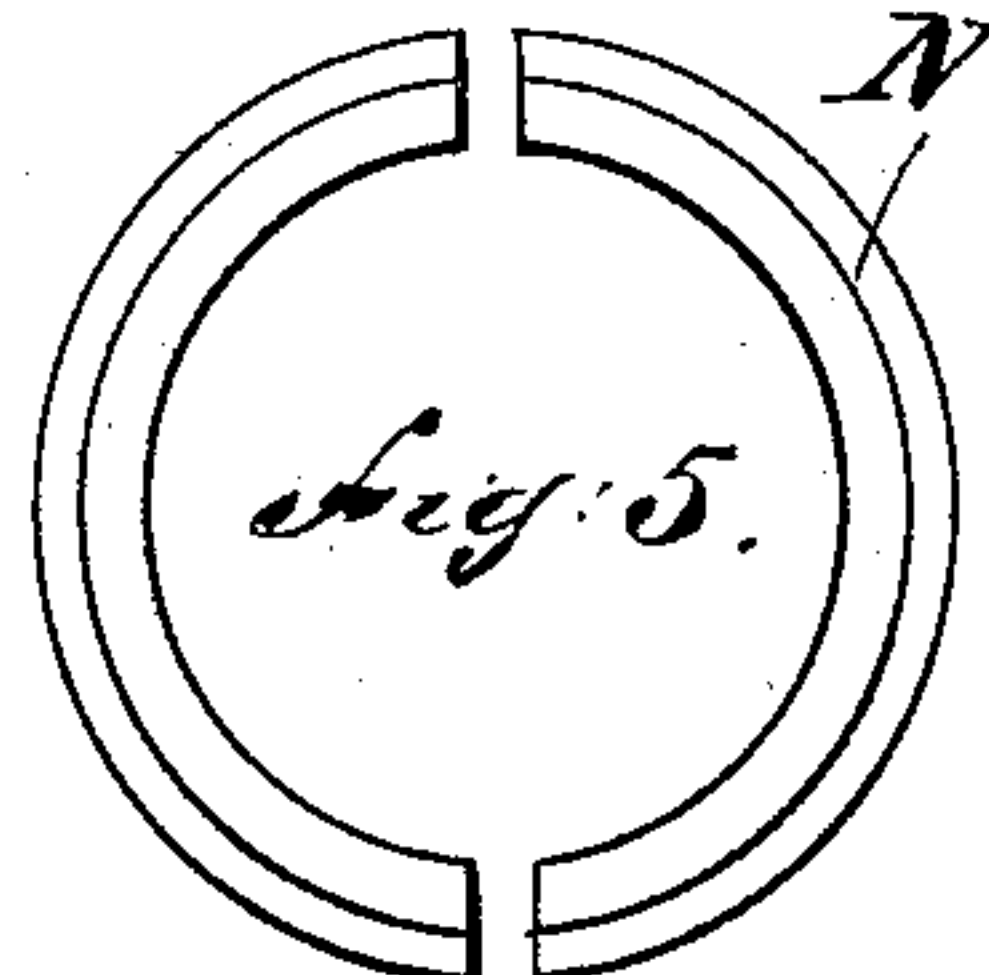
*Fig: 2.*



*Fig: 4.*



*Fig: 5.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

FORTUNATUS GALBRAITH KELLOGG, OF BRAINERD, MINNESOTA, ASSIGNOR  
TO HIMSELF AND FRANK BELL, OF SAME PLACE.

## PISTON-ROD PACKING.

SPECIFICATION forming part of Letters Patent No. 407,533, dated July 23, 1889.

Application filed March 28, 1889. Serial No. 305,138. (No model.)

*To all whom it may concern:*

Be it known that I, FORTUNATUS GALBRAITH KELLOGG, of Brainerd, in the county of Crow Wing and State of Minnesota, have invented  
5 a new and Improved Piston-Rod Packing, of which the following is a full, clear, and exact description.

The invention relates to metallic packing; and its object is to provide a new and im-  
10 proved packing which is simple and durable in construction, very effective in operation, and designed more particularly for piston-rods of steam-engines, steam-pumps, and other machinery.

15 The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claim.

Reference is to be had to the accompany-  
20 ing drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a sectional plan view  
25 of the same on the line *xx* of Fig. 1; and Figs. 3, 4, and 5 are face views of the packing-rings.

In the cylinder-head A screws a box B, having a central aperture, through which  
30 passes a piston-rod C. In the outer end of the box B is formed an enlarged central opening D, and on this outer end is also formed an external screw-thread, on which screws a head E, provided on its upper end with a cup  
35 F, in which the lubricant can be placed for lubricating the packing and the piston-rod C.

The bottom of the opening D in the box B is concave, and into it fits a correspondingly-  
40 shaped ring G, provided with an upwardly-extending annular flange H, fitting closely against the piston-rod C. On the ring G rests the lower end of a coil-spring I, held in the opening D, and carrying at its upper end a  
45 flanged ring J, pressing against the under side of the packing-ring K, fitting into a conical aperture E', formed in the head E. The small end of the conical aperture E' is of the same diameter as the piston-rod C, and opens into the oil-cup F, as is plainly shown in Fig. 1.

On top of the bottom packing-ring K 50 rests a second packing-ring L, also fitted into the conical aperture E', and on top of the packing-ring L rests a third packing-ring N, corresponding in shape to the opening E'. Each of the packing-rings K, L, and N is made  
55 in sections, and the several rings are so arranged, one above the other, as to break joints, as is plainly shown in Figs. 2, 3, 4, and 5. It is to be understood that the peripheries  
60 of the packing-rings are inclined to correspond with the conical opening E', and the several packing-rings decrease in size, counting from the bottom upward.

When the several parts of the packing are in place, as illustrated in Fig. 1, the coil-spring  
65 I is compressed and exerts an outward pressure against the ring J, which presses against the bottom of the packing-ring K, so that the several packing-rings are pressed outward in the conical aperture E'. As the several pack-  
70 ing-rings are made in sections and are pressed outward in the conical opening E', the sections have a tendency to close toward each other, thus pressing firmly around the piston-rod C. A very secure metallic packing is  
75 thus formed around the piston-rod, and all leakage is prevented, as the several packing-rings break joints.

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

The combination, with the box B, provided with an enlarged central opening D, having a concave bottom, the ring G, having a rounded lower face to fit said bottom, and an  
85 annular flange H, the upper ring J, and the spring I on said ring and flange, of the head E, screwed on box B, and having an inner conical opening E', and an outer cup F, and the series of sectional packing-rings L N,  
90 breaking joint in the conical opening and beveled on their peripheries, substantially as set forth.

FORTUNATUS GALBRAITH KELLOGG.

Witnesses:

MILTON MCFADDEN,  
FRANK BLANCHARD.