C. TIBBETS & D. L. WEAVER.

Improvement in Piston-Packing.

No. 129,070. Patented July 16, 1872.

Fig. 1.

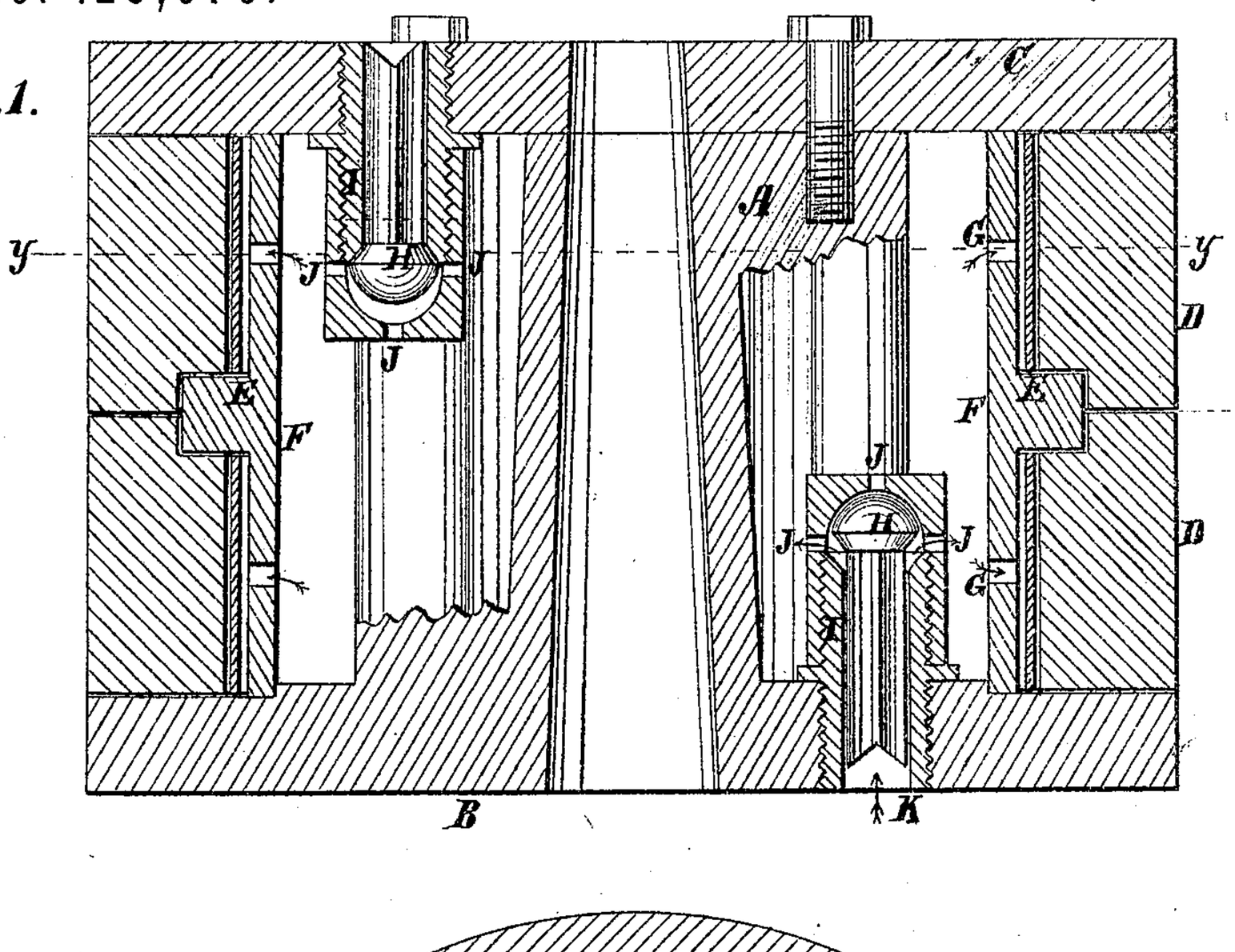
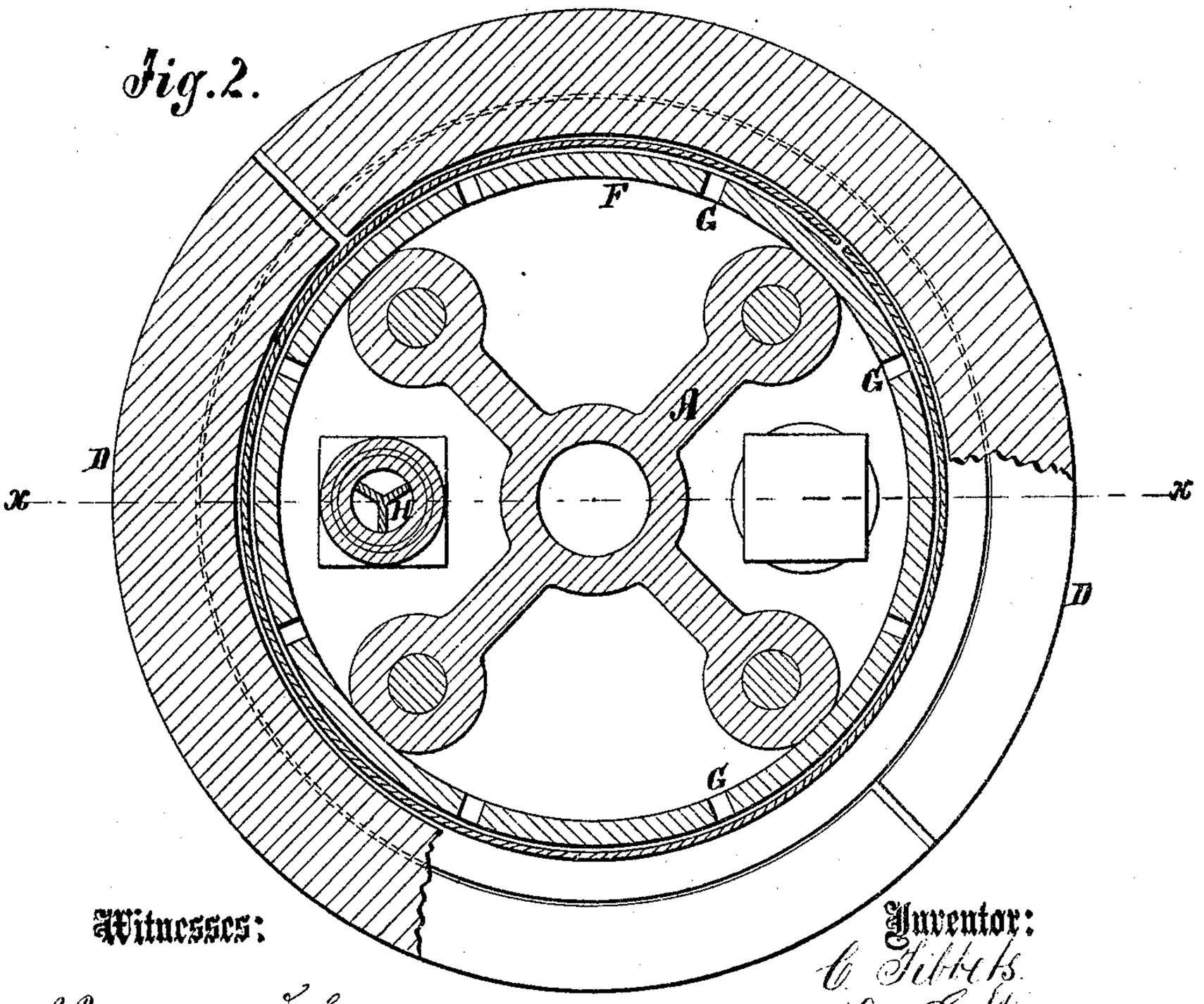


Fig. 2.



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UNITED STATES PATENT OFFICE.

CRAWFORD TIBBETS AND DANIEL L. WEAVER, OF RIVERTON, KENTUCKY.

IMPROVEMENT IN PISTON-PACKINGS.

Specification forming part of Letters Patent No. 129,070, dated July 16, 1872.

Specification describing a new and useful Improvement in Piston-Packing, invented by CRAWFORD TIBBETS and DANIEL L. WEAVER, of Riverton, (via Greenup Court-House) Greenup county, Kentucky.

This invention relates to new and useful improvements in packing the pistons of steam-engines; and consists in the construction and arrangement of parts hereinafter described.

In the accompanying drawing, Figure 1 represents a central longitudinal section of the piston taken on the line *x x* of Fig. 2. Fig. 2 is a cross-section taken on the line *y y*.

Similar letters of reference indicate corresponding parts.

A represents the body of the piston, to which is cast one of the end disks B. C is the other disk or end of the piston. D D are the packing-rings of cast metal cut at one or more points with each a thin steel spring, E, within it cut at one point. F is a central flange-ring extending the depth of the piston between the two disks B and C, provided with holes G, more or less in number, as seen in Fig. 1. Through each of the disks B C and extending into the central portion of the piston is a valve, H, with valve-stem H′ confined in a tube, I. This tube is made in two parts screwed together, as seen in Fig. 1. The part screwed into the disks is the seat, and the other and inner part is the valve-chamber having orifices J therein. These valves are opened by the pressure of the steam as the piston moves back and forth in the cylinder. The steam which enters at K (see Fig. 1) opens that valve and is discharged into and filling the interior of the piston it passes through the flanged ring F and expands the steel and packing-rings, as indicated by the arrows. This interior pressure also closes the valve in the opposite end of the piston. This occurs while the piston is traveling in one direction. At the end of the cylinder it changes its direction, and the action of the valves is reversed. When the steam is shut off from the cylinder the pressure inside the piston will close both the valves and keep the packing-rings set out to the cylinder. The flanged ring F keeps the steel-rings E separate, as seen in Fig. 1. The packing-rings may be cut in two or more pieces. By this arrangement it will be seen that the piston is packed by the steam for each stroke of the engine, and is subject to no undue pressure when the engine is at rest.

We do not confine ourselves to the precise form or arrangement of the parts described, as variations may be made without departing from our invention.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

A hollow piston, consisting of body and ends A B C, packing-rings D D, steel rings E E, flanged ring F G, and valve mechanism H I J, all arranged as and for the purpose set forth.

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