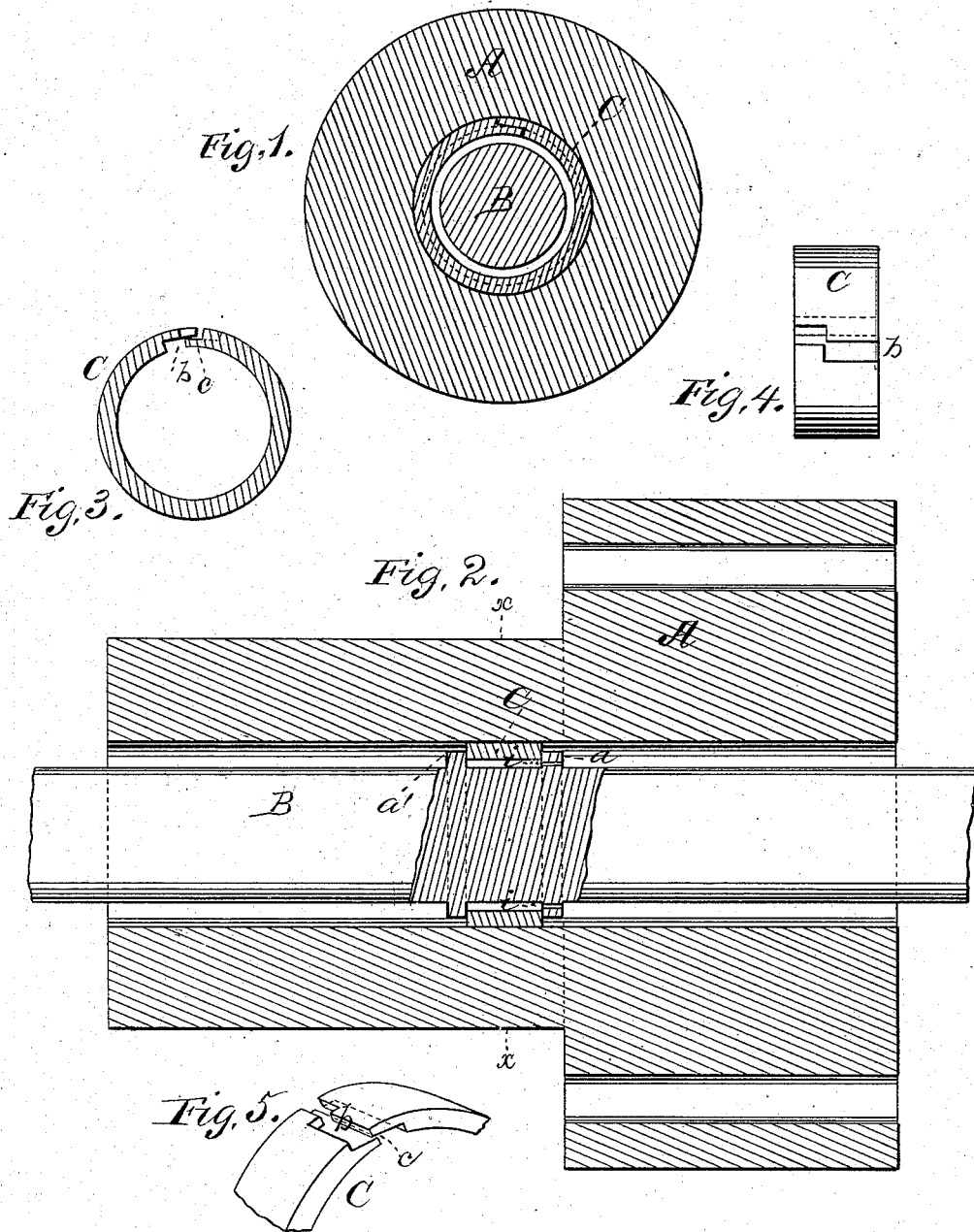


E. ROBINSON.
 Steam-Packing.

No. 205,421.

Patented June 25, 1878.



WITNESSES
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UNITED STATES PATENT OFFICE.

EDGAR ROBINSON, OF DENNISON, OHIO.

IMPROVEMENT IN STEAM-PACKING.

Specification forming part of Letters Patent No. **205,421**, dated June 25, 1878; application filed June 1, 1878.

To all whom it may concern:

Be it known that I, EDGAR ROBINSON, of Dennison, in the county of Tuscarawas and State of Ohio, have invented a new and valuable Improvement in Steam-Packing; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a transverse section of a stuffing-box and valve-stem, showing my packing applied. Fig. 2 is a longitudinal section of the same; and Figs. 3, 4, and 5 are detail views of the ring.

My invention has relation to improvements in packings for valve and throttle stems and other rods working on a short stroke; and the nature of the invention consists in the construction and novel arrangement of a stuffing-box and a valve stem or rod having two spaced collars, one of which is provided with perforations, and an annulus fitting snugly between the said collars and having a zigzag cleft, the edges of said cleft halved into each other, as will be hereinafter more fully explained.

In the accompanying drawings, the letter A indicates the stuffing-box of a valve or cylinder, or of a throttle, wherein the rod or stem has a short stroke; and B is the valve stem or rod, having two spaced collars, *a a'*, the former being on the steam side of the packing, and provided with a number of perforations, *i*, extending through it.

The interior of the stuffing-box may be bored out true, and the packing device applied thereto; but I prefer to use a metallic bushing as a bearing, which, being made removable, can be readily replaced when worn out, at a small outlay of time, labor, and expense.

It being understood that the combined diameters of the rod and collars are less than the interior diameter of the bush, I will now explain my packing. It consists of a (preferably) steel ring, C, fitting snugly to its edges against the adjacent faces of the collars *a a'* and cleft at *b*. The edges of the cleft are zig-

zag transversely, and they are halved into each other, forming a scarf-joint, *c*, the members of which slide freely upon each other as the ring expands and contracts. The collar *a'* may sometimes be made removable, for conveniently removing and replacing the rings; and the cleft *b* may extend obliquely across the said ring, instead of being transverse and zigzag.

The ring, being in place between the collars *a a'*, is passed into the stuffing-box by being compressed; consequently when in position therein its resilience causes it to bear forcibly against the bush, this pressure being intensified by steam which passes into the space between the collars under the ring C, through the perforations *i*, and causes the said ring to be expanded. The steam-pressure also adjusts the ring, as it wears away, automatically to the interior of the bushing; and, as the cleft is zigzag and its edges halved into each other, this adjustment is obtained without destroying the necessary tightness of the joint.

It will be readily seen from the above description that all the wear of the device is upon the ring C and the bush, instead of upon the rod or stem; consequently the latter is practically indestructible, as far as wear is concerned.

The ring and bush, being of small value and readily removable, may be kept in stock, and replaced as often as may be requisite with but little expense and loss of time.

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

The combination, with a stuffing-box and a valve stem or rod having the spaced collars *a a'*, the former provided with perforations *i*, of the annulus C, fitting snugly between the said collars, having zigzag cleft *b*, and the edges of said cleft halved into each other, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

EDGAR ROBINSON.

Witnesses:

PHILIP CAHILL,
CHARLES B. WILLOUGHBY.