H. Robbins,

Wringer Roll,

No. 54,651. Patented May 8, 1866.

Fig. 1

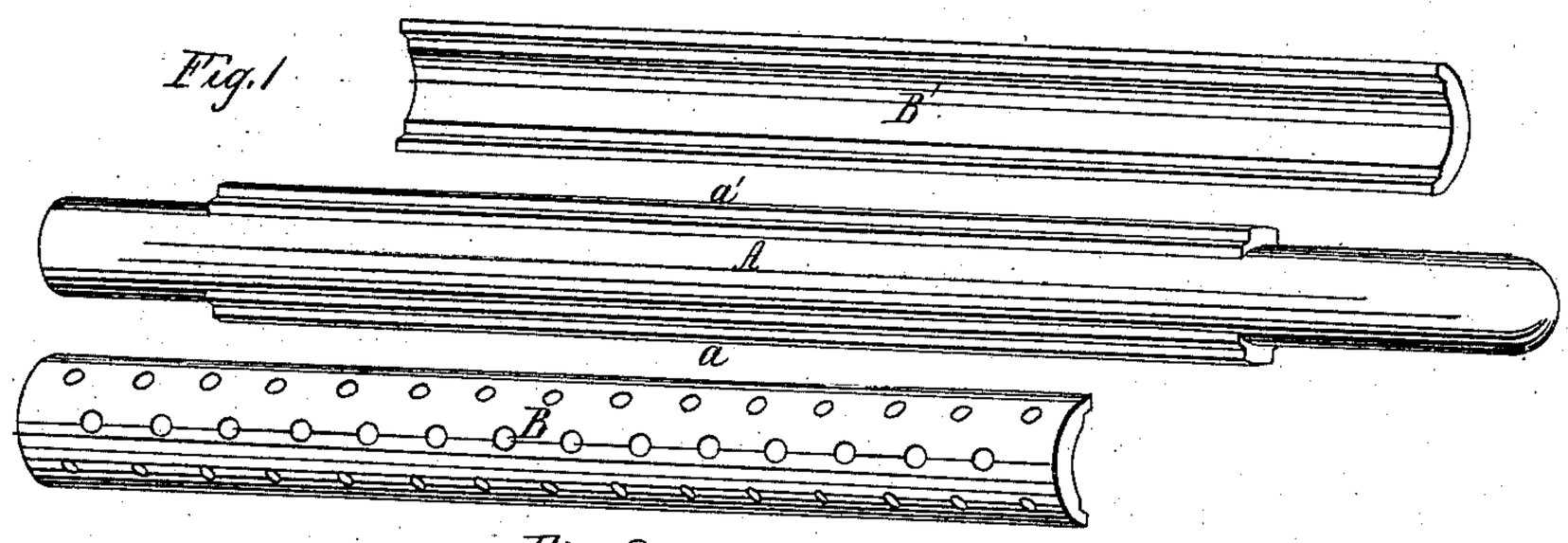


Fig. 2

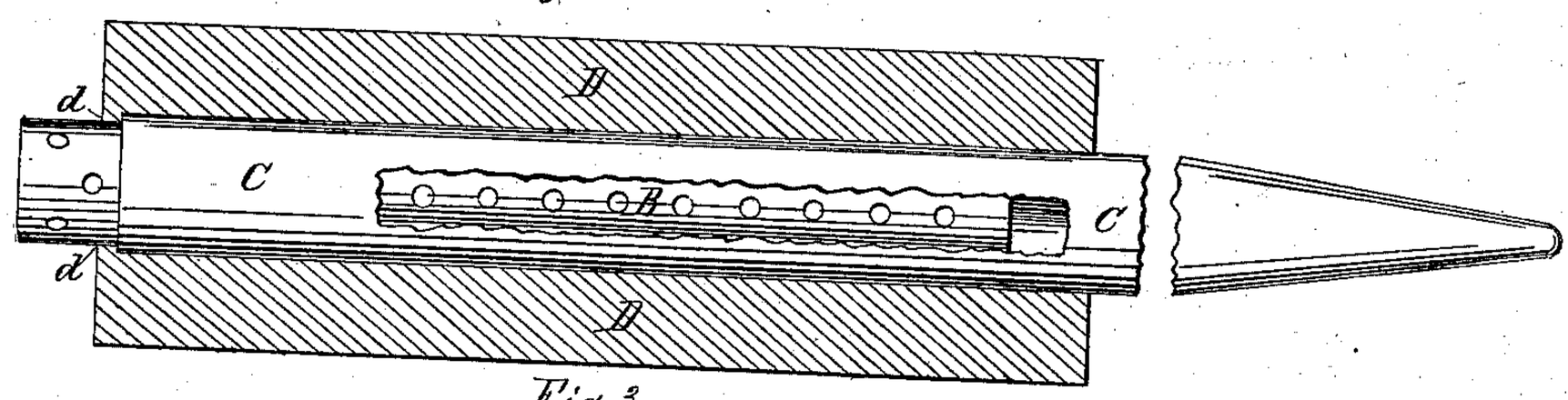


Fig. 3

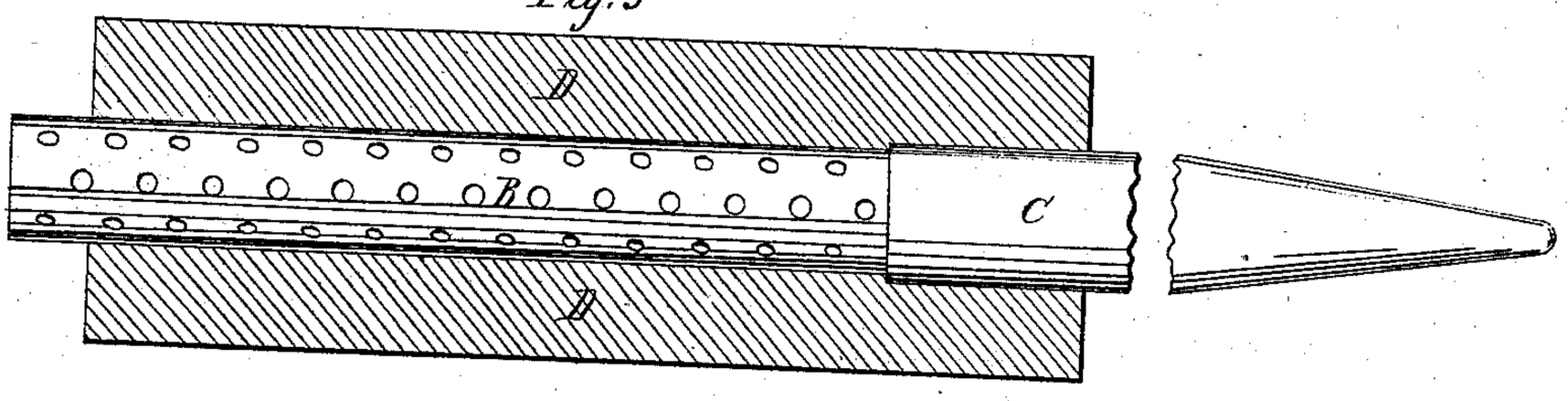


Fig. 4

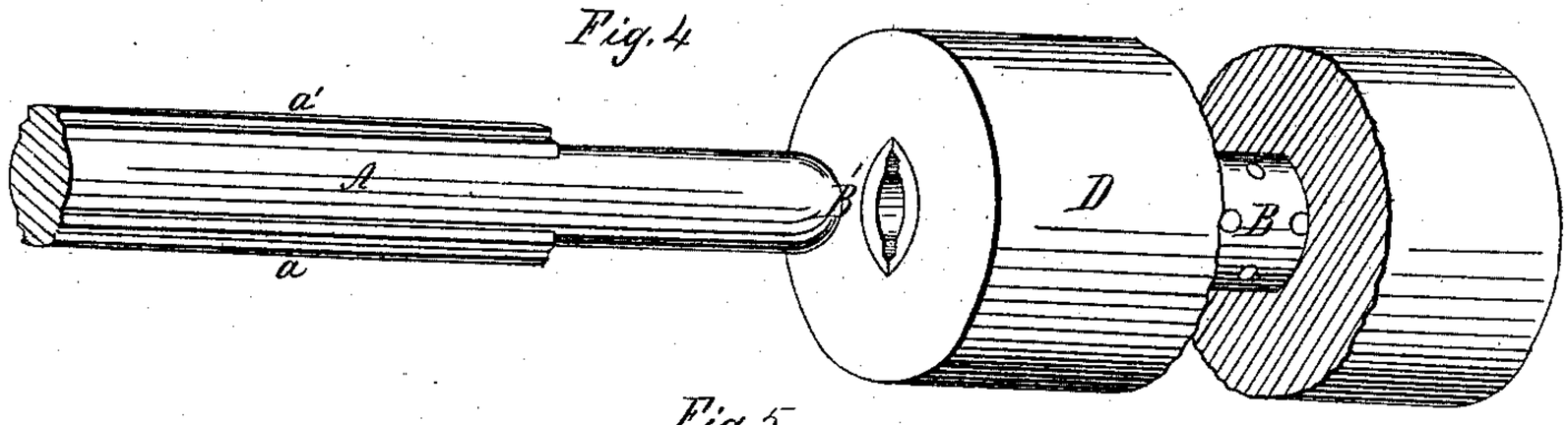
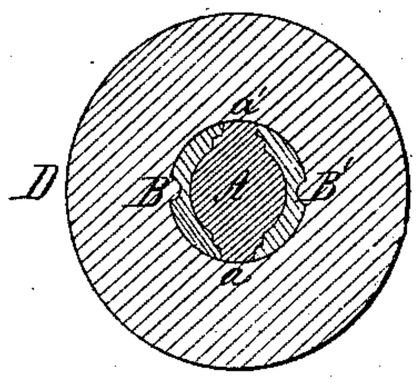


Fig. 5



Witnesses
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UNITED STATES PATENT OFFICE.

HIRAM ROBBINS, OF CINCINNATI, OHIO, ASSIGNOR TO HIMSELF AND THOMAS H. FOULDS, OF SAME PLACE.

IMPROVED ROLLS FOR WRINGERS.

Specification forming part of Letters Patent No. **54,651**, dated May 8, 1866.

To all whom it may concern:

Be it known that I, HIRAM ROBBINS, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in Clothes-Wringer Rolls; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

This invention relates to a mode of firmly and securely inserting the shaft of an india-rubber clothes-wringer roll.

Figure 1 is a perspective view, showing the several members of my tripartite or longitudinally-divided shaft. Figs. 2 and 3 are axial sections representing successive stages of the operation of inserting the segments. Fig. 4 is a fractional perspective view illustrating the mode of inserting the rod or central member of the shaft. Fig. 5 is a transverse section of the completed roller.

The shaft is composed of the following parts: A is a central rod, having projecting from opposite sides of it two longitudinal tongues or splines, *a a'*. B B' are two annular segments roughened or indented on their convex surfaces. C is a hollow pointed guard or sheath, adapted by its oval transverse section to closely envelop the two roughened segments B B' when placed with their concave surfaces flatly together, as in Fig. 4. The said guard or sheath is smoothly polished both inside and out, to enable it to glide over the surfaces of the rubber and segments with the least possible displacement of cement.

The pieces A and C are preferred to be of wrought or malleable iron or steel, and the pieces B and B' of cast-iron; but one or more of the pieces A B B' composing the shaft may be of other metal, or even of wood, and a greater number of segments also may be employed.

My compound shaft is inserted in the following way: I take a common cast india-rubber roll, D, having an axial perforation, *d*, of much less diameter than the shaft. I coat well with glue or other suitable cement the perforation *d* of the roll and the segments B B', and having inserted the said segments in the polished guard or sheath C, the latter is introduced point foremost into the perforation *d*, and is pushed forward by means of a powerful screw or otherwise until only so much of the segments B B' protrude from the roll as is shown in Fig. 2. The protruding ends of the segments B B' being then caught in a vise, the sheath is drawn forward (see Fig. 3) and entirely out of the roll. The guard or sheath having been withdrawn, the segments are immediately driven forward until entirely embedded in the body of the roll.

The office of the guard is to protect the cement-covered surfaces, and to enable the insertion of the roughened segments without thereby stripping or rubbing off the cement from their surfaces or those of the perforation *d*, the piecemeal composition of the shaft, in connection with the polished sheath with its small transverse area, enabling the insertion of a large shaft into a comparatively small orifice, so as to insure a tight gripe of the rubber upon the shaft.

The application of the shaft is completed by the forcible insertion of the rod A (see Fig. 4) between the segments B B'.

I claim herein as new and of my invention—

1. A wringer-roll composed of an external cylinder of rubber and the longitudinally-divided shaft composed of the central rod, A *a a'*, and roughened or indented segments B B', substantially as and for the purpose set forth.

2. In combination with the elements of the clause next-preceding, the guard or sheath C, adapted to enable the insertion of the segments B B', in the manner explained.

In testimony of which invention I hereunto set my hand.

HIRAM ROBBINS.

Witnesses:

GEO. H. KNIGHT,

JAMES H. LAYMAN.