

S. H. LORING.

TOOL FOR INSERTING RINGS IN HOSE.

No. 187,875.

Patented Feb. 27, 1877.

Fig. 1

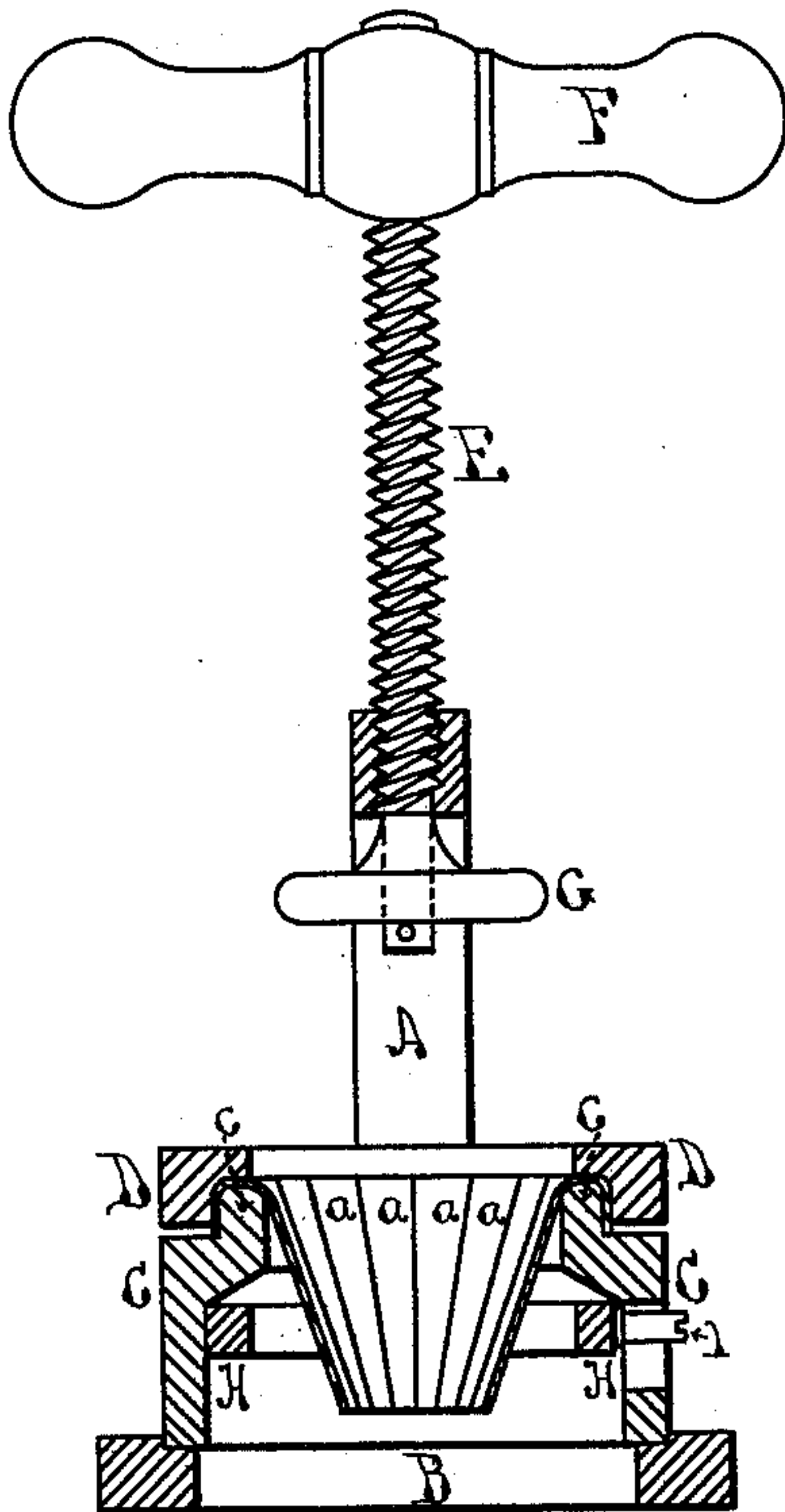
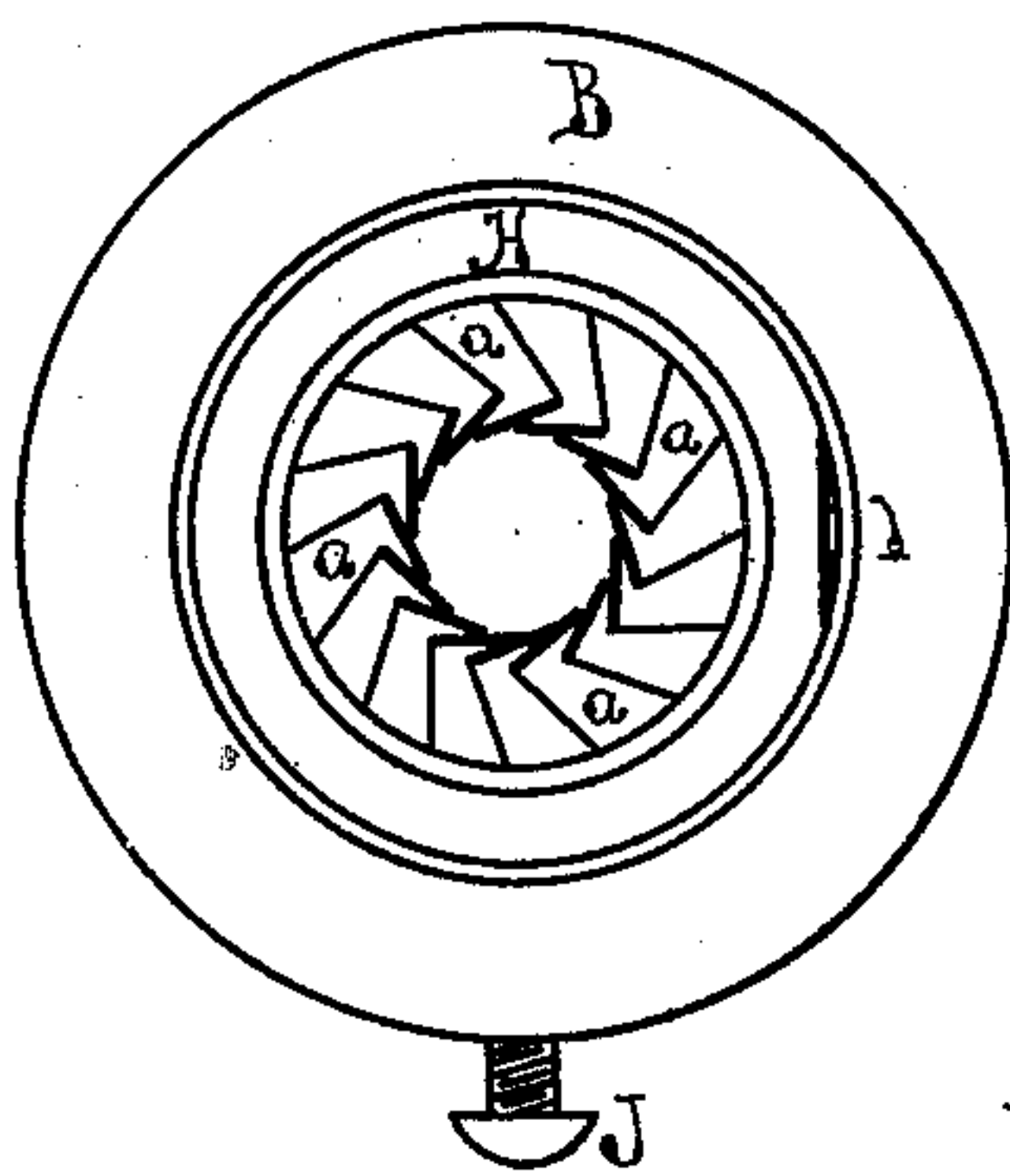


Fig. 2



Witnesses

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SILAS H. LORING, OF LAWRENCE, MASSACHUSETTS.

IMPROVEMENT IN TOOLS FOR INSERTING RINGS IN HOSE.

Specification forming part of Letters Patent No. **187,875**, dated February 27, 1877; application filed August 7, 1876.

To all whom it may concern:

Be it known that I, SILAS H. LORING, of Lawrence, in the county of Essex and State of Massachusetts, have invented a new and useful Tool for Inserting the Ring in the End of Hose, of which the following is a specification:

My invention, although applicable to any similar purpose, relates more especially to a new device for inserting the inner ring used in the hose-coupling described in the reissue Letters Patent numbered 7,221, in which the outer diameter of the ring is considerably greater than the inner diameter of the hose; and, as the hose is stiff and unyielding, it has heretofore been very difficult to draw on the hose over the ring, which has been a very serious objection to the sale and use of said coupling.

My invention is made to overcome this difficulty; and consists in a device for expanding the end of the hose, while at the same time it inserts the ring therein in exactly its proper position.

In the drawings, Figure 1 is a vertical section. Fig. 2 is a plan view of the tool inverted.

A is a yoke, which I attach to an annular base, B. Through the center of this yoke there is a screw-threaded spindle, E, which is operated by the lever F, and on the lower end of this spindle E I put a cap, G, fitting it on loosely against an annular shoulder on the spindle, which shoulder carries the cap down as the spindle is screwed down. C is an iron box, having an annular rim, c, around its top projecting upward. Over the top of this rim I turn the ends of thin narrow splints *a a*, which I prefer to make of thin spring-steel, and over the top of these splints I force on a band, D, having a shoulder to fit over this rim, c, which shoulder serves to bind and hold the splints securely in place, while at their lower end each splint overlaps the next one, as shown at *a a*, Fig. 2, thus forming a cone-shaped surface. By thus arranging these splints in the form of a frustum of a cone an expansible metallic surface is formed, which prevents the ring from coming in contact with the inner surface of the hose till

the end of the ring passes the end of the splints.

This method of forming an expansible metallic surface is of great value in accomplishing the desired result, since it prevents any contact between the surfaces of the ring and hose while the ring is being forced into the hose, and, however much the splints may be forced outward by the ring, this metallic surface will still be interposed between the ring and hose.

H is a gage-ring, which is placed in the box C, and may be moved up or down, and fixed in any desired position by means of the set-screw I. The hose is inserted in the bottom of the box C, over the cone-shaped splints *a a*, and up to the gage-ring H. When the end of the ring passes the end of the splints the friction of the ring against the hose carries the latter off the outside of the splints as the ring is forced along the inside, and the object of this gage-ring is to so regulate the length of hose over the splints that the ring will be inserted directly in the end without any cutting or trimming of the hose. The box C is placed within the sides of the yoke A and held by the set-screw J. The ring is placed in the top of the box C, directly under the cap G. The spindle E is then screwed down, carrying the cap G with it, which forces the ring down, and as the latter is forced down the splints are gradually forced outward at their lower end, expanding the end of the hose with them.

It will be observed that this expansible metallic surface not only prevents any contact between the ring and hose, but it also forms a surface off which the hose will readily slide, and, consequently, as soon as the end of the ring passes the end of the splints and touches the inner surface of the hose it carries the latter off with it from the splints, as before mentioned, and, as the length of hose over the splints is properly adjusted by means of the gage-ring H, the ring is inserted in exactly its proper place in the end of the hose.

I claim as new and of my invention—

1. The combination of the box C and band D with the splints *a a*, the latter overlapping

each other at their lower end and forming an expansible metallic surface, substantially as described.

2. The combination of the yoke A and spindle E, having a cap, G, and splints *a a*, substantially as described.

3. The combination of the adjustable gage-

ring H with the box C and splints *a a*, substantially as described.

SILAS H. LORING.

Witnesses:

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