(No Model.)

J. J. COOPER.

HOSE MENDER.

No. 567,962. Patented Sept. 22, 1896.

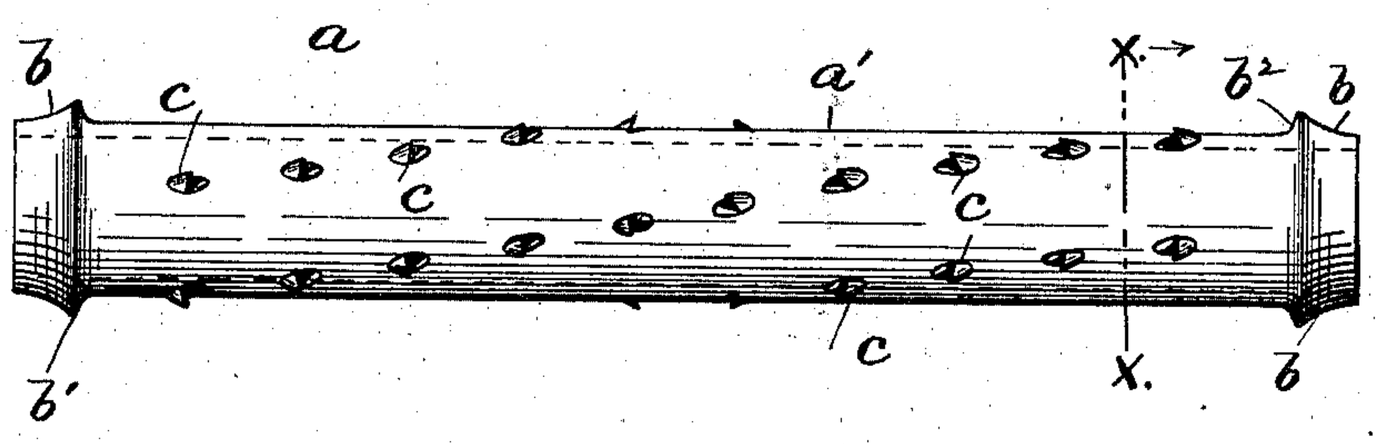

FIG. 1.

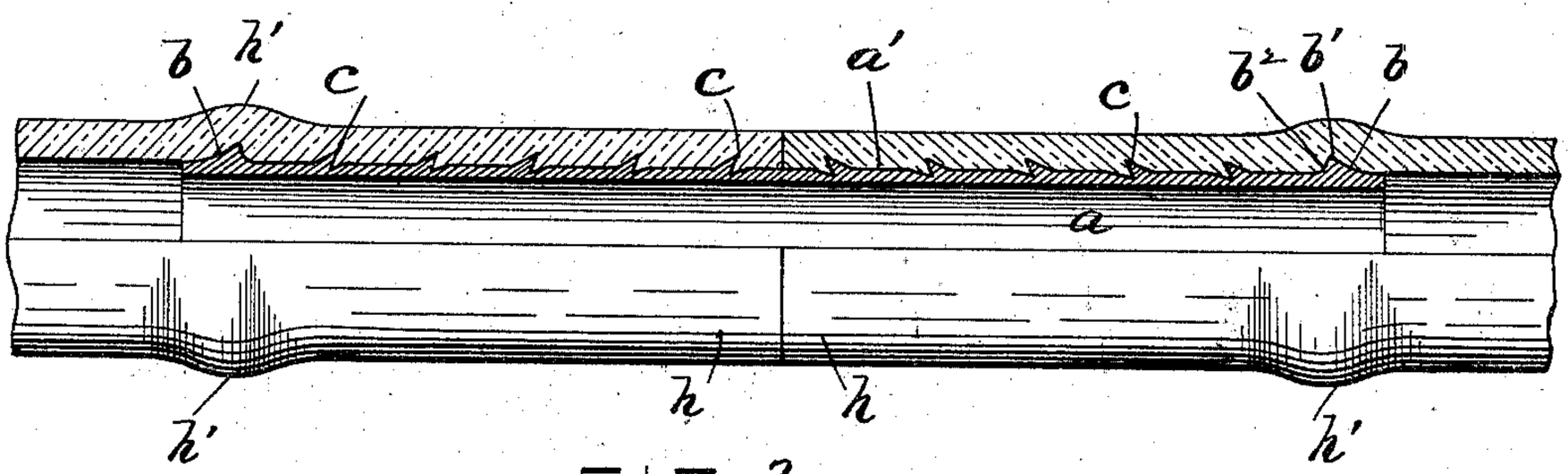

FIG. 2.

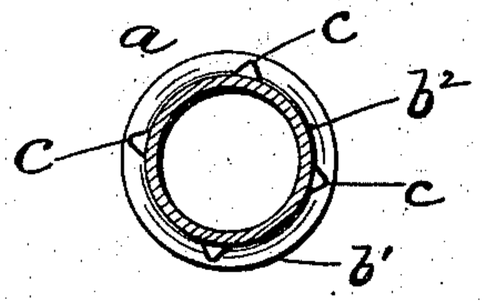

FIG. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN J. COOPER, OF PROVIDENCE, RHODE ISLAND.

HOSE-MENDER.

SPECIFICATION forming part of Letters Patent No. 567,962, dated September 22, 1896.

Application filed June 23, 1896. Serial No. 596,583. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. COOPER, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Hose-Menders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to the class of devices adapted to be employed in repairing or mending ruptured garden-hose.

In certain types of hose-menders it has been usual hitherto to provide the interior of the hose at the adjacent severed ends with a short metal tube or sleeve, the latter being firmly held in place by one or more clamps encircling the exterior of the hose. While such former devices may prove to be efficient and strong, it is obvious that in order to thus unite or join the severed ends of the hose a person must possess considerable skill, the operation also requiring a comparatively long time.

The object I have in view is to produce a hose-mender in which the defects or disadvantages just referred to are practically overcome, the device, moreover, being comparatively inexpensive.

To that end my invention consists, essentially, of a single piece or member comprising a short metal sleeve having its two end portions enlarged externally to form rearwardly-inclined flanges and having the outer surface of the sleeve intermediate of said flanges provided with two sets of oppositely-arranged integral spurs, all as will be more fully hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a side elevation of my improved hose-mender. Fig. 2 is a sectional view, in partial central section, showing the device combined with a hose as in use; and Fig. 3 is a transverse section taken on line $x\,x$ of Fig. 1.

In the drawings, a indicates my improved hose-mender as a whole. It consists, practically, of a sleeve or piece of metal tubing, of brass or other suitable metal, say about six inches in length, its outer diameter being substantially the same as the normal internal diameter of the hose. Each end of the tube is enlarged, so as to form a raised flange b. The same is inclined rearwardly and terminates in a comparatively sharp edge or ridge b', the latter being at substantially right angles to the barrel portion a' of the tube, thus forming a shoulder b^2. The said barrel or cylindrical portion a' of the tube is provided with two series of outwardly-projecting oppositely-facing sharp spurs or teeth c. These spurs are made hooking or sloping and are arranged around the barrel's surface at suitble intervals, the inclination of the spurs being toward the rear or center with respect to the ends of the tube, or substantially the same as the inclination of the said flanges b, as clearly shown. The height of the spurs c above the barrel should not exceed that of the end flanges.

I prefer to make the spurs integral with the tube. They may be produced in any suitable manner, as, for example, I may form them by the use of a suitable tool, the end of which is forced into the metal, say by the blows of a hammer, thereby throwing up the adjacent metal in the form of burs or spurs in a manner analogous to the formation of teeth on a coarse file or rasp. By the use of a suitable machine the spurs can be produced mechanically and rapidly.

In using my improved hose-mending device a the adjacent ends $h\,h$ of the severed hose are simply forced endwise over the corresponding ends of the tube, thereby at the same time slightly expanding the hose until the hose ends abut, substantially as shown in Fig. 2. Owing to the beveled or sloping sides of the flanges and spurs but comparatively little resistance is offered to the insertion of the tube. The yielding material of which the hose is composed then contracts around the several spurs and flanges, thereby causing them to become embedded therein. Now when water under pressure is let into the hose its action will be to still further embed the spurs into the hose, while the flanges b at the same time so distend the hose thereat, as indicated at h', as to prevent water from passing beyond them to the barrel part of the

tube, thus forming a water-tight union or joint.

I am aware that a two-part screw-threaded hose-coupling has been devised prior to my invention in which the tubular shank portions thereof were provided with long spurs or prongs adapted to engage the hose. In that case, however, the ends of the hose were first secured to the respective parts of the coupling, after which the latter were screwed together, a packing member being interposed to prevent the escape of water around the screw-thread.

What I claim as my improvement, and desire to secure by United States Letters Patent, is—

1. As an improved article of manufacture, the one-piece hose-mender hereinbefore described, consisting of the short metallic tube or sleeve having its two ends provided with circular exterior flanges, and having the barrel portion of the tube provided with inclined oppositely-arranged hose-retaining spurs or teeth, substantially as set forth.

2. The hose-mender *a* hereinbefore described, consisting of the metallic tube or sleeve *a'* having its outer surface provided with oppositely-arranged series or sets of inclined hose-retaining spurs or hooks *c* struck up therefrom, the ends of the tube being enlarged to form beveled flanges exceeding the height of said spurs, substantially as described and for the purpose set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOHN J. COOPER.

Witnesses:
GEO. H. REMINGTON,
REMINGTON SHERMAN.