

B. F. Lee,

Hose.

No. 98,603.

Patented Jan. 4. 1870.

FIG. 1.

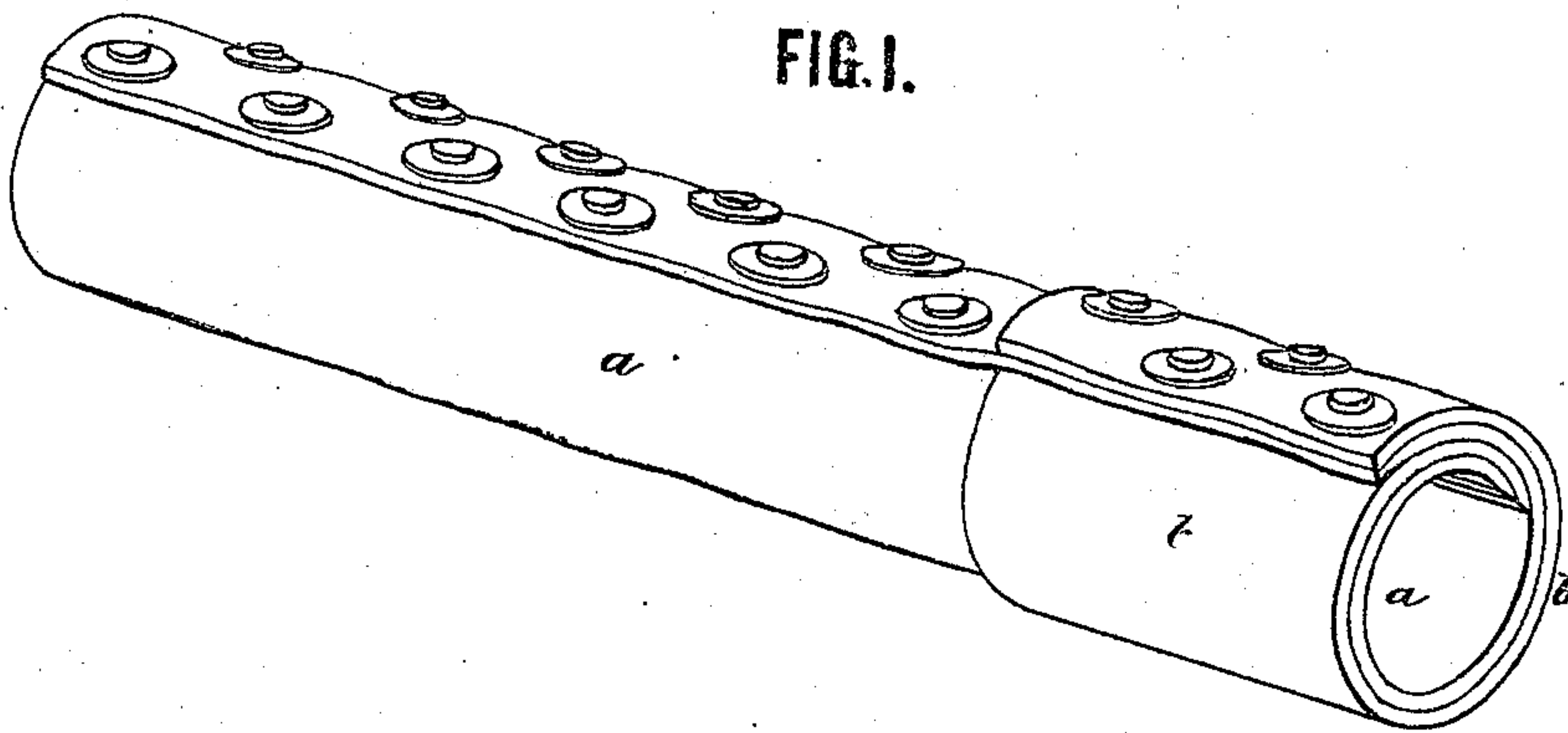
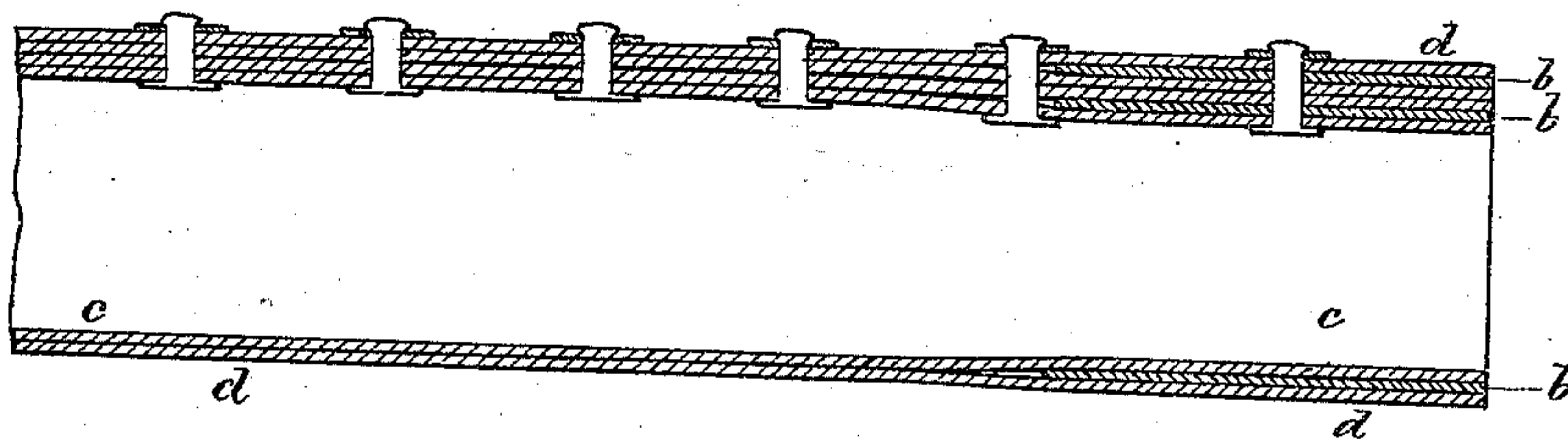


FIG. 2.



Benjamin F. Lee

by his attorney

[Signature]

WITNESSES.

[Signature]
Wm. H. Milbake

United States Patent Office.

BENJAMIN F. LEE, OF NEW YORK, N. Y.

Letters Patent No. 98,603, dated January 4, 1870.

IMPROVEMENT IN HOSE

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, BENJAMIN F. LEE, of the city, county, and State of New York, have invented certain new and useful Improvements in Hose; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, in which—

Figure 1 represents a perspective view of a section of hose made in accordance with this invention.

Figure 2 represents a longitudinal section of a modified form of hose.

In the use of leather hose for conveying fluids under pressure, it has been found, by experience, that the leather is most apt to burst at the couplings, or at the points where the sections of the hose are united. This may be, and probably is due to the contraction of the water-way at the couplings, which would naturally induce a severe and excessive pressure upon the leather immediately around the couplings. Whatever be the cause, however, there can be no doubt that the bursting of the pipe usually takes place at the point designated, and that the leather at this point is more apt to give way than the rest of the hose, whether from increase of pressure, or from the nature of the joint between it and the metal coupling, or from some inherent weakness in the material itself.

The object I have in view is to remedy the defect above named, and this I accomplish in a very simple and inexpensive manner, by reinforcing or strengthening the ends of the sections of the hose with one or more strips or plies of leather, metal, canvas, or any other suitable material, placed either upon the exterior, or between the plies of the body of the hose, thus imparting to it the needed strength at the desired points.

In fig. 1 of the accompanying drawings, I have represented a section of hose, the body of which is composed of a single ply, *a*, of leather, having secured around its exterior an end strengthener, *b*, composed of one or more folds of canvas, leather, metal, or other material suited for the purpose. This strengthener is applied to the end of the hose which is to be held on the coupling, and extends back a sufficient distance to fully strengthen and reinforce that portion of the pipe

which, as above stated, has been found most liable to burst.

In fig. 2, a hose composed of two plies, *c d*, of leather, is shown, and, in this instance, the end strengthener *b* is placed between these two plies, and is there held, by suitable means, by the same rivets, if desired, which hold together the body of the hose. This end strengthener, like the other, is of such dimensions as to fully cover that part of the hose in the immediate neighborhood of the coupling.

I have thus given two examples of the manner in which my invention can be applied. It will, however, be evident, as above stated, that the strengthener can be made of any suitable material, and that it may be united with the hose in any suitable manner, though it will, perhaps, be found preferable to secure it by the same devices used to hold together the body of the hose.

By means of my invention, the weakness and consequent bursting of the hose at the couplings are completely avoided, thus removing, in a simple and inexpensive manner, a defect which, although very noticeable, and the occasion of frequent annoyance, has never heretofore been effectively remedied.

Canvas hose may be strengthened in a similar manner, or, in case of seamless hose, by using a thicker yarn or double threads at the ends.

Having now described my invention, and the manner in which the same is or may be carried into effect,

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

Strengthening the ends of hose which are applied to couplings by means of one or more plies or strips of leather, canvas, metal, or other suitable material, secured upon the exterior or between the plies of the body of the hose, substantially as shown and set forth.

In testimony whereof, I have signed my name to this specification, before two subscribing witnesses.

BENJ. F. LEE.

Witnesses:

R. A. PIPER,

A. A. ALVORD.