(No Model.)

G. W. TOWLE, Jr.

HOSE PATCH.

No. 312,406. Patented Feb. 17, 1885.

Fig. 1.

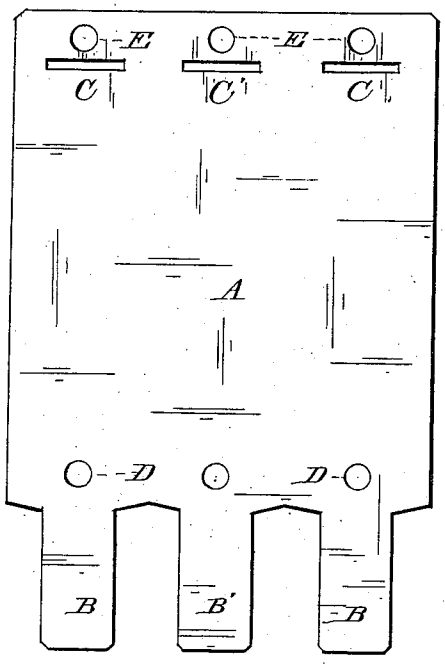


Fig. 2.

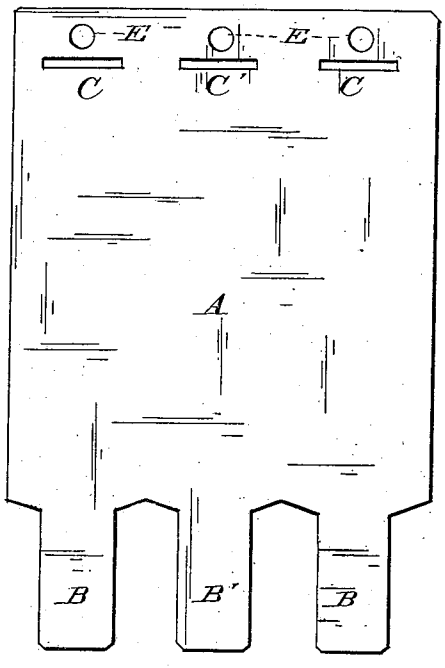


Fig. 3.

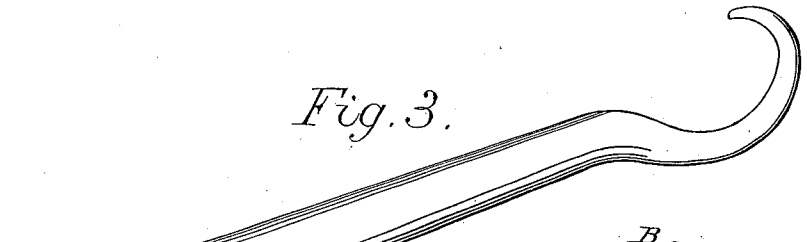
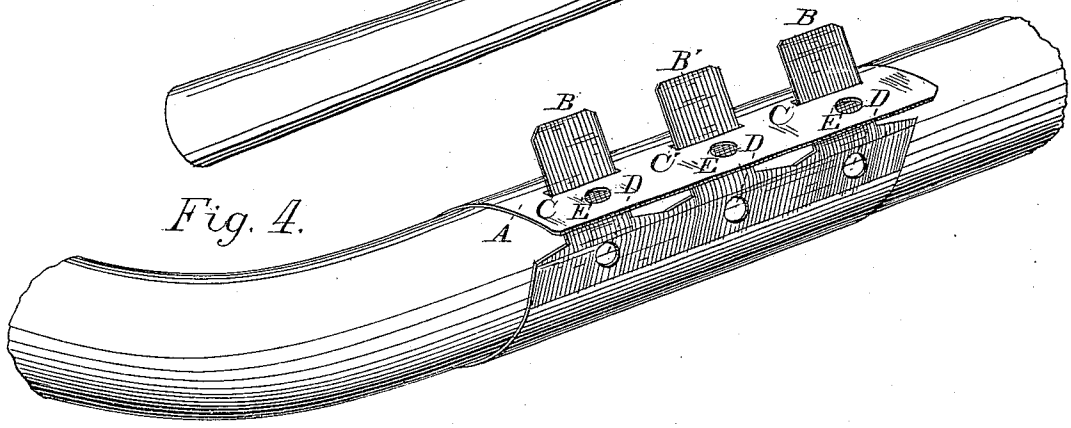


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE W. TOWLE, JR., OF SAN RAFAEL, CALIFORNIA.

HOSE-PATCH.

SPECIFICATION forming part of Letters Patent No. 312,406, dated February 17, 1885.

Application filed June 30, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. TOWLE, Jr., of San Rafael, county of Marin, and State of California, have invented an Improvement in Hose-Patches; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the class of hose-patches in which a sheet, strip, or plate of suitable material—such as brass or other sheet metal—is made to encircle the hose and cover the break or slit therein, of which said class my hose-patch covered by Letters Patent of the United States, No. 294,937, dated March 11, 1884, is an example.

My invention consists in an improved arrangement of the devices on the patch, whether on the slit or tongue side, with which the tool or implement for clamping or seating it firmly to its place engages, and in an improvement in the fastening devices by which it is permanently fixed.

The object of my invention will appear in the course of the specification in connection with the description of the device.

Referring to the accompanying drawings, Figure 1 is a view of my hose-patch. Fig. 2 is a view showing a modification. Fig. 3 is a view of the implement used in connection with the modified patch. Fig. 4 is a view showing the application of my hose-patch, the tongues not being bent back in order to show the holes E.

A is a piece of sheet metal having on one side the side or end tongues, B, and the middle tongue, B′, making three in number, as shown. On the other side of the plate, near its edge, are side or end slits, C, and middle slit, C′, through which the tongues pass, respectively, and are bent back to be secured. In that side of the plate near the bases of the tongues are the holes D, and at the other side of the plate are the holes E, between the edge of the plate and the slits, though in Fig. 2 it will be observed that the plate is not provided with holes at the base of the tongue. The position of the holes E as herein shown constitutes my first improvement, the advantage of which I will now show. In my former hose-patch hereinbefore referred to the holes on the slit side of the plate were inside of slits—that is to say, the slits were between the holes and the edge of the plate—whereas I now reverse their relative positions; and in all other devices of this class, as far as I am aware, the holes or lugs or other means by which the engagement of the clamping tool or implement is effected are similarly situated.

In order to fully explain the advantage of my present arrangement I shall have to show the disadvantage of the old arrangement. These hose-patches, being made of sheet metal, require more than ordinary hand force to properly seat or mold them around the hose, and draw them tight enough to serve their purpose of stopping the leak. The tongues do not assist the operation, as they are only the means for holding the patch after it has been set up. It is usual to employ a hand implement somewhat in the nature of a pair of pinchers having curved jaws. In using this implement it has always been the rule to embrace the patch after being bent slightly on the hose from below, the jaws passing around three-quarters, or thereabout, of the circumference of the patch, and engaging their points with the holes or lugs or projections. The operation is then to force (in contradistinction to "drawing") the edges of the patch together until it is properly seated, when the tongues are turned back and the patch secured. The holes on the slit side of the patch being within or behind the slits, enable this engagement to be made; but I have found that this manner or mode of applying the force is objectionable in that it requires, in the first place, a special instrument, and, in the second place, it compresses the patch unequally by attempting to force its edges without having a sufficient guide for them, and the consequence is that the sides of the patch near the edges collapse or bend in, as it were, and by getting out of the circle make a very poor fit for the hose.

I have found it better to use a drawing force to bring the edges together; but this I cannot apply if the holes or lugs on the slit side of the patch remain where they have been heretofore placed, because the tongues are in the way, and prevent the engagement with the holes; but by changing their position as I now show

by the holes E they are thrown in front or outside of the slits and tongues, where they can be reached. I can now use any kind of instrument in the shape of pinchers or pliers, which can be found in every household. The engagement is from above, and the force is a drawing one, operating equally throughout the entire circumference of the patch. The slit edge of the patch is guided by and moves down on the tongues, and the whole patch is set up to its place with a uniformity which cannot be obtained in the other way.

In order to simplify the patch and the instrument by which it is adjusted, and yet preserve the drawing principle above explained, I modify the plate to the extent shown in Fig. 2, in which it will be seen there are no holes, such as D, at the base of the tongues. An instrument of substantially the character shown in Fig. 3 may be used to fit this patch. Its single point or jaw engages with the hole E, whereby that edge of the patch is drawn toward the other, the necessary resistance being offered by the friction of the plate on the hose, it being fitted by hand in the first place with sufficient closeness, and held while the drawing is accomplished. The simplifying of the patch itself is not the only advantage of this modification, for the instrument used for adjusting it is one that is used in every household as a fruit-jar fastener, and it can be made much cheaper than pinchers.

My last improvement in the patch is in having three tongue-fastenings instead of one or of two, as I showed in may former case. In the use of a single fastening the result is not certain unless the break should be extremely small, for the water might escape at the sides of the fastening, or the break or slit might become elongated; and though by the use of a fastening at each end these dangers are in a measure averted, I have found that by the use of the three I obtain the good results of both—namely, that of applying a clamping force directly over the slit or break, and of preventing its enlargement at the ends by the end fastenings.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A hose-patch consisting of a plate, sheet, or piece adapted to encircle the hose, and having a tongue or tongues on one side, and a corresponding slit or slits on the opposite side, through which the tongues pass, and holes in the plate between the slits and the edge of the plate for the engagement of the instrument to draw the edge of the plate toward the opposite edge to seat it on the hose, substantailly as herein described.

2. In a hose-patch consisting of a plate, sheet, or piece adapted to encircle the hose, and having a tongue or tongues on one side and a corresponding slit or slits on the opposite side, through which the tongues pass, the holes D on the tongue side of the plate, and the holes E on the slit side between said slits and the edge of the plate, substantially as and for the purpose herein described.

3. The hose-patch consisting of the plate A, having tongues B B′ and slits C C′ and holes D and E, all arranged with relation to each other and operating together substantially as and for the propose herein described.

In witness whereof I have hereunto set my hand.

GEORGE W. TOWLE, JR.

Witnesses:
C. D. COLE,
J. H. BLOOD.