No. 699,349. Patented May 6, 1902.

J. F. SARGENT, JR.

HOSE PLIERS.

(Application filed Nov. 27, 1901.)

(No Model.)

Fig. 1.

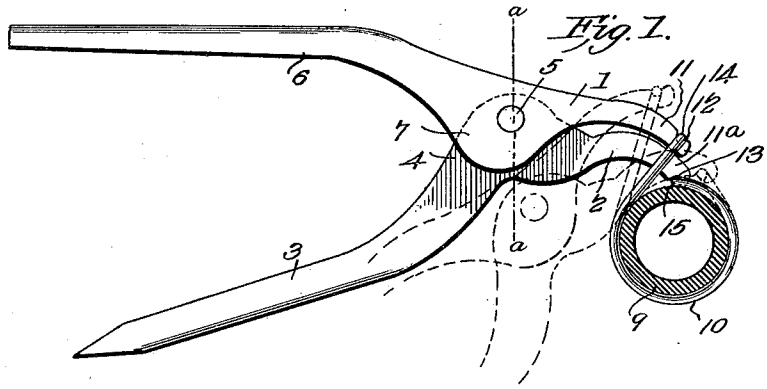


Fig. 7.

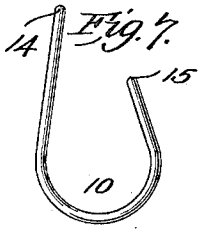


Fig. 2.

Fig. 3.

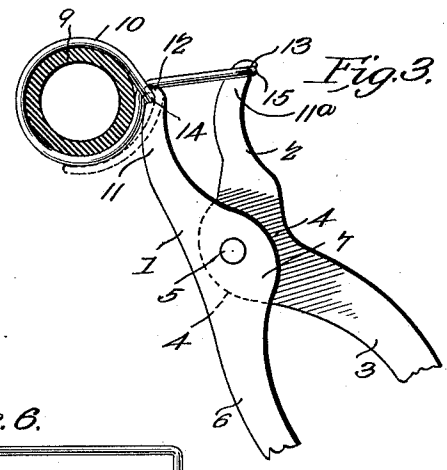


Fig. 6.

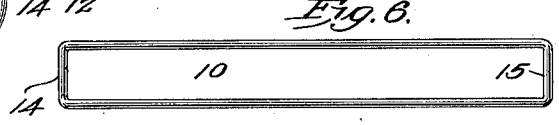


Fig. 4.

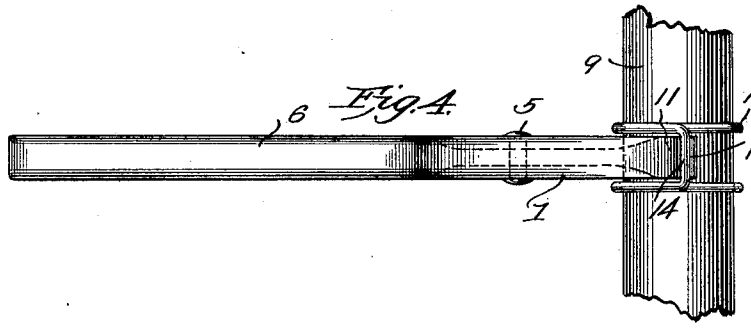
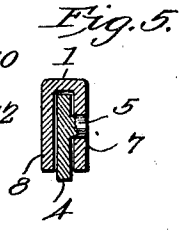


Fig. 5.



Witnesses

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES F. SARGENT, JR., OF GRAND RAPIDS, MICHIGAN, ASSIGNOR OF ONE-HALF TO OWEN R. CHAFFEE, OF GRAND RAPIDS, MICHIGAN.

HOSE-PLIERS.

SPECIFICATION forming part of Letters Patent No. 699,349, dated May 6, 1902.

Application filed November 27, 1901. Serial No. 83,946. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. SARGENT, Jr., a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful Hose-Pliers, of which the following is a specification.

This invention relates to implements for applying wire bands to hose to form couplings thereon; and it consists in the construction, combination, and arrangement of parts, as hereinafter shown and described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a side elevation of one of my improved implements represented in the first position it will assume in performing its work of attaching the wire band to a section of hose. Fig. 2 is a similar view representing the implement in its second position, and Fig. 3 is a similar view representing the implement in its third position. Fig. 4 is a plan view of the implement. Fig. 5 is a cross-section on the line *a a* of Fig. 1. Fig. 6 is a view in elevation of the fastening-loop. Fig. 7 is a view in side elevation of the loop, showing the same partially curved.

The implement comprises two opposing jaws 1 2, both jaws curving at their operative ends, as shown in Fig. 1. The jaw 2 extends forward beyond the operative end of the jaw 1 and also backward into a handle 3 and is formed with a projecting rib 4 at the point where the rivet 5 occurs, and the jaw 1 also extends backward into a handle 6 and is formed with two parallel projecting ribs 7 8, embracing the rib 4 and secured thereto by a stud formed on the projection or rib 4 and which passes transversely through the part 7, as shown more clearly in Fig. 5. The part comprised by the handle 6, ribs 7 and 8, and the jaw 1 will preferably be formed in one piece of steel pressed into the required shape, and the parts comprised by the handle 3, rib 5, and jaw 2 are likewise preferably composed of one piece of sheet-steel pressed into the required shape and with the stud 5 integral with the rib 4.

The jaws 1 and 2, as before stated, are curved to enable the jaw 2 to partially embrace the hose 9 when first engaging the wire loop 10 and to permit the jaw 1 to lie close to the jaw 2, so that its extremity 11 may retain its position in close proximity to the extremity 11^a of the jaw 2 at the first stage of the movements necessary to operate the implement. A transverse wire-engaging groove 12 is formed in the outer part of the jaw 1 near the end 11, and a similar groove 13 is likewise formed in the outer side of the jaw 2 near the end 11^a, as shown. The end 11^a of the jaw 2, as before stated, extends beyond the end 11 of the jaw 1 to enable the grooves 12 and 13 to be engaged with the transverse ends 14 15 of the loop 10 when these ends are at a considerable distance apart or when the loop is bent, as shown in Fig. 7, and coacting with the curving feature of the jaws to engage and interlock the loop. This curving of the jaws and forming them with the end 11^a projecting is therefore an important feature of my improvement, as it enables me to engage the wire loop 10 when bent into a **U** shape only and capable of being simply slipped over the hose, whereas with other implements of this class it is necessary to first bend the loop entirely around the hose and sometimes partially interlock the ends before the implement can be applied. Much of the manual labor, therefore, is dispensed with and the implement alone relied on to do the work.

The wire loops 10 are furnished in the form shown in Fig. 6, and to place them in shape to be acted on by the pliers it is only necessary to bend them around in **U** shape, as in Fig. 7, when they are in position to be placed upon the hose and acted upon by the implement, which by reason of the curved or convexed form of the lower jaw is enabled to partially inclasp the hose 9 and assume the position shown by dotted lines in Fig. 1, with the groove of the end 11^a engaging the end 15 and the groove of the end 11 engaging the end 14, which represents the first position which the instrument will be caused to assume, the said grooves being thus adapted simultaneously to receive the ends of the clamping-band and to retain them until the band has been secured in position around the hose.

In using the implement the operator first passes the end 11 of the jaw 1 under the end 14 of the loop and engages it by the groove

12 and at the same time passes the projecting end 11^a of the jaw 2 over the end 15 of the loop and engages it by the groove 11^a, as shown in Fig. 1. Then by holding the pliers in engagement with the loop and reversing its position in the direction of the arrows, as shown in Fig. 1, the end 15 will be drawn through the loop and the loop drawn tightly around the hose by distending the jaws by compressing the outer ends of the handles 3 and 6. Then by continuing the movement around the hose, as in Fig. 3, the projecting portion of the loop will be bent around the end 14 and draw the loop still tighter around the hose and complete the coupling. Then the pliers are removed and the projecting end bent down by the blow of a hammer or other implement into the position shown by dotted lines at 17 in Fig. 3.

I claim also a great advantage by forming each of the jaws and its handle of pressed steel, with one jaw provided with the two parts 7 and 8, embracing the single part 4 of the other jaw, as I thereby produce an implement which is very cheap, strong, and durable and able to withstand the severe lateral strains to which it will be subjected. I also claim a great advantage by forming the offset or stud 5 integral with the part 4 and utilizing it as the pivot for the jaws of the implement, as the construction is thereby greatly simplified and constructed of two parts only.

What I claim is—

1. An implement of the character specified, comprising two jaws, the outer side of the terminal of each of which is provided with a transversely-disposed clamping-band-engaging recess, the said recesses being adapted simultaneously to receive the ends of the clamping-band and to retain them until the band has been secured in position around the hose.

2. An implement of the character specified, comprising two jaws, the outer side of the terminal of each of which is provided with a transversely-disposed clamping-band-engaging recess, the terminal of one jaw projecting beyond that of the other, the said recesses being adapted simultaneously to receive the ends of the clamping-band and to retain them until the band has been secured in position around the hose.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES F. SARGENT, JR.

Witnesses:
J. B. G. PHELPS,
GLENN D. CHAFFEE.