

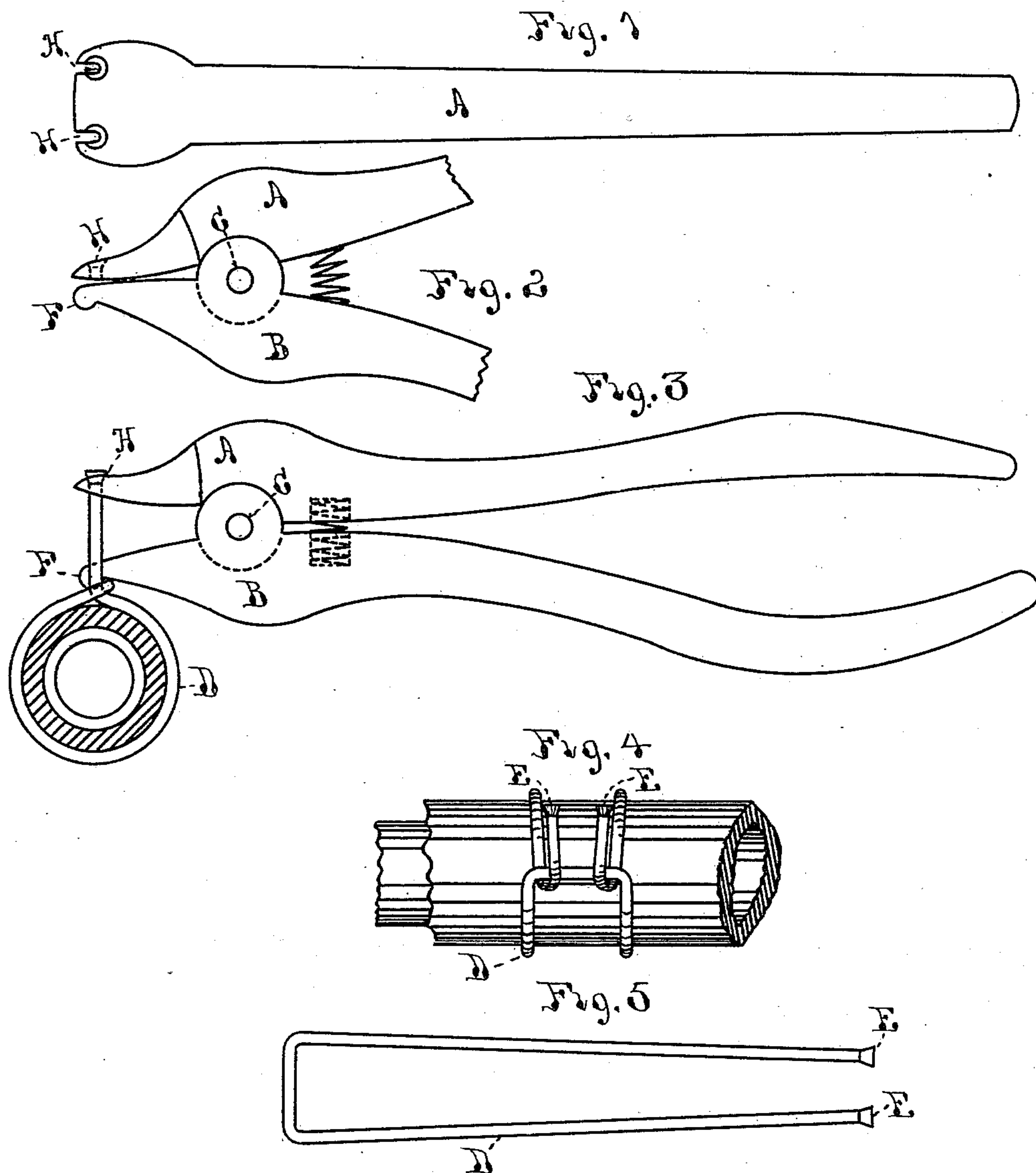
(No Model.)

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TOOL FOR FASTENING HOSE TO COUPLINGS.

No. 420,272.

Patented Jan. 28, 1890.



Witnesses.

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# UNITED STATES PATENT OFFICE.

CHARLES E. HUDSON, OF LEOMINSTER, MASSACHUSETTS.

## TOOL FOR FASTENING HOSE TO COUPLINGS.

SPECIFICATION forming part of Letters Patent No. 420,272, dated January 28, 1890.

Application filed May 9, 1889. Serial No. 310,187. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. HUDSON, a citizen of the United States, residing at Leominster, in the county of Worcester, in the State of Massachusetts, have invented certain new and useful Improvements in Tools for Fastening Hose to Couplings, of which the following is a specification.

My invention consists of pliers especially and exclusively adapted to apply the herein-described metal straps or wire tie-bands in uniting and repairing rubber pipe or similar hose, and for securing the same to couplings.

Figure 1 is a back elevation of one of the levers comprising the pliers. Fig. 2 is a side elevation of the upper portion of the pliers when closed. Fig. 3 is a side elevation of the pliers when open and engaged with a wire band encircling a section of hose. Fig. 4 is a section of hose secured to a coupling by the wire band herein shown, and Fig. 5 is the wire band for which the pliers are adapted.

The wire band D, for which my pliers are adapted, is shown in Fig. 5, and consists of a soft ductile wire bent into the shape shown, and having its free ends provided with enlargements E E.

My pliers consist of two bent levers A B, pivoted together at C, so that by a compression of the handles the short arms of the pliers are opened. The end of the short arm of the lever B has a flange or projection F, made to fit over and hold on to the cross-bar portion of the band D, as shown in Fig. 3. The short arm of the lever A is wider than that of the lever B, and has slotted holes H H in the portions which project outside of the latter.

The operation of applying the wire band D by the pliers is as follows: The band is bent around the hose and the free ends inserted through the other, as shown in Fig. 3. The ends of the short arms are then inserted between the free ends of the band, with the lever B next to the hose. The lip or flange F is then placed over the cross-bar section or closed end of the band, and the enlarged ends E E of the band are inserted into the holes H H of the lever A of the pliers. By compressing the handles of the pliers the short arms are opened and the band is drawn tightly around the hose. If the hose should not be of equal thickness at the

lines where the two divisions of the band surround it, one division of the band can be pulled farther than the other by tipping or rocking the pliers toward the other. The ability of the pliers to be rocked also enables the operator to pull each band more tightly, because all the strain can be alternately applied to each separately. When the band has been sufficiently tightened, the handles of the pliers are pushed toward the hose to bend the free ends of the band across the closed end of the band and securely fasten them. The free ends of the band are then hammered down upon the hose, as shown in Fig. 4.

The above-described operation of rocking is an important function of my pliers. In the use of double bands heretofore there has been no means of exerting any greater force upon one division of it than another, and consequently irregularities in the hose were likely to cause one division of the band to be drawn more tightly than the other, thereby bringing substantially all the strain upon the former, and amounting practically to a single wire band.

I am aware that double bands formed by a continuous wire have been used heretofore, and that tools for applying them were well known, and I limit my invention to the particular construction of the tool herein shown and described.

I am aware that pliers provided with a notch or flange at the back of one of the jaws and with notches at the outer corner of the other jaw have been used with a specially-constructed band; but such pliers could not be used with an ordinary band having free ends, and I do not claim such device.

What I claim as my invention is—

A tool for fastening hose to couplings, consisting of a pair of pliers pivoted to open the plier-jaws by compression of the handles, one of said jaws being provided with a lip or flange at its back to engage a wire band, and the other with open-ended slots having substantially-parallel walls formed in its end to receive the enlarged free ends of said wire band, substantially as described.

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Witnesses:

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