

No. 677,414.

Patented July 2, 1901.

M. M. HOWLAND.
SELF LOCKING PLIERS.

(Application filed Sept. 8, 1900.)

(No Model.)

Fig. 1.

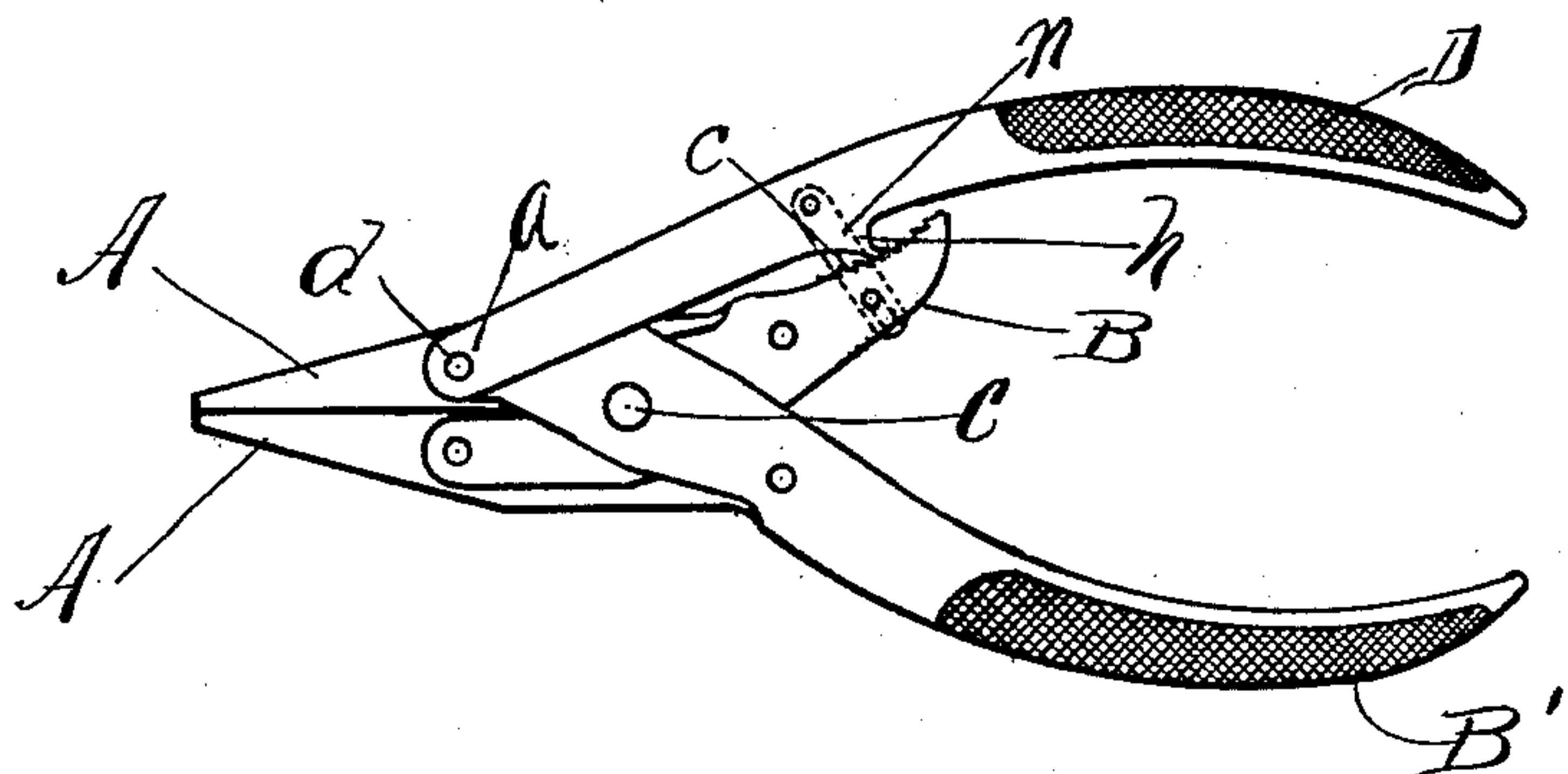


Fig. 2.

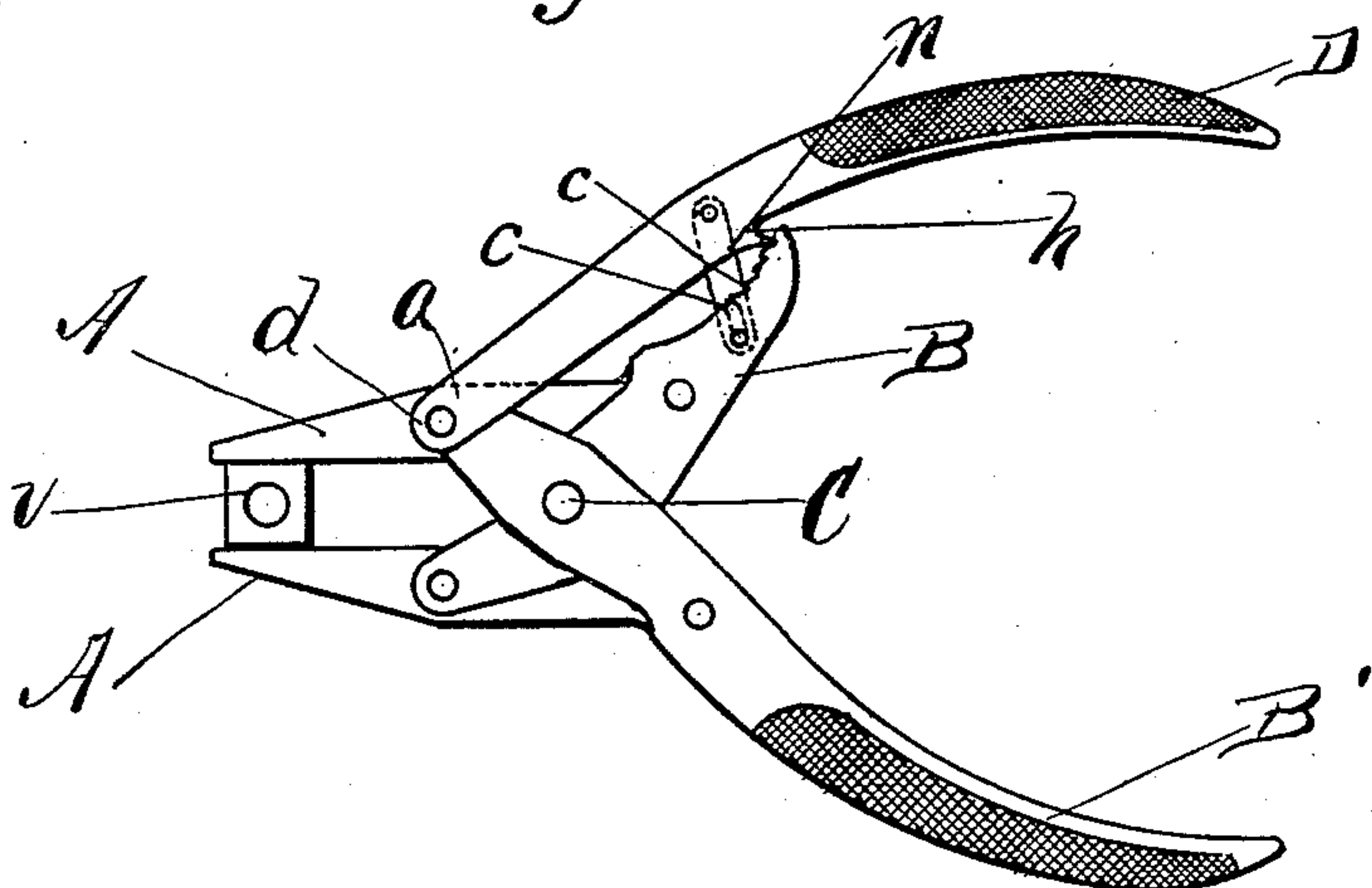
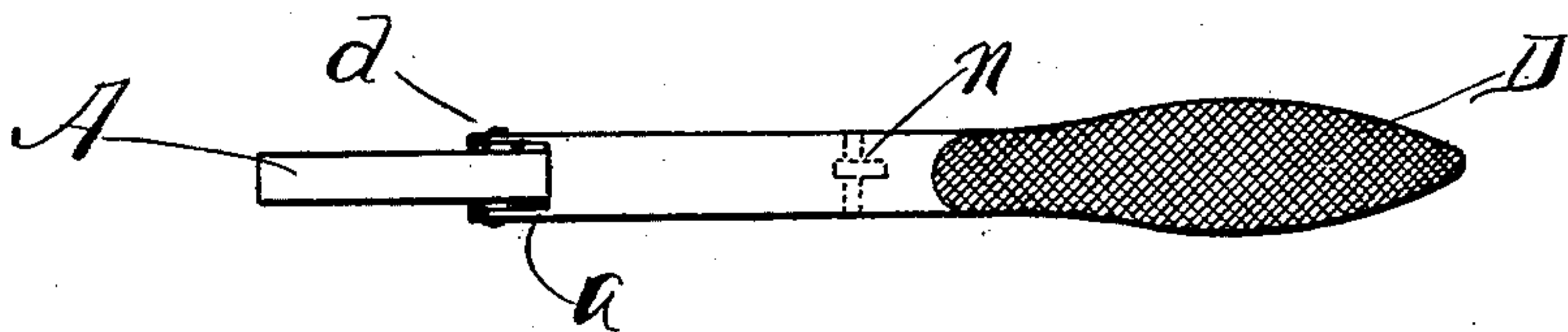


Fig. 3.



Witnesses.

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MATTHEW M. HOWLAND, OF PROVIDENCE, RHODE ISLAND.

SELF-LOCKING PLIERS.

SPECIFICATION forming part of Letters Patent No. 677,414, dated July 2, 1901.

Application filed September 8, 1900. Serial No. 29,406. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW M. HOWLAND, a resident of the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Self-Locking Pliers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to self-locking pliers, and has for its object to construct a pair of pliers that will perform the functions of a wrench, thereby making a saving in bulk and weight, which is very desirable in many cases, such as in a bicycle kit, &c.

It is fully explained and illustrated in this specification and the annexed drawings.

Figure 1 shows a side elevation of the self-locking pliers closed. Fig. 2 is a side elevation of the pliers closed on a screw-nut as in the act of turning it on a bolt. Fig. 3 is a top view of the pliers.

The object of the invention is to produce a combination-tool that will perform the functions of a pair of pliers and that can be made without change to serve as a wrench for turning a nut or a bolt. Its construction and operation are as follows:

A A are the jaws of a pair of pliers, preferably made so as to maintain a parallel position with regard to each other in opening and closing.

B B' are the shanks or handles by which the jaws are operated.

C is the pivot which serves to confine the handles together and act as a fulcrum in operating the jaws A.

The rear end of the handle B is cut off short, and a series of notches *c c* are made in the upper side of the remaining portion of the handle near that end. A closing-bar or supplementary handle D is made with a fork *a* at one end to receive the upper jaw A, and a pivot *d* is put through the sides of the fork and the jaw to connect the two together and allow the bar a swinging motion on the jaw. A projecting tooth *h* is put on the under side of the closing-bar D in position to catch into the notches *c c* in the upper side of the shortened handle B when the jaws A A are closed

on a nut, as *v* in Fig. 2. A link *n* has one end pivoted to the bar D and its other end pivoted to the handle B, the hole in the upper or lower end of the link being made long enough to allow the bar D to move to or from the handle B enough to let the tooth *h* catch in the notches when the bar is pressed down or to clear them when the bar is raised to open the jaws.

The mode of operating the pliers as a wrench is this: The jaws A A are opened by means of the handle B' and the bar D in the way that pliers or pincers are usually opened and then put on the nut *v* or bolt-head and closed by the hand, as seen in Fig. 2. In closing the jaws by the hand on the handle A and bar D the tooth *h* is forced into one of the notches *c*, and when the nut is turned its inclination to open the jaws will be effectually resisted by the tooth *h* in the notch *c*; but when the jaws are to be removed from the nut the jaws open by the bar D and the handle B' in the same way as in opening a pair of pliers. This makes a very handy wrench that can be applied instantly to a nut or bolt-head, thereby avoiding the necessity of taking the time to operate an adjusting-screw, and is held shut on it so closely that there is no chance of the wrench slipping and wearing off the corners of the nut, and this is accomplished without lessening in any way the adaptability of the tool to all the usual purposes of a pair of pliers, and it can also be used to retain small articles or tools in its grip when closed on them and laid down without being opened.

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

1. In a tool, the combination of a pair of plier-jaws pivoted together, one of said jaws having notches made on the upper side of it back of said pivot, a bar or handle pivoted to the other jaw before said pivot, and having a projection on its under side arranged to catch in said notches, substantially as described.

2. The combination in a tool of a pair of plier-jaws pivoted together one of said jaws having notches in its upper side back of the pivot, a closing-handle pivoted at one end to the other jaw and having a projection on its

under side arranged to catch in said notches, with means to connect said closing-handle with the rear end of the jaw with notches, substantially as described.

5 3. The combination in a tool of a pair of plier-jaws connected together by a pivot, a bar pivoted to one of the jaws before said pivot and bearing on the other jaw back of said pivot, a link to connect said bar or han-
10 dle with said other jaw, substantially as described.

4. In a tool the combination of a pair of plier-jaws connected together by a central

pivot, a closing-bar having one end pivoted to one of said jaws on one side of the central 15 pivot and bearing on the other jaw on the other side of said pivot, a link to connect the closing-bar with one of the jaws, substantially as described.

In testimony whereof I have hereunto set 20 my hand this 6th day of September, A. D. 1900.

MATTHEW M. HOWLAND.

In presence of—

BENJ. ARNOLD,

EDGAR S. MARSH.