

No. 672,654.

Patented Apr. 23, 1901.

E. N. SPERRY, W. F. HOBBS & N. B. KEYES.

PLIERS.

(Application filed July 2, 1900.)

(No Model.)

Fig. 1.

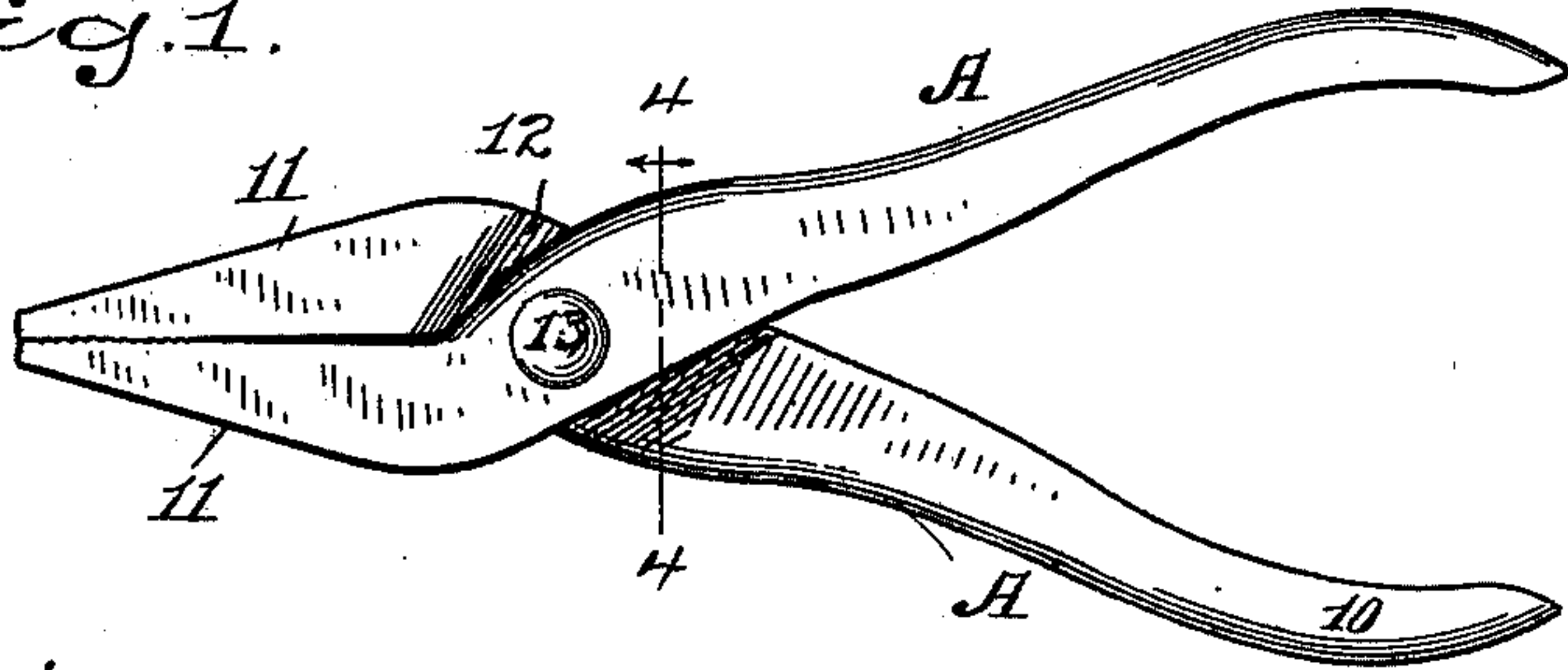


Fig. 2.

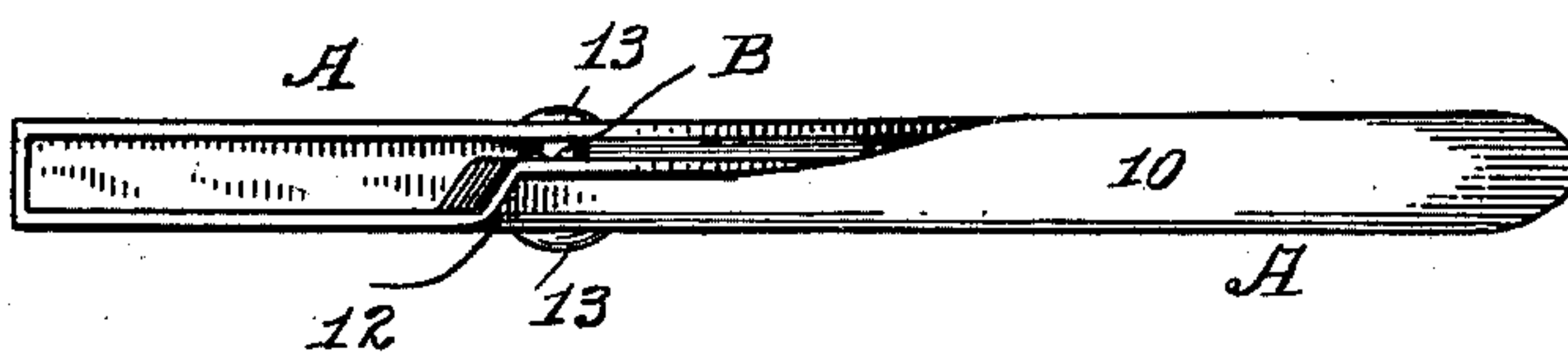


Fig. 3.

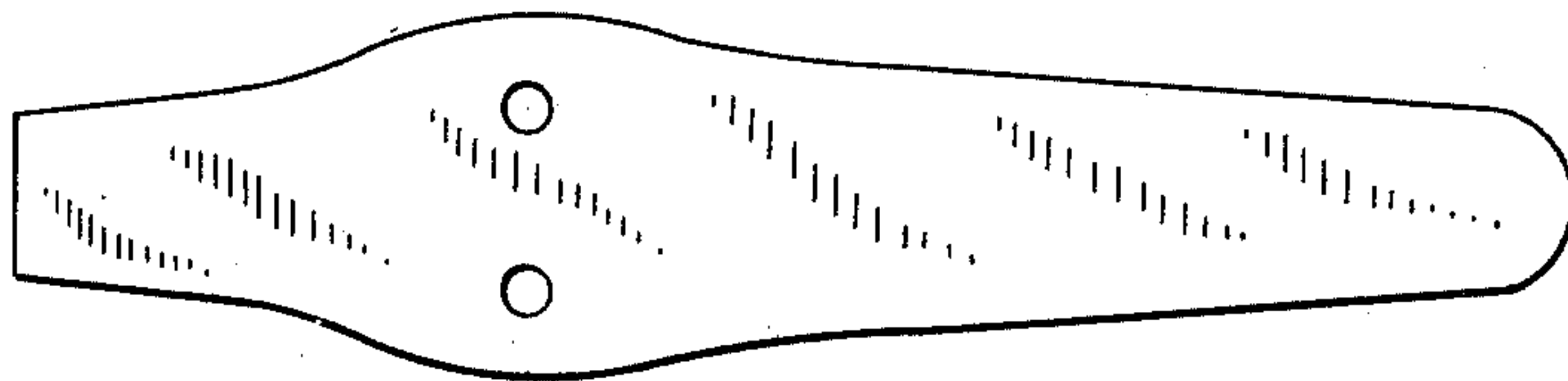


Fig. 4.

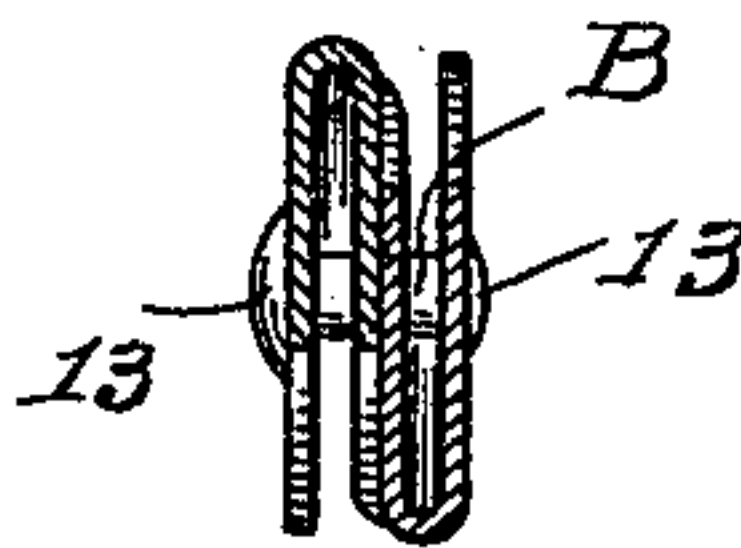
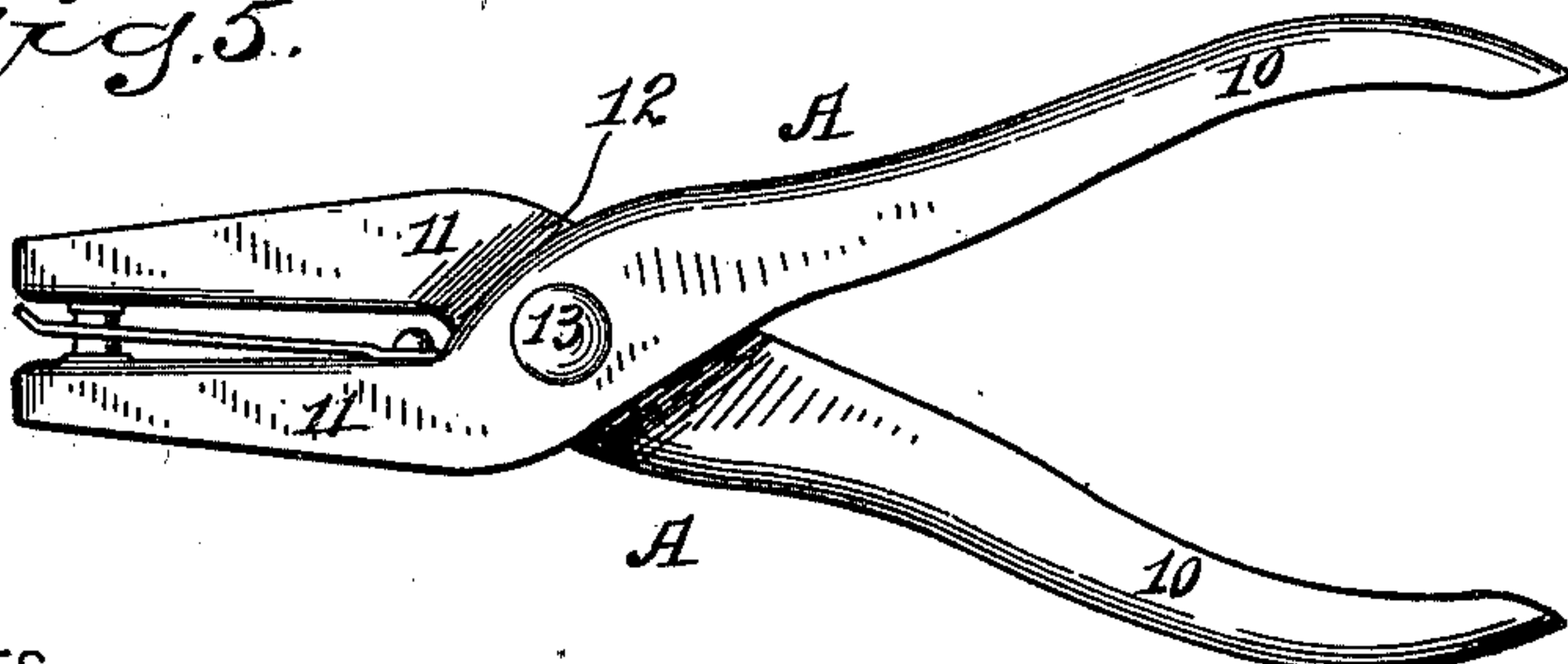


Fig. 5.



WITNESSES.

H. A. Lamb
L. H. Cuthbert

INVENTORS

Ellie T. Sperry
Willis F. Hobbs
Nelson B. Keyes
J. A. M. Brooker, atty.

UNITED STATES PATENT OFFICE.

ELLIE N. SPERRY, WILLIS F. HOBBS, AND NELSON B. KEYES, OF BRIDGEPORT, CONNECTICUT, ASSIGNORS TO THE BRIDGEPORT MANUFACTURING COMPANY, OF SAME PLACE.

PLIERS.

SPECIFICATION forming part of Letters Patent No. 672,654, dated April 23, 1901.

Application filed July 2, 1900. Serial No. 22,255. (No model.)

To all whom it may concern:

Be it known that we, ELLIE N. SPERRY, WILLIS F. HOBBS, and NELSON B. KEYES, citizens of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented new and useful Pliers, of which the following is a specification.

Our invention relates to the manufacture of sheet-metal pliers, ticket-punches, &c., and has for its object to provide tools of this character which may be formed from relatively light sheet metal which shall be so constructed as to give the maximum strength where it is most required—i. e., at the pivotal point—and whose construction shall be such as to inherently provide a spring action against both heads of the pivot, so that the latter will be held tight at all times and the wear of use be compensated for, these results, moreover, being accomplished without thickening the pliers to the slightest extent at the pivotal point. With these ends in view we have devised the novel sheet-metal tool, of which the following description, in connection with the accompanying drawings, is a specification, reference characters being used to designate the several parts.

Figure 1 is an elevation of our novel pliers; Fig. 2, a back view thereof; Fig. 3, a plan view of one of the blanks from which the members are formed; Fig. 4, a transverse section on the line 4 4 in Fig. 1; and Fig. 5 is a view similar to Fig. 1, illustrating the application of our invention to a sheet-metal ticket-punch.

A denotes the members which are made of sheet metal, and B the pivot.

10 denotes the shanks of the members, and 11 the jaws, both of which may be of any ordinary or preferred construction, the shape or design of both shanks and jaws not being of the essence of our invention.

12 denotes a depression in the inner face of each member at and extending both sides of the pivotal point, the corresponding outer face of the member, however, being perfectly straight, as shown in the drawings. This depression in each member is made just deep enough to receive the depressed portion of the other member, said other member just filling the depression, so as to leave the tool of uniform thickness at the jaws and the pivotal point. It will be noted (see Fig. 4) that

at the pivotal point the members are of a narrow U shape in cross-section. We are thus enabled to utilize the full strength of the four plies of metal, (washers, not shown, may or may not be used, as preferred,) and we further utilize to the fullest extent the spring action of the members against the heads of the pivot, whereby the latter is held tight at all times to compensate for the wear of use.

Having thus described our invention, we claim—

1. Sheet-metal pliers whose members are made narrowly U-shaped in cross-section at the pivotal point, each member being provided with a depression which receives the corresponding portion of the other member, so that the full strength of the metal of both members and also the spring action thereof against the pivot are utilized.

2. A hand-tool comprising two members crossing each other and pivoted together, each of said members being completely U-shaped in cross-section at the pivotal point, the pivot passing through four thicknesses of metal, the said four thicknesses being strengthened and possessing a spring action due to the curved or bent portions of the metal which connect the four thicknesses in two pairs.

3. A hand-tool comprising two members crossing each other and pivoted together, each of said members being completely U-shaped in cross-section at the pivotal point, the handle and jaw portions of the tool being substantially equal in width and the middle portion of each member being formed with a recess or depression on its inner side surrounding the pivot-point, the pivot passing through four thicknesses of metal, the said four thicknesses being strengthened and possessing a spring action due to the curved or bent portion of the metal which connects the four thicknesses in two pairs.

In testimony whereof we affix our signatures in presence of two witnesses.

ELLIE N. SPERRY.
WILLIS F. HOBBS.
NELSON B. KEYES.

Witnesses:

A. M. WOOSTER,
R. R. DAVISON.