

W. A. PECK.
PLIERS.
APPLICATION FILED JULY 2, 1910.

988,656.

Patented Apr. 4, 1911.

Fig. 1.

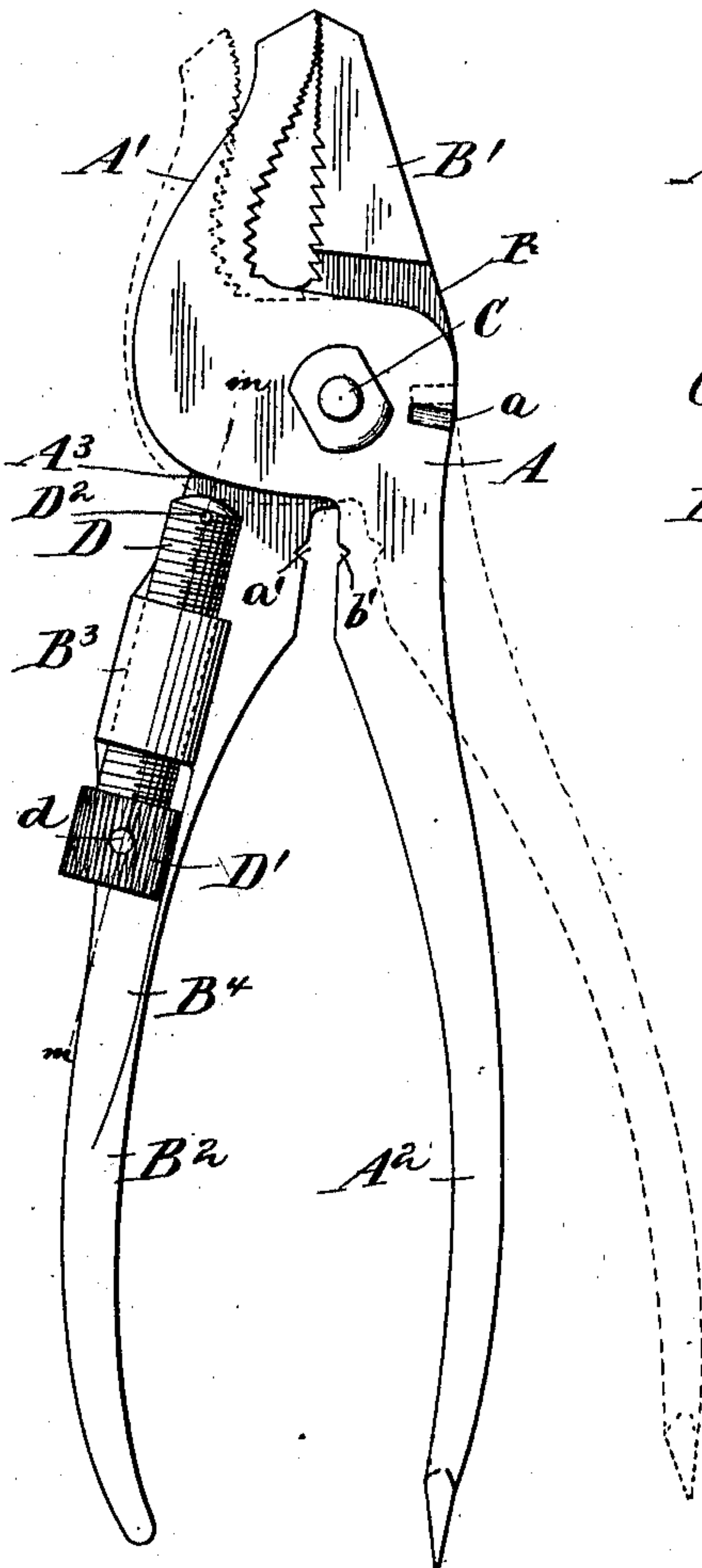


Fig. 3.

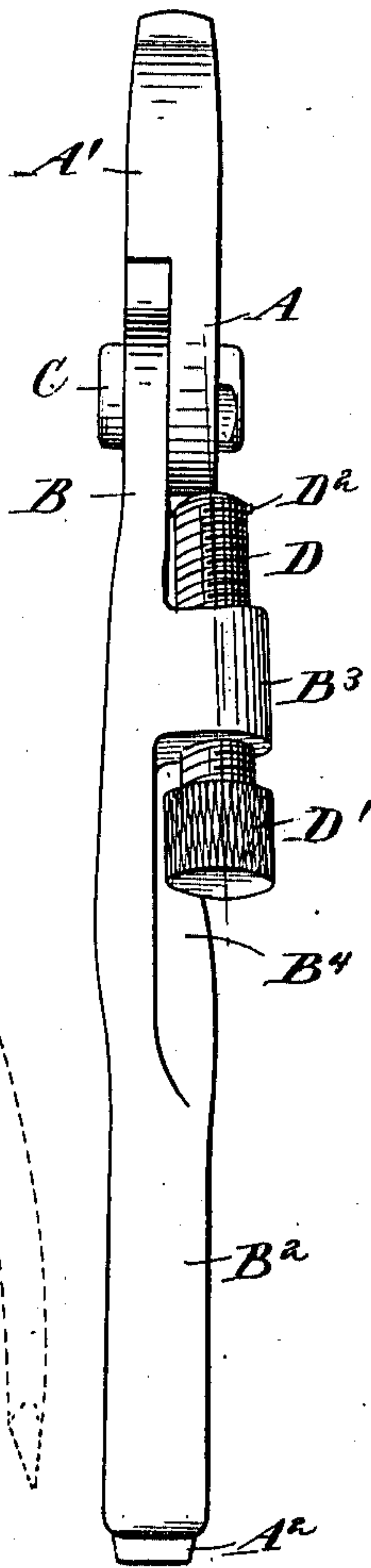


Fig. 2.

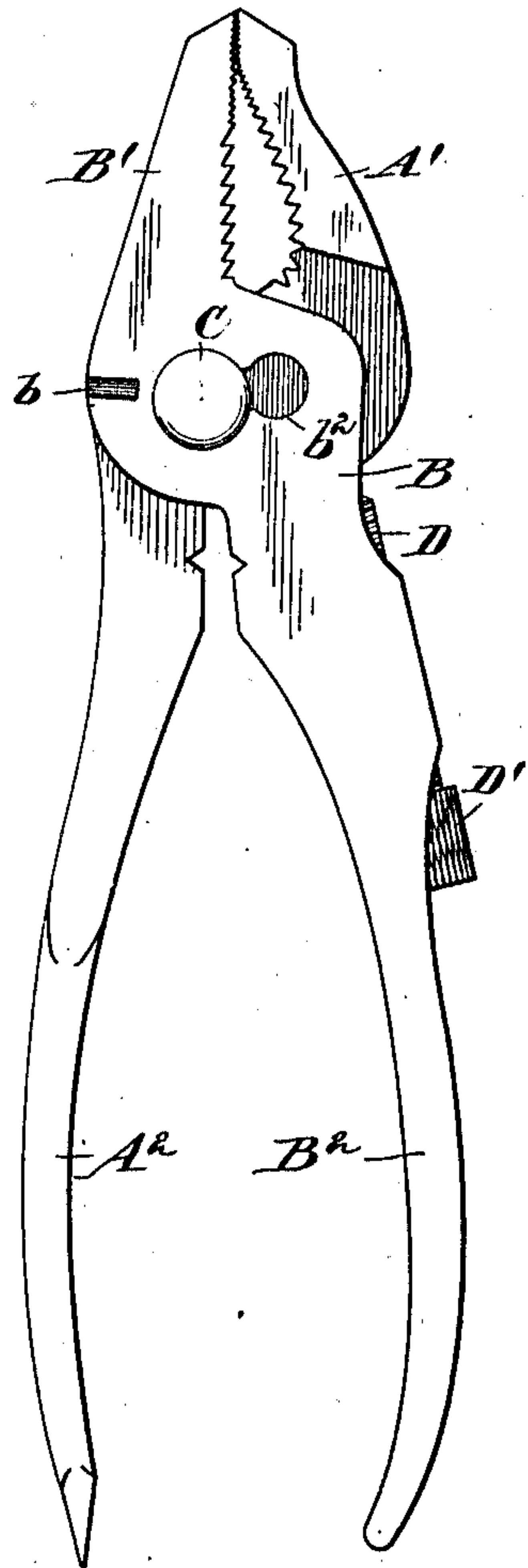
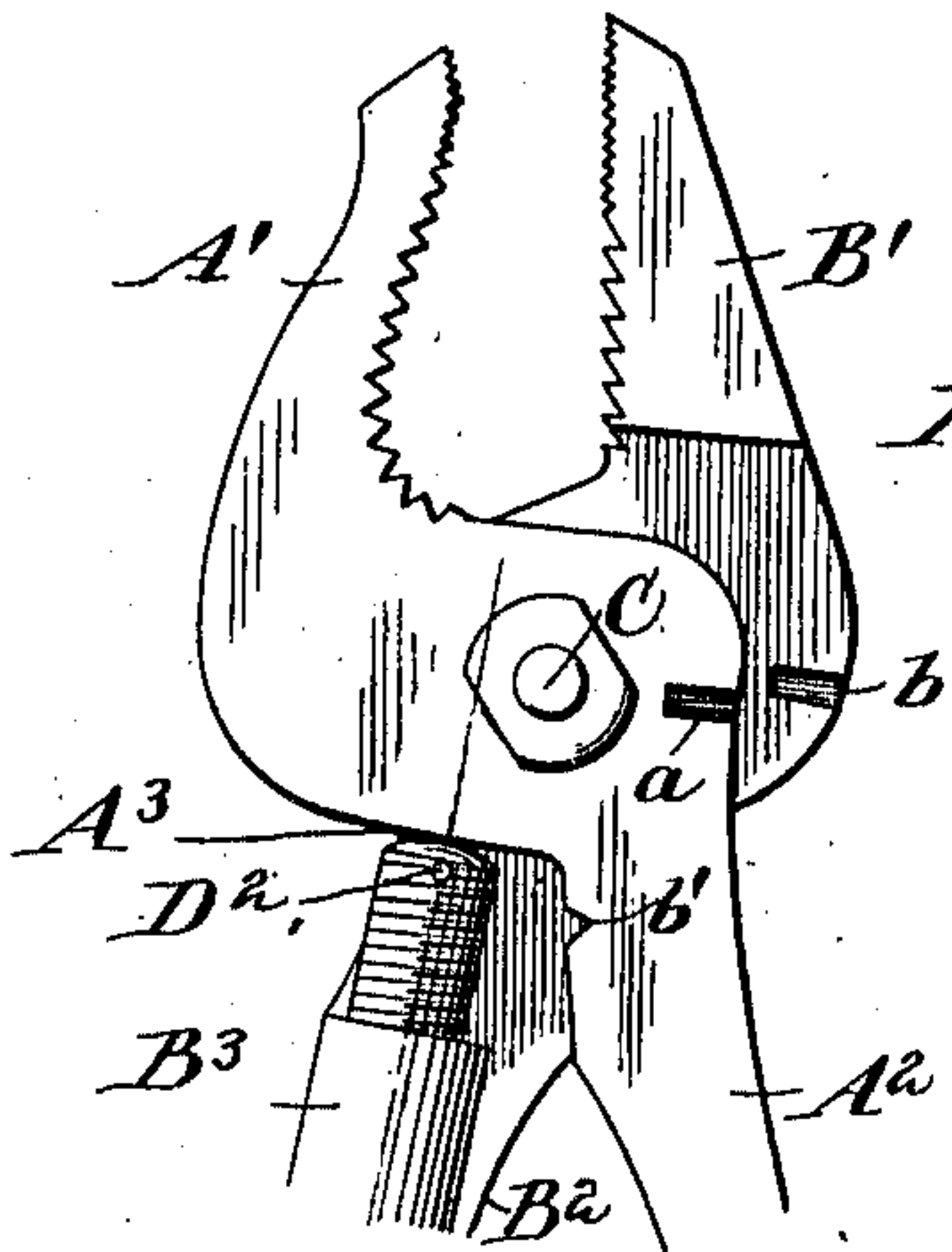


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

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PLIERS.

988,656.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed July 2, 1910. Serial No. 570,155.

To all whom it may concern:

Be it known that I, WILLIAM A. PECK, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented a certain new and useful Improvement in Pliers, of which the following is a specification.

The invention relates to tools of the pincers class, and the object of the invention is to provide simple, easily operated and adjustable means, carried on one member and impinging against the other, for limiting the movement of the jaws, and thus conditioning the pliers for service as a wrench, or as a hand-vise for holding small articles.

The invention consists in certain novel features and details of arrangement and construction by which the above object is attained, to be hereinafter described.

The accompanying drawings form a part of this specification and show an approved form of the invention as applied to "slip-joint" pliers, in which one member is provided with two centers either of which may be employed, with a corresponding change in the range of jaw-opening.

Figure 1 is a face or side view of a pliers constructed in accordance with the invention. Fig. 2 is a corresponding view of the opposite face. Fig. 3 is an edge view. Fig. 4 is a view corresponding to Fig. 1, showing the jaws and portions of the handles, with the center slipped to increase the opening between the jaws.

Similar letters of reference indicate the same parts in all the figures.

The pliers shown comprise two members A and B, recessed and applied one upon the other with liberty to be partially rotated relatively to each other on a pivot C, held in the member A and extending through an opening in the member B. A second opening b^2 in the latter permits it to be shifted to increase the capacity of the opening between the jaws A^1 and B^1 in the well known manner. The jaws are opened and closed by the handles A^2 B^2 . On the handle B^2 is a lug B^3 drilled and tapped in the direction generally longitudinal of such handle, to receive a screw D having a milled head D^1 and a rounded end adapted to be struck by a curved portion or shoulder A^3 on the member A in the act of opening the jaws, and limit such opening movement. The shoulder A^3 co-acting with the screw is peculiarly shaped to present a surface approximately

at a right angle to the axial line of the screw in all positions. The result is the curve shown at A^3 in Figs. 1 and 4. Thus conditioned the screw offers a fair abutment for the shoulder in all degrees of opening.

When the pliers are conditioned as in Figs. 1, 2 and 3 the axial line of the screw, indicated by the dotted line m m in Fig. 1, extends considerably to one side of the pivot C, and the leverage thus formed offers a strong resistance to a further opening of the jaws when the shoulder A^3 has made contact with the point of the screw, and the jaws may then be employed in turning a nut or analogous operation without danger of slipping, or conversely, by turning the milled head D^1 of the screw the jaws may be forced together to grasp an article between them and hold it after the manner of a hand-vise. In order to turn the screw with greater force than can be exerted by the application of the thumb and finger alone upon the head D^1 , the latter is provided with a hole d in which the end of a nail or other small lever may be inserted and the screw forcibly turned.

On the inner adjacent faces of the handles A^2 B^2 near the pivot are oppositely placed angular notches a^1 b^1 adapted to receive the squared end of a drill or tap and hold it by the pressure exerted through the screw D. The screw may be set to limit the rotation of the members at a point in which the wire-cutting notches a b are in open register, thus permitting the pliers to be applied successively upon a series of wires to be cut without requiring the usual careful observation to insure such register. Near the end of the screw is shown a transverse pin D^2 projecting slightly on each side and serving to prevent the accidental complete retraction and loss of the screw. When the members are shifted, as in Fig. 4, it will be observed that the shoulder A^3 is still favorably presented to the screw. It will be noted that the axial line of the screw is inclined slightly toward the shoulder A^3 , (see Fig. 3) the better to resist any tendency of the member A to separate from the member B under great strain, and also to permit the screw to be entered in its lug B^3 without unduly weakening the handle B^2 in providing the required groove or recess B^4 for such entrance.

The milled or knurled head D^1 is conveniently placed for operation by the thumb and finger of the same hand by which the

handles A^2 B^2 are grasped and without shifting the tool in the hand.

By locating the lug B^3 on the recessed or offset portion of the handle B^2 as near as practicable to the joint, with the screw acting directly upon the shoulder A^3 produced by the offset in the other member, the tool is not materially increased in thickness.

I claim:—

1. In a tool of the character set forth, a pair of members applied one upon the other and relatively non-slidable longitudinally and having each a jaw and handle, a pivot joining said members, a curved shoulder on one of said members adjacent to and partially encircling said pivot, and a screw mounted upon the handle of the other of said members and extending in the longitudinal direction thereof, arranged to contact with said shoulder and limit the opening movement of said jaws.

2. In a tool of the character set forth, a pair of members applied one upon the other and relatively non-slidable longitudinally and having each a jaw and handle, a pivot joining said members, a shoulder on one of said members adjacent to said pivot, and a screw mounted upon the handle of the other

of said members and extending in the longitudinal direction thereof with its axial line passing to one side of said pivot, arranged to contact with said shoulder and limit the opening movement of said jaws, said shoulder curved to present its surface at an approximately right angle to such axial line at all positions of contact with said screw.

3. In a tool of the character set forth, a pair of members applied one upon the other and relatively non-slidable longitudinally and each having a jaw and handle, a pivot joining said members, a shoulder on one of said members adjacent to said pivot, a screw mounted upon the handle of the other of said members and extending in the longitudinal direction thereof and arranged to contact with said shoulder and limit the opening movement of said jaws, the axial line of said screw being inclined angularly toward said shoulder.

In testimony that I claim the invention above set forth I affix my signature, in presence of two witnesses.

WILLIAM A. PECK.

Witnesses:

CHARLES R. SEARLE,
WALLY E. YOUNG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."