

No. 662,178.

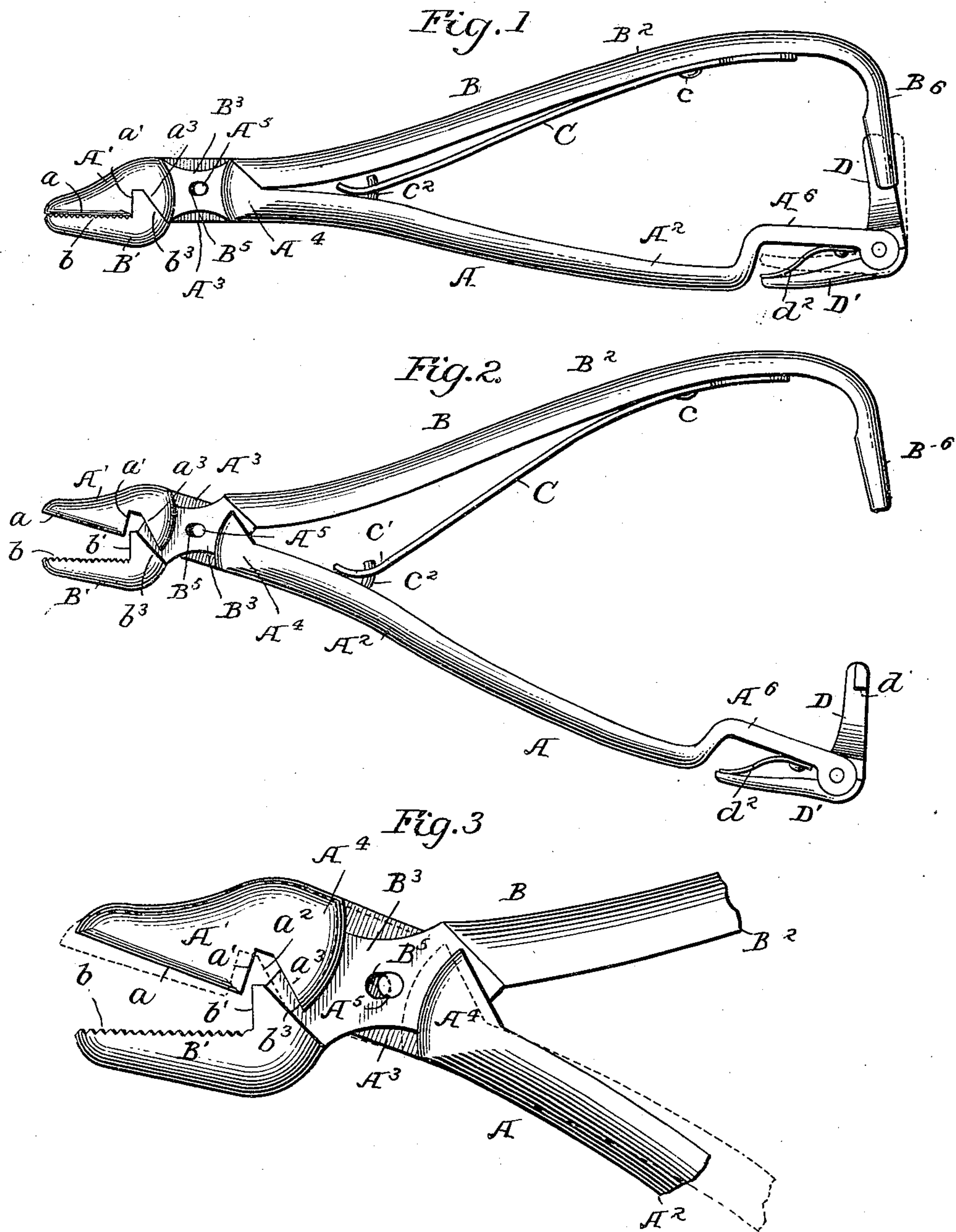
Patented Nov. 20, 1900.

C. TRUAX.
NEEDLE HOLDER.

(Application filed Mar. 19, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

J. F. Hinkel

Wm. Gillman, Jr.

Inventor

Charles Truax

by Foster Freeman

Attorneys

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2 Sheets—Sheet 2.

Fig. 4.

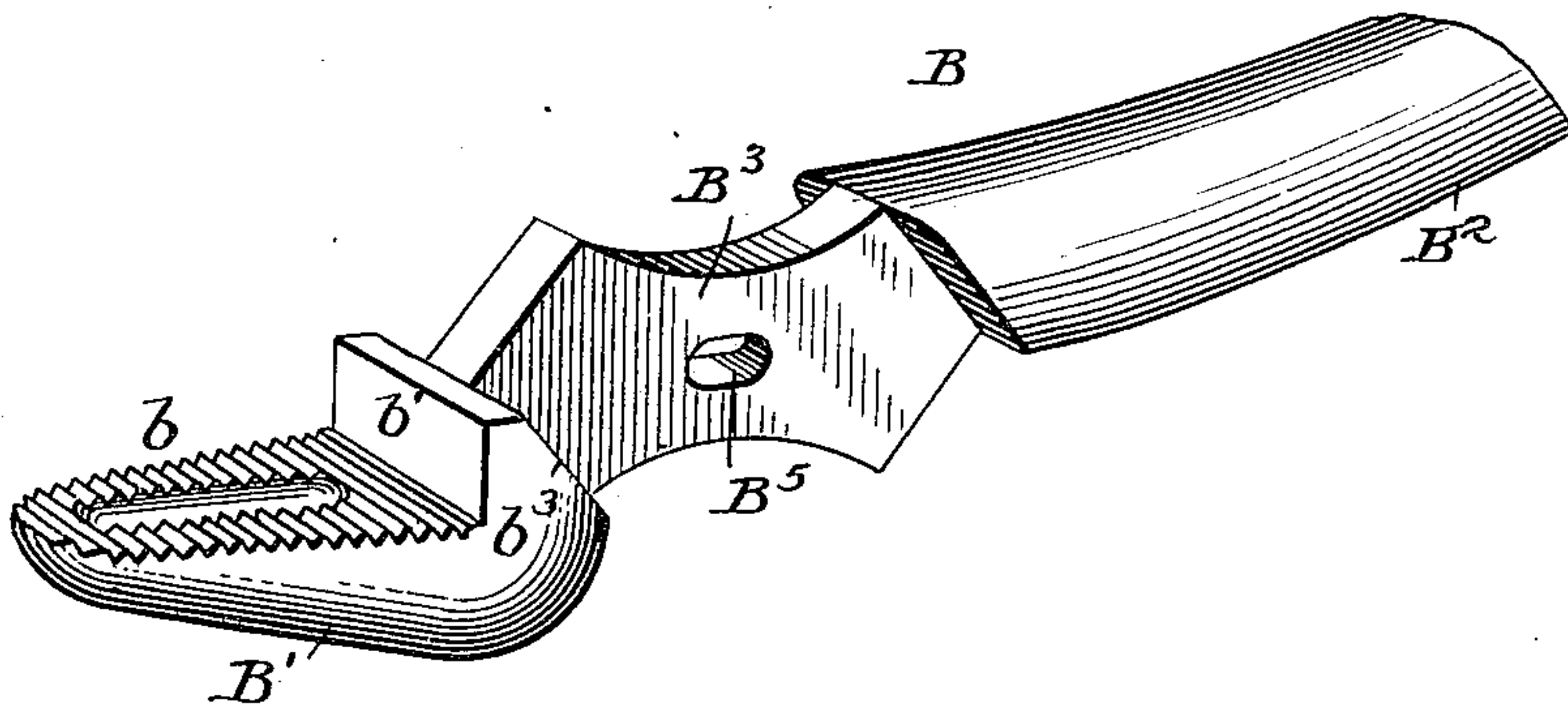


Fig. 5.

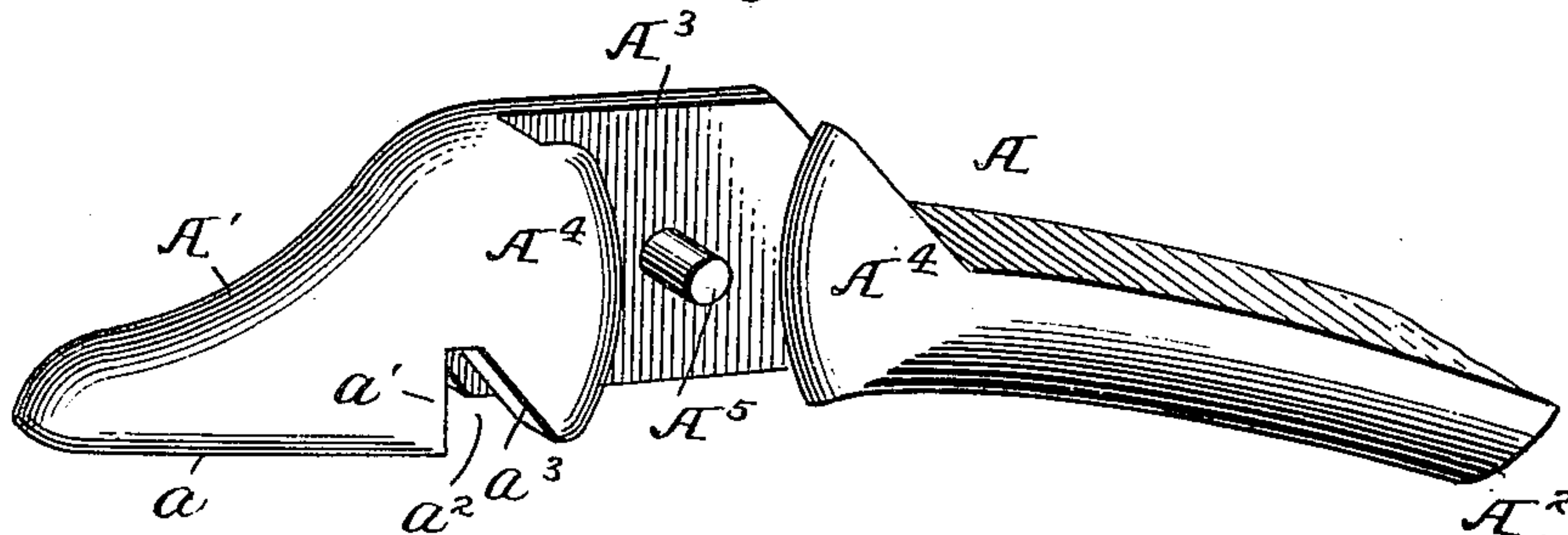
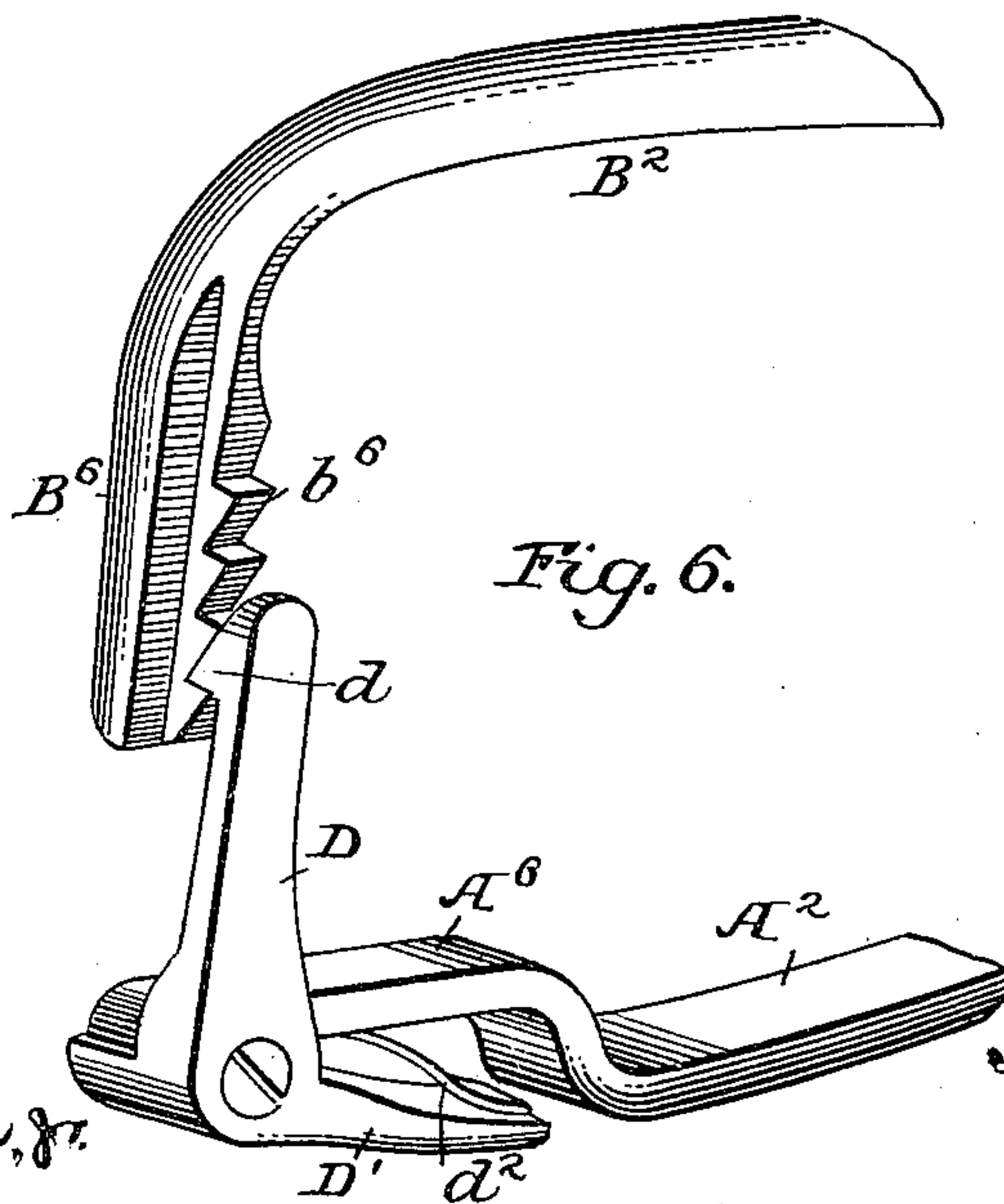


Fig. 6.



Witnesses

J. G. Hinkel

A. M. Gillman, Jr.

Inventor

Charles Truax

by Foster Freeman

Attorneys

UNITED STATES PATENT OFFICE.

CHARLES TRUAX, OF CHICAGO, ILLINOIS.

NEEDLE-HOLDER.

SPECIFICATION forming part of Letters Patent No. 662,178, dated November 20, 1900.

Application filed March 19, 1900. Serial No. 9,271. (No model.)

To all whom it may concern:

Be it known that I, CHARLES TRUAX, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Needle-Holders, of which the following is a specification.

My invention relates to needle-holders, and has for its object to provide an improved construction adapted to hold various kinds of needles; and to these ends it consists in the various features of construction and arrangement of parts having the general mode of operation substantially as hereinafter more particularly set forth.

Referring to the accompanying drawings, wherein I have illustrated a preferred embodiment of my invention, Figure 1 is a side view of the needle-holder in its closed position. Fig. 2 is a similar view with the parts extended. Fig. 3 is an enlarged view of a portion, showing the holder partially closed. Fig. 4 is a perspective view of the operative parts of one member. Fig. 5 is a similar view of the other member; and Fig. 6 is an enlarged view of the rear end, showing the locking and releasing device.

While my invention is intended more particularly as a holder for surgical needles, it can of course be used for various devices, and the details of construction can be varied by those skilled in the art to adapt it for use for various purposes, and while I shall describe it as applied to a surgical-needle holder my invention is not limited thereto.

There are at the present time in use three styles of surgical needles—one round, one with the long diameter vertical, and a third with the long diameter horizontal. In order to use these various needles it is generally necessary to employ two different holders, and one of the primary objects of my present invention is to provide a holder which is capable of holding the various styles of needles and holding them rigidly, so that they can be effectively used. In accomplishing this object and others I provide a needle-holder comprising two members, each provided with a jaw, the jaws being so constructed that they each present two gripping-surfaces, and so arranged that when the parts are in operative position the needle or other article can be

gripped between either set of gripping-surfaces. The holder is also provided with a locking device for holding the jaws in operative position, which locking device can be readily controlled by the operator, and it is so arranged that it can be operated with the little finger of the hand grasping the holder, as more particularly pointed out hereinafter.

Referring to the drawings, A represents one member of the holder and B the other, and these members are provided at one end with jaws A' B', respectively, and with handles A² B² at the other end or portion. These members are pivoted together, and are preferably so arranged that they can readily be released or taken apart at their pivot-point for the purpose of cleaning or otherwise. Thus, as best shown in Fig. 5, the member A is recessed or cut away at the part A³ and is provided with overhanging projections A⁴ and with a pivot-pin A⁵, while the member B is provided with a pivot portion B³, preferably having curved sides, and of such shape that it can pass between the overhanging projections A⁴ and bear on the surface of the cut-away portion A³, and it is provided with an elongated slot B⁵, fitting over the pin A⁵ of the member A.

The jaw A' is provided with a gripping-surface *a*, which is practically in line with its longitudinal dimensions, and with a gripping-surface *a'*, which is at an angle to the first gripping-surface and preferably at substantially a right angle or transverse of the jaw. The jaw A' is also cut away opposite its gripping-surface *a'*, as seen at *a*², and the opposite side is beveled, as at *a*³, to form an abutting or bearing surface.

The jaw B' is provided with a gripping-surface *b*, which is substantially in the longitudinal plane of the member, and with another gripping-surface *b'*, which is at an angle to the first and preferably at substantially a right angle thereto, and the rear portion of the jaw is provided with a beveled or inclined surface *b*³, which forms a cooperating abutting-surface with the beveled surface *a*³ of the member A. The faces of these jaws may be plain or roughened or hollowed in the center, as shown, or of any other desired configuration adapted to grip and hold the article between the jaws.

Connected with the member B is a spring C, and it is preferably detachably connected thereto by means of a pin or stud c in a manner well understood, and it is provided at its free end with a slot c' , fitting over a pin or stud c^2 on the member A, and this spring is so arranged that it tends to hold the members in their open position. (Illustrated in Fig. 2.)

The rear portions or handles $A^2 B^2$ are provided with some suitable locking device for holding the jaws in their clamped position and which is adapted to be readily released to allow the jaws to open under the influence of the spring. In the present instance the end B^6 of the handle is bent inward, as best seen in Fig. 6, and is provided at one side with a set of teeth b^6 . The opposite handle portion A^2 is bent toward the end to form an offset portion A^6 , and to this is pivoted the catch or dog D, provided at one end with a tooth or catch d , adapted to engage the teeth b^6 , the other end being preferably under the stress of a spring d^2 , and this dog being shown in substantially the shape of a bell-crank is so pivoted to the offset portion A^6 of the handle A^2 that in its normal position under stress of the spring its tooth d will be in position to engage some one of the teeth b^6 , and its portion D' will be substantially in line with the handle portion A^2 . When, however, it is desired to release the jaws, the portion D' is depressed, swinging the dog on its pivot and moving the tooth d laterally from engagement with any one of the teeth b^6 , and the handles are released and the members can be then forced into their open position by the spring C or otherwise. It will be seen that this arrangement of locking device is such that it does not interfere with the operation of the jaws, and that the portion D' is in such a position that it would naturally be operated by the little finger of the operator when it is necessary to release the jaws, and as the other fingers of the hand grasping the holder would naturally exert the required pressure there is little or no danger of unintentionally releasing the holder, although when desired it can quickly and readily be released as described. It is evident that this arrangement of locking device can be used on any kind of holder where it is desirable.

In assembling the parts the member B is turned at substantially right angles to the member A, the portion B^3 passed between the overhanging projections A^4 , and the pivot-pin A^5 passed through the elongated slot B^5 , and the parts are turned toward their normal open position shown in Fig. 2 and the spring C slipped over the pin or stud c^2 when the holder is in operative position. In this position it will be noticed that the gripping-surfaces $a b$ and $a' b'$ are away from each other, the abutting-surfaces $a^3 b^3$ are out of contact, and the pivot-pin A^5 is in the rear portion of the elongated slot B^5 , as shown in Fig. 2. When it is desired to grip any article—as, for instance, a surgical needle—it may be placed

in position between the gripping-surfaces $a b$ and $a' b'$ according to its structure, and then the handles being compressed or moved toward each other the first movement of the parts is indicated in Fig. 3, where it will be seen that the beveled portion a^3 has come in contact with the beveled abutting portion b^3 on the opposite jaw, and the members have moved longitudinally with relation to each other, so that the pin A^5 takes a position in the forward portion of the slot B^5 and the jaws are still open with their gripping-surfaces away from each other. A continued pressure on the handles, bringing the jaws more closely together, not only causes the gripping-surfaces $a b$ to approach each other, but also the surfaces $a' b'$, the beveled portion a^3 moving down the inclined abutment b^3 on the opposite jaw and the pin A^5 moving in the elongated slot B^5 until the article is gripped between either set of gripping-surfaces. When this is accomplished, the locking device automatically acts to hold the parts in their gripping position until properly released. It will be seen that in this operation the jaws have a compound movement with relation to each other—that is, the gripping-surfaces $a' b'$ not only approach each other along the arc of a circle around the pivot A^5 , but the gripping-surface b' moves toward the gripping-surface a' in a direction substantially longitudinal of the members.

With this construction it will be seen that, for instance, when the device is used for a surgical-needle holder the round-bodied needles can be held between the gripping-surfaces $a b$ and the needles having their long diameter vertical may be held between the gripping-surfaces $a' b'$, and it will be observed that any and all of the usual forms of surgical needles can be positively gripped and held with equal facility by a single instrument or holder.

Having thus specifically described and illustrated the preferred embodiment of my invention, without limiting myself to the precise details of construction and arrangement shown, what I claim is—

1. A needle-holder comprising two jaws each having longitudinal and transverse gripping-surfaces, a loose connection between the jaws arranged to permit the jaws to move to and from each other in the arc of a circle to open and close the longitudinal gripping-surfaces and to move longitudinally with relation to each other to open and close the transverse gripping-surfaces, and means for moving the jaws to bring the respective gripping-surfaces into and out of gripping position, substantially as described.

2. A needle-holder comprising two jaws each having a transverse gripping-surface, one of the jaws being provided with a pivot-pin and the other with an elongated slot co-operating with the pin, and means for opening and closing the jaws, whereby the transverse gripping-surfaces move to and from

each other longitudinally with relation to the jaws, substantially as described.

3. A needle-holder comprising two members each having longitudinal and transverse gripping-surfaces, one of the members being provided with a pivot-pin and the other with an elongated slot cooperating with the pin and each member having an abutting surface, and a spring interposed between the members, whereby the transverse gripping-surfaces move to and from each other longitudinally with relation to the members, substantially as described.

4. A needle-holder comprising two members A and B, each having longitudinal and transverse gripping-surfaces a , b and a' , b' at right angles to each other and each having an abutting surface a^3 , b^3 , one of the members having a pivot-pin A^5 and the other having an elongated slot B^5 fitting the pivot-pin, and

a spring C secured to the member B and having its free end bearing on the member A, substantially as described.

5. A needle-holder, one of the handles B^2 of which is provided with a bent portion B^6 having teeth and the other A^2 with an offset portion A^6 , and a lever D pivoted to the offset portion, said lever having a tooth adapted to engage the teeth on the bent portion and having a portion D' extending substantially in the plane of the handle A^2 on which it is mounted, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES TRUAX.

Witnesses:

E. E. PALMER,

JOHN MCINTOSH.