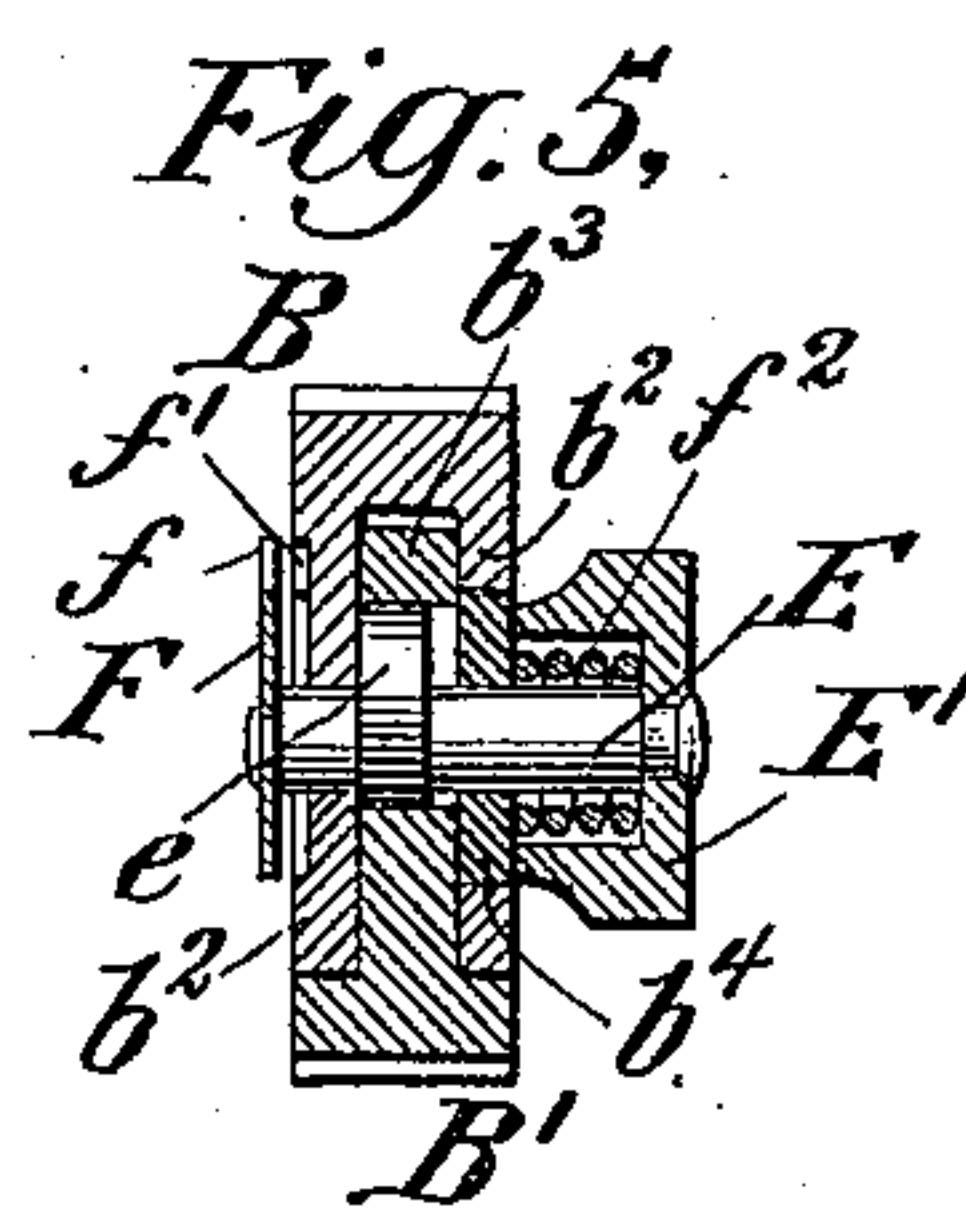
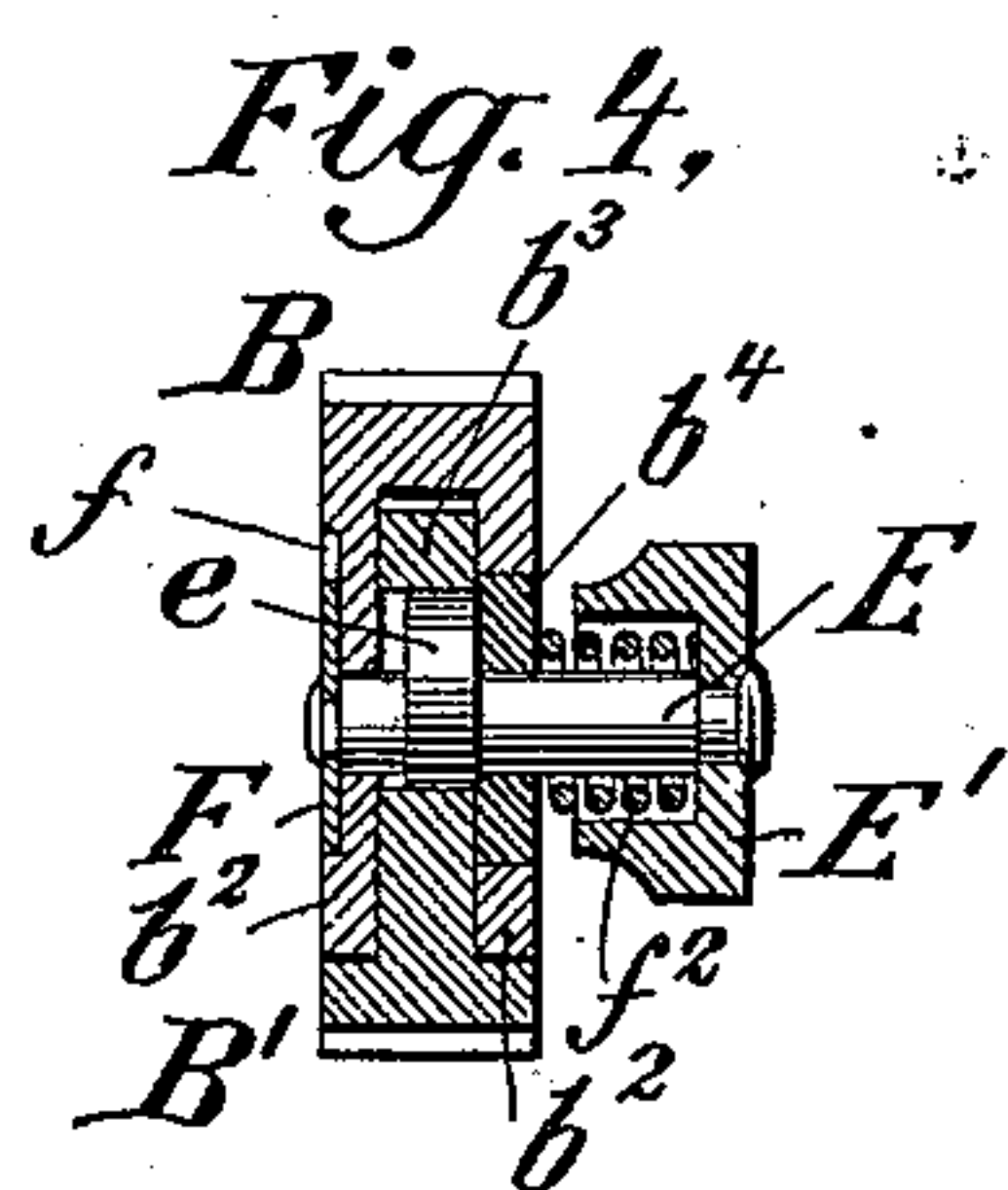
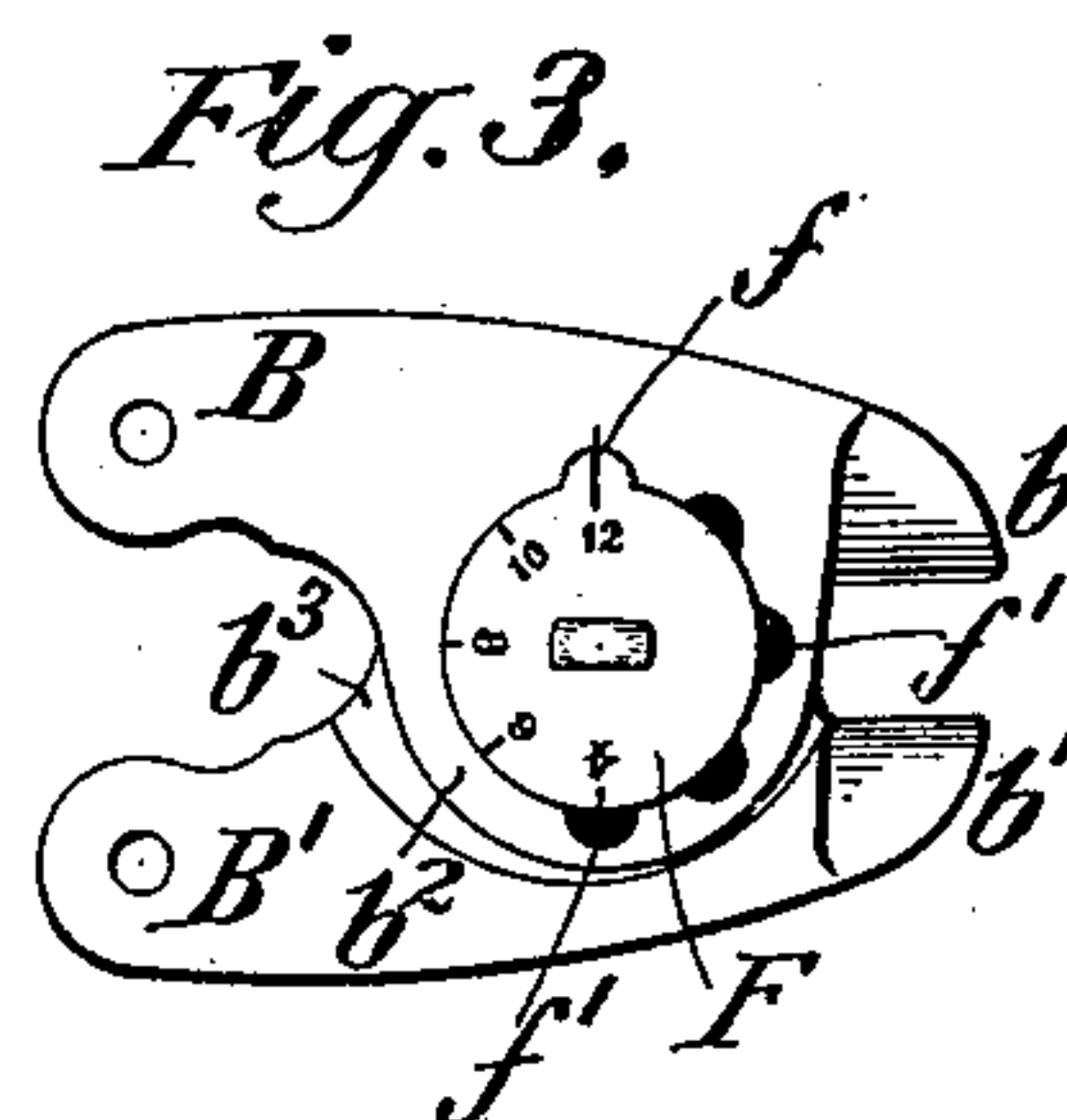
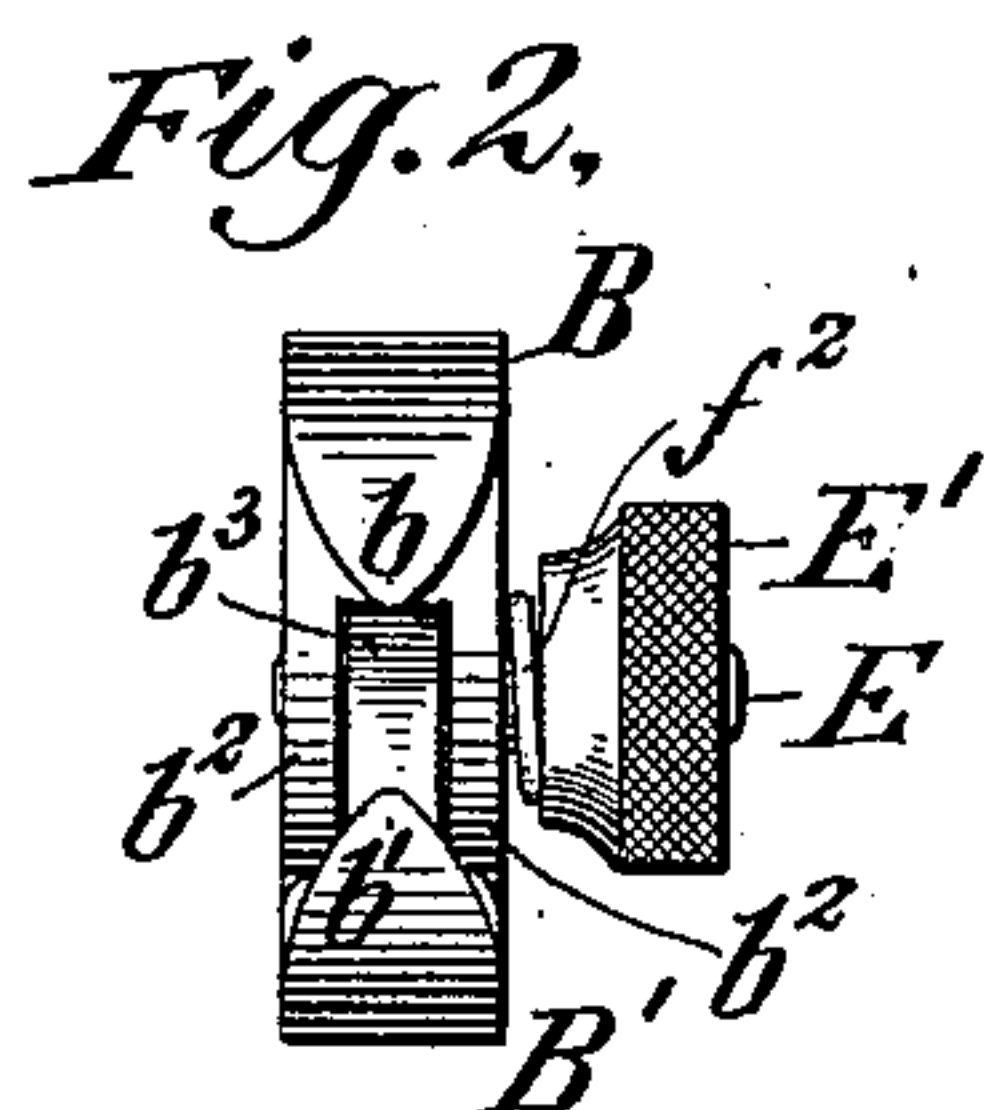
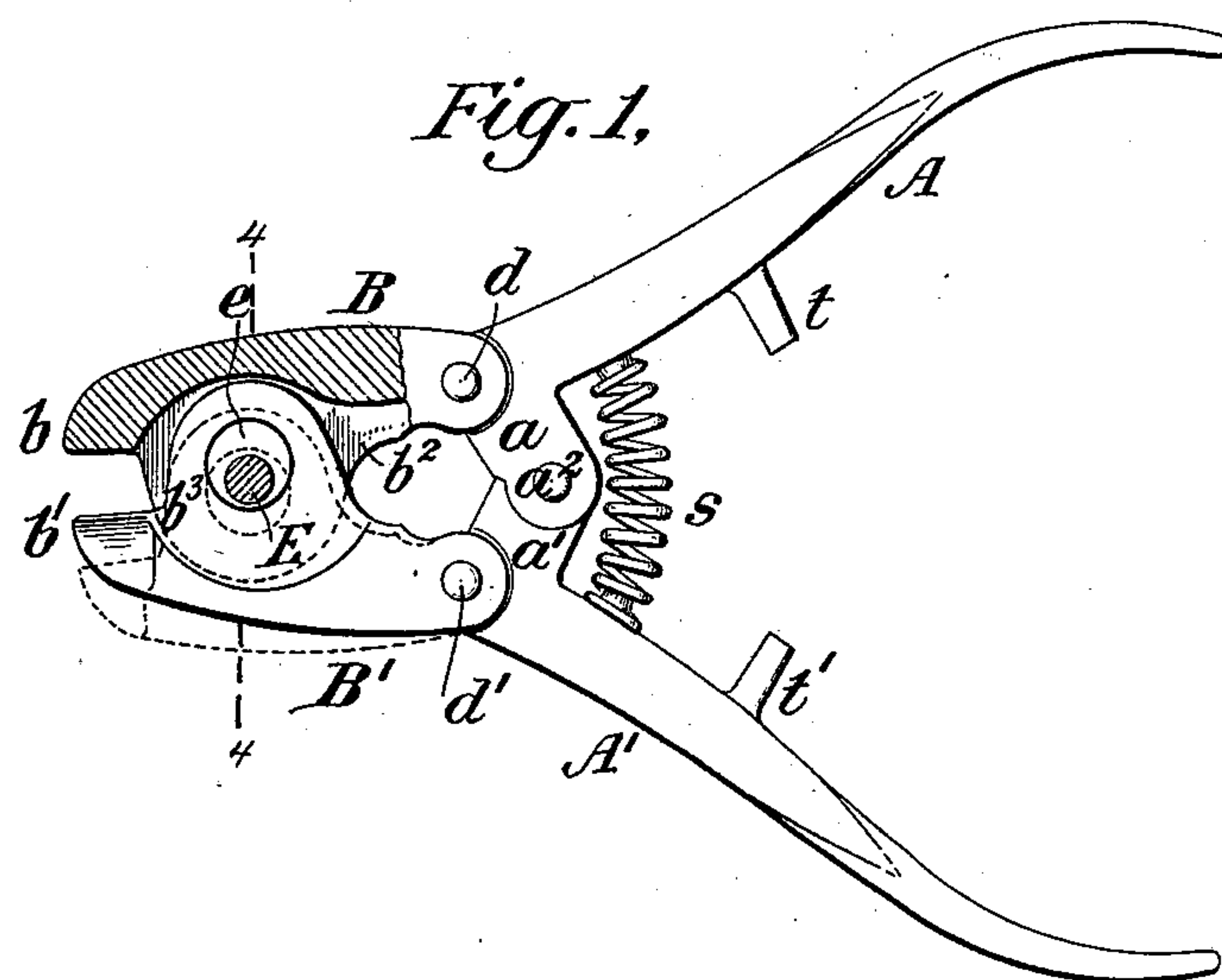


(No Model.)

B. L. TOQUET.
PLIERS OR SIMILAR TOOL.

No. 562,260.

Patented June 16, 1896.



WITNESSES:

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UNITED STATES PATENT OFFICE.

BENJAMIN LOUIS TOQUET, OF WESTPORT, CONNECTICUT.

PLIERS OR SIMILAR TOOL.

SPECIFICATION forming part of Letters Patent No. 562,260, dated June 16, 1896.

Application filed January 3, 1896. Serial No. 574,259. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN LOUIS TOQUET, a citizen of the United States of America, and a resident of Westport, Fairfield county, Connecticut, have invented Improved Pliers or Similar Tools, of which the following is a specification.

My invention relates to that class of pliers, nippers, cutters or hand-tools of like character in which the nipping-jaws are hinged together and are operated by toggle-action levers, and the object of my invention is to so construct a tool of this character as to get the largest possible adjustment to act on different sizes of work without affecting or changing the leverage of the tool-handles or, in other words, the pinching power of the tool and without having to take the tool apart.

In the accompanying drawings, Figure 1 is a side view, partly in section, of my improved pliers or nippers. Fig. 2 is an end view of the jaws. Fig. 3 is a side view of the jaws on the opposite side from that shown in Fig. 1. Fig. 4 is a sectional view on the line 4 4, Fig. 1, and Fig. 5 is a similar sectional view showing the adjustable parts in a different position to change the adjustment of the jaws.

A A', Fig. 1, are the usual handles provided with short arms a and a' , forming bell-crank levers, hinged together at a^2 . A spiral or other suitable spring s assists to spread the levers open in position illustrated in Fig. 1, while stops $t t'$ on the handle-levers limit their inward movement. B and B' are the levers carrying the nipping-jaws b and b' , the lever B being hinged at d to the elbow of the bell-crank lever A a , while the lever B' is hinged at d' to the elbow of the bell-crank lever A' a' . The levers B and B' are hinged together by a hinge-pin passing through a pair of ears on one lever, and an intermediate ear on the other lever. In the present instance I have illustrated a pair of ears, as $b^2 b^2$, on the lever B, and the intermediate single ear, as b^3 , on lever B'. The arms $a a'$ on the tool-handles hinged together and to the jaw-levers B B' constitute the toggle-action to give the desired powerful nipping action.

In certain classes of work it is desirable to make tools of this character adapted for use on different sizes of work; for instance, it is desirable to have nippers or pliers ad-

justable for acting on different gages of wire. To enable this adjustment to be obtained quickly and whenever required without having to take the tool apart or detach any portion thereof, I make the hinge of the jaw-levers B and B' adjustable by means of a hinge-pin with an eccentric or cam portion, and having a part extending to the outside of the tool by which it may be adjusted. As shown in Figs. 1, 4 and 5, this hinge-pin E has a cam portion e , fitting within a corresponding opening in the ear b^3 of the jaw-lever B', while the hinge-pin on the opposite side of this cam or eccentric b fits in openings in the ears b^2 of the jaw-lever B. To enable the parts to be conveniently put together, one of the ears b^2 has an insertible piece, Figs. 4 and 5.

The hinge-pin E has secured to it, as by riveting, a milled head or thumb end E', Figs. 2, 4 and 5, by which the hinge-pin with its cam may be rotated or turned to any desired position to give any desired spread or adjustment apart of the jaws $b b'$, according to the gage of the work to be operated upon, and within the limits of the size of the cam or eccentric e . In the construction shown, this range of adjustment is indicated in the difference between the full and dotted lines, Fig. 1.

To hold any given position of adjustment, and at the same time to also provide means for indicating the gage for which any given adjustment of the tool is adapted, I secure to the end of the hinge-pin E, opposite that to which the milled head E' is secured, a catch-plate F, with a projection f , adapted to engage with any one of a number of corresponding notches f' in the outer face of the lever B. In the present instance, the face of the ear b^2 of the lever B is recessed out to receive the entire plate F, and the cam e is made narrower than the width of the ear b^3 of the jaw B', in order to allow of a lateral movement of the hinge-pin E to move the plate F laterally into and out of its recess in the outer face of the adjacent ear b^2 . The head or thumb end E' may conveniently be recessed out to receive a spring f^2 , which will normally keep the plate F in close contact with the corresponding ear b^2 and the projection f on the disk in engagement with one or other of the recesses f' . By pushing down on the

head E', however, against the action of the spring f^2 , the projection f' may be disengaged from the ear of the jaw-lever B, and then by turning the head E', the hinge-pin and its
5 cam e can be turned to any other desired position of adjustment, and when released, the spring f^2 will cause the projection f to engage with that recess f' opposite which it may then be.
10 As shown in Fig. 3, index-fingers and a pointer-mark may be provided on the plate F and the ear of the jaw B to indicate the gage of wire or size of work for which the tool is adjusted.
15 I claim as my invention—
1. A pair of pliers or similar tool, consisting of a pair of handles with toggle-arms, a pair of jaw-levers hinged to the said handles, and an adjustable hinge-pin provided with a
20 cam or eccentric for hinging said jaw-levers

to each other, said hinge-pin having a part extending to the outside of the tool, by which the cam or eccentric may be adjusted, substantially as described.

2. A pair of pliers or other such tool, consisting of a pair of handles having toggle-arms with jaw-levers hinged to the said handles, a hinge-pin for the jaw-lever having a cam or eccentric and a catch laterally movable to engage with one of the jaw-levers and
25 a spring to normally keep said catch and jaw-lever in engagement, all substantially as described.
30

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

BENJAMIN LOUIS TOQUET.

Witnesses:

A. B. JELLIFFE,
CARRIE E. NASH.