

(No Model.)

2 Sheets—Sheet 1.

W. A. STOWELL.
COMBINED CARRIAGE JACK AND WRENCH.

No. 543,660.

Patented July 30, 1895.

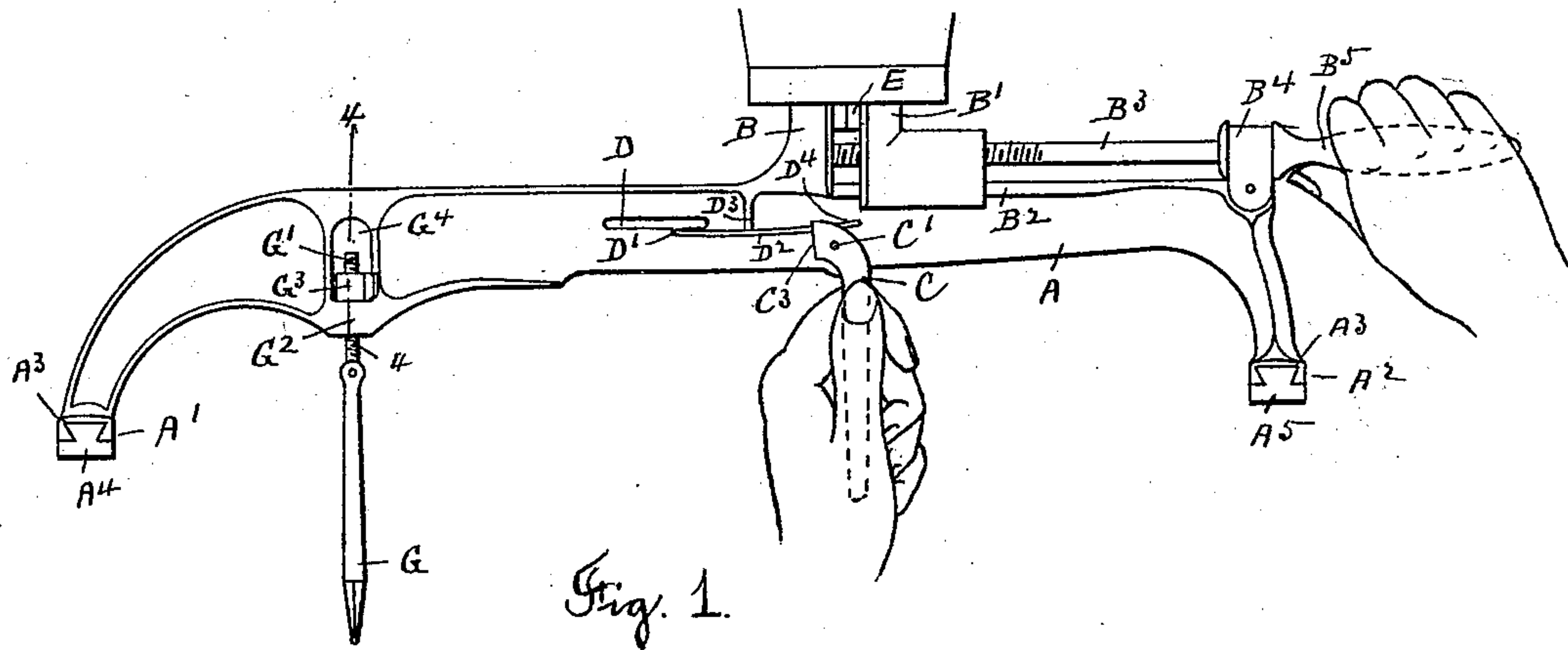


Fig. 1.

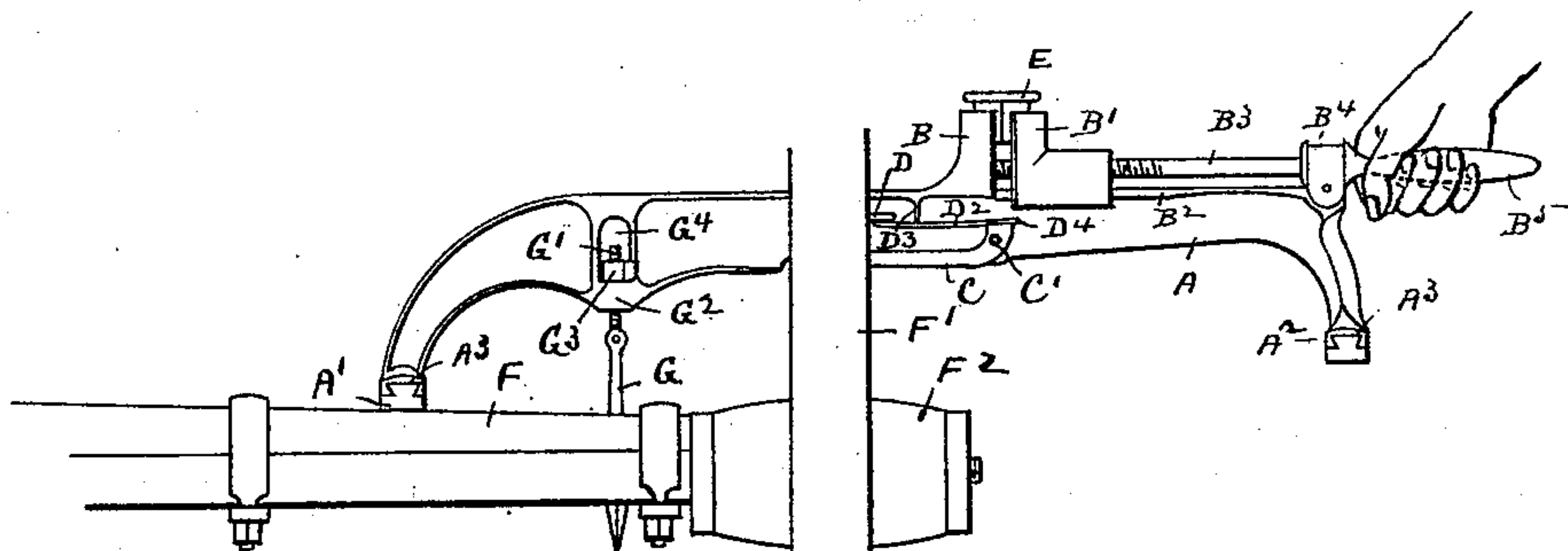


Fig. 2.

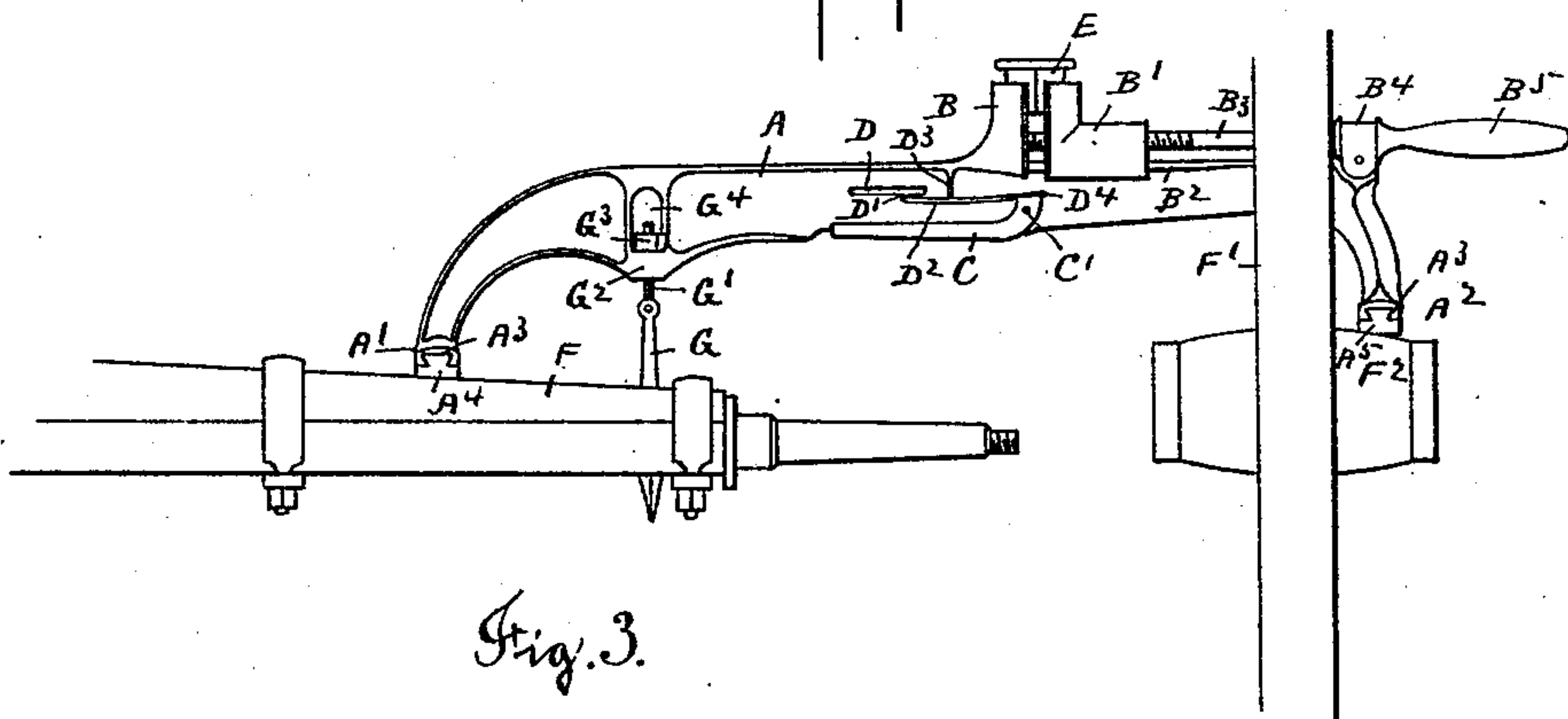


Fig. 3.

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By his Attorney
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2 Sheets—Sheet 2.

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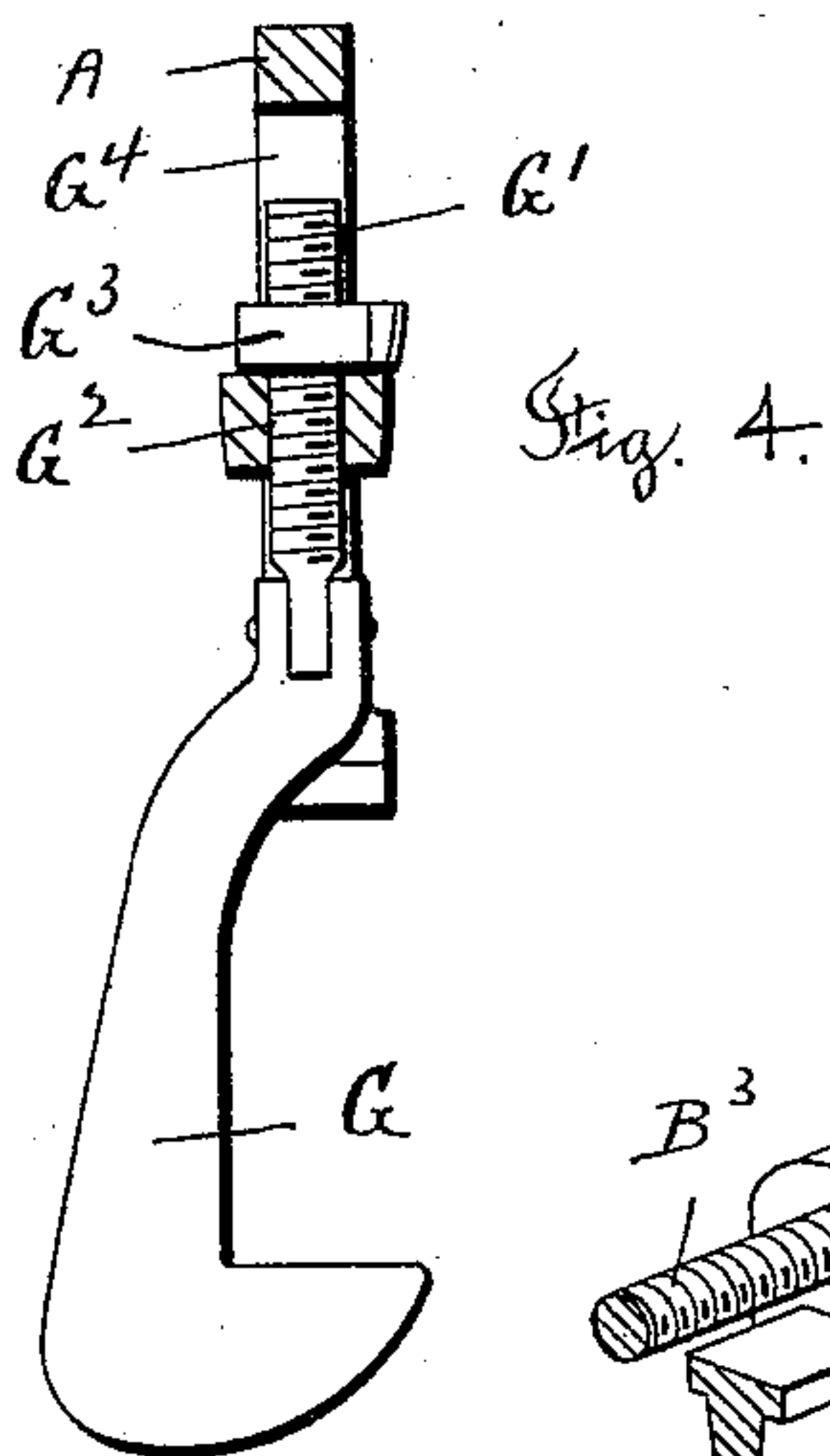


Fig. 4.

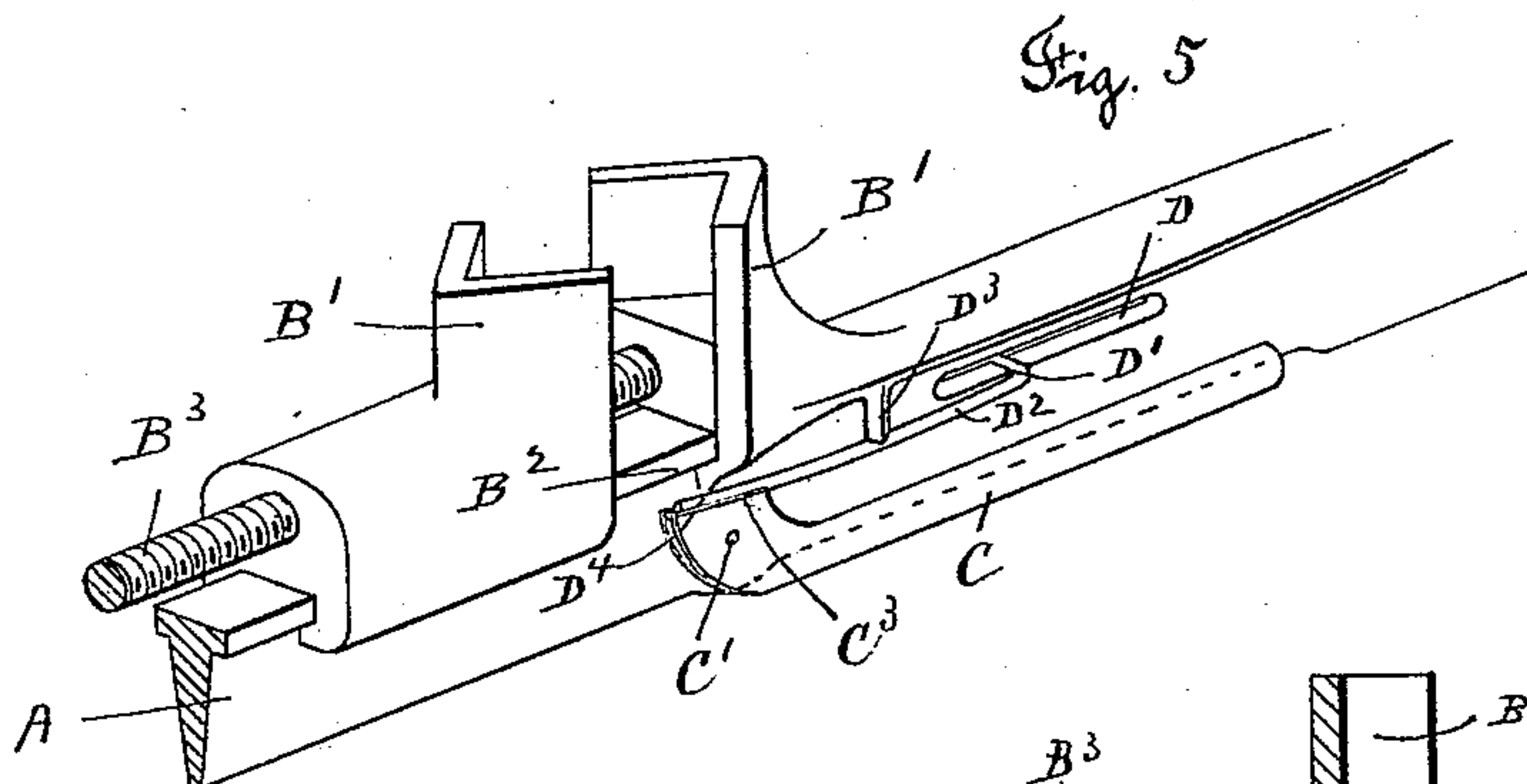


Fig. 5.

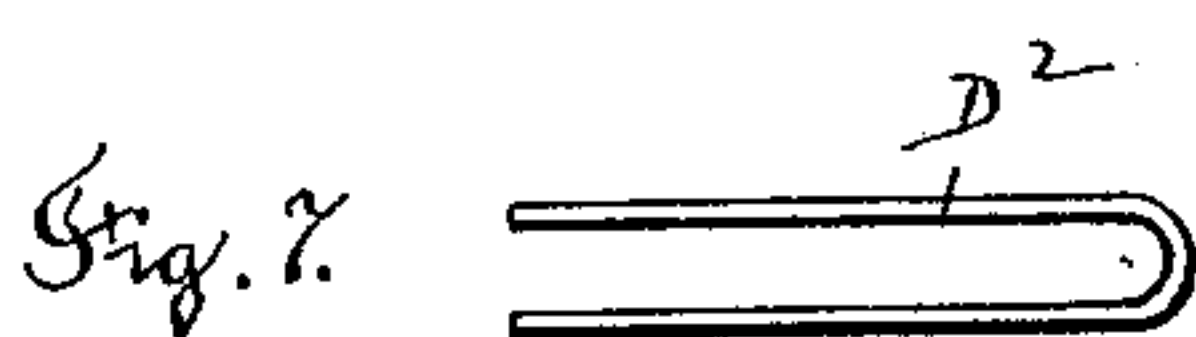


Fig. 7.

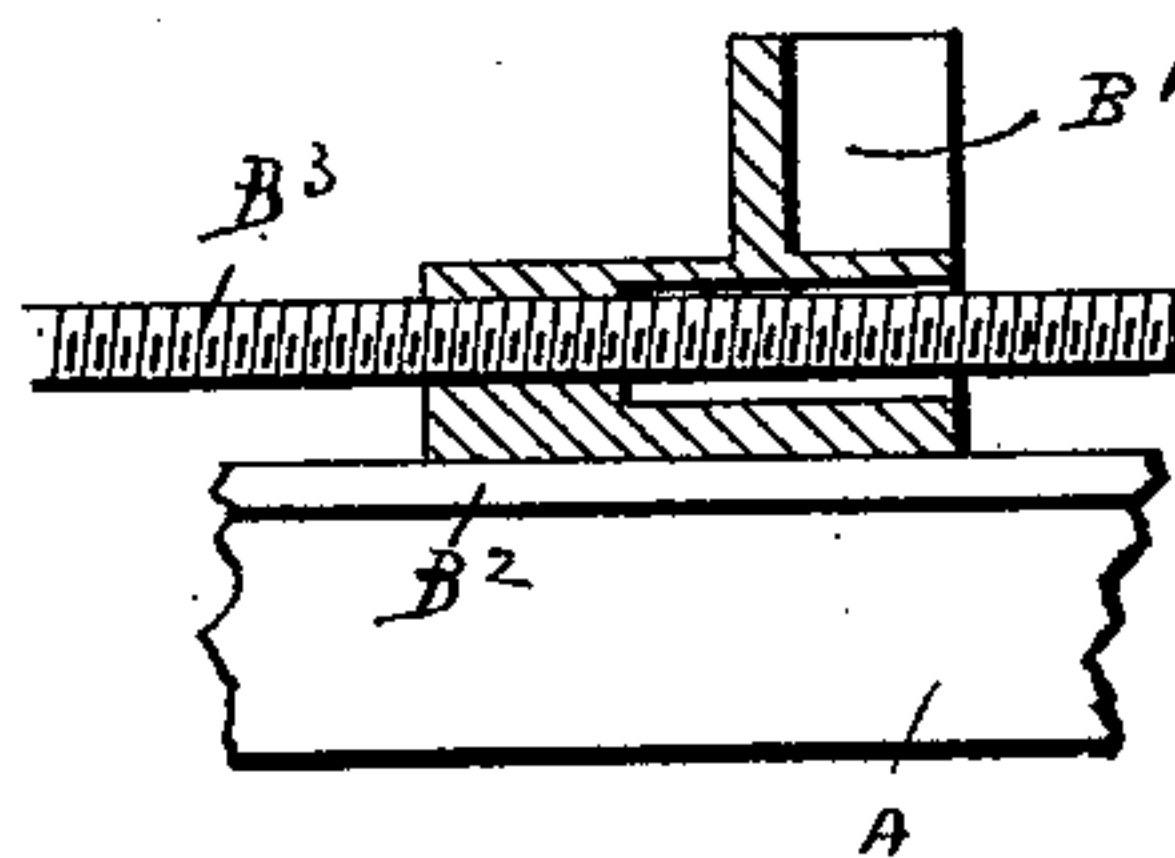


Fig. 6.

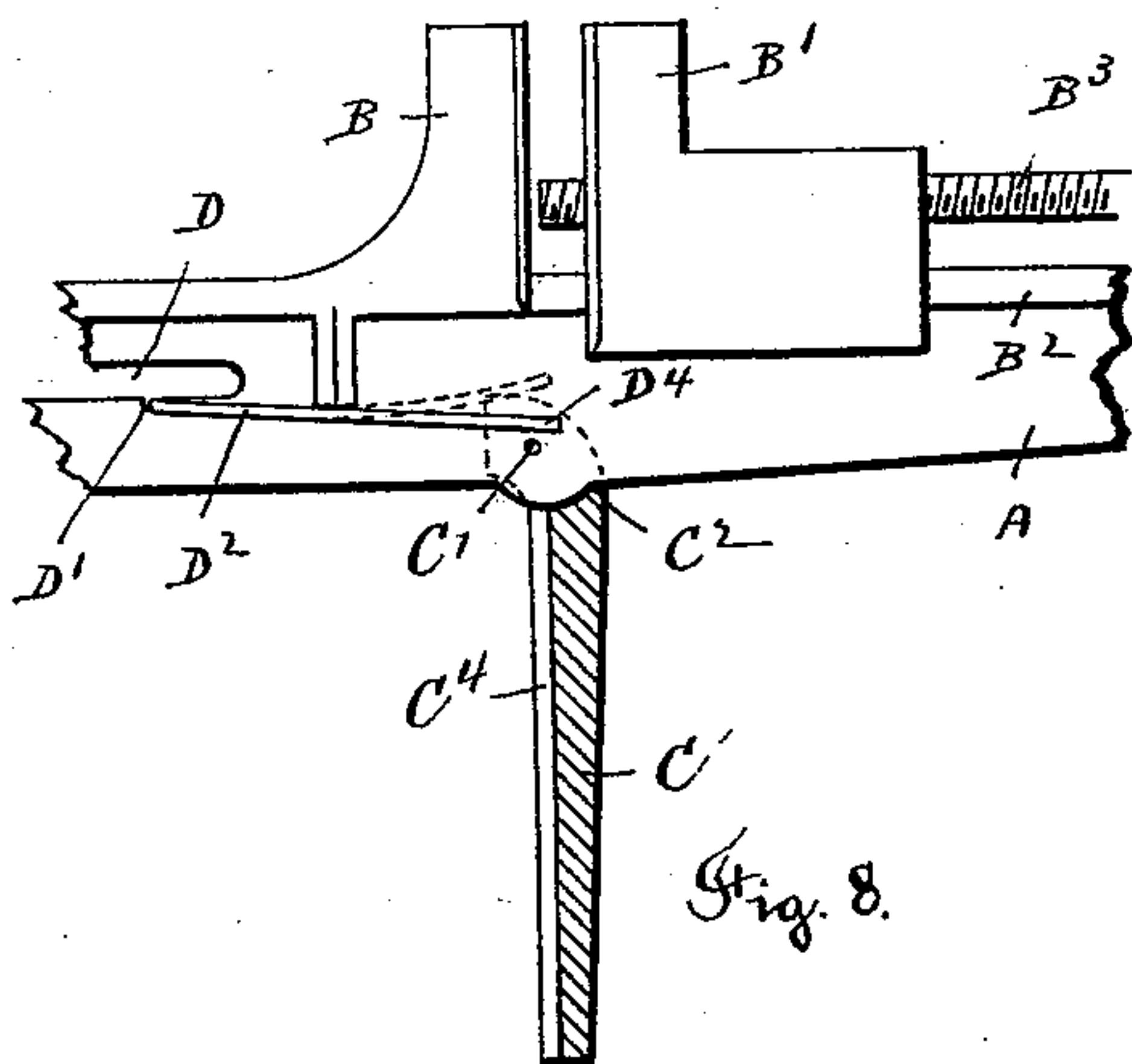


Fig. 8.

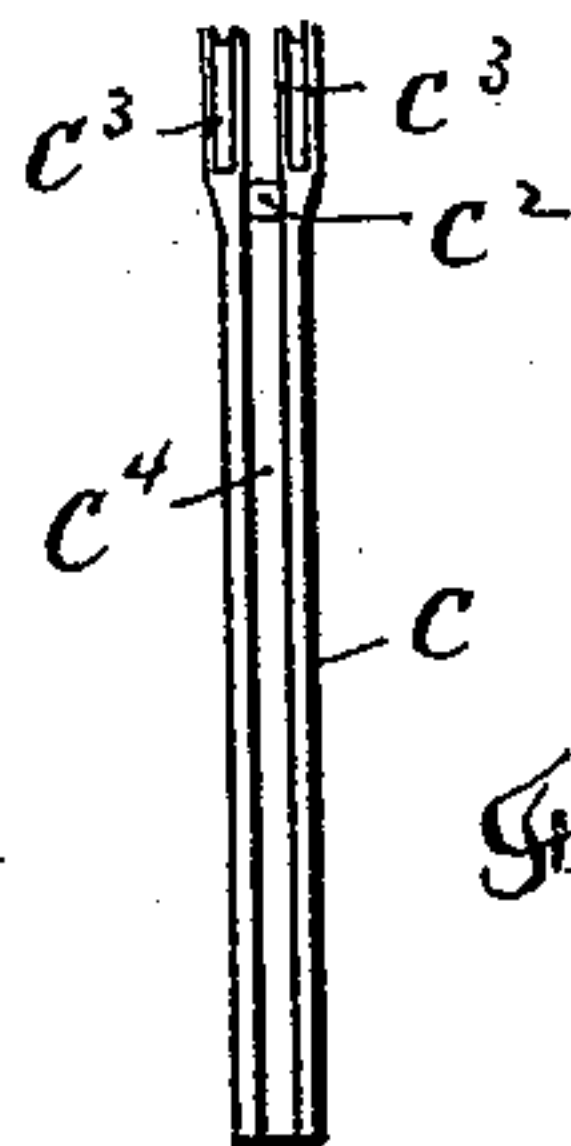


Fig. 9.

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UNITED STATES PATENT OFFICE.

WILLIAM A. STOWELL, OF MONTPELIER, VERMONT.

COMBINED CARRIAGE JACK AND WRENCH.

SPECIFICATION forming part of Letters Patent No. 543,660, dated July 30, 1895.

Application filed January 20, 1894. Serial No. 497,842. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. STOWELL, a citizen of the United States, residing at Montpelier, in the county of Washington and State of Vermont, have invented a new and useful Improvement in a Combined Carriage Jack and Wrench, of which the following is a specification, accompanied by drawings forming a part of the same, and in which—

Figure 1 represents an apparatus embodying my invention and represented as applied in the removal of a nut from the axle of a carriage and illustrating its use as a wrench. Fig. 2 represents the apparatus as applied to the axle for the purpose of lifting the wheel from the ground in order to allow the same to be removed from the axle. Fig. 3 represents the axle supported by the apparatus resting upon the wheel which has been removed from the axle. Fig. 4 is a sectional view on line 4 4, Fig. 1. Fig. 5 is a perspective view of the jaws forming the wrench and the central section of the bar supporting the same. Fig. 6 is a longitudinal sectional view of the movable jaw. Fig. 7 is a detached view of the bent U-shaped elastic wire forming the spring by which the pivoted handle is retained in position. Fig. 8 is a view of the central portion of the lever A with the jaws of the wrench and a pivoted handle which is shown in central sectional view, and Fig. 9 is a detached view of the pivoted handle.

Similar letters refer to similar parts in the different figures.

My invention relates to that class of carriage-jacks which is adapted to support the axle of the carriage and rest upon the wheel after it is removed from the axle; and it consists in the construction and arrangement as hereinafter described, and specifically set forth in the claims, and, also, in the combination, with the jack, of a pair of jaws adapted to engage the carriage-nut, with means for actuating the same, and of a handle coincident with the axis of rotation of the jaws in the operation of unscrewing the nut, whereby the jack is capable of being used as a wrench for the purpose of removing the nut from the axle.

Referring to the accompanying drawings, A denotes a lever curved at its ends and provided with feet A' and A², each having a dove-

tailed recess A³ adapted to receive and hold the elastic rubber blocks A⁴ A⁵.

Near the central section of the lever A, and preferably integral therewith, is a fixed jaw B, and a movable jaw B', adapted to slide along ways B² on the lever A and actuated by a screw B³, which is held from longitudinal movement by a journal-bearing B⁴, and is provided with a handle B⁵ by which the screw is rotated.

C denotes a handle having one end bifurcated to inclose the lever A, to which it is pivoted by a pin C'.

The lever A is provided with a mortise D, having in one side a small notch D' to receive a U-shaped spring D², bearing against spurs D³ upon opposite sides of the lever, and with the free ends D⁴ D⁴ of the spring bearing against the end of the pivoted handle C.

When the apparatus is used as a wrench, the handle C is turned upon its pivot C' from the position shown in Figs. 2 and 3 to that shown in Fig. 1, the pressure exerted by the spring D² upon the bent end of the handle C serving to hold the shoulder C² against the edge of the lever A and maintain the handle C in a position at right angles with the lever A, and in a line substantially coincident with the center of a nut held between the jaws B B'.

The apparatus held by the handles B⁵ and C is applied to the nut E, which is clamped between the jaws B B'. A whirling motion is given to the lever, causing it to rotate upon the handle C, as held in the hand of the operator, in the proper direction to unscrew the nut E. After the nut E has been removed from the axle it is held between the jaws B B', the handle C is then turned on its pivot into the position shown in Figs. 2 and 3, in which position it is held by the pressure of the spring B² upon the side C³, holding the handle against the edge of the lever A, which enters a groove C⁴ in the handle. The foot A' is placed upon the top of the axle F and the hook G hooked beneath the axle, so that when the lever A is raised by the handle B⁵, as shown in Fig. 2, the wheel F' will be lifted so as to clear the ground. The wheel is then removed from the axle, as shown in Fig. 3, and brought into proper position to receive the foot A², which rests upon the hub F² and

supports the weight of the axle, as shown in Fig. 3. The hook G is pivoted to a screw-threaded bolt G', which is screwed into the lever A at G², and carries a check-nut G³, the 5 end of the screw-bolt G' being inclosed within the mortise G⁴ in the lever A. By loosening the check-nut G³ the screw-bolt can be rotated half a revolution to bring the hook G upon either side of the axle, thereby making 10 the hook a right or left hand hook, as desired; or the screw-bolt G' can be raised or lowered within the lever A, so as to adjust the position of the hook.

The spring D² consists of a single piece of 15 steel wire bent into a U-shaped piece, which is passed through the mortise D and inserted into the notch D' with the free ends bearing upon the end of the handle C, and with the spring held from rotation in the notch D' by 20 the spurs D³ projecting from the sides of the lever A.

I am aware that a carriage-jack adapted to rest at one end upon the top of the axle and at the opposite end at the hub of the removed 25 wheel and having a hook to engage the axle is not new, and I do not claim such broadly; but in such a carriage-jack two hooks were used, one of which was rigidly suspended from the lever extending down at one side of 30 the axle and the other was pivoted, so as to move in a plane at right angles to the lever and extending down upon the opposite side of the axle, the axle being inclosed between the two hooks. I employ one hook only, which 35 I pivot to the screw-threaded bolt G', so the hook can move in a plane parallel with the lever, in order to permit a slight swinging motion to the hook parallel with the axle and lever, as the lever is raised by the handle B⁵, 40 and the screw-threaded bolt G' allows the adjustments in the hook, as already described.

I am also aware that carriage-jacks have been provided with means for withdrawing the nut from the axle, or have had a socket 45 attached to the jack adapted to receive the nut; but my present invention provides means for holding the nut co-operatively combined with the lever of the jack, furnishing a wrench and a carriage-jack in a single tool.

50 What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a lever A having a handle B⁵ projecting from one end of said lever with its axis parallel with said lever, a pair of jaws carried by said lever midway its 55 length and a handle C attached to said lever opposite said jaws and arranged to be held with its axis at right angles to said lever, whereby said lever is rotated about the axis of said handle C, by means of said handle B⁵, 60 substantially as described.

2. The combination of a lever A provided with a journal bearing B⁴ at one end of said lever, a fixed jaw B carried by said lever mid- 65 way its length, a movable jaw capable of sliding along said lever and provided with an internal screw thread, a spindle B³ journaled in said fixed jaw and in the journal bearing B⁴, and provided with a screw thread engaging 70 the screw thread in said movable jaw and a handle attached to said spindle and projecting beyond the end of said lever, substantially as described.

3. The combination of the lever A provided with a journal bearing B⁴ at one end of said 75 lever, a fixed jaw B midway the length of said lever, a movable jaw B' capable of sliding on said lever and provided with an internal screw thread, a spindle B³ journaled in said bearing B⁴ and in said fixed jaw and having 80 a screw thread engaging the screw thread in said movable jaw, a handle B⁵ attached to said spindle and projecting beyond the end of said lever, a hook G suspended from said lever, a handle C pivotally connected with said lever 85 midway its length and a spring carried by said lever and acting against said handle to hold it in position, substantially as described.

4. The combination of the lever A, provided with mortise D, notch D' and spurs D³, car- 90 ried by the central section of said lever, handle C pivoted to said lever, a U-shaped spring held by its center in said notch and extending between said spurs D³ and said pivoted handle, whereby the tension of said spring is ap- 95 plied to said handle, substantially as described.

Dated this 17th day of January, 1894.

WILLIAM A. STOWELL.

Witnesses:

FRED. A. STANYAN,
W. C. BERRY.