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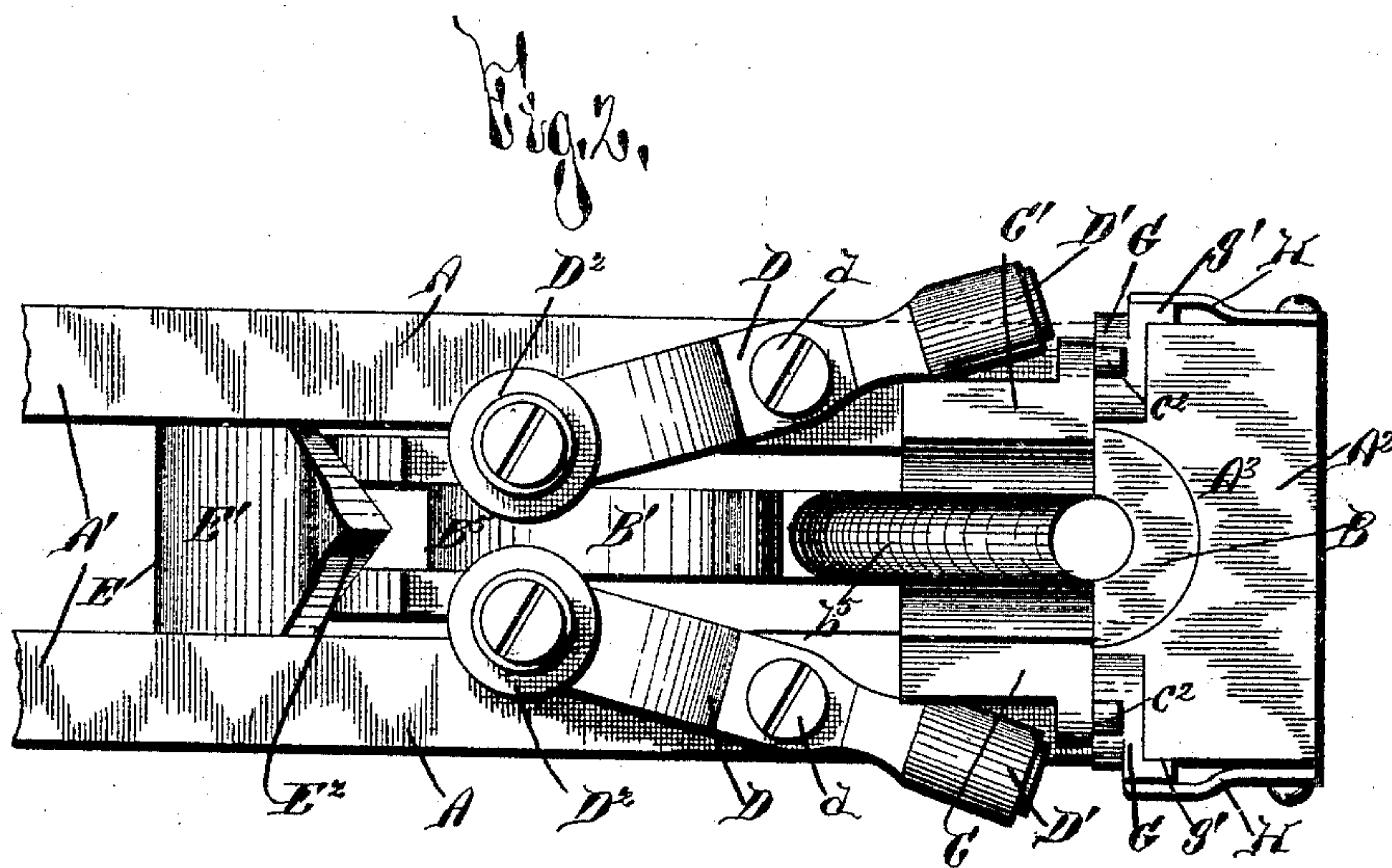
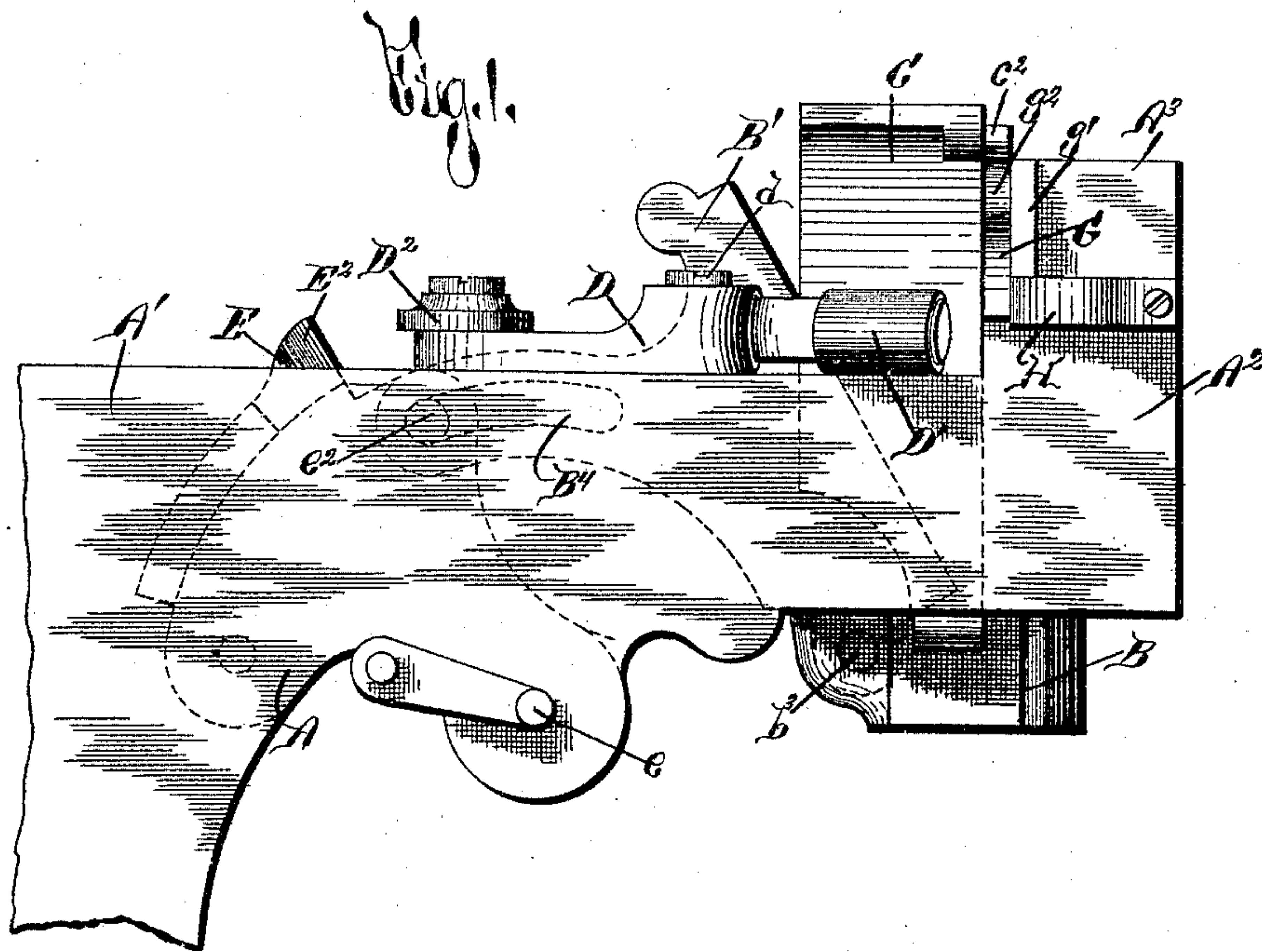
H. LA CASSE & S. WILE.

4 Sheets—Sheet 1.

COMPRESSOR MECHANISM.

No. 444,755.

Patented Jan. 13, 1891.



WITNESSES:

H. P. Chas.
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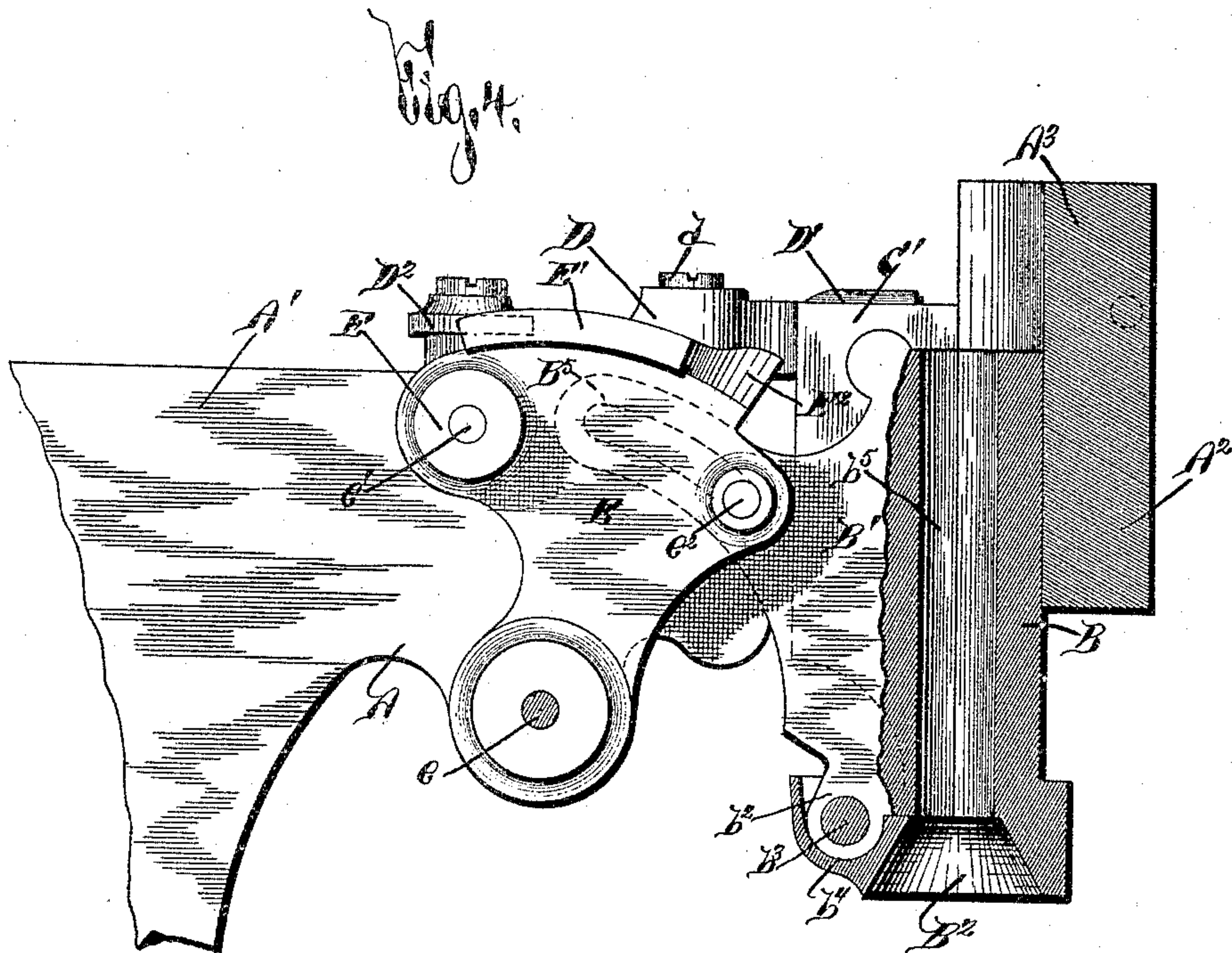
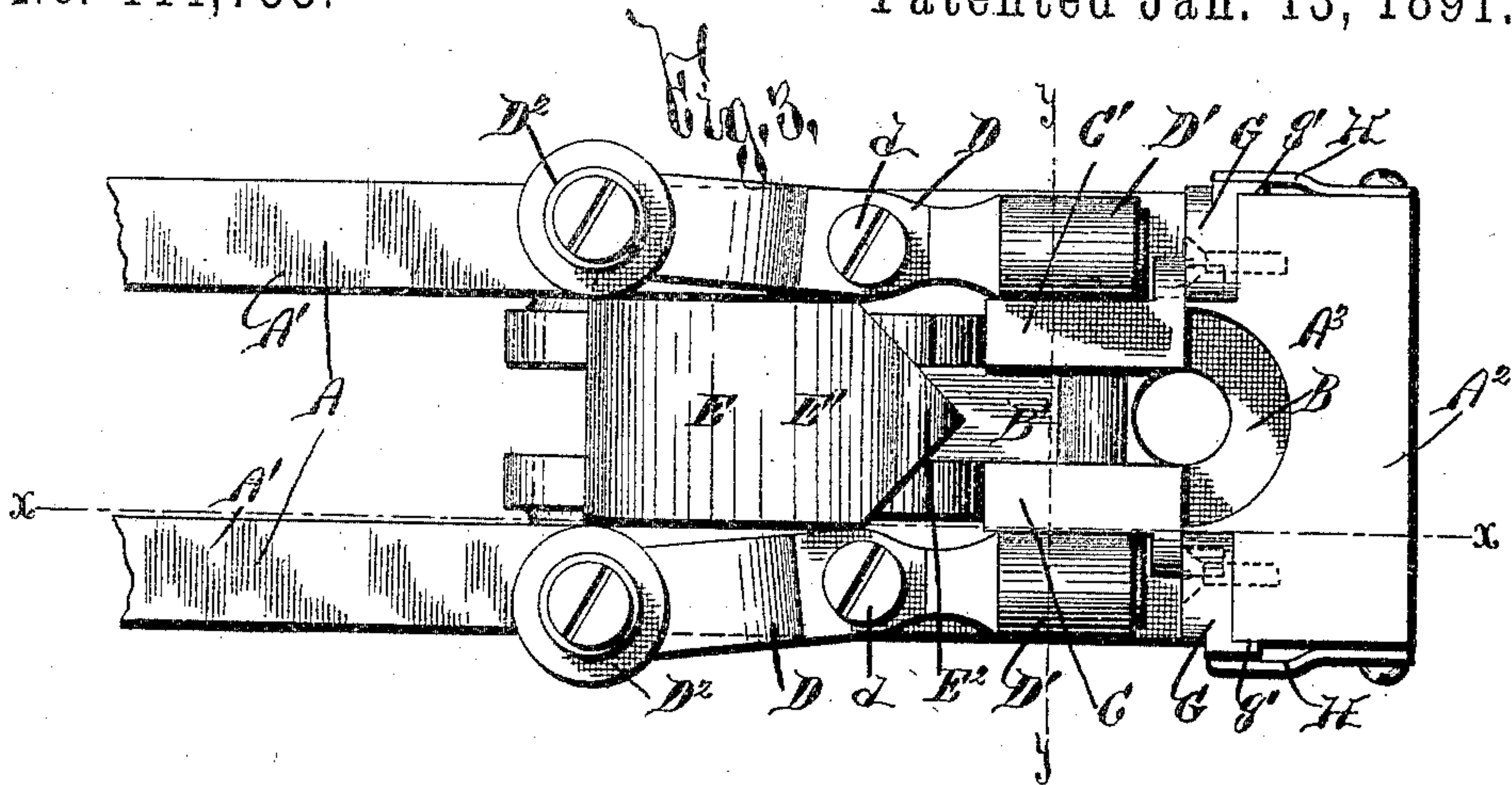
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H. LA CASSE & S. WILE.
COMPRESSOR MECHANISM.

4 Sheets—Sheet 2.

No. 444,755.

Patented Jan. 13, 1891.



WITNESSES:

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(No Model.)

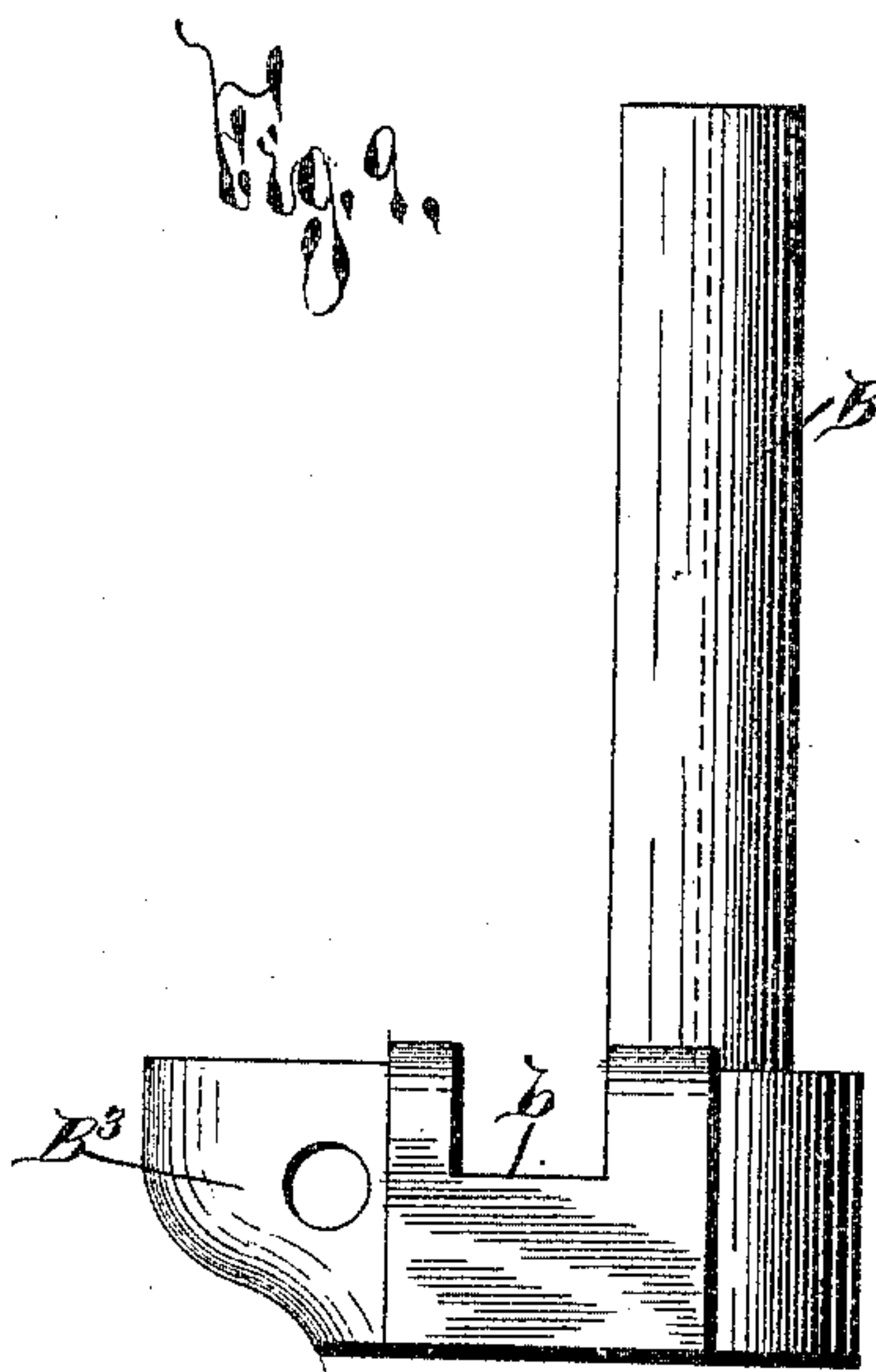
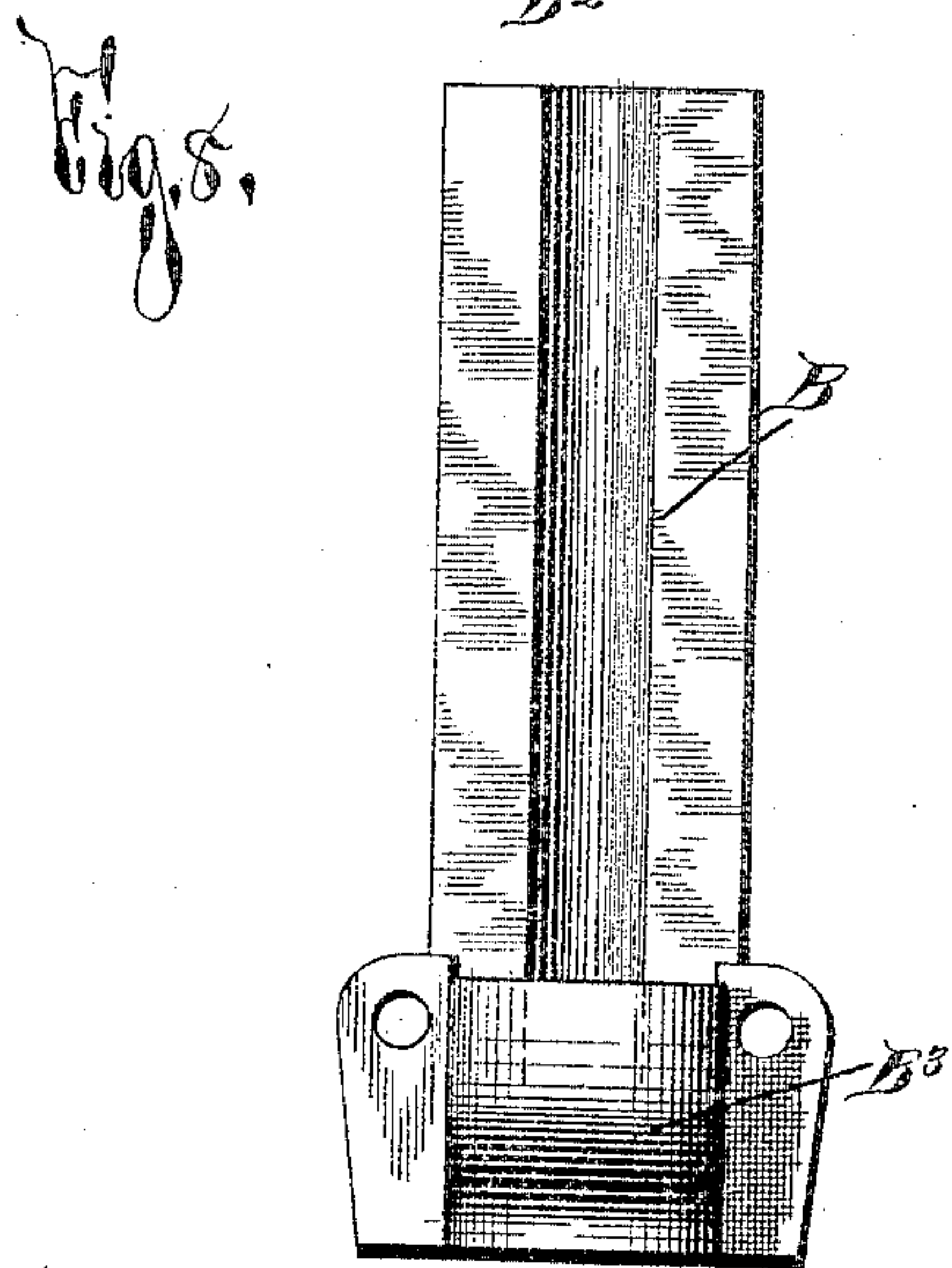
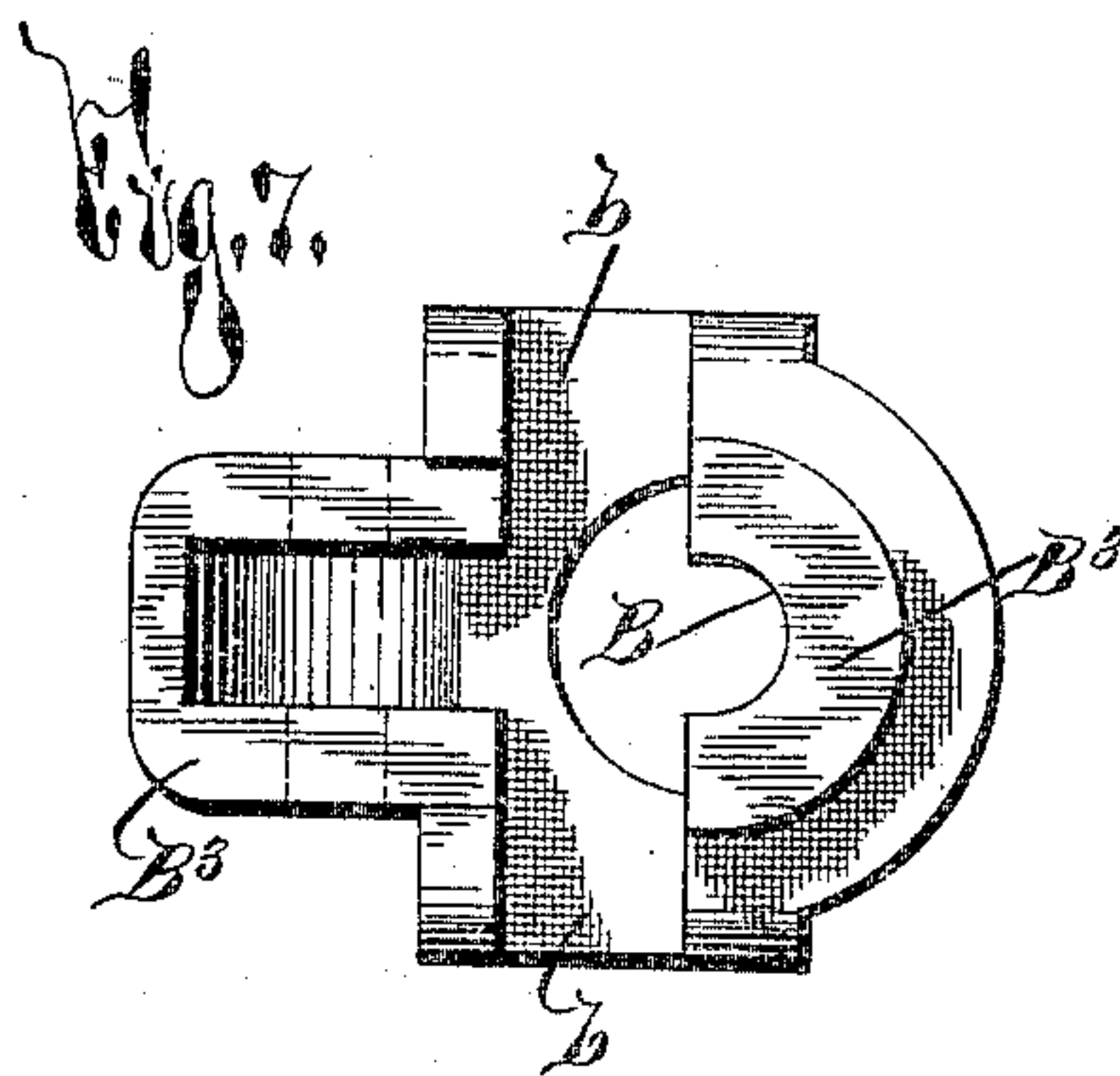
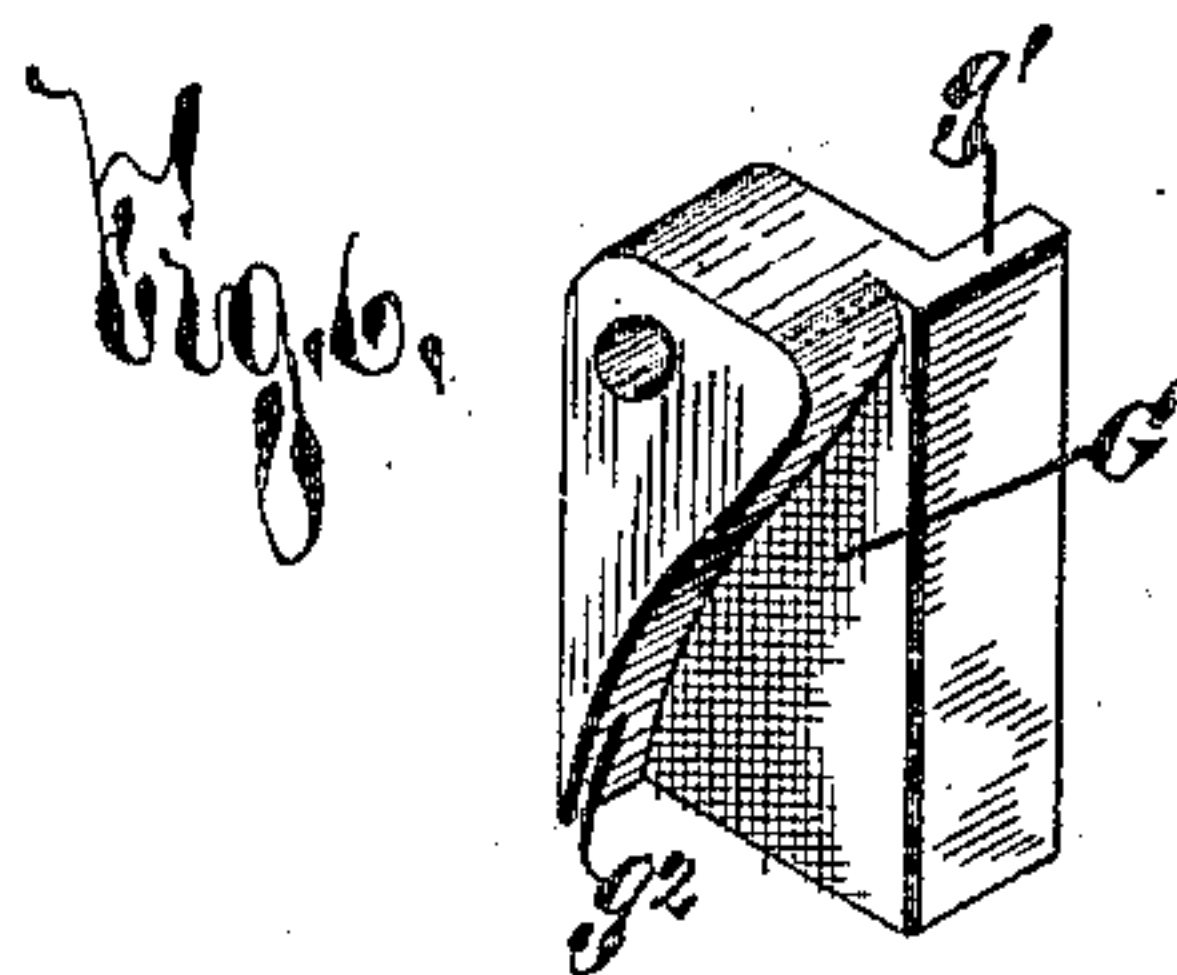
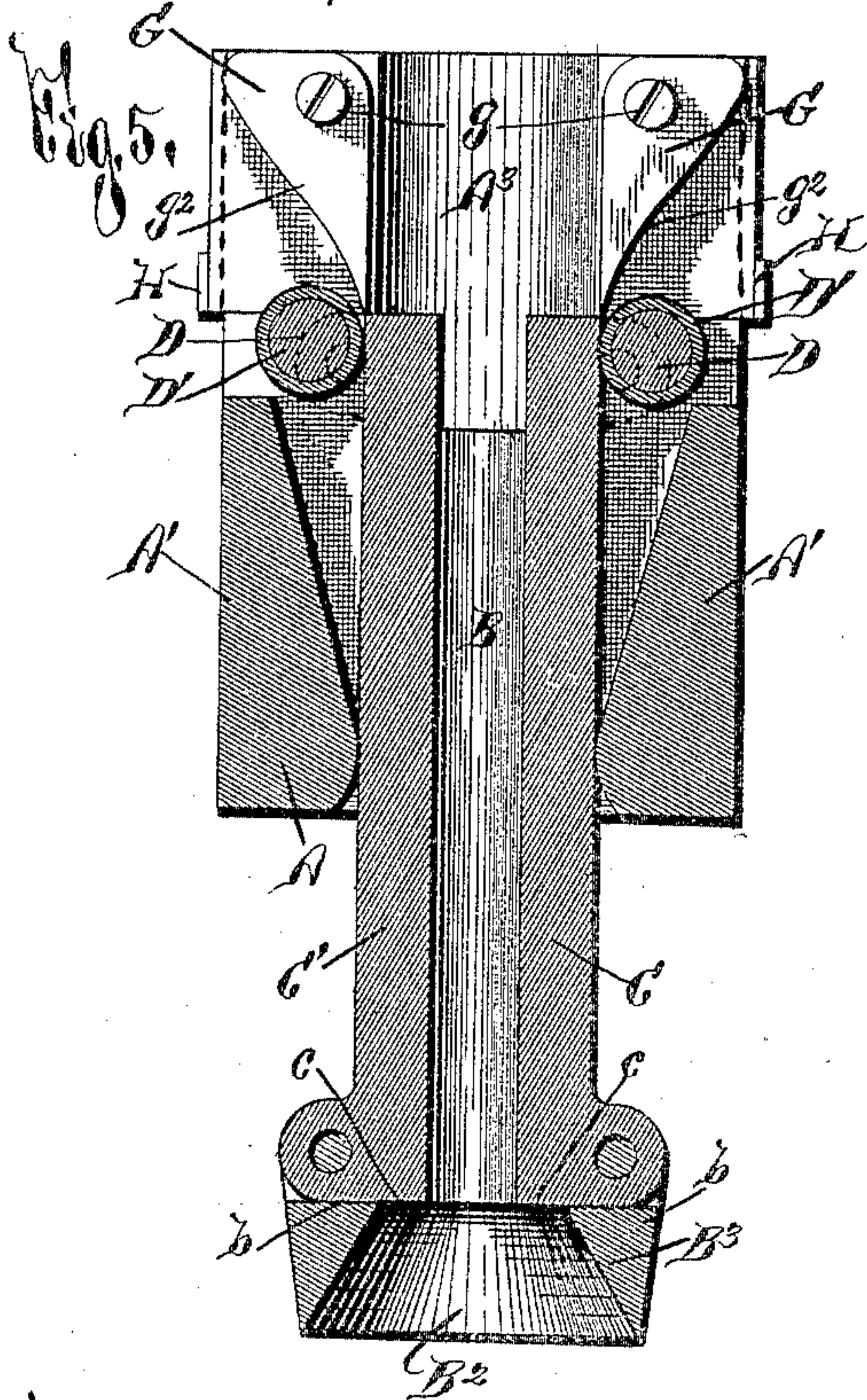
H. LA CASSE & S. WILE.

4 Sheets—Sheet 3.

COMPRESSOR MECHANISM.

No. 444,755.

Patented Jan. 13, 1891.



WITNESSES:

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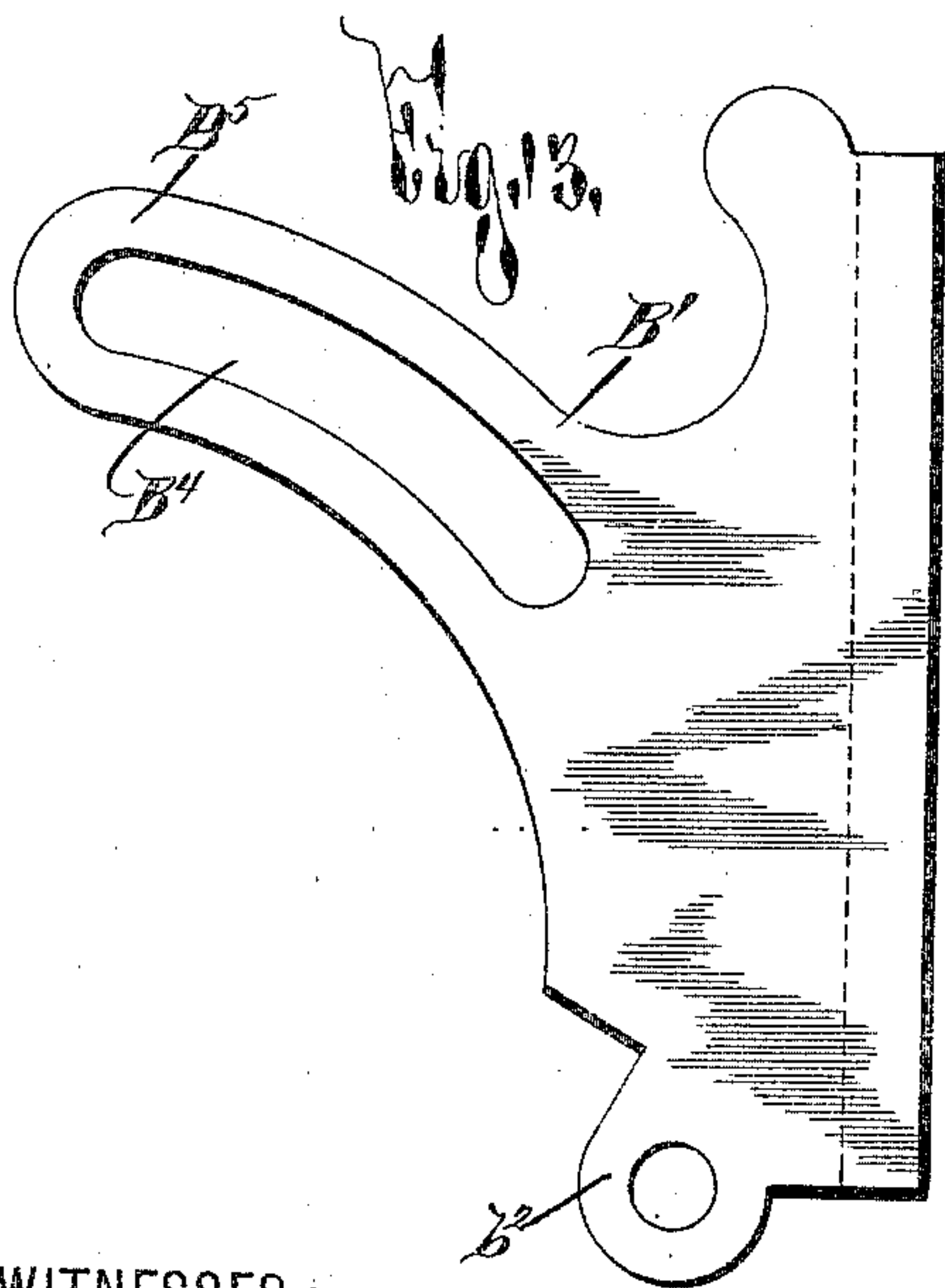
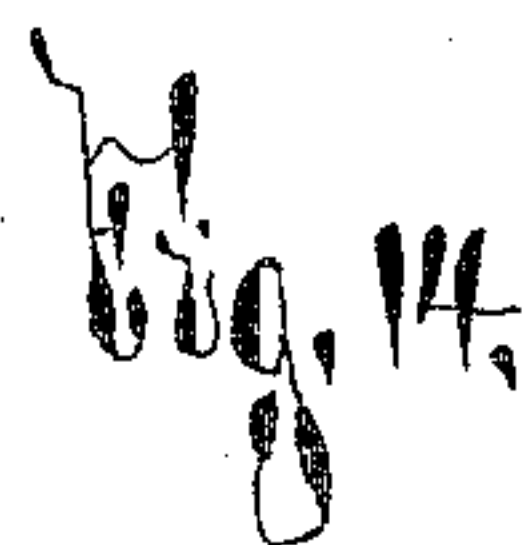
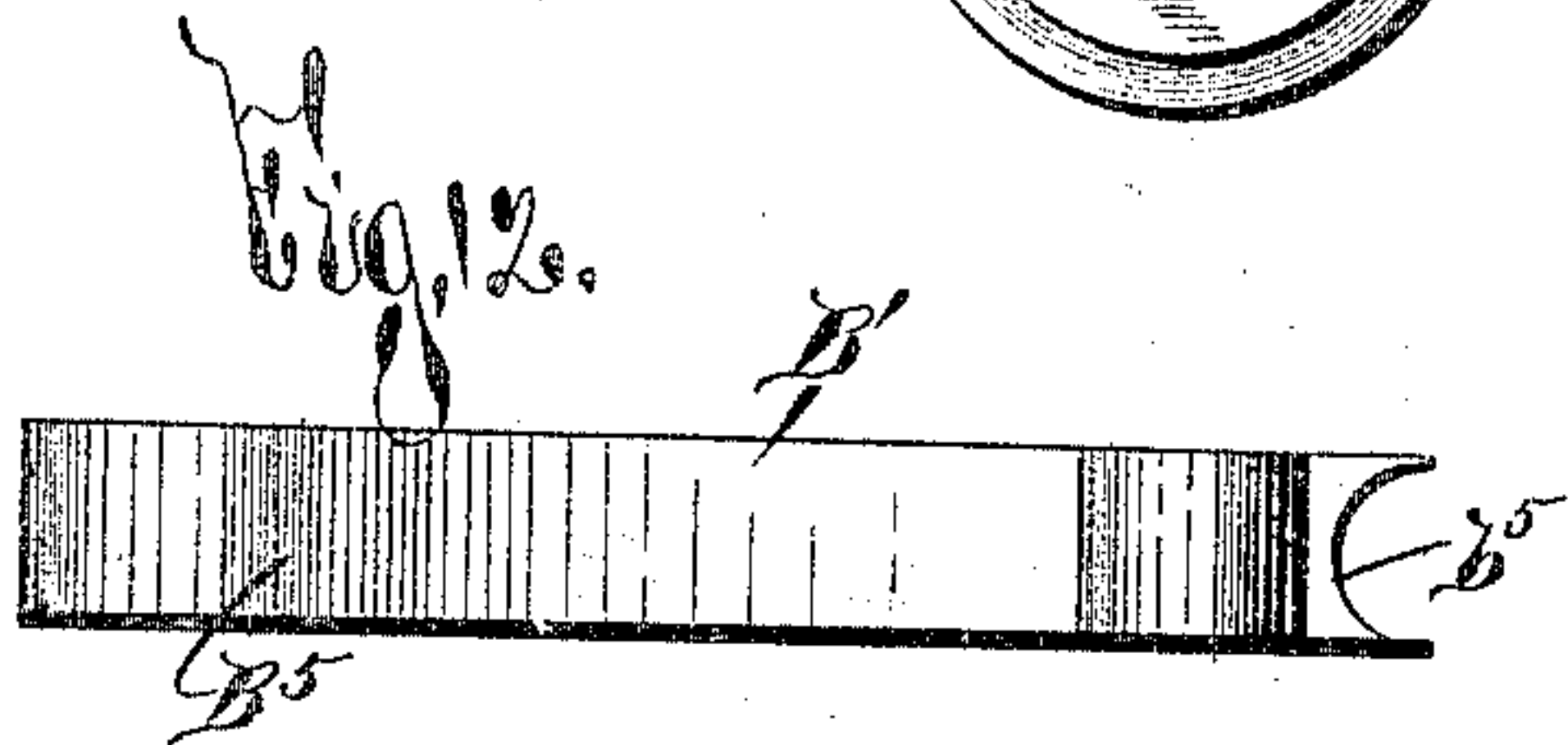
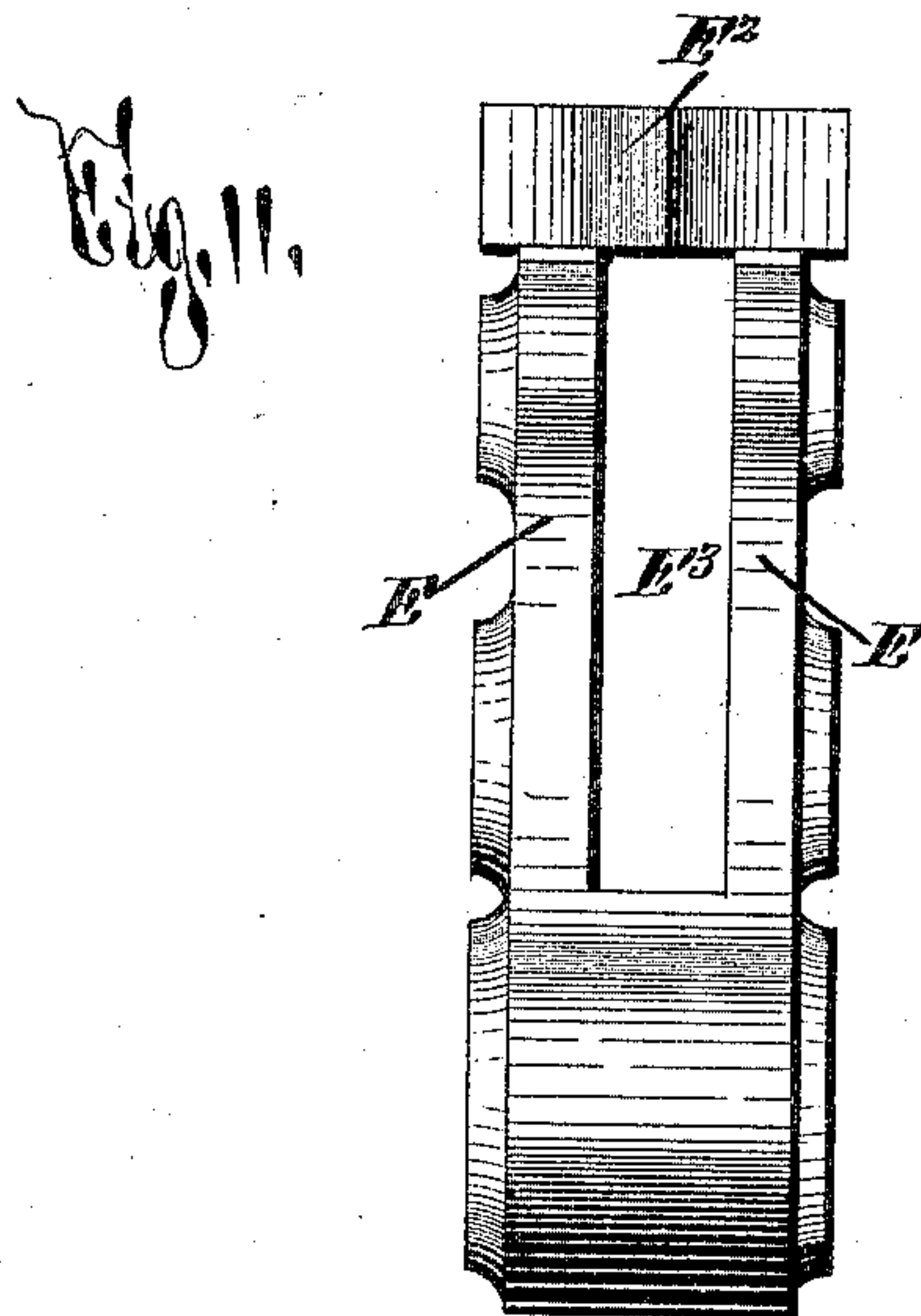
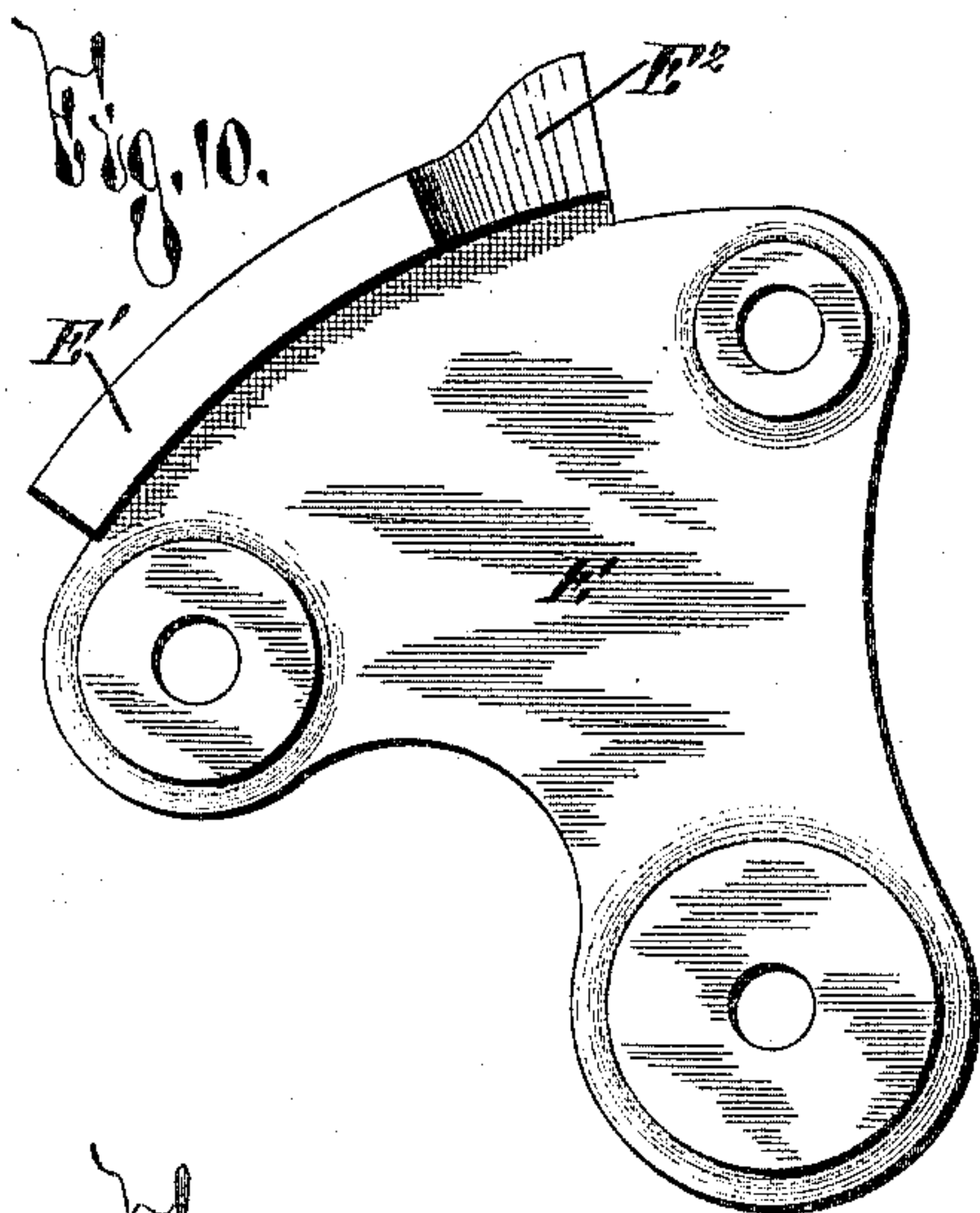
(No Model.)

H. LA CASSE & S. WILE.
COMPRESSOR MECHANISM.

4 Sheets—Sheet 4.

No. 444,755.

Patented Jan. 13, 1891.



WITNESSES:

H. P. Parsons,
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UNITED STATES PATENT OFFICE.

HENRY LA CASSE AND SOL. WILE, OF ROCHESTER, NEW YORK, ASSIGNORS
TO THE BOTTLERS' SPECIALTY COMPANY, OF SAME PLACE.

COMPRESSOR MECHANISM.

SPECIFICATION forming part of Letters Patent No. 444,755, dated January 13, 1891.

Application filed November 5, 1889. Serial No. 329,353. (No model.)

To all whom it may concern:

Be it known that we, HENRY LA CASSE and SOL. WILE, of Rochester, in the county of Monroe, in the State of New York, have
5 invented new and useful Improvements in a Compressor Mechanism, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

10 Our invention relates to improvements in compressor mechanism especially adapted for use in corking-machines, and has for its object the production of a simple and effective device which quickly and efficiently com-
15 presses the cork to the desired size without any liability of creases being formed in the periphery thereof; and to this end it consists, essentially, in jaws for compressing the cork in one plane and jaws oppositely arranged to
20 the former jaws for compressing the cork in a plane at an angle with the first plane of compression, said jaws being hinged together at their lower extremities, whereby the cork is compressed from the bottom upward.

25 The invention also consists in actuating or reciprocating the compressor toward the bottle or other object into which the compressed article is inserted, and in the detail construction and arrangement of the parts, all as
30 hereinafter more particularly described, and pointed out in the claims.

In describing this invention reference is had to the accompanying drawings, forming a part of this specification, in which like let-
35 ters indicate corresponding parts in all the views.

Figure 1 represents an elevation of our improved compressor, a portion of its actuating mechanism, and a detached portion of its sup-
40 porting-frame. Fig. 2 represents a top plan view of the parts in the position illustrated in elevation in Fig. 1. Fig. 3 represents a top plan view of the parts as illustrated in Fig. 2, with the side compressor-jaws approximated together for compressing the cork
45 sidewise. Fig. 4 is a longitudinal vertical section of the parts of our invention, taken on line $x x$, Fig. 3. Fig. 5 is a transverse sectional view taken on line $y y$, Fig. 3. Fig. 6 is a
50 perspective detail view of one of the retract-

ors for opening the side compressor-jaws. Fig. 7 is a top plan view of the detached front or fixed jaw of the compressor to which the remaining jaws are hinged. Figs. 8 and 9 are
55 elevations in planes at right angles with each other of the jaw illustrated in plan at Fig. 7. Figs. 10 and 11 are respectively elevation and edge view of the rocking lever for operating the movable jaws of the compressor. Figs.
60 12 and 13 are respectively plan and elevation of the rearward movable jaw of the compressor, and Figs. 14 and 15 are respectively elevation and edge view of one of the movable side jaws of the compressor.

The supporting-frame A of our compressor
65 mechanism may be of any desirable form, size, and construction, but is here illustrated as a pair of side bars or walls A', connected together at their forward extremity by the portion A² and broken away at their rearward
70 extremities. This frame is supported in suitable proximity to the bottle by means of any desired construction of bracket or brackets, which it is not necessary to either illustrate or describe in our present invention. 75

Supported in the frame A is our improved
compressor mechanism, composed of the forward and rearward jaws B and B', which compress the cork in one plane, and the side
80 jaws C C', oppositely arranged in relation to the jaws B and B' in order to compress the cork in a plane at an angle to the plane of compression of the former jaws. These several compressor-jaws, although they may be
85 otherwise arranged, are here shown as pivoted at the lower part thereof to the forward jaw B in such a manner that the cork interposed therebetween is compressed from the
90 bottom upward, thus forcing the contained moisture toward and preferably out of the top in order to prevent its entrance into the bottle when the cork is inserted. The compressor-jaws are also shown as movable toward the bottle in order that the cork may be
95 inserted positively and directly thereinto without allowing any chance of its swelling during insertion, as would be the case if considerable space intervened between the exit of the compressor and the top of the bottle.
100 To further bring about this result, and also

to enable the compressor to support the bottle from lateral movement, we provide in the lower extremity of the compressor and preferably in the jaw B below the exit thereof, the socket B², which is of suitable form and shape to cap over the bottle during the insertion of the cork.

The preferable manner of hinging the compressor-jaws consists in forming upon the outside of the lower part or frame B³ of the jaw B the projecting ears b, to which the respective jaws C and C' are pivoted, and preferably by an ear c. By reference to the drawings it will be noticed that the compressor-jaw B projects upwardly from the frame B³ thereof and that the said frame preferably extends laterally and rearwardly from said jaw. It will also be noticed that the jaws C and C' are formed with the shoulder c at an angle with their compressor-faces, which, when the said jaws have compressed the cork, rests upon the shoulder b' of the frame B³. The rearward jaw B' is provided with a lug or ear b², pivoted at b³, in the slot or cut-out b⁴ in the rearward extension of the frame B³. Formed upon said jaw B' is a rounding forward face b⁵, which forces the cork against the forward compressor-jaw and compresses the same to the desired form and size, whereupon it is then forced through the compressor exit-opening preferably formed in the forward jaw B.

The closing mechanism D for the jaws C and C' may be of any desirable form and construction, but is here represented as a pair of levers pivoted at d and provided at one extremity with the rollers or rounded ends D' bearing against the rearward or outward face of the said jaws and forcing them toward each other. The opposite extremities of said levers are preferably provided with rollers D², and are illustrated as actuated by the rocking lever E, which may be of suitable form and construction.

The rocking lever E is preferably hinged at e to the compressor-bracket A, and is hinged or otherwise connected at e' to a reciprocating actuating lever or rod, which is not illustrated, since the same may be of any suitable form, size, and construction and may be operated in any desirable manner not necessary to set forth in our present invention, it being understood that said lever is operated forward and backward to open and close the compressor-jaws. The portion of the rocking lever which spreads apart the rollers D² and approximates the side compressor-jaws preferably consists of a flange or web E' at the upper part of the said lever. The forward extremity E² of this web is pointed, so as to easily spread apart the rollers D², and its rearward extremity is of a sufficient width to suitably approximate the side compressor-jaws, in order that the cork may be compressed to the desired size, and is of a sufficient length to cause said jaws to be held in said position

until the operation of the cork-discharging mechanism.

At a point below the shoulder or flange E' the forward extremity of the lever E is hinged or otherwise connected to the rear compressor-jaw B' in such a manner that said jaw will not be operated upon or forced forward until the side jaws of the compressor have compressed the cork sidewise. The preferable manner of connecting this lever E to the rear jaw B' consists in providing the forward extremity of said lever with the pin e², which rides in a groove B⁴, formed in a rearwardly-extending arm B⁵, guided in a cut-out E³ of the lever E. When the jaws are in their open position, the pin e² is at the rearward extremity of the slot B⁴, and said slot is of sufficient length so that the pin e² does not reach the forward extremity thereof until after the flange E' has spread apart the levers D and compelled them to close the side compressor-jaws.

Immediately after the operation of the side compressor-jaws the pin e² contacts with the forward extremity of the slot B⁴ and forces forward the rearward jaw B' during the remainder of the forward movement of said lever E'. As previously stated, during this latter part of said forward movement the flange E' continues to hold the side jaws of the compressor in their closed position.

By reference to the drawings and the foregoing description it will be understood that the rear jaw B' is of a width equal to the distance between the side jaws C and C', and that after these jaws have compressed the cork sidewise from the bottom to the top the rearward jaw is then forced between them and compresses the cork in a plane opposite to the plane of compression of the side jaws, and thus brings the cork to its required size. The forward face b⁶ of this rearward jaw is of rounding or grooved shape to coincide with the desired contour of the cork, which form causes the forward edges of the side jaw to be very sharp, and as the width of said jaw is equal to the distance between the side compressor-jaws, as previously stated, these sharp edges scrape along the adjacent sides of the side jaws and entirely obviate the forming of any creases in the periphery of said cork, which result is extremely desirable, but has been heretofore only partially produced.

By reference to the drawings it will be readily understood that as the actuating rocking lever E is forced forward to close the jaws that said lever forces said jaws downward toward the bottle in the position illustrated in Fig. 4, and causes the compressor to cap over the bottle, which, as previously stated, is a very desirable result, insuring the direct forcing of the cork into the bottle.

When retracted the lever E forces all of the compressor-jaws to their upward position and opens the rearward from the forward jaw; but it will be readily understood that the side

compressor-jaws are not thereby separated from each other into their open position. In order to separate these side jaws to allow of the ready insertion of the uncompressed cork we prefer to use retractors G, which may be of suitable size and construction. These retractors, one of which is shown in perspective in Fig. 3, are here illustrated as peculiarly-shaped plates G, hinged at g to the upwardly-extending portion A^3 of the compressor-frame A. A spring H bears against these retractors and forces them into the position illustrated in Fig. 5, with the shoulder g' provided at their forward inner extremity contacting with the side of the compressor-frame and preventing their further movement. On the outer face of said retractors is the way g^2 , inclined upwardly and outwardly from the lower inner edge of said plates.

Provided at the upper extremity of the side compressor-jaws is the pin c^2 , which projects outwardly therefrom and engages the face or way g^2 of the plate G. It will thus be noted that when said jaws are forced upward they are also forced outward by reason of the engagement of said pin with said way g^2 , and when these jaws are in their downward position this plate is held in operative position by means of the spring H. As illustrated in Figs. 1 and 2, the said pin c^2 preferably rests upon the top of said deflectors and the side jaws are thereby prevented from falling inward toward each other, as it would then become necessary for them to rock the deflectors outward against the action of the springs H. However, when the uncompressed cork is fed into the compressor the side jaws are then, as previously stated, forced toward each other, and after they are forced downward to register the cork with the bottle the spring H forces said retractors into operative position to separate said jaws upon the upward movement. It will, however, be understood that in order to discharge the cork suitable discharging mechanism must be actuated through the compressor; but it is not necessary to either illustrate or describe the same in our present invention.

The operation of our invention will be readily perceived upon reference to the drawings and the foregoing description, and it will be understood that the parts thereof are simple in construction and very effective in operation, producing at but slight expense a compressor which absolutely and perfectly compresses the cork to the desired size and contour, and then allows the discharge thereof without any danger of escapement or swelling before insertion into the bottle.

It will be understood that considerable change may be made in the parts of our compressor without departing from the spirit of our invention, and hence we do not limit the same to its precise form and arrangement.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a compressor, the combination, with supports for the cork, arranged at right angles with each other, of a movable jaw for compressing the desired article in one plane, and a second movable jaw, arranged at right angles to the former jaw, for compressing said article in another plane, said jaws being hinged to each other at their lower extremity for compressing said article from the bottom upward, substantially as and for the purpose set forth.

2. In a compressor, the combination of a pair of jaws, one being movable and the other fixed, for compressing the interposed article in one plane, and oppositely-arranged movable jaws for compressing said article in another plane, said latter jaws being hinged to the former jaws at their lower extremities for compressing said article from the bottom upward, substantially as specified.

3. In a compressor, the combination of a pair of movable jaws hinged together at their lower extremities for compressing an interposed article in one plane from the bottom upward, and a jaw movable between and hinged at its lower extremity to one of said former jaws and adapted to compress said article in a plane at right angles with its former plane of compression, substantially as specified.

4. In a compressor, the combination of a jaw having an exit-opening in its lower part and a compressor-face extending upwardly above said opening, a jaw arranged opposite to the compressor-face and movable toward and away from the same for compressing an interposed article against the compressor-face of the aforesaid jaw, a pair of jaws hinged at their lower extremities to the former jaws and movable in planes at a right angle to the plane in which the aforesaid movable jaw is movable, for compressing the interposed article from the bottom upward in a plane at right angles to its former plane of compression, substantially as specified.

5. In a compressor, the combination of a jaw having an exit-opening at its lower part and a compressor-face extending upwardly above the opening, a rounding inner face on the compressor-jaw, and a movable jaw arranged opposite to said compressor-face of the former jaw, said latter jaw being hinged at its lower extremity to the former jaw and provided with a rounding inner face for compressing an interposed article against the former jaw, with movable compressor-jaws hinged at its lower extremity to the former jaws and movable in a plane at an angle to the former movable jaw, flat inner faces upon said latter movable jaws for compressing the said article in a plane at an angle to its former plane of compression, said latter movable jaws being brought into action before the former movable jaw, substantially as and for the purpose set forth.

6. In a compressor, the combination of a compressor-jaw, oscillating compressor-jaws

hinged at their lower extremities to the former jaw and movable toward each other in a plane at right angles to the former jaw, and a jaw hinged at its lower extremity and arranged opposite to the former jaw and movable toward the same and between the second compressor-jaws, substantially as specified.

7. The combination, with a supporting-bracket, of a compressor-jaw movable in said bracket and having one extremity hinged and the other flaring outwardly from perpendicular to the hinged extremity, a movable closer between the extremities of said jaw, said closer being movable toward and away from the jaw for bringing it to a vertical plane and for permitting its retraction to an inclined plane, a projection on said jaw, a guide on the bracket for engaging said projection and retracting the jaw, and a second jaw arranged opposite to the former for forming a support for the compressed article, substantially as set forth.

8. In a compressor, the combination, with a supporting-bracket, a compressor-jaw movable up and down through said bracket in the same direction in which the compressed article is discharged, and movable compressor-jaws hinged at their lower extremity to said former jaw, of a closer bearing against the upper extremity of one of said jaws for operating the same to compress said article as the jaw descends, a stud provided upon said jaw, and a pivoted plate or lever for engaging said stud and retracting said jaw as the jaw ascends, substantially as set forth.

9. In a compressor, the combination, with a pair of compressor-jaws movable in the direction in which the compressed article is discharged, of a closer bearing against one of said jaws for operating the same to compress said article, a stud provided upon said jaw, a pivoted plate or retractor hinged in proximity to said stud, an inclined way provided upon said plate, and a spring for forcing said plate or

retractor toward said stud, substantially as and for the purpose specified.

10. In a compressor, the combination of the front jaw B, side jaws C and C', movable toward each other and the jaw B, a rearward jaw B', movable between the jaws C and C' and toward the jaw B, the closers D, bearing against the side jaws, and the rocking lever F, connected, substantially as described, to said compressor-jaws and rear jaws, substantially as and for the purpose set forth.

11. In a compressor, the combination of the fixed jaw B, movable lengthwise, side jaws C and C', hinged to the former jaw, a rear jaw B', hinged to the jaw B, rocking lever E, connected to said rear jaw for closing the same, and a connection between said lever and side jaws for closing the same before the closing of the rear jaw, substantially as specified.

12. In a compressor, the combination of the jaw B, side jaws C and C', a lever D for closing one of said side jaws, a rear jaw B', a rocking lever or equivalent E, having a projecting pin e^2 , and a slot B⁴ in the rearward jaw B', substantially as specified.

13. In a compressor, the combination of a fixed jaw B, a rear jaw B', side jaws C and C', levers D, having one extremity bearing against said side jaws, and the rocking lever E, having the pointed flange E', for engaging the opposite extremity of said levers for approximating the side jaws, substantially as and for the purpose set forth.

In testimony whereof we have hereunto signed our names, in the presence of two attesting witnesses, at Rochester, in the county of Monroe, in the State of New York, this 10th day of September, 1889.

HENRY LA CASSE.
SOL. WILE.

Witnesses:

A. E. PARSONS,
FRANK M. GOFF.