

(No Model.)

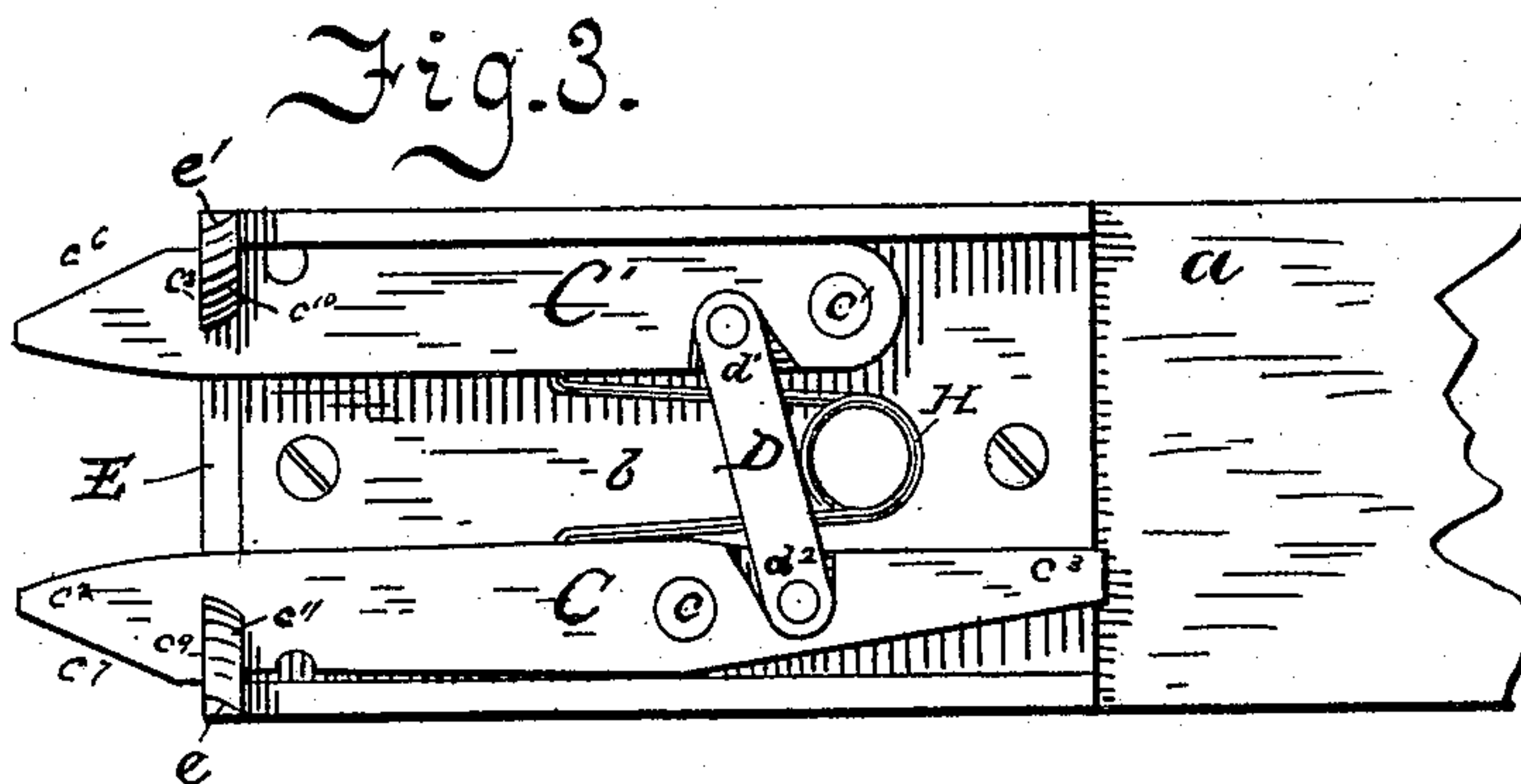
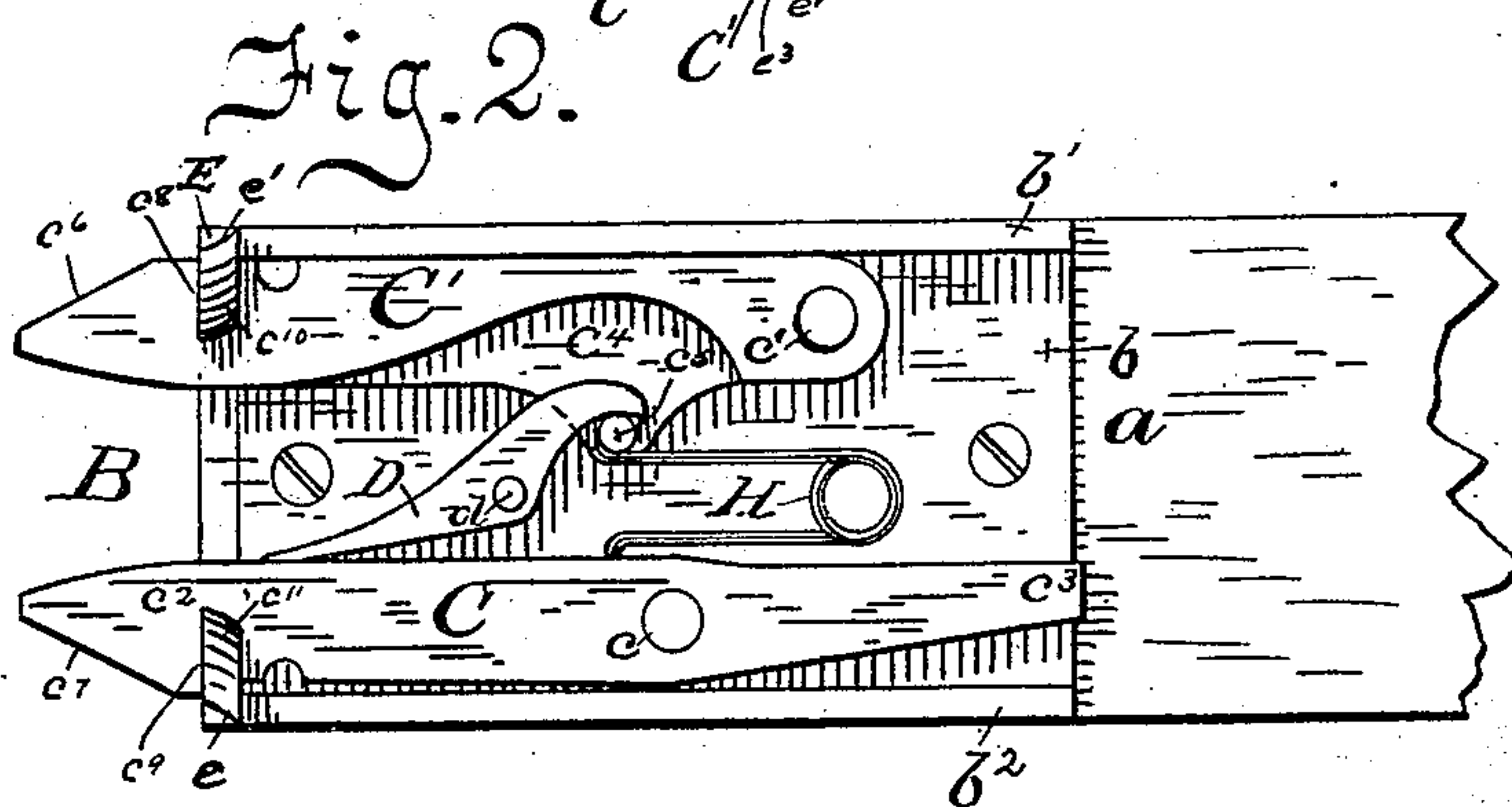
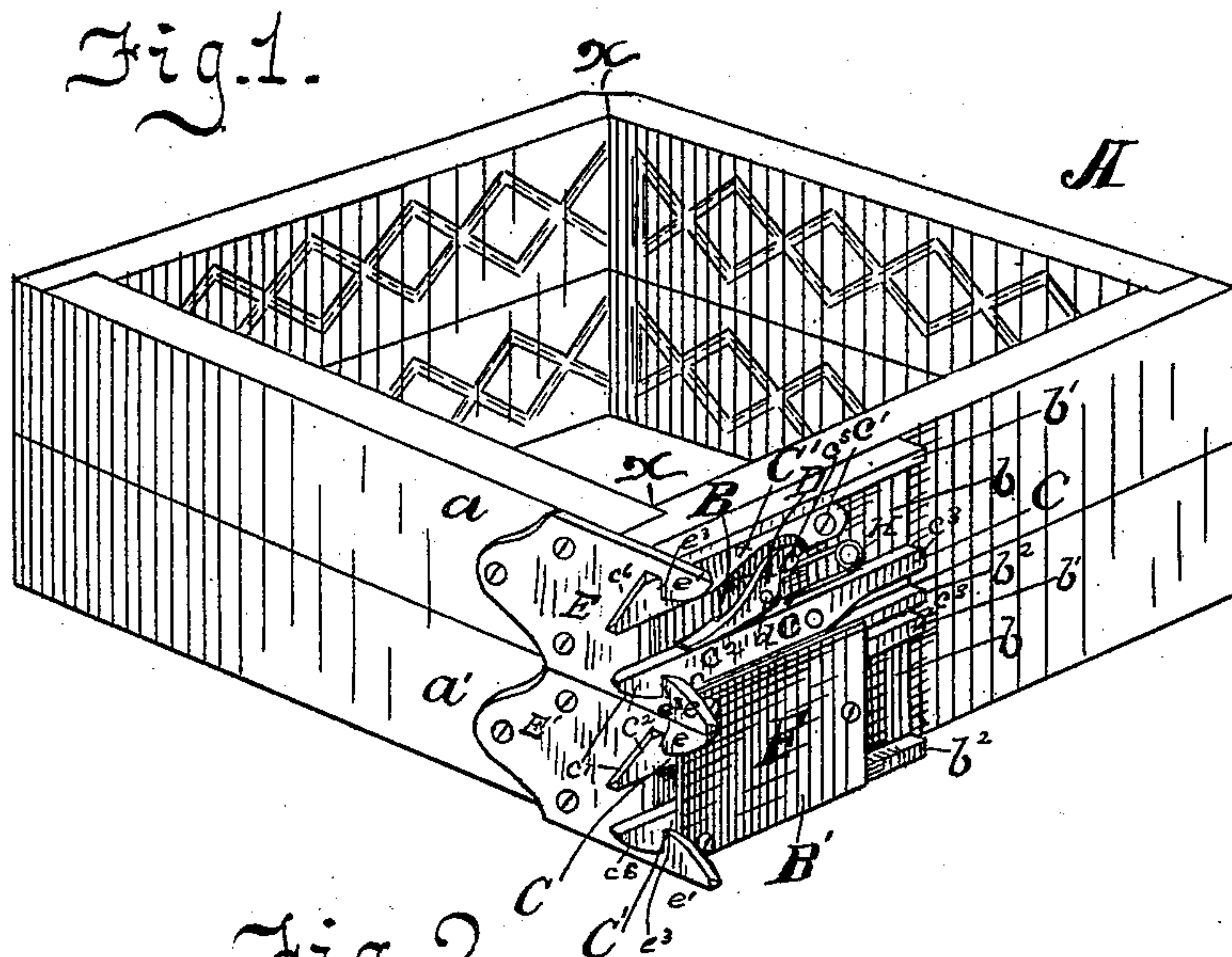
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M. B. SPRINGER & J. C. HIGGINS.

SNAP FLASK LOCK.

No. 397,035.

Patented Jan. 29, 1889.



Witnesses.

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Geo. K. Elliott.

Inventors.

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Fig. 4.

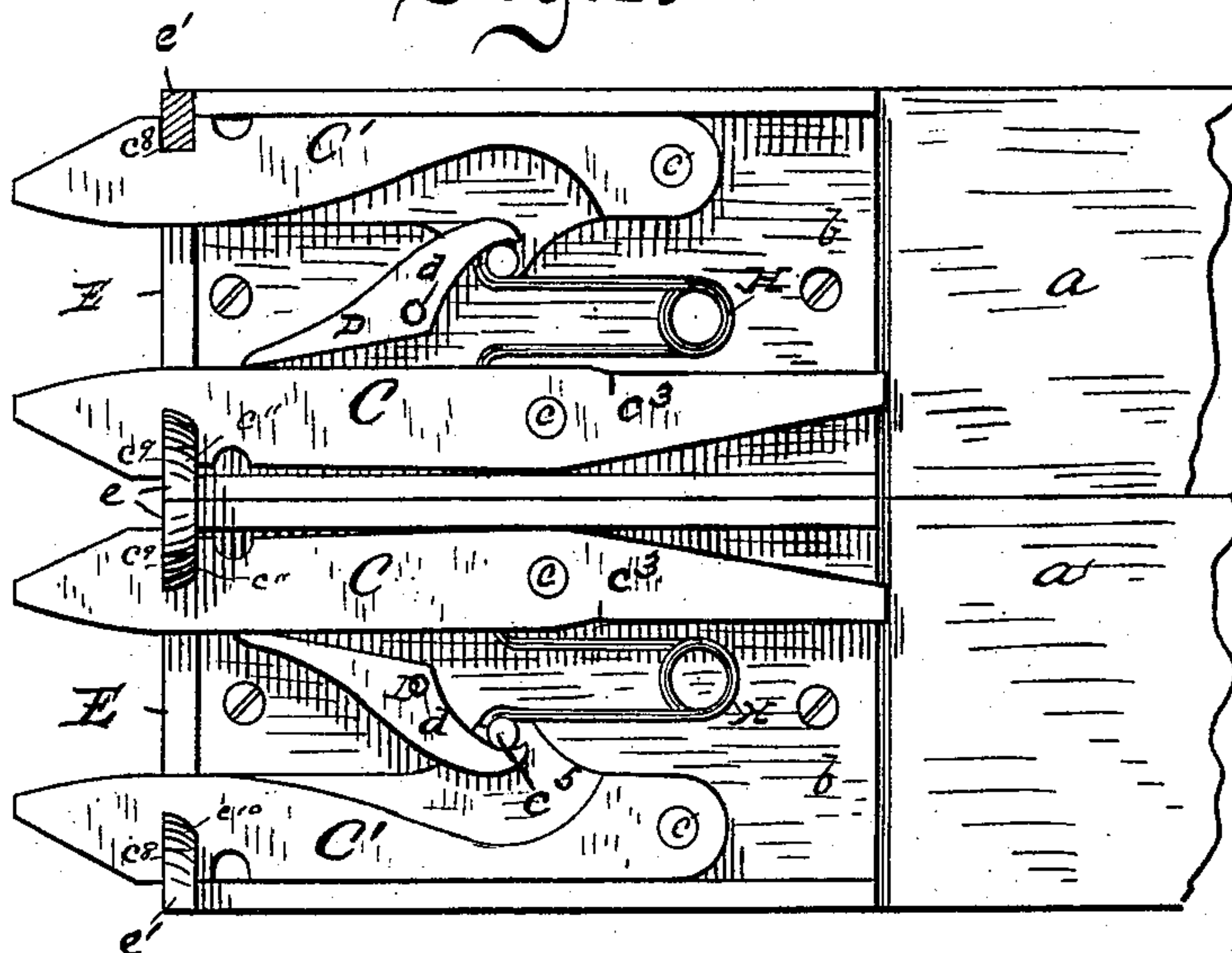


Fig. 6.

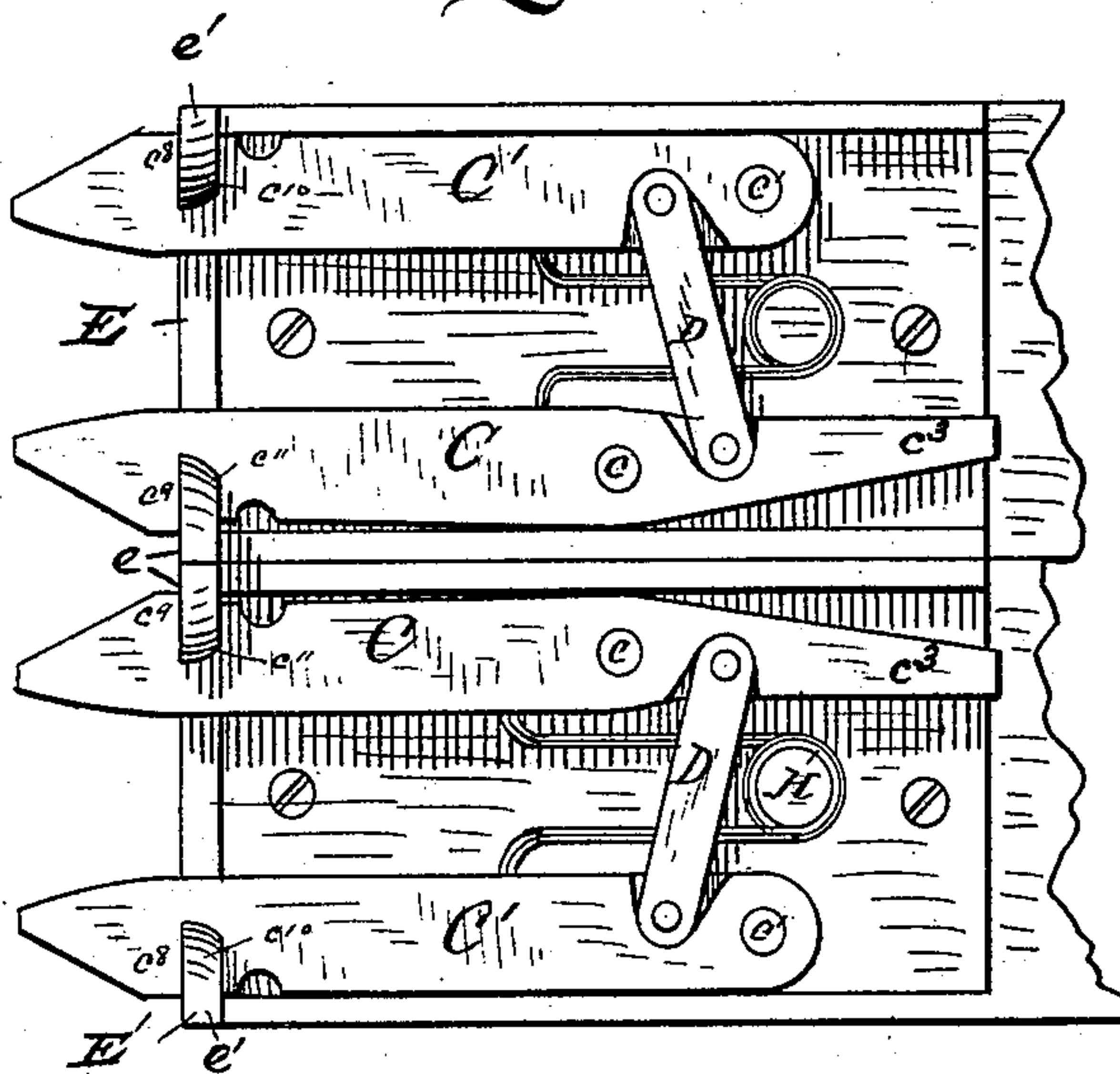
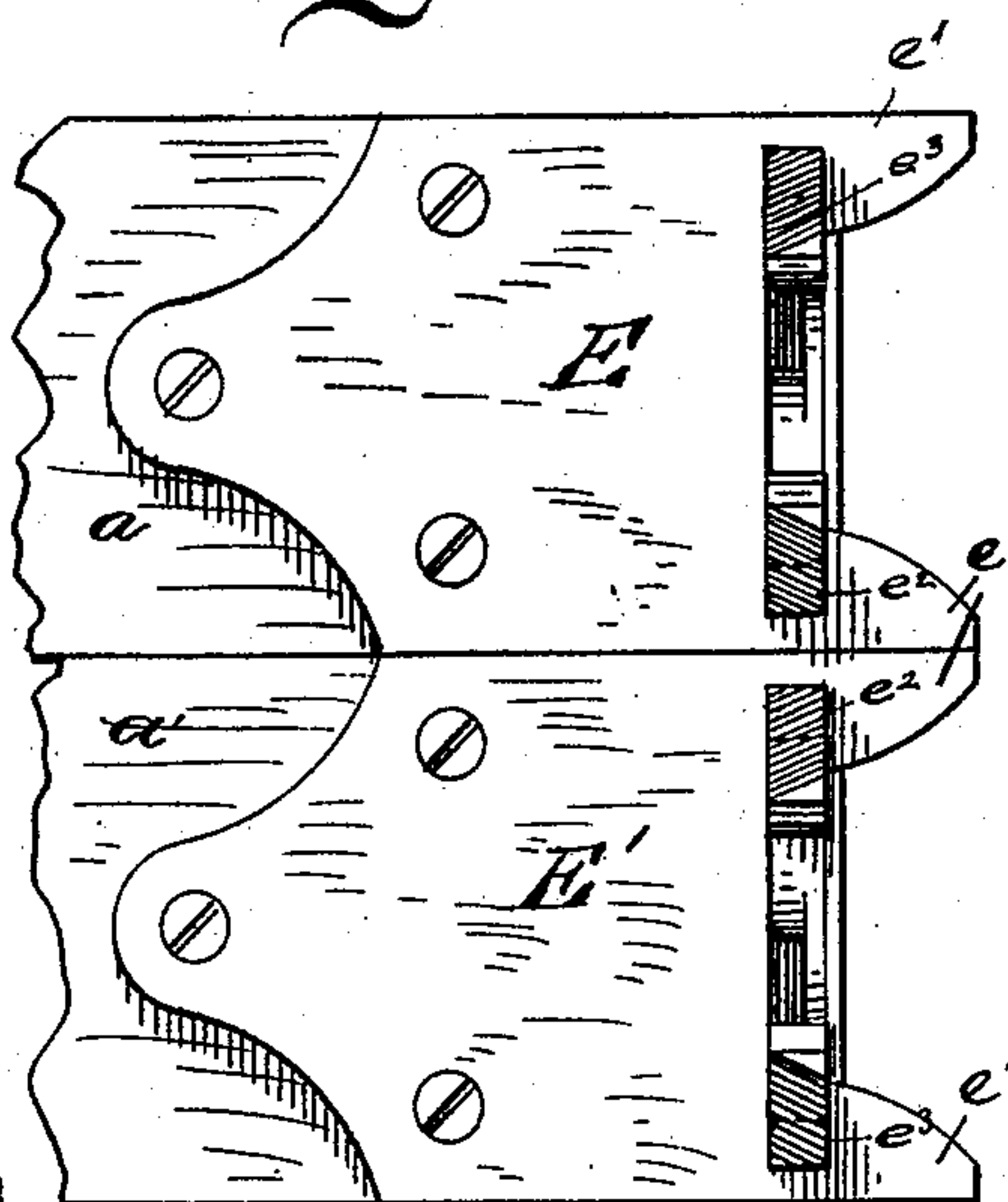


Fig. 5.



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UNITED STATES PATENT OFFICE.

MARTIN B. SPRINGER, OF BRIGHTWOOD, AND JOHN C. HIGGINS, OF
INDIANAPOLIS, INDIANA.

SNAP-FLASK LOCK.

SPECIFICATION forming part of Letters Patent No. 397,035, dated January 29, 1889.

Application filed August 27, 1888. Serial No. 233,908. (No model.)

To all whom it may concern:

Be it known that we, MARTIN B. SPRINGER and JOHN C. HIGGINS, citizens of the United States, residing at Brightwood and Indianapolis, respectively, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Snap-Flask Locks; and we do hereby declare the following to be a full, clear, and exact description
10 of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to molders' flasks, and is intended as an improvement upon the
15 lock of that class of flasks known as "snap-flasks." These flasks are generally used for bench-work in molding small and medium-sized articles. In most cases the flask is removed after the mold is finished, and the latter is supported, when necessary, by a cheap wooden frame, which is slipped over it, so as to envelop the sides. If the mold is sufficiently strong, it will need no support and the wooden frame is not used. Unless the flasks
25 are very strong and solid they will give at the weak points when the sand is rammed into them in molding, and to meet this requirement of strength considerable care and expense are necessary in the construction of the flasks. To offset this item of expense in their construction, the flasks are so made that they can be removed and used over and over again. To facilitate this removal of the flask, the cope and drag are each divided into two sections,
35 the line of division generally being through opposite diagonal corners, as $x x$, Fig. 1. The two sections forming the cope are permanently connected at one corner by a hinge of any suitable construction, and the two opposite ends have been held together heretofore by means of a hasp and pin located midway between the upper and lower edges of the cope. The two sections forming the drag have been connected in like manner.

45 The hasp and pin heretofore used as a lock is objectionable, first, because it has but a single catch, and that being midway between the top and bottom edges of the cope or drag gives support only at the middle point. The
50 edges, being unsupported, are liable to and

often do spring out of shape under the strain in ramming; second, because the manipulation of the lock is inconvenient, it being necessary each time to open and close it by hand, and, third, because it is liable to and very
55 often does work open while ramming, always to the injury and generally to the complete ruin of the work in hand.

The object, therefore, of our invention is to remedy these imperfections in flask-locks,
60 first, by giving a direct support to the upper and lower edges of both cope and drag; second, by providing a spring-actuated fastening which will lock automatically, and, third, by so constructing and arranging the parts as to
65 obviate any possibility of accidental opening of the lock. These objects we accomplish by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a molder's
70 flask constructed in accordance with the spirit of our invention, the case-cover being removed on the upper section of the lock to show the inside construction; Fig. 2, a side elevation of the cope-lock, the case-cover being removed; Fig. 3, a side elevation of a
75 modification of our lock; Fig. 4, a side elevation of the cope and drag locks in their relative position to each other and showing the reversed position and construction of the
80 latch-bars in the two sections; Fig. 5, a side elevation of the catches to engage and hold the latch-bars; Fig. 6, a side elevation of the cope and drag locks, showing the reversed position of the levers.

85 A is a molder's flask. a is the cope, and a' the drag.

B is the lock on the cope, and B' the lock on the drag, and as these locks are similar in construction and application—the only difference being that the latch-bars are reversed,
90 so as to bring the two corresponding bars with the hand-hold on the inside—a description of one, as B, will suffice for both.

In Fig. 2, b is a metal plate extending across
95 the entire width of the cope and a suitable distance back from the end or corner. The upper and lower edges of the plate are projected outwardly to form the flanges b' and b^2 . These flanges and the plate b form the three
100

sides of a casing, within which the mechanism of our lock is placed.

C and C' are two latch-bars pivotally secured at c and c' to the plate b . The pivotal connection c on the latch-bar C is midway or approximately midway between the two ends of the bar. The forwardly-projecting end c^2 engages the catch, as will be hereinafter fully described, and the backwardly-projecting end c^3 serves as a finger-hold in manipulating the lock. The pivotal connection c' is at the rear end of the latch-bar C' and relatively farther to the rear of the plate b than the connection c on the bar C. The object in thus placing the pivotal points out of line is to afford a better leverage to the link D. This link D is pivotally connected at d to the plate b , and is so constructed and arranged that its front end bears upon and against the latch-bar C near the front end of the bar, and its opposite end is projected upwardly and backwardly in a curve, as shown in Fig. 2, and engages with and against a pin, c^5 , which pin is at right angles to and integral with an extension, c^4 , of the latch-bar C'. By this construction and arrangement when the front end of the latch-bar C is raised the link D will be actuated thereby, so as to press downwardly against and lower the pin c^5 , thereby lowering the latch-bar C', which operation disengages the bars from the catches and opens the lock.

H is a spring, one end of which bears against the latch-bar C at a point in front of the pivot c , and the other end bears against the latch-bar C' at any suitable point, as c^5 , in front of the pivotal point c' , the tendency and object of the spring being to force the two latch-bars constantly apart into a position to engage the catches.

It is obvious that other constructions and arrangements of the spring may be made without departing from the spirit of our invention, and therefore we do not wish to limit ourselves to the exact construction and arrangement of the spring here shown.

The latch-bars C and C', which are notched transversely at their opposite edges, near their ends, as shown at c^8 and c^9 , have each a compound bevel, $c^6 c^7$, respectively, at their ends—that is to say, each latch-bar is beveled at its outside edge longitudinally, and this longitudinal bevel is inclined transversely and inwardly, thus forming a compound bevel-edge, or an edge beveled in two directions, as shown most clearly in Fig. 1.

The object of the bevel is to throw the bars in toward each other when they strike the catches. This is necessary in order to let the catches pass over the ends of the latch-bars into position in the notches c^8 and c^9 , Fig. 4. In Fig. 4 the upper catch is broken away to show the notch c^8 .

E is a plate fastened by bolts or screws to the opposite open end of the cope. It has two forwardly-projected catches, e and e' , adapted to engage and hold the latch-bars C and C'.

These catches are provided with notches e^2 and e^3 , corresponding with those on the latch-bars and adapted to receive and hold the bars C and C'.

E' is a plate on the drag similar to the plate E on the cope and adapted in like manner to engage the lock-bars in the lock B'.

The catches e and e' are inclined or beveled longitudinally and transversely, as at $c^{10} c^{11}$, at the edges which contact with the like beveled edges of the latch-bars C C', as at $c^{10} c^{11}$, the bevels upon the catches and latch-bars being alike, but in opposite directions. The object of these compound bevels upon the catches e and e' and latch-bars C and C' is to give such slope to the contacting edges and sides as will throw them into automatic engagement when locking the flask. This construction adds materially to the easy working capacity of the lock, and because of the peculiar contact made by the latch-bars and catches in coming together on account of their swinging together in the arc of a circle we have found it necessary to bevel both the catches and latch-bars on the contacting sides as well as at the ends, as above described. These compound or longitudinal and transverse bevels are on the contacting inside edge of each catch and latch-bar, as shown at c^{10} and c^{11} and c^6 and c^7 , respectively. These compound or longitudinal and transverse bevels, as described, are important features, and are necessary to the perfect automatic working of the lock.

F is a protecting-plate, which completes the case in which the lock is inclosed. It is shown in Fig. 1.

For convenience in opening the flask, the latch-bars in the lock B' are reversed in construction and arrangement from those in lock B, in order to bring the lock-bars, with the finger-hold c^3 , together on the inside, and in such relation to the other parts of the lock that by pressing the two bars toward each other the locks will be opened.

Figs. 3 and 6 show a modification in which one end of the link D is pivotally secured to the lock-bar C at a point between the rear end of the bar and the pivotal point c , and the other end of said link is attached in like manner to the latch-bar C' at a point in front of the pivot c' . This modification accomplishes the same result as the link D, previously described.

We claim—

1. The combination, with a cope and drag, of locks, each consisting of notched catches and pivoted notched latch-bars, the catches and latch-bars having their contacting edges beveled longitudinally and transversely, substantially alike but oppositely, as set forth, and for the purpose described.

2. The combination, with the cope and drag, of locks, each consisting of the notched catches e and e' , having the compound bevels $c^{10} c^{11}$, the pivoted notched latch-bars C and C', having the compound bevels $c^6 c^7$, and a

spring to facilitate the engagement of the latch-bars and catches, substantially as and for the purpose described.

3. In a flask, the plate *b*, secured to one end
5 of the cope, the latch-bar *C*, pivoted to said plate and having the compound bevel *c*⁷ at its forward end, and notch *c*⁹, in combination with a similarly notched and beveled catch, *e*, secured to a plate fastened to the opposite
10 open end of the cope, substantially as and for the purpose set forth.

4. The combination, with a cope and a drag, of locks having the two adjacently-located spring-actuated pivoted latch-bars *C*, having
15 hand-holds backwardly projected from the pivotal points, whereby said latch-bars may be simultaneously opened by pressing the hand-holds together, substantially as described.

20 5. The latch-bars *C* and *C'*, pivotally se-

cured to the case-plate *b*, the plate *b*, and the spring *H*, in combination with the link *D*, pivotally secured to the plate *b* and engaging with pin *c*⁵ on bar *C'*, substantially as and for the purpose specified.

6. The combination, with a cope and a drag,
25 of locks, each consisting of the latch-bars *C* and *C'*, pivoted to the case-plate *b*, the case-plate *b*, the link *D*, connecting the latch-bars, and the latch-bar-actuating spring, the latch-
30 bars *C* of the cope and drag being adjacent to each other, all arranged substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

MARTIN B. SPRINGER.
JOHN C. HIGGINS.

Witnesses:

EDWARD MEREDITH,
ERNEST C. ROPKEY.