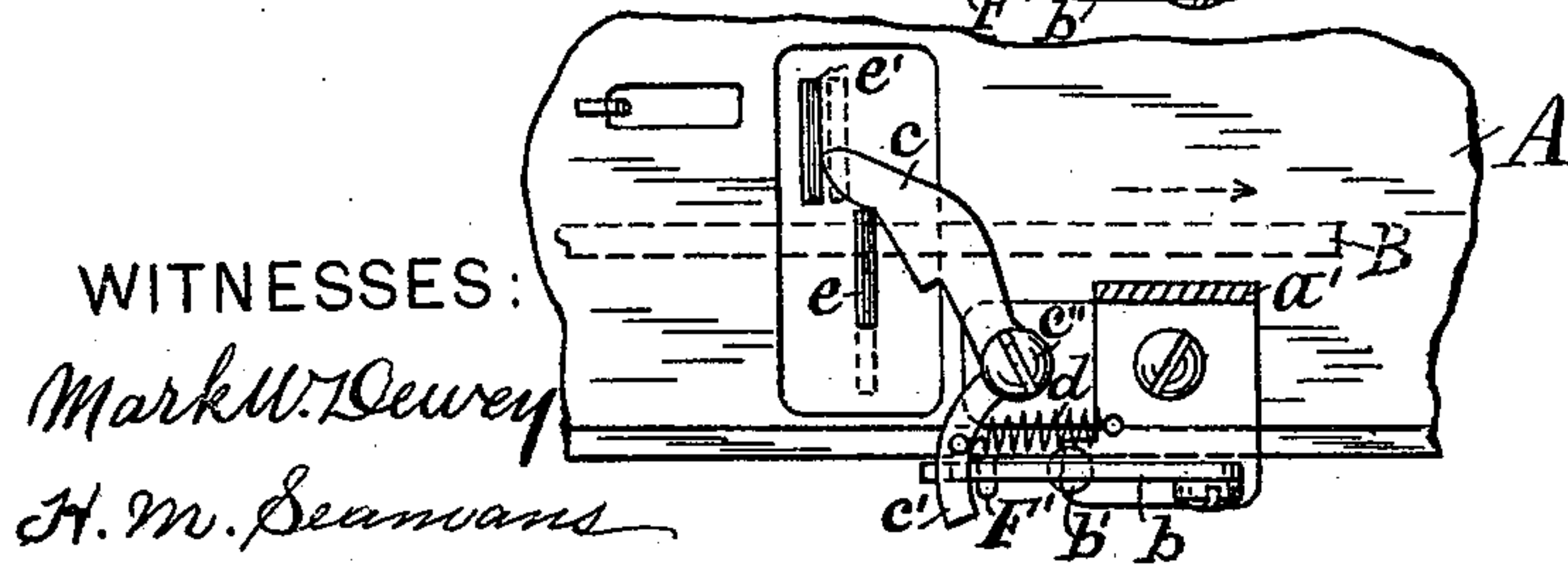
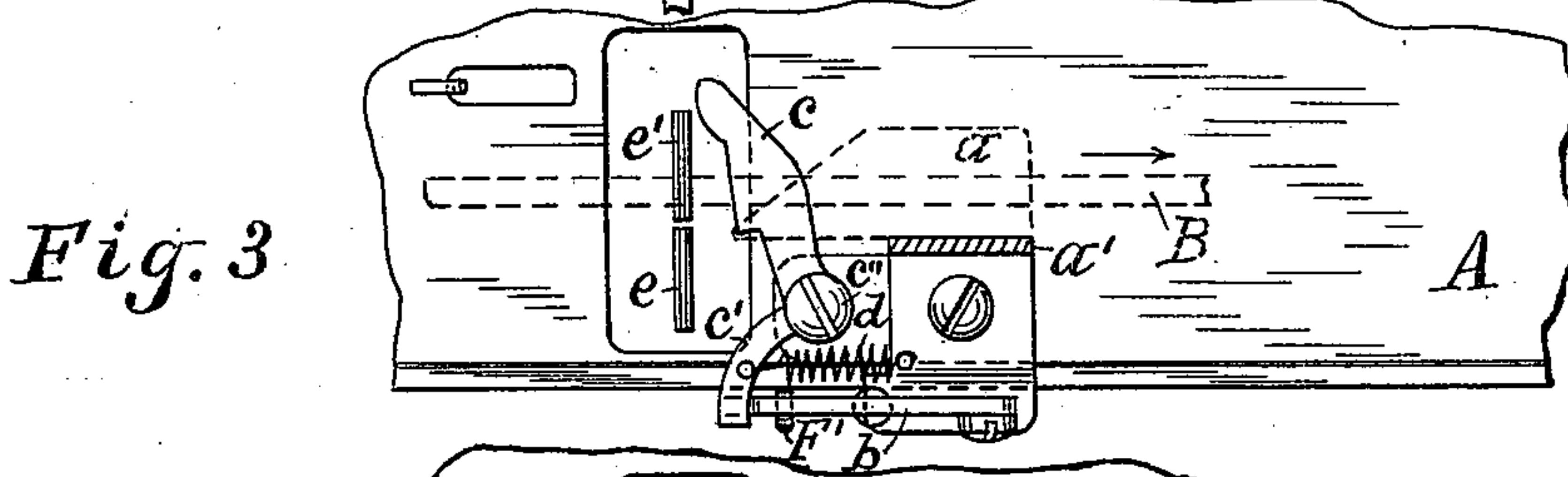
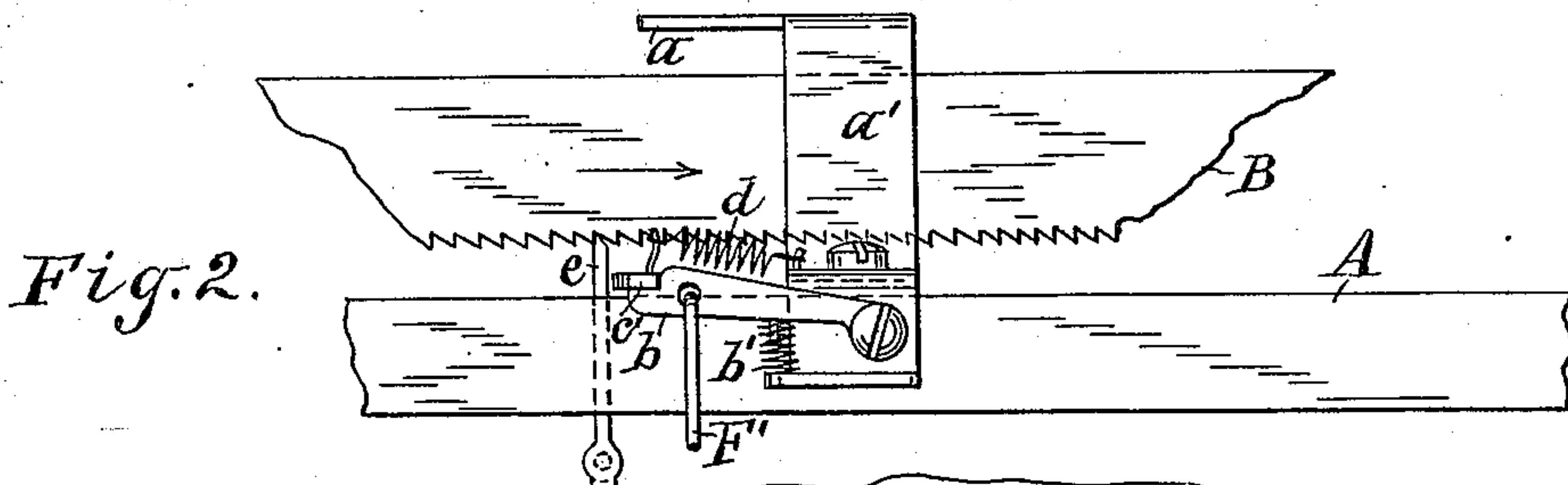
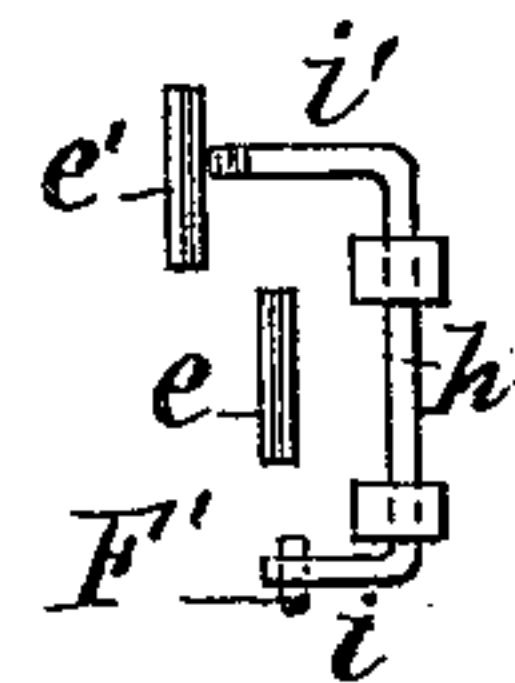
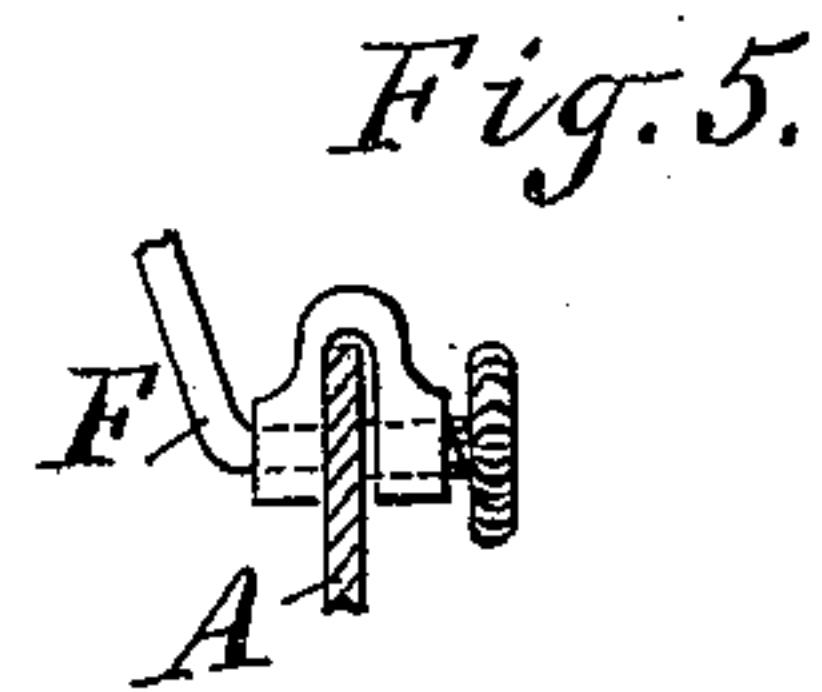
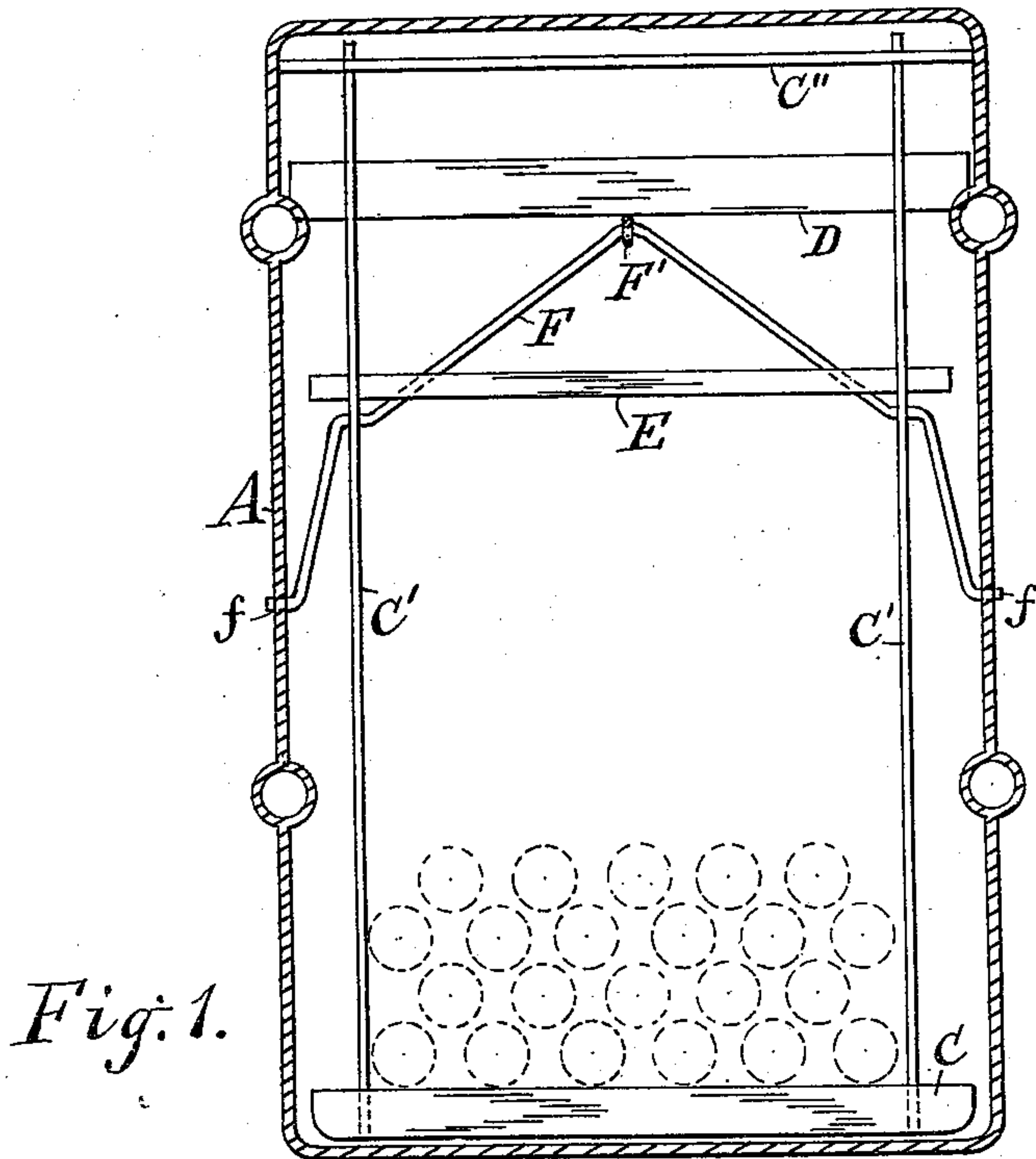


(No Model.)

E. TERRY.  
TYPE WRITING MACHINE.

No. 547,509.

Patented Oct. 8, 1895.



WITNESSES:  
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by *C. H. Duell*  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

EUGENE TERRY, OF ITHACA, ASSIGNOR OF ONE-HALF TO CHARLES H. DUELL, OF SYRACUSE, NEW YORK.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 547,509, dated October 8, 1895.

Application filed December 11, 1893. Renewed February 13, 1896. Serial No. 538,287. (No model.)

*To all whom it may concern:*

Be it known that I, EUGENE TERRY, of Ithaca, in the county of Tompkins, in the State of New York, have invented new and useful Improvements in Type-Writing Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to type-writing machines; and the object is to provide a construction whereby the spaces between words may be made when the last letter of each word is made, thereby saving time. It will be obvious that if the spaces between words are made without taking up time a much greater speed may be obtained with a typewriter, or, in other words, a greater number of words may be written in a given length of time.

My invention is applicable to that class of type-writing machines in which the successive depression and release of a series of key-levers vibrate and throw a series of types against an inked substance and the paper to be written on, and after each depression and release of any key and while the type and key-lever are resuming their original position move the paper a type-space distance, and thus print or write one letter at a time.

My invention is shown as applied to a machine which has a paper-carriage hung on a guide-rail moved transversely to the key-levers, as a Remington machine, but may be applied to other similar machines. The carriage is moved by a spring-wheel and strap and reversed by hand, as usual, after a line has been written, or the carriage may be moved by any suitable and well-known means, as these things do not appertain to my invention.

To this end my invention consists in the combination in a type-writing machine of the rack-bar, the escapement-lever carrying a fixed detent and a shifting detent, and a space-key with mechanical means by which the shifting detent is retracted a double distance when the space-key is depressed; and my invention consists in certain other combinations of parts hereinafter described, and more particularly set forth in the claims.

In the drawings, Figure 1 is a sectional plan view of a Remington type-writing machine.

Fig. 2 is a rear elevation of a part of a machine, showing my improved spacing mechanism applied. Fig. 3 is a top plan view taken below the carriage-rack. Fig. 4 is a top plan view of my improved spacing devices in their operative position. Fig. 5 shows a clamp that may be used for a fulcrum of the auxiliary spacing-lever when the frame of the machine is not perforated, and Fig. 6 is a modified form of means for moving the pivoted pawl for two spaces.

Referring specifically to the drawings, A is the frame of the machine, and B is a portion of the rack of the paper-carriage. (Not shown in the drawings.) This rack is usually pivoted or hinged so that it may be lifted from the feed-pawls at the end of each line when the carriage is reversed to prevent wear and noise. The rack can be lifted as far as the stop-plate  $\alpha$ , formed upon and lying at right angles to a post  $\alpha'$ , secured to and extending upward from the frame A.

The unfeathered arrows in the different views show the direction of movement of the carriage-rack after the printing of each letter and the release of each key.

In Fig. 1 I have indicated the keys for forming the letters by dotted lines; but their levers are omitted for the sake of clearness.

C is the spacing-key, and C' C' are its levers, which extend, as usual, from front to rear of the frame, where they are fulcrumed on a pivot C''. Springs (not shown) placed between the key-lever and the bar D hold the levers up against the pivot.

E is the universal space-bar lying under all of the keys, so that it will be depressed with each one and when released will operate a pair of detents  $e$  and  $e'$  to allow the paper-carriage with its rack B to move in the direction of the arrow under the tension of its spring one notch. The universal space-bar E is so connected with the said detents that both move forward, as shown clearly in Fig. 4, about three-sixteenths of an inch. The detent  $e$  cannot move transversely; but the detent  $e'$  is pivoted and acted upon by a spring, so that when it is moved out of engagement with the rack, as shown in Fig. 4, said detent automatically moves to the left a distance of one notch in the rack or to the position of detent  $e'$ . (Shown by dotted lines in the same



figure.) When the key is released, the pivoted detent  $e'$  enters the notch to the left of the one occupied by the rigid detent  $e$ , and when the latter is entirely removed from the rack the tension of the carriage-spring moves the carriage with its rack a distance of one notch to the right, which returns the pivoted detent  $e'$  to its normal position in line with detent  $e$  or to the position the detents occupy in Fig. 3.

The above operation is common in ordinary type-writers of this class, and for this reason need not be more fully described, because it is well known.

Now, in order to move the detent  $e'$  a distance of two notches to the left, when desired or after the last letter of a word is printed, I strike the space-key C simultaneously with the key which prints said letter. Upon the simultaneous release of both keys two spaces are made, one for the space between two words and the second space for the first letter of the second word to occupy, and which it does occupy when its corresponding key is depressed. This double space is obtained by the following-described mechanism: F is a lever, preferably formed of an irregularly-bent wire pivoted at its ends in perforations in the sides of the frame A at  $f f$ . Instead of perforating the sides of the frame the ends of the lever F may be fulcrumed in small clamps (shown in Fig. 5 of the drawings) and clamped to the lower edge of the said frame. From the center of the lever F, I extend a rod  $F'$  upward to a pivoted detent  $b$ . This detent extends horizontally and is supported in its raised or normal position not only by the rod  $F'$ , but by a small coil-spring  $b'$ . The detent  $b$  engages the curved arm  $c'$  of the lever  $c$ , which is pivoted to the frame or a small plate secured to the frame at  $c''$ . The lever  $c$  extends with its free end to the right of the swinging detent  $e'$  and is under the tension of a small spring  $d$ , so that when the space-key is depressed and the detent  $b$  drawn down to release the lever  $c$  the free end of the latter will be moved by the spring  $d$  to the left a distance of two notches in the rack B and carries with it the detent  $e'$ , which has been moved out of engagement with the rack by the same operation of the space-key. The position of the detents (shown in full lines in Fig. 4) show their position when the space-key is depressed. When the said key is released, the parts resume their normal position (shown in Figs. 2 and 3) automatically. The space-key being released, the detents swing back until the pivoted detent  $e'$  enters the opposite notch or the second notch from where it was before the operation. Then the carriage, with its rack B, is moved to the right a distance of two notches, carrying with it the detent  $e'$ , which in turn presses back the lever  $c$  to its normal position against the action of the spring  $d$ , allowing the detent  $b$  to resume its normally-raised position, which it retains until the space-key is again depressed.

In some cases I prefer to employ a shaft  $h$ , pivoted to the frame A, as shown in Fig. 6, and dispense with the detent  $b$  and lever  $c$ . This shaft  $h$  has two arms  $i$  and  $i'$ . The former is connected to the rod  $F'$ , and the latter arm, when drawn down by the rod F, presses the detent  $e'$  to the left.

I do not desire to be limited to the specific means shown for accomplishing my invention, as it will be obvious that it may be accomplished by various means and devices without departing from the spirit of my invention.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a type-writing machine, the combination of the rack-bar, the escapement-lever carrying a fixed detent and a shifting detent, and a space key with a lever to engage with and move the shifting detent a double distance when the space-key is depressed, as set forth.

2. In a type-writing machine, the combination of the paper carriage, the printing keys, means for releasing the carriage allowing it to move a given distance upon the release of each of said keys, a space-key and a lever to engage the releasing means to move it so that the carriage will move a greater distance upon the release of the space key, as and for the purpose described.

3. In a type-writing machine, the combination of a rack, the escapement lever carrying a fixed detent and a shifting detent, a space-key mechanism connected to and operated by the space-key, and a spring actuated lever released by said mechanism to move the shifting detent for increasing the length of the arc of vibration of the shifting detent, substantially as described.

4. In a type-writing machine, the combination of a space-key, a lever pivoted to the frame of the machine and operated by the space-key, a detent connected to said lever by a rod, a lever  $c$  held against the action of a spring by said detent when in its normal position, a pair of vibratory detents connected to a universal space bar, one of said detents being capable of transverse movement when released from the carriage-rack, and engaging the lever  $c$  when the latter is released, to move said detent, as set forth.

5. In a type-writing machine, the combination of the frame, A, a space-key-lever, a lever pivoted to the frame and lying below the space-key-lever, a rod connecting the lever pivoted to the frame with a detent,  $b$ , the lever,  $c$ , engaging the detent, spring,  $d$ , swinging detents,  $e$ , and  $e'$  connected to the universal space-bar E, and the rack B acted upon by a spring, as and for the purpose described.

In testimony whereof I have hereunto signed my name.

EUGENE TERRY. [L. S.]

Witnesses:

CLINTON D. BOUTON,  
ARTHUR G. MARION.