

(No Model.)

2 Sheets—Sheet 1.

T. BIGELOW.
TYPE WRITING MACHINE.

No. 471,091.

Patented Mar. 22, 1892.

Fig. 1.

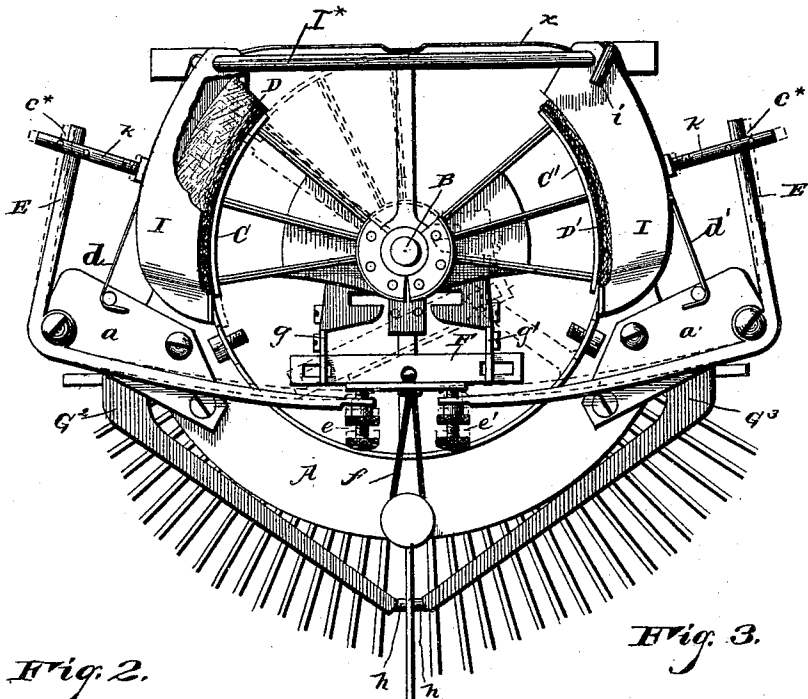


Fig. 2.

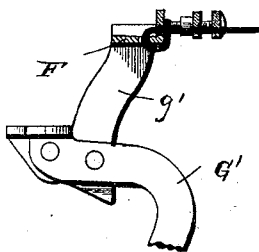
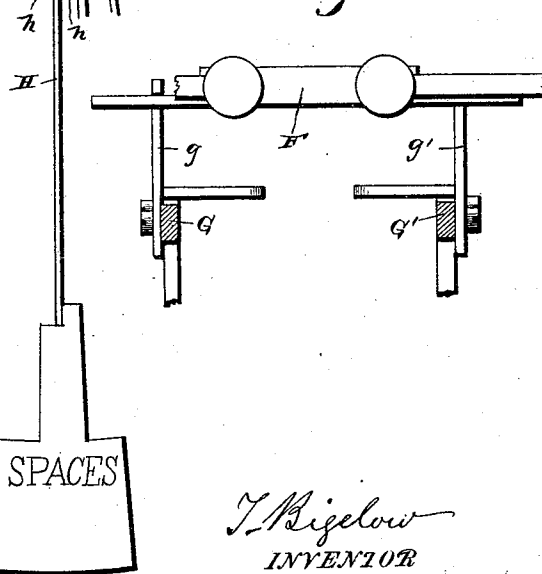


Fig. 3.



SPACES

WITNESSES

Samuel Ker.

O. E. Valentine

T. Bigelow
INVENTOR

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

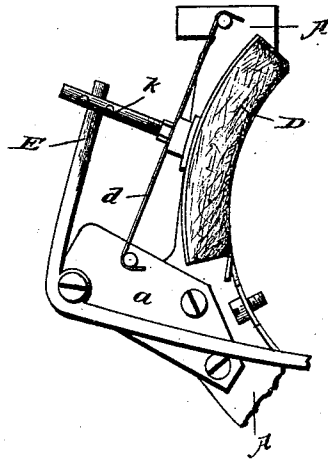


Fig. 5.

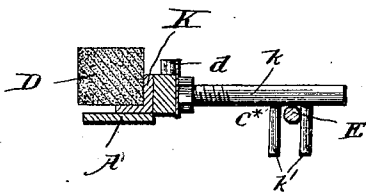
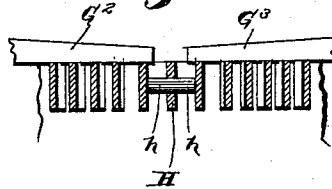


Fig. 6.



WITNESSES

Samuel Ker
B. E. Valentine

T. Bigelow
INVENTOR

UNITED STATES PATENT OFFICE.

TIMOTHY BIGELOW, OF BROOKLYN, NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 471,091, dated March 22, 1892.

Application filed February 16, 1891. Serial No. 381,579. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY BIGELOW, of the city of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Type-Writing Machines; and I declare that the following specification, taken in connection with the drawings annexed to and forming part of the same, furnishes a full and clear description of the invention, sufficient to enable those skilled in the art to which it pertains to make and operate the same.

My invention relates to type-writing machines, and has particular reference to improvements in the means for inking the type and restoring the driving-levers to their normal position after each movement in what is known as the "Hammond" type-writer, an instance of which is shown in Patent No. 290,419, dated December 18, 1883.

In an application filed by me on the 21st day of November, 1887, Serial No. 255,697, an inking device or pad carried by a spring and operated by a lever from the driving-arm of the type-writer is shown and claimed; and the present invention consists in an improvement upon that device, the object of that application, as well as the prime object of the present one, being to dispense with the ribbon commonly used on the Hammond type-writers.

The following detailed description explains the nature and purpose of my said invention and the manner in which the same may be carried into practice.

The accompanying drawings illustrate my said invention.

Figure 1 is a plan view of the top portion of a type-writer with my invention applied. Fig. 2 is a detail view of the top of the driving-arm with my attachment. Fig. 3 is a front elevation of the same attachments. Fig. 4 is a plan view of one of the inking-pads and attached parts. Fig. 5 is a section of the inking-pad and attached parts. Fig. 6 is a section of the middle key-levers, looking toward the machine.

Similar letters of reference indicate corresponding parts in all the figures where they occur.

A is the type-wheel guard.

B is the fixed center or type-wheel shaft,

and C C' are the type-segments mounted on said shaft in the usual way.

D D' are inking-pads formed of any suitable absorbent substance and supported above the sides of the type-wheel guard in positions to meet the faces of the type-segments when the latter are at rest. The pads are provided with strap or other suitable springs *d d'* at the back, so adjusted as to draw the pads away from the type when free to act, but whose tension is delicate and easily overcome. Connected to the springs or to projections from the pads are pad-applying levers E E', which are fulcrumed upon projections *a a'* on the type-wheel guard and are carried around to the front of the said guard.

The parts so far described are either such as are common to the Hammond machine or substantially the same as are those set out in my application for patent above referred to, although the springs *d d'* are differently mounted in the present application, being substantially free at both ends, and the connection between the springs and the pad-applying levers is made by slotted or sliding joints, as shown at *c*.

At the front ends the levers E E' are operated upon by a swinging bar F, which is loosely jointed to projections *g g'* from the upright limbs or arms G G' of the driving-levers, which actuate the type-segments in the manner common to the Hammond machine. The levers E E' are provided with adjusting-screws *e e'* to meet the bar F, so that the pressure of the pads upon the type-segments may be regulated, as desired.

A retracting-spring *f* connects the bar F to a stud on the type-wheel guard to return the bar to normal position after a key is released. This spring may be of rubber of the form shown or it may be a coiled wire or any other suitable form of spring, and it not only retracts the bar and causes the pad-applying levers to press the pads upon the type, but it also insures the return to normal position over the key-levers of the horizontal arms G² G³ of the driving-levers and the restoration of the type-segments to positions of rest, thus enabling me to dispense with the springs on the horizontal arms G² G³, usually employed to perform these offices.

It will be noticed that the swinging bar is

loosely pivoted at each end upon the brackets g g' of the driving-arms, and when one or the other of such arms is thrust forward by the pressure of a key the bar F is carried forward at that end and turns upon the other bracket as a center. This action carries the whole length of the bar F between its pivots forward, and as the levers E E' bear upon it between the pivots the pads are both withdrawn from the type-faces by the stroke of any of the keys on either side of the machine. The one on the same side of the machine may be withdrawn a little more than that on the opposite side, but both sufficiently to permit the type-segments to move over them without friction. This is important, as when a character far back on either type-segment is brought into use that segment is thrown around until part of the face is covered by the pad on the opposite side of the machine, as is seen in dotted lines in Fig. 1, while the full lines in the same figure indicate the parts in a position of rest after a key is released. This withdrawal of both pads from the faces of the type-segments at each stroke of any key also insures the thorough inking of the type, as each withdrawal involves a renewed application of the pads when the key is released. I also effect a reinking of the type at each stroke of the space-key, which is made to impart a movement to the inking-pads sufficient to cause their withdrawal and reapplication to the type-segments. It is effected by having a projection h on each side of the space-lever H under and in line with the ends of the horizontal arms of the driving-levers, which projections, when the space-key is depressed, raise the said horizontal arms just sufficiently to throw the bar F a little forward and relieve the pressure of the pad-applying levers from the inking-pads and permit the springs d d' to withdraw the pads without moving the type-segments. When the space-key is released, the spring f restores the parts to their positions of rest and reapplies the inking-pads.

Covers I I are provided for the pads to protect the fingers and paper and to hold the pads in position when the type-segments are raised vertically to print capitals and figures. These covers are preferably hinged to the type-wheel guard at their rear ends and connected at the front ends in some suitable manner—as, for instance, by a bar I^* , as seen in Fig. 1—so that they can be turned back to expose the pads for inspection and inking. They are held down when in place over the pads by a hook i , which may be on one of the posts which hold springs or by any other convenient securing means. Attached to these hinged covers may be the shield X , which is turned back with them and which forms the subject-matter of a separate application for patent filed on even date herewith, Serial No. 381,578; but for the purpose of the present application the shield need not be attached to the covers.

I prefer to make the connection from the inking-pad to the applying-levers by means of a shank k , fixed to the pad-holder K and having the spring d or d' set upon it and held by a nut, as seen. From the under side of this shank two pins k' depend, and they straddle the end of the pad-applying lever, as seen. This construction affords ease and simplicity in placing the pad in position, and also enables the pad to be turned up for inspection or inking, using the pad-applying levers as centers on which to turn the shank. The pad-holder, as seen in Fig. 5, extends only part way under the pad and up the back of the pad.

In the present invention, as well as in my application hereinbefore first mentioned, the pad is withdrawn before the type-segment which it inks is moved.

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

1. The combination of spring-supported inking-pads, pad-applying levers, and a bar connected to the driving-arms and actuating both pad-applying levers, as set forth.

2. The combination of inking-pads arranged beside the type-segments, levers for applying the pads to the segments, a bar for operating both levers, means for operating the bar, and a spring for returning the bar to a position of rest, as set forth.

3. The combination of spring-supported inking-pads, pad-applying levers loosely connected to said pads, and a bar pivoted to the driving-arms and operating the pad-applying levers, as set forth.

4. The combination of spring-supported inking-pads, levers for applying the same to the type-segments, and a bar loosely pivoted at each end to the driving-arms and having the pad-applying levers bearing against it between the pivots, as set forth.

5. The combination of inking-pads having free spring-supports and pad-applying levers loosely connected thereto and having adjusting-screws in their forward ends with a bar actuated by the driving-arms and against which the adjusting-screws bear for operating said pad-applying levers, as set forth.

6. The combination, with inking-pads and pad-applying levers fulcrumed on projections on the type-wheel guard, of a bar actuated by the driving-arms for operating the pad-applying levers, as set forth.

7. The combination of spring-supported inking-pads, pad-applying levers, a bar on the driving-arms for operating the pad-applying levers with said driving-arms, and a projection or projections on the space-key lever for raising the horizontal arms of the driving-levers, as set forth.

8. The combination, with the driving-arms of a type-writer of the kind described and a bar pivotally connecting said arms, of a spring connected to said bar for restoring the driving-levers to position.

9. The combination, with the inking-pads of a type-writer, said pads being arranged on opposite sides of the type-wheel guard, of covers for said pads hinged at their rear ends
5 and connected at their forward ends to be raised and lowered together, as set forth.

10. The combination, with spring-supported inking-pads having shanks extending out therefrom provided with depending pins, of
10 pad-applying levers lying between the pins, as set forth.

11. The combination, with an inking-pad removably supported on the type-wheel guard and having a shank provided with depending pins, as described, of a pad-applying lever ly- 15
ing between the pins, whereby the pad can be swung upon said lever as a center, as set forth.

T. BIGELOW.

In presence of—

JOHN E. NORCROSS,
FRANK MANN.