

(No Model.)

2 Sheets—Sheet 1.

W. P. KIDDER.
TYPE WRITING MACHINE.

No. 567,242.

Patented Sept. 8, 1896.

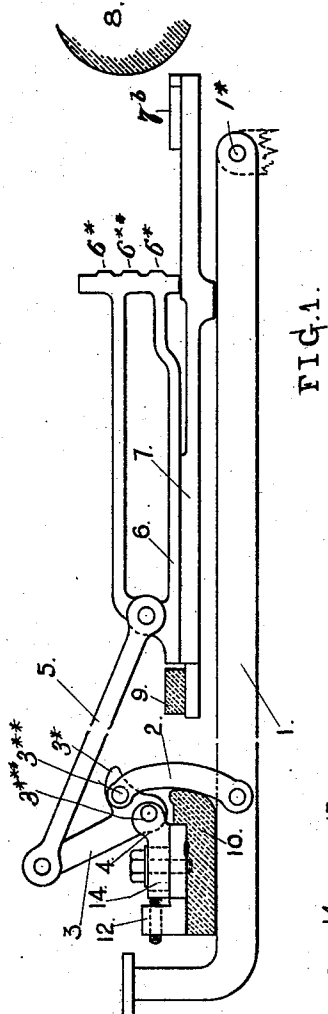


FIG. 1.

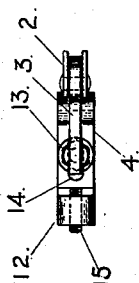


FIG. 2.

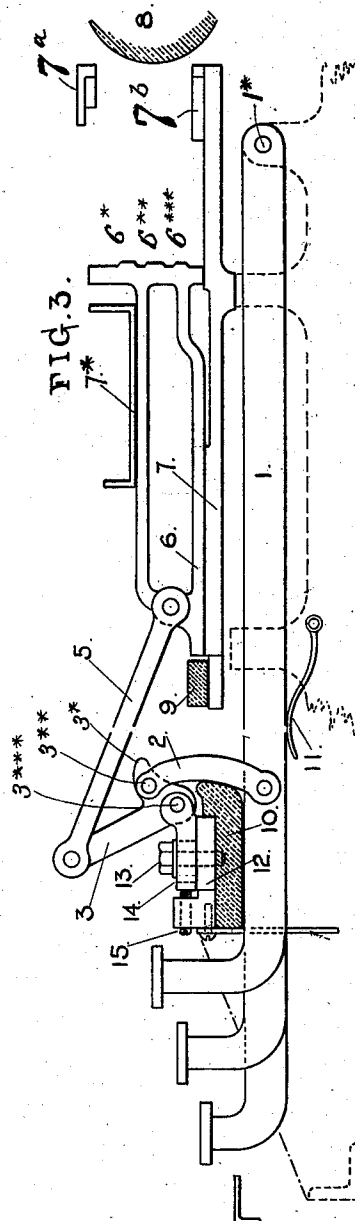


FIG. 3.

WITNESSES:

Darrice
 B. Early.

INVENTOR

INVENTOR
Mellington P. Kidder

BY
Edward S. Beach

ATTORNEY.

(No Model.)

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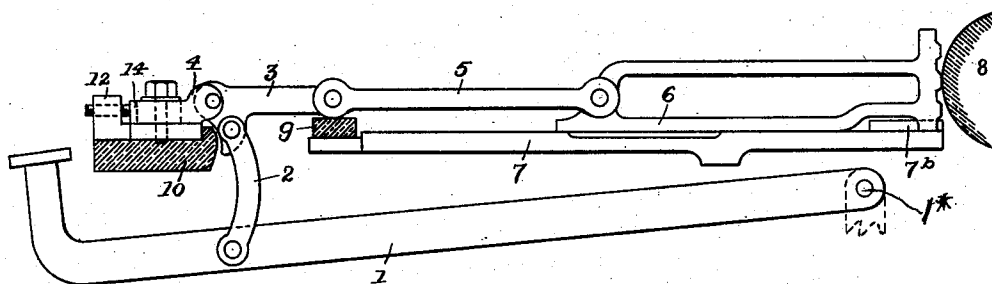


FIG. 2.

WITNESSES.

H. J. Crawford.
L. P. Glade.

INVENTOR.

William P. Kidder
by his attorney
Edmund S. Reach

UNITED STATES PATENT OFFICE.

WELLINGTON P. KIDDER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO
WELLINGTON P. KIDDER, OF SAME PLACE, AND CHARLES R. BISHOP,
OF NEW HAVEN, CONNECTICUT, TRUSTEES.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 567,242, dated September 8, 1896.

Application filed April 23, 1894. Renewed July 3, 1896. Serial No. 598,485. (No model.)

To all whom it may concern:

Be it known that I, WELLINGTON P. KIDDER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Type-Writers, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figures 1 and 2 exhibit my invention disconnected from the old structure upon which it is an improvement, Fig. 1 being a side view of my new toggle-joint connection for a type-carrier and key-lever, with other features of my invention, and Fig. 2 being a top plan of what is shown in Fig. 1. Fig. 2^a is a view showing the type-bar in printing position and the members of the toggle and their pivots in line with each other. Fig. 3 is a sectional elevation showing so much of an old structure as will suffice to show the connection of my present invention therewith.

My invention is an improvement in type-writers of the end-thrust type-bar class set forth in my Letters Patent Nos. 471,794 and 471,795, both granted March 29, 1892, and in my pending applications, Serial Nos. 468,607, filed March 31, 1893, and 506,444, filed April 3, 1894; but the different features of my invention may be embodied, if desired, in other styles and kinds of type-writing machines, and I wish to be understood as herein claiming my invention in the broadest manner that is legally permissible.

The object of my invention is to produce an approximately noiseless type-writing machine and also one in which the impression is given by a dwelling pressure rather than by a quick sharp blow.

An important feature of my construction consists in the combination of a platen and impression key-lever with an end-thrust type-carrier and toggle, the toggle members and type-carrier being substantially in a straight line when the impression is taken.

The particular features of my invention are pointed out hereinafter:

In the drawings, in which I show my invention embodied in a type-writer of the kind

set forth in my said Letters Patent, this being one of many contemplated embodiments of my invention and the best form now known to me, 1 is the impression key-lever, adapted to be pivoted to any suitable support; 2, a link pivoted thereto and to a rocker-arm 3, which is pivoted to any suitable support 4.

Rocker-arm 3 is provided with a projection 3* for the pivotal attachment at 3** of the link 2 at one side of the pivot or center 3***, so that when link 2 is pulled down to straighten the toggle members 3 and 5 the pull on the rocker-arm or toggle member 3 is not on a dead-center and the parts are readily operated to move the type head or carrier 6 to impression. Rocker-arm 3 forms one member of a toggle, the other member thereof being link 5, which is pivoted to the rocker-arm 3 and also to the end-thrust type-carrier 6, which is provided with a suitable table or ledge-like guide-support 7, that supports, and with an upper guide 7*, that helps to direct and control, the type-carrier in its endwise movement to and from the platen 8. Depression of key-lever 1 draws link 2 downwardly, and rocker-arm 3 is thereby swung forward, bringing link 5 in line with the type-carrier 6, connected thereto. When rocker-arm 3 completes its full movement, it is in line with link 5 and the type-carrier presses against the platen 8, being guided thereto by the table or ledge-like guide-support 7, of any suitable construction. This guide 7 supports the type-carrier 6 during the forward and back movements thereof, while guides 7^a and 7^b, which are placed at the impression-point, compel the type-head to contact unwaveringly with and to run straight against the platen.

The toggle action of rocker-arm 3 and link 5 is such that the impression is obtained by a pressure which is characterized by a slight dwell as distinguished from a quick sharp blow and from a rocking movement of the type on the paper that renders impression indistinct and blurred. To accomplish this valuable result, the forward or impression-giving movement of the type-carrier is arrested at the instant of impression, the type-

carrier and link 5 and rocker-arm 3, in other words, the type-carrier and toggle members, being made of the length requisite for this purpose. This is my preferred construction but I do not limit my invention to this specific feature.

To insure a minimum of noise in the operation of the machine, I mount a pad 9 (say, of rubber) in the path of the link 5, against which the link strikes when in line with the type-carrier 6, and place another pad 10 back of link 2, so that the link 2 strikes against a pad on its back stroke. The key-lever 1 and connected parts referred to are returned to their position of rest by spring-pressure, as will be readily understood by all skilled in the art, although for the sake of more clearly showing the operation of my new toggle connection I show a spring 11 interposed between the key-lever and bottom of the machine; but it will of course be understood that the spring return of the key may be obtained in many different ways without departing from my invention.

In the construction shown, the key-lever 1 extends from the front or key-board side of the machine rearwardly underneath or at one side of the table or ledge-like supporting-guide 7, and is pivoted to the machine at 1* well toward the platen. Type head or carrier 6 is provided with a plurality of characters at 6*, 6**, and 6***, and the table or ledge-like guide-support 7 is common to a plurality of type-heads, as described in my said Letters Patent, including No. 471,795, dated March 29, 1892, and as shown in the well-known "Wellington type-writer," now made under my patents. The support 7 is preferably horizontal, as shown.

In order to secure approximately exact uniformity of impression, I provide means for adjusting and controlling the throw of the type-carrier. By so doing, a period, for example, is made to print without injury to the paper, and all the types are brought into such nice relation one with the other that each gives its impression with reference to the formation of its work-surface and that of the other types. To accomplish this important and valuable result in the particular form of machine shown, I make support 4 adjustable and clamp it upon a rest 12 by means of a clamping-screw 13, passing through a slot 14 in support 4 and entering rest 12, which is provided with a set-screw 15, which engages the butt-end of support 4. By loosening clamping-screw 13 support 4 is readily moved into any desired position on its rest 12 and secured in the desired position by the clamping-screw 13 and set-screw 15, whereby the range of movement of the type-carrier is adjusted and controlled. It will be readily understood by all skilled in the art that this adjustment may be obtained in many different ways, and I do not limit myself to any special form of means for adjusting the

movement of the type-carrier in relation to the platen.

In Fig. 3 I show the parts above described in connection with so much of my "Wellington" machine set forth in my said Letters Patent as is necessary to show the connection of the features of my present invention with what precedes it in the art.

It will be seen that the end joints of the toggle are in a straight line with the platen at all times, and that all three of the toggle-joints are in the same straight line when the type head or carrier is at impression.

What I claim is—

1. In a type-writing machine, the combination of a platen and impression key-lever with an intermediate end-thrust type-carrier and toggle operatively connected together and with the impression key-lever and a ledge-like type-carrier support intermediate the platen and the free end of the key-lever, the toggle driving the type-carrier to impression, but arresting the impression-stroke of the type-carrier at the instant of impression, substantially as and for the purpose set forth.

2. In a type-writing or like machine, the combination of a platen and impression key-lever with an intermediate end-thrust type-carrier and toggle operatively connected together and with the impression key-lever, a guide-support for the type-carrier; the impression-key being pivoted at one side of the guide-support, and a link connecting a toggle member with the impression key-lever; the joints of the toggle being in a substantially straight line at impression, substantially as and for the purpose set forth.

3. In a type-writing or like machine, the combination of a platen and impression key-lever with an intermediate end-thrust type-carrier and toggle operatively connected together and with the impression-key; a guide-support for the type-carrier during its movement from and toward the platen, a link connecting the impression key-lever with a toggle member and a guide, at the impression-point, for the head of the type-carrier, substantially as and for the purpose set forth.

4. In a type-writing or like machine, the combination of a platen and impression key-lever with an intermediate end-thrust type-carrier and toggle operatively connected together and with the impression key-lever, a link which connects the impression key-lever with a toggle member at one side of a pivotal connection thereof and a guide-support for the type-carrier during its movement from and toward the platen, substantially as and for the purpose set forth.

5. In a type-writing or like machine, the combination of a platen and impression key-lever with an intermediate end-thrust type-carrier and toggle operatively connected together and with the impression key-lever, a ledge-like support for the type-carrier; a link connecting a toggle member with the impres-

sion key-lever which is pivoted at one side of said ledge-like support, and a guide at the impression-point, for the head of the type-carrier, substantially as and for the purpose set forth.

6. In a type-writing or like machine, the combination of a platen, and impression key-lever with a toggle and end-thrust type-carrier; a link connecting a member of the toggle with the impression key-lever, and a guide at the impression-point for the head of the type-carrier, the link extending across the plane of the path of the type-head from one toggle member to the impression key-lever pivoted at one side of said plane, substantially as and for the purpose set forth.

7. In a type-writing or like machine, the combination of a platen and impression key-lever with an end-thrust type-carrier and toggle; a link connecting a toggle member with the impression key-lever; a guide-support for the type-carrier during its movement from and toward the platen; a pad for the toggle when straightened; and a pad at the rear of said link against which the link strikes on its back stroke, all substantially as and for the purpose set forth.

8. In a type-writing or like machine, the combination of an end-thrust type-carrier, a horizontal ledge-like guide-support therefor during its movement from and toward the platen; a toggle and impression key-lever; a link connecting the toggle with the impression key-lever which is pivoted toward the platen, at one side of said support and extends forwardly beyond said support; and an adjustable bracket to which one toggle member is pivoted, the other toggle member being pivoted to the type-carrier, substantially as and for the purpose set forth.

9. In a type-writing machine, the combination of an impression-key; a link connected therewith; a toggle, one member of which is pivoted in the machine and connected with said link; a type-carrier with which the other member of said toggle is connected; a type-carrier guide comprising a table or ledge across which the type-carrier moves; and a platen; said table being between the platen and the front of the machine, and the im-

pression-key being pivoted at one side of said table, substantially as and for the purpose set forth.

10. In a type-writing machine, the combination of a platen; a type-head; guides to control the type-head at impression; a table or ledge-like support for the type-head during its movements from and toward the platen; a toggle, one member of which is connected with the type-head and the other member of which is pivoted in the machine; the centers of the toggle being at one side of said support; an impression-key pivoted at the other side of said support, and a link connecting said impression key-lever with one of the toggle members, substantially as and for the purpose set forth.

11. In a type-writing machine, the combination of a platen; a type-head; guides to control the type-head at impression; a table or ledge-like support for the type-head during its movements from and toward the platen; a toggle, one member of which is connected with the type-head and the other member of which is pivoted in the machine, the centers of the toggle being at one side of said support and a toggle member having a projection; an impression-key pivoted at the other side of said support, and a link connecting said impression key-lever with said projection on a toggle member, substantially as and for the purpose set forth.

12. In a type-writing machine, the combination of a type-head and a support therefor with an impression key-lever; a toggle, one member of which is pivoted in the machine and the other member of which is operatively connected with the type-head; a link connecting the impression key-lever with a toggle member; and a spring which returns the type-head and toggle to position of rest, after impression; the impression key-lever being pivoted at one side of said support and the toggle and type-head being on the other side thereof, substantially as and for the purpose set forth.

WELLINGTON P. KIDDER.

Witnesses:

WENDELL A. ANDERSON,
O. M. STANTON.