No. 888,856. PATENTED MAY 26, 1908.

C. M. SORENSEN.

TYPE WRITER.

APPLICATION FILED OCT. 22, 1907.

Fig. 1.

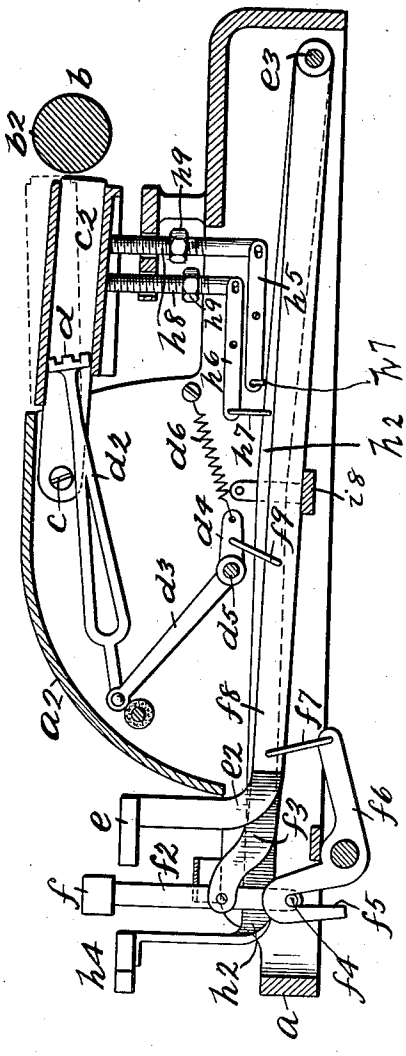
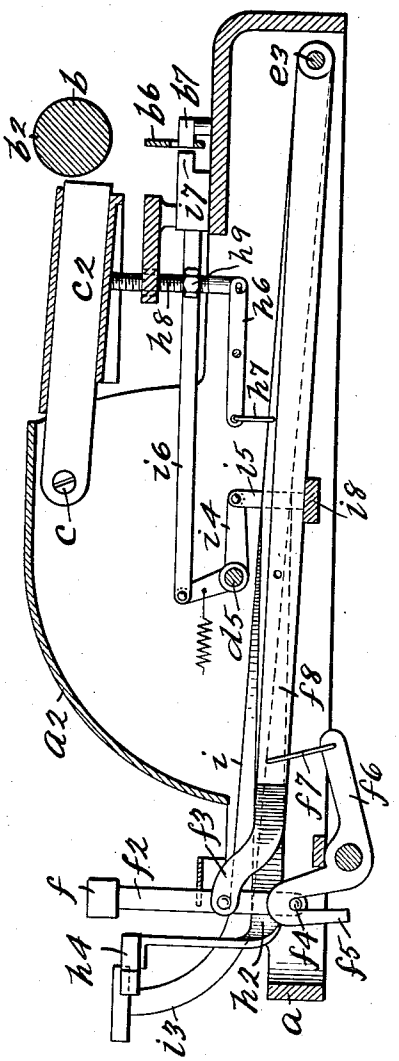


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES M. SORENSEN, OF BROOKLYN, NEW YORK, ASSIGNOR TO VIDAL TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF CUBA.

TYPE-WRITER.

No. 888,856. Specification of Letters Patent. Patented May 26, 1908.

Application filed October 22, 1907. Serial No. 398,580.

To all whom it may concern:

Be it known that I, CHARLES M. SORENSEN, a citizen of the United States of America, and residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Writers, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of the invention is to provide an improved and simplified means for operating the type bars.

My invention is fully described in the following specification, of which the accompanying drawings form a part, in which the separate parts are designated by the same reference characters in each of the views, and in which:—

Figure 1 is an approximate central longitudinal section and showing the type-bars and their action; and Fig. 2 is a view similar to Fig. 1, with some of the parts eliminated, and showing the operation of other elements.

In the drawings forming a part of this application I have shown a support a over which is arranged a casing a^2 and movable transversely of the support a is a carriage b provided with the usual platen b^2 rotatable thereon.

Pivotally supported at c, as shown in Figs. 1 and 2, is a supplemental casing c^2 within which are mounted all the type d on corresponding type-bars d^2 and each of which is connected with an arm d^3 provided with a lug d^4 and all of said arms being pivoted upon a shaft d^5 and being operated in one direction by springs d^6.

At the front of the support a is the keyboard which comprises a set of depressible keys e mounted upon corresponding key-levers e^2 pivoted at e^3, a set of depressible and forwardly movable keys f mounted upon corresponding vertical rods f^2 and each of which is pivoted to a corresponding lever f^3 also pivoted at e^3, and each of the rods f^2 is provided with a pin f^4 slidable in a goose-neck guide f^5 of a corresponding crank lever f^6 and each of which is connected, by means of a link f^7 to a corresponding lever f^8 also pivoted at e^3, and each of the levers e^2, f^3 and f^8 are connected, by means of links f^9 to a corresponding arm d^3 and to the lug d^4 thereof. Each of the levers e^2, f^3, and f^8 rest upon a movable transverse bar i^8.

In the operation of my machine, if the keys e be depressed, the corresponding key lever, arm d^3 and type-bar d^2 are actuated, against the tension of the springs, and the particular one of the three characters upon the type-bars impressed will be determined by the elevation of the type casing c^2, each one of the keys e, therefore, being capable of writing three characters and this result is also produced by depressing the keys f which, sliding in the goose-neck guide, actuates the key-lever f^3 to which it is pivoted and thus the characters indicated upon the tops of the said keys are printed but, if the keys f be not depressed but drawn toward the operator, the crank lever f^6 is rotated upon its pivot, thus actuating the lever f^8 thereof and the corresponding type-bar and in this manner the characters upon the front faces of the keys f are printed.

It will be observed that rod f^2, is pivoted to key lever f^3, and that crank lever f^6, is connected by link f^7, to a key lever f^8. Thus each key rod f^2, is connected to two separate and independent key levers and since each of the latter f^8 and f^3, is connected to a separate and independent type bar d^2, it will be noted that when rod f, is depressed lever f^3 will be operated, and when rod f is given a swinging movement lever f^8 will be operated.

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

1. In a typewriter, a plurality of depressible printing keys, a plurality of keys having two directions of movement and producing two printing results, a plurality of type-bars, levers connecting said first named keys with corresponding type-bars, levers connecting each of said last named keys with a corresponding type-bar, a crank lever in operative connection with each of said last named keys and levers connecting said crank levers with corresponding type-bars.

2. In a typewriter, a key capable of downward and another movement, type-bars, a lever pivoted to said key and in operative connection with one of said type-bars, a crank lever in operative connection with said key, a lever connecting said crank lever with another of said type-bars, said crank lever being inoperative when said key is moved downwardly.

3. In a typewriter, type bars, a key rod for operating two of said bars, key levers to one

of which said rod is pivoted, a pivoted crank lever operatively connected to another of said key levers, and a connection between said key rod and said crank lever whereby said rod when given a swinging movement will rock said crank lever on its pivot and which when depressed will allow said crank lever to remain quiescent.

4. In a typewriter, type bars, key levers related thereto, a key rod pivoted to one of said levers, a pivoted crank lever connected to another of said levers at one end and at its other end being formed with a goose-neck guide, a projection on the lower end of said rod operating in said guide, said crank lever being inoperative when said rod is depressed and being rocked on its pivot when said rod is given a swinging movement.

5. In a typewriter, type bars, key levers related thereto, a vertical key rod pivoted to one of said levers, a pivoted element connected to another of said levers at one end and at its other end being formed with an elongated slot, a projection on the lower end of said rod operating in said slot, said pivoted element being inoperative when said rod is depressed and being rocked on its pivot when said rod is given a swinging movement.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 21st day of October 1907.

CHARLES M. SORENSEN.

Witnesses:

GEO. F. BENTLEY,

A. J. MOTTLIN.