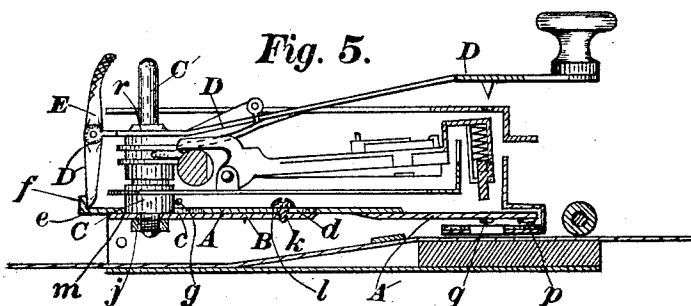
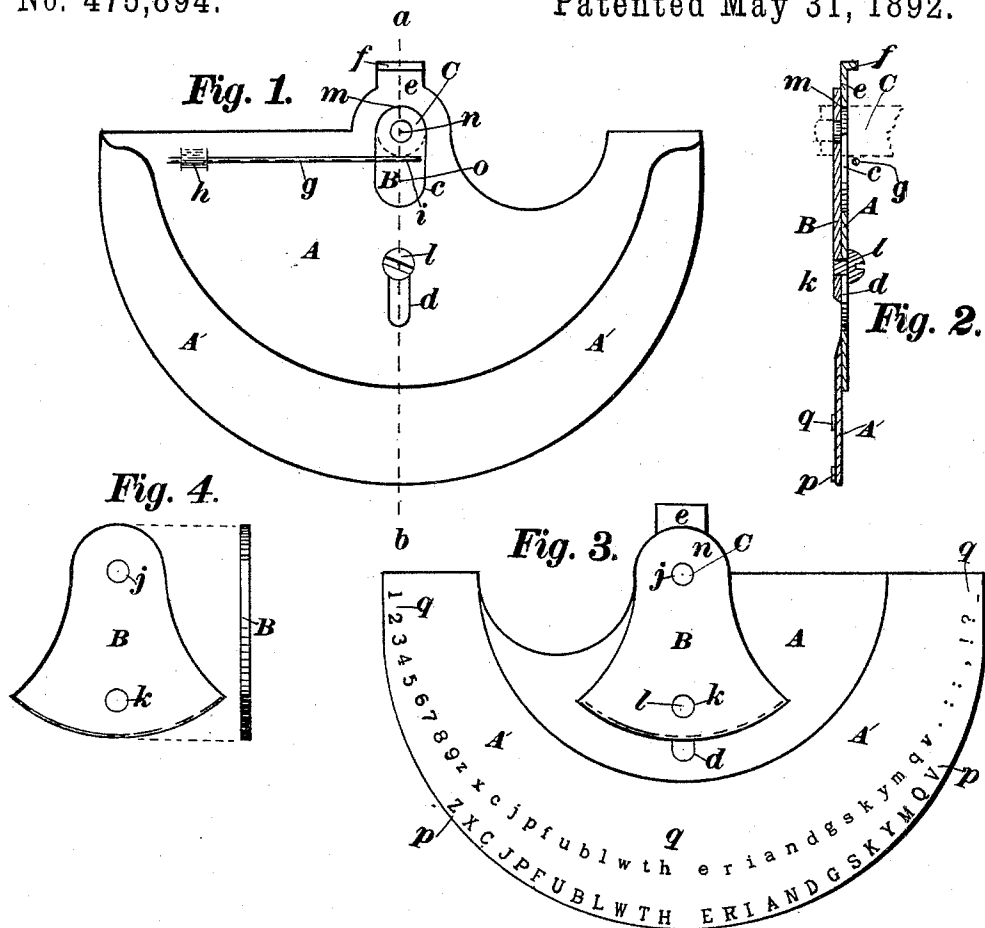


(No Model.)

F. SANDERSON.
TYPE WRITING MACHINE.

No. 475,894.

Patented May 31, 1892.



Witnesses
Daniel J. Gregory
Robert Clark

Inventor
Frederick Sanderson
By His Attorney Oscar Snull

UNITED STATES PATENT OFFICE.

FREDERICK SANDERSON, OF CHICAGO, ILLINOIS.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 475,894, dated May 31, 1892.

Application filed March 2, 1891. Serial No. 383,532. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK SANDERSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Type-Writing Machines, of which the following is a specification.

My invention relates to type-writers of a kind whose type are formed upon segmental pieces of rubber, which are so mounted in the machine that they can be vibrated around a common center to bring any required character in position for printing; but this invention relates more particularly to an invention in type-writers patented in the United States of America by Stephen Sweet and Otto C. Hoffman and Frederick Sanderson, dated May 13, 1890, and numbered 427,637. In type-writers of this class the type-carrying segment heretofore used is adapted to printing but one kind of letters, and these are what are known as "small caps." It is desirable and the trade demands a type-writer of low price which will print lower-case letters together with capitals, and thus greatly increase the usefulness of the machine by improving the appearance of the writing, and by the use of my invention these results can be attained with but a trifle additional outlay in the construction of the machine.

In the drawings, Figure 1 is a top view of the type-carrying segment; Fig. 2, a section of Fig. 1 on dotted line *a b*. Fig. 3 is a bottom view of Fig. 1. Fig. 4 is respectively bottom and side views of the means for attaching the type-holding segment to its proper position; and Fig. 5 is a reproduction of a sectional view of the invention in type-writers patented May 13, 1890, No. 427,637, hereinbefore referred to, being Fig. 3 in said patent, with the exception that my new improvement in the type-carrying segment has been applied, in order to show the manner of operation.

Similar letters refer to like parts throughout the several views.

A is the type-carrying segment, which is made of two parts, the part A' being of rubber, and is secured to the metal plate A. The metal plate A is slotted in two places at *c* and *d*, and at the rear side is a projection *e*,

which has its outer end bent at a right angle to form a stop *f*. To the top of metal plate A is secured one end of a metal spring *g* at *h*, which leaves the end *i* of spring *g* free to move.

Figs. 3 and 4 show a plate B, which has two holes *j* and *k*, and by reference to Fig. 5 those versed in the state of the art will readily understand that C shows the vertical post to the lower end of which the type-carrying segment is secured. Now in my new type-carrying segment instead of firmly attaching it to the lower end of post C, I provide the slot *c*, which is of large enough width to straddle post C at the base, as shown. Now, slot *c* being almost double the length of the diameter of post C, the segment can have a motion longitudinal with dotted line *a b*, Fig. 1, for the purpose as will be explained. In order to permit this motion in slot *c* and at the same time cause the type-carrying segment to revolve with post C, I have provided a plate B, which is firmly attached to the extreme lower end of post C directly under segment A, to which it is movably secured by means of a screw *l*, which passes down through slot *d* into plate B at hole *k*, the slot *d* permitting the screw to move in the slot as much as the post C in slot *c*. When the parts are in position, as shown in Fig. 5, the straight spring *g*, Figs. 1 and 5, presses against the front side of the post C, so that the usual position of the segment A has its slot *c* at the rear end *m* in contact with the rear side of post C, as shown by dotted lines in Figs. 1 and 2.

The type-carrying segment A has two centers of motion, one at *n* and the other at *o*, Fig. 1. There are two rows of type *p* and *q*. The inner row *q* is composed of lower-case letters together with figures and punctuation-marks, and the outer row *p* is composed of capitals, as shown; but this order can be reversed, if necessary. The inner row *q* has *n* as its center, and the outer row *p* has *o* as its center.

By again referring to Fig. 5 it will be seen that the type-writer-operating lever D extends to and is firmly secured to post C at *r*, and this lever extends rearwardly and terminates in a lug at D', and to this lug is pivoted a lever E, which lever extends downward and its lower end catches against the inside face of stop *f*

at the rear end of segment A, before described. The top of lever E extends upward as high as the extension C' of post C.

In operation it will be understood that in
 5 applying this invention to the type-writer described in Patent No. 427,637, hereinbefore referred to, as long as lower-case letters are used the machine is operated as described in said patent; but when capitals are used the top of
 10 lever E, Fig. 5, and the top C' of post C are grasped between the forefinger and thumb, which forces the top of lever E toward top of post C', the lower end of lever E moving outward, which draws the type-carrying segment
 15 rearward in its slots *c* and *d*, changing the center of the segment to the center *o* of the row of capitals *p*, this row then occupying the same relative place as occupied by lower-case row *q* before pressure was applied to lever E. After
 20 the capital letter is printed by pressure upon the type-writer-operating lever D the lower-case row *q* can be made to occupy the proper place to be operated upon by lever D by simply releasing the fingers from lever E, when
 25 the spring *g* will instantly slide the type-carrying segment back in its slots to first position.

I claim as my invention—

1. In a type-writer provided with a pivotal post, as C, a plate B, rigidly secured thereto,
 30 a type-plate movably secured to the post and to the plate, the outer portion of which is provided with rows of printing characters, and means for moving the type-plate and operating the characters, substantially as described.

2. In a type-writer provided with a pivotal post, as C, a plate, as B, rigidly secured to the lower end of the post and provided with a stop,
 35 as *k*, a slotted type-plate movably secured to the plate on the post, the outer portion of which is provided with rows of printing characters,
 40 one of the slots of the movable plate fitting upon the post and the other one upon the stop, and means for moving the plate and operating the characters, substantially as described.

3. In a type-writer provided with a pivotal post, as C, a type-plate movably secured thereto, the outer portion of which is provided with printing characters and the rear end is provided with a stop, a lever pivotally connected
 45 with the post, the lower end of which is adapted to engage the stop on the plate, and means for moving the plate and operating the characters, substantially as described.

4. In a type-writer provided with a pivotal post, as C, a type-plate movably secured thereto, the outer portion of which is provided with printing characters and the rear end is bent
 55 upwardly to form a stop, a handle pivotally connected to the post, the outer end of which is adapted to engage with the type-plate and the rear end is provided with a pivot, and a lever upon the pivot, the lower end of which is adapted to engage with the upturned end
 60 of the plate, substantially as described.

FREDERICK SANDERSON.

Witnesses:

J. B. CROSBY,
 OSCAR SNELL.