

(No Model.)

G. BECKER.
TYPE WRITING MACHINE.

No. 454,837.

Patented June 30, 1891.

Fig:1.

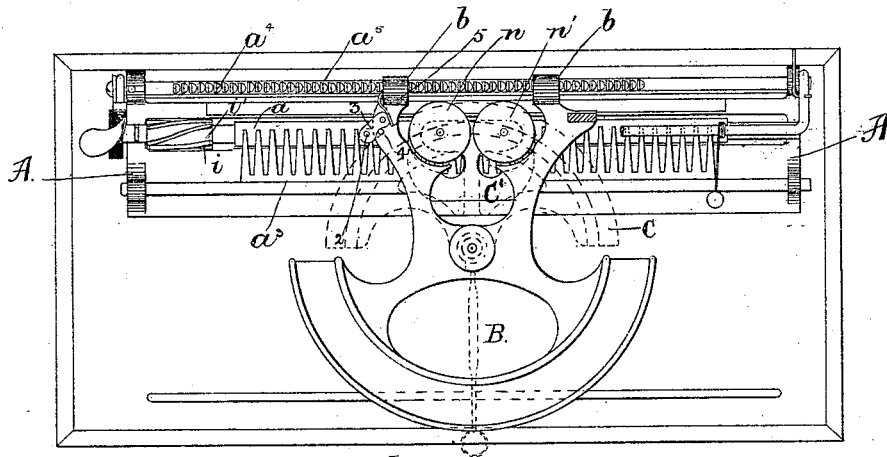
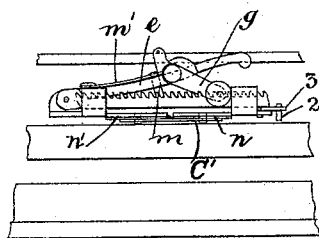


Fig:2



Witnesses:

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attys.

UNITED STATES PATENT OFFICE.

GEORGE BECKER, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS,
TO THE POPE MANUFACTURING COMPANY, OF BOSTON, MASSACHUSETTS.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 454,837, dated June 30, 1891.

Application filed February 14, 1888. Serial No. 263,952. (No model.)

To all whom it may concern:

Be it known that I, GEORGE BECKER, of New York, in the county of New York and State of New York, have invented an Improvement in Type-Writing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and numerals on the drawings representing like parts.

10 This invention is an improvement upon the type-writing machine shown and described in United States Patent No. 350,717, granted to John Becker October 12, 1886. In the patent referred to the feeding-roll for the paper was
15 designed to be rotated by hand, and in practice the operator frequently forgets to rotate the roll, and hence commences to print upon the previously-printed line; also, in the said patent the inking-surfaces are rigid and the
20 type of the type-carrying segment brushed or rubbed over the inking-surfaces, causing considerable wear and frequently requiring repairs; also, in the said patent the rigid stud carried by the printing-lever by which the
25 rubber-type segment was depressed to print a single letter and required to be adjusted for different grades of work, which consumed considerable time.

In accordance with the hereinafter-described invention the feed-roll is designed to be rotated automatically step by step by the movement of the index-plate, thus insuring correct and uniform movement of the paper for the successive lines. The means herein
35 shown for accomplishing this result consist of a spirally-grooved hub or portion fixed to or formed as a part of the feed-roll, and the index-plate is provided with a stud which enters one of the grooves of the said hub, and
40 by its movement in a straight line causes said hub to revolve, the stud following in one of the spiral grooves. The spirally-grooved hub is herein arranged at the left-hand end of the machine, to be engaged upon the return movement of the index-plate. The inking pads or
45 cushions consist of one or preferably two flat disks, of felt or other suitable material, pivoted to the frame of the index-plate, so as to be moved with it, the said disks being arranged beneath the type, so that the latter

may act upon or lie in contact with the flat sides or faces thereof near their peripheries, and as the type-carrying segment is revolved on its pivot, moving the type, the said disks or cushions also revolve. The printing-stud
55 of the printing-lever is attached to a yielding or spring-like arm, so that when pressed upon the type-segment the pin will readily yield as much as may be required to adapt the stud to the type and paper.

Figure 1 shows in plan view a type-writing machine of the kind described, provided with the improvements embodying this invention, the type-carrying segment being represented in dotted lines; and Fig. 2, a rear side view of
65 a portion of the machine showing the printing-lever, its yielding stud, the feed-bar, feed-dog, and a portion of the index plate or frame.

The main frame-work A, the paper-feeding roll *a*, the guard or presser *a*³ to hold the paper upon the roll, the feed-bar *a*⁴, having teeth
70 *a*⁵, the index-plate B, having guide-arms *b* mounted to slide freely upon the feed-bar *a*, the printing-lever *c*, pivoted to the index-plate, and the feed-dog *g*, loosely connected with the printing-lever and adapted to engage the teeth of the feed-bar *a*⁴, the type-carrying segment C, (see dotted lines, Fig. 1,) are all substantially as in the patent referred to, where similar letters indicate like parts. 80
The hub *i*, provided longitudinally with spiral grooves or projections *i*¹, (herein shown as four in number,) is fixed to or made as a part of the paper-feeding roll *a*, it being herein shown as located at the extreme left-hand end
85 of the said roll. The stud 2, projecting downwardly from the plate or arm 3, pivoted upon the upper side of the index-plate B, is designed to enter one or another of the grooves *i* and act against one or another of the said peripheries as the index-plate is returned to the left-hand side of the machine to commence a new line, and as the movement of the said stud is in a straight line, it, by following along one or another of the spiral grooves or projections, causes the paper-feeding roll to be
95 revolved a definite distance. The plate 3, carrying the stud 2, is held against the stud 4 by a spring 5, so that as the index-plate is started ahead, or toward the right-hand end 100

of the machine, the stud 2 may disengage the grooved hub without effecting any movement of the rail *a*.

By this device it will be seen that the paper-feeding roll is rotated step by step automatically at each return movement of the index-plate.

The inking pads or cushions consist of two flat disks *n n'*, pivoted side by side to the auxiliary plate *C'*, attached to the under side of the index-plate B, leaving between them a small space to receive the type pressed down by the stud *m* of the printing-lever *e*. These disks are made of felt or other suitable material to absorb and deliver ink, and the type of the type-carrying segment or plate bears upon the flat side or face of the said disks near their peripheries, and as the said type-carrying segment or plate is moved the said disks will revolve freely on their pivots, so that the type does not act to materially abrade the surface of the disks.

The stud *m* (see Fig. 2) of the printing-lever is attached to the outer end of a yielding or spring arm *m'*, attached to the said printing-lever, so that when the printing-lever is depressed the stud will yield to compensate for different thicknesses of paper employed for different grades of work.

I claim—

1. In a type-writing machine, the combination, substantially as described, of a paper-feeding roll *a*, a spirally-grooved hub *i* thereon, an index-plate B, a feed-rod *a'*, on which said index-plate B is horizontally movable, and the stud 2, carried by said plate, which co-operates with the spirally-grooved hub *i* to effect rotation of the feed-roll.

2. In a type-writing machine, the combination, substantially as described, of a feed-roll *a'*, index-plate B, mounted to slide thereon, a continuous flexible type-carrying segment C, pivoted on said index-plate, and two revolvable disk-like inking-pads *n n'*, supported by the index-plate in a plane beneath and to contact with the under face of the said segment C, and between which pads the type to be printed is pressed upon the paper.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEO. BECKER.

Witnesses:

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