

UNITED STATES PATENT OFFICE.

WALTER J. BARRON, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE
DENSMORE TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A
CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 776,103, dated November 29, 1904.

Application filed June 27, 1899. Serial No. 722,000. (No model.)

To all whom it may concern:

Be it known that I, WALTER J. BARRON, a citizen of the United States, and a resident of the borough of Brooklyn, in the city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

The present invention relates to type-actuating mechanism for type-writing machines, the primary object of the invention being to relieve the finger of shock in the act of manipulating the key, especially the shock incidental to the impact of the type against the platen.

To these and other ends the invention includes features of construction and combinations of devices hereinafter described, and more particularly pointed out in the appended claims.

The preferred form of the invention is illustrated in the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central vertical longitudinal sectional view of a type-writing machine in which the invention is embodied, certain of the parts being omitted for the sake of clearness. Fig. 2 is an enlarged detail view, and Fig. 3 is a detail view, of a modification.

In the several views the same part will be found designated by the same numeral of reference.

1 indicates a base-frame of suitable construction; 2, standards rising from the frame 1; 3, a top plate or type-ring secured to the standards 2; 4, carriage guide rods or tracks secured to the top plate 3; 5, a carriage of the usual construction running upon the tracks 4; 6, a platen-carrier connected to the carriage 5 in any suitable way; 7, a platen journaled in the carrier 6; 8, a guide-roller at the front of the platen-carrier 6 and running upon a guide and shift rail 9; 10, a rack pivotally connected with the carriage 5 at 11; 12, a toothed wheel engaging with the rack 10; 13, a shaft on which the wheel 12 is fast; 14, a bearing for the shaft 13; 15, a ratchet-wheel connected with the shaft 13 in any usual or

suitable manner, as by a backing-ratchet in a casing 16.

17 and 18 are escapement-dogs carried by a rocker-arm 19 and connecting with the ratchet or rack 15; 20, a rock-shaft to which the arm 19 is fast; 21, a spring for rocking the shaft 20 and arm 19 rearwardly; 22, an arm extending forwardly from the shaft 20 and carrying a transverse bar 23; 24, one of two rods connected with the bar 23 and supporting the universal bar 25; 26, key-levers provided with notches in their upper edges at near their rear ends and fulcrumed upon a rib 27, extending downwardly from the top of the base-frame 1; 28, springs secured to a transverse bar 29 of the frame and normally retaining the key-levers 26 in their upper positions against the stop 30; 31, a spring-drum; 32, a strap connecting the spring-drum with the carriage 5; 33, a space-key bar at the front of the keyboard; 34, type-bar hangers secured to the top plate 3 by screws 35; 36, type-bars journaled in the hangers 34.

The foregoing devices are or may be of any suitable or known construction.

37 is a rod pivotally connected at its upper end to an arm of the type-bar 36 and provided at its lower end with screw-threads 38.

40 is a rod pivotally connected at 41 to a strap 42 on a key-lever 26 and is provided with an eye 43, through which the threaded end of the rod 37 passes freely. The rod 37 is provided with one or more nuts 44 above the eye 43, said nuts being adjustable along the threaded portion 38 of the rod, and also with one or more nuts 45 below the said eye and likewise adjustable.

46 is a spiral spring surrounding the rod 37 and abutting against the nut 45 and the lower side of the eye 43. By preference the nuts 44 and 45 are at such a distance apart upon the rod 37 as will secure that the spring 46 shall be under no strain, (compression in the form of the invention illustrated in the drawings,) and for this reason I have shown the nut 44 as being at some little distance from the eye 43, though it is not essential that there should be any separation between the two.

By preference the spring 46 is of such strength that it will not be materially compressed in the operation of starting a type toward the platen by a stroke upon a finger-key 26^x, but
5 will yield to the continued or surplus pressure of the finger upon the key after the impact of the type, as indicated in the dotted lines in Fig. 1. In this manner an elastic touch at the beginning and end of the stroke upon a key
10 is secured and shock to the finger is avoided. Upon the release of the depressed key the springs 28 and 46 quickly return the same to normal position, and the return of the type-bar to normal position by its weight may be
15 hastened by the sudden abutment of the eye 43 against the nut 44.

In the modification illustrated at Fig. 3 above the lower check-nut 45^x is provided a sleeve 47, which is spirally cut on the exterior at 48, into which spiral the lower end of
20 the spring 46 is forced, thus securely holding the spring in position relatively to the rod 37 and providing for its accurate adjustment as to strength by turning it farther onto or off
25 of the sleeve 47.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a type-writing machine, the combination of a platen, a pivoted type-bar, an actuating-rod pivoted to said type-bar, a second

pivoted rod slidably connected at its free end to the free end of the first-mentioned rod, a spring interposed between the ends of said rods, and a key-lever for actuating the several parts, the construction and arrangement
35 being such that when the key-lever is depressed, the spring remains substantially unaffected until the type-bar strikes the platen, whereupon the spring is compressed to cushion or relieve the finger of shock.

2. In a type-writing machine, the combination of a platen, a type-bar, a key, a rod pivotally connected with the type-bar at one end and having a screw-thread at its other end, an eye-bar connected with the key, the said
45 rod passing through the said eye, a nut engaging the threaded end of said rod and provided with a spiral groove, and a spiral spring frictionally engaging said groove at one end and abutting against the said eye at the other
50 end.

Signed in the borough of Manhattan, in the city of New York, in the county of New York and State of New York, this 21st day of June, A. D. 1899.

WALTER J. BARRON.

Witnesses:

K. V. DONOVAN,
A. C. VAN BLARCOM.