

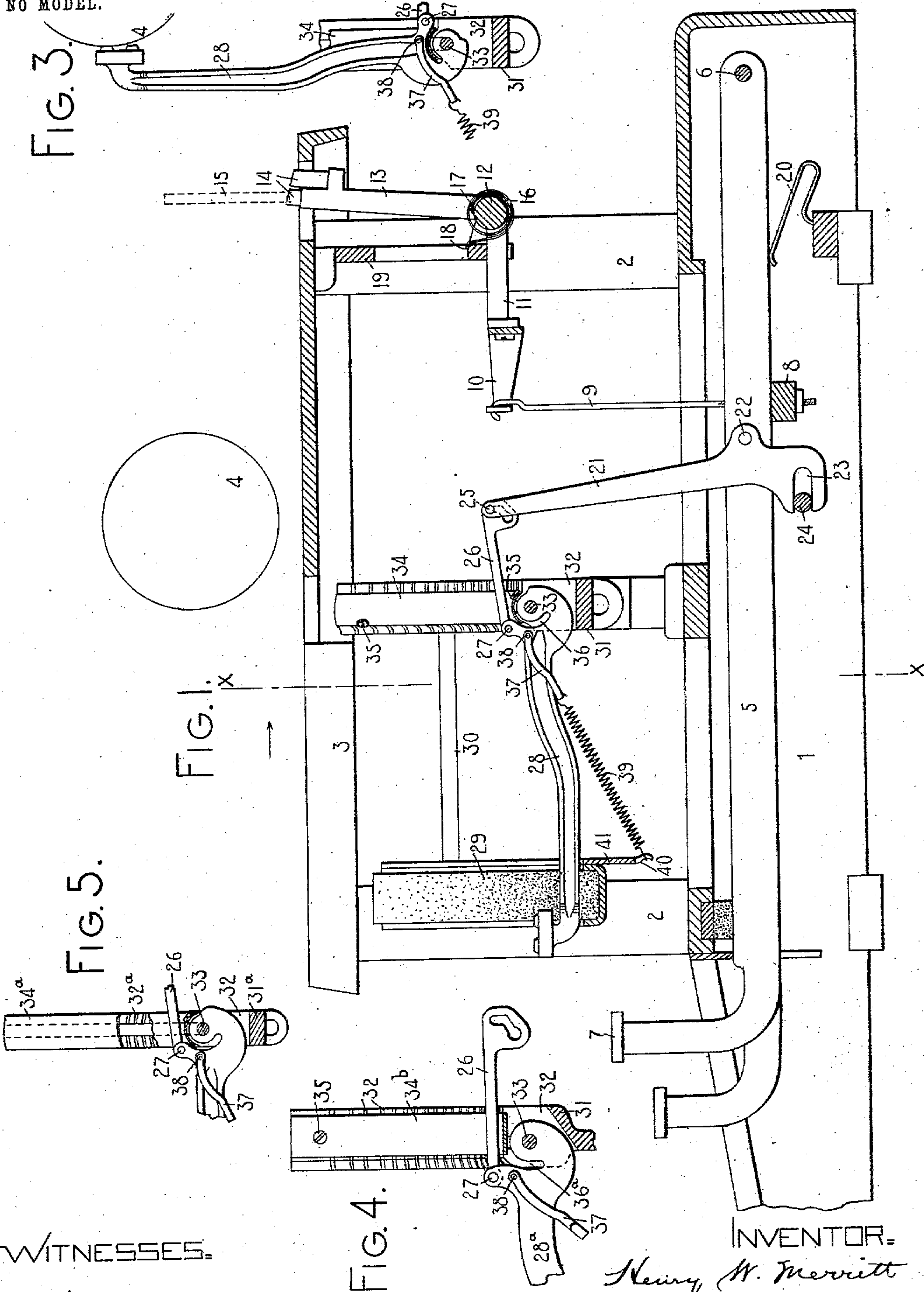
No. 740,890.

PATENTED OCT. 6, 1903.

H. W. MERRITT.
TYPE WRITING MACHINE.
APPLICATION FILED JULY 15, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

K. V. Donovan
Charles Smith

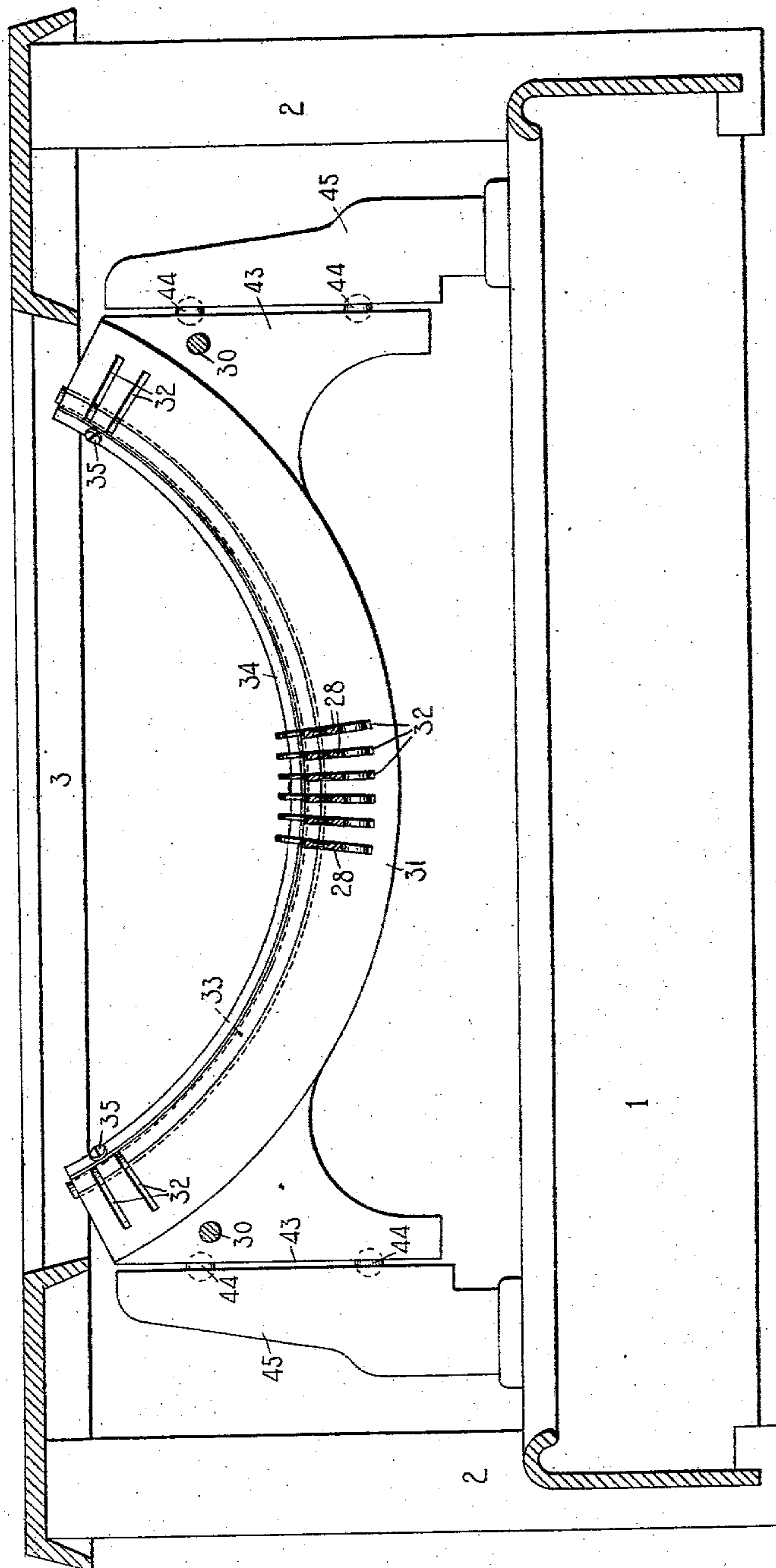
INVENTOR:
Henry W. Merritt
by *Jacob Felbel*
HIS ATTORNEY

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2 SHEETS—SHEET 2.

FIG. 2.



WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

HENRY W. MERRITT, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE MONARCH TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 740,890, dated October 6, 1903.

Application filed July 15, 1903. Serial No. 165,563. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. MERRITT, a citizen of the United States, and a resident of Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to type-writing machines, and more particularly to means for keeping dust or grit out of the bearings of the type bars or carriers.

When the face of the platen is arranged over the type-bar bearings, as in "front-strike" machines, particles of rubber, paper, &c., resulting from erasures are apt to fall onto and into the type-bar bearings and interfere with the free movements of the type-bars.

The object of my present invention is to overcome the difficulties referred to; and to this main end my invention consists in the novel features of construction, arrangements of parts, and combinations of devices to be hereinafter described and claimed.

In the accompanying drawings, wherein like reference characters indicate like parts in the various views, Figure 1 is a vertical front-to-rear sectional view of one form of type-writing machine embodying my invention. Fig. 2 is a transverse sectional view of the same with parts omitted, the section being taken on the line *x x* of Fig. 1 and looking in the direction of the arrow in said figure. Fig. 3 is a fragmentary vertical sectional view taken centrally through the type-bar segment and showing certain of the parts illustrated in Fig. 1, the type-bar being shown in the printing position. Fig. 4 is a fragmentary vertical sectional view taken centrally through the type-bar segment and showing a modified form of my invention. Fig. 5 is a like view of still another form of my invention.

The framing 1 of the machine is provided with corner-posts 2 and a top plate 3, which supports a suitable carriage (not shown) having a platen 4, diagrammatically illustrated. Key-levers 5 are pivoted at 6 in the base of the machine, and each key-lever has the usual finger-key 7. Extending transversely be-

neath the various key-levers is a universal bar 8, which is connected at its ends to upwardly-extending links 9, connected at their upper ends to a transverse bar 10, secured to a forwardly-projecting crank-arm 11, extending from the rock-shaft 12 of a dog-rocker 13. The dog-rocker carries feed-dogs 14, which cooperate with a suitable feed rack or wheel 15 to afford a step-by-step feed movement of the carriage. The dog-rocker and its associated parts are restored to normal positions by a spring 16, secured at one end 17 to the rock-shaft of the dog-rocker and at its opposite end 18 to a bracket-plate 19, and each of the key-levers is restored to its normal position by the usual returning-spring 20.

A sublever 21 is pivoted at 22 to each key-lever and has a slotted portion 23 at the lower end thereof. A fulcrum-rod 24 extends from side to side of the machine beneath the key-levers and through the slots 23 in the various sublevers. The upper end of each sublever is pivotally connected at 25 to one end of a link or type-bar-actuating device 26, whose opposite end is pivoted at 27 to a type-bar 28, the forward ends of the various type-bars being supported by a segmental pad 29, which is sustained by arms 30, projecting forwardly from the vertically-disposed type-bar segment 31. The type-bars 28 are segmentally arranged and disposed in radial bearing-slots 32, formed in the type-bar segment, and said type-bars are pivoted therein, preferably on a pivot-wire 33, passing through bearing-holes in the type-bars. Bearing upon the upper edge of the type-bar segment is a segmental cap, cover-plate, guard, or dust-shield 34, which wholly or partly closes the bearing-slots 32 at the upper sides thereof, and said cap or shield is secured directly to the type-bar segment by screws 35 or by other suitable means.

From an examination of Fig. 1 it will be observed that the dust-shield is interposed between the front face of the platen 4 and the type-bar pivot-wire, so as to prevent the admission of dust to the pivotal bearings of the type-bars. It will likewise be observed that the dust-shield conforms in cross-section to the contour of the upper edge of the type-

bar segment and is fitted close thereto over the slots as a cap, so as effectually to prevent the admission of dirt between the upper edge of the segment and the cap-like shield.

5 In Figs. 1, 2, 3, and 5 the upper edge of the segment is curved in transverse section, and the dust-shield has a corresponding curvature in transverse section.

10 In the construction shown in Fig. 4 the upper edge of the segment is flat, and the dust-shield conforms to said upper edge. It should be understood that the dust-shield may wholly or only partially cover the bearing-slots 32 in the segment; but the more it covers the
15 slots the better. In Figs. 1, 2, 3, and 4 the slots are partly covered by the dust-shield, whereas in the construction illustrated in Fig. 5 the slots 32^a in the type-bar segment 31^a are wholly covered by the dust-shield 34^a.
20 In the construction embodying the transversely-curved dust-shield it will be seen that the transverse curvature of said dust-shield is concentric or substantially concentric with the type-bar pivot and that each
25 type-bar has a recess or slot 36 therein at its heel which conforms to the transverse curvature of the dust-shield. In other words, the slot or recess 36 in each type-bar is concentric with the type-bar pivot and receives the
30 dust-shield in both the normal and printing positions of the type-bar, so that the dust-shield covers the pivotal bearings of the type-bars and yet does not interfere with the free movements of the type-bars to the printing
35 positions, as may be seen upon reference to Fig. 3.

While the dust-shield 34^b (illustrated in Fig. 4) is flat in transverse section, it nevertheless is adapted to enter within the curved
40 recess or opening 36^a in each of the type-bars 28^a. Each type-bar has a link 37 pivoted thereto at 38, and the forward end of each of these links is connected to one end of a contractile restoring-spring 39, which has its op-
45 posite end connected to a finger 40, formed on a plate 41, attached to the pad-support 29.

In each of the constructions shown the link or type-bar-actuating device 26 is above the dust-shield, and said shield is interposed be-
50 tween the type-bar pivot and said actuating device, so that the actuating device is on one side of the shield and the type-bar pivot on the other side thereof, and there is no interference with the movements of the actuating
55 device.

In each of the constructions shown in Figs. 4 and 5 the parts are the same as those described in connection with Fig. 1, excepting as to the specific differences hereinbefore
60 pointed out.

From certain aspects of my present invention any suitable means may be employed for actuating the type-bar, and it is immaterial whether the platen be shifted relatively to
65 the type-bars for upper and lower case printing or the type-bars be shifted relatively to the platen or, in fact, whether there be any

shift at all. In the present construction, however, I have illustrated the type-bar segment as provided with guideways 43, movable on antifriction-balls 44, which coöperate with fixed guideways 45, secured to the frame of the machine, so that a vertical shift of the segment is afforded for upper and lower case writing. The segment may be shifted by any
75 suitable means—such, for instance, as those employed in the Monarch type-writing machine.

What I claim as new, and desire to secure by Letters Patent, is— 80

1. In a front-strike type-writing machine, the combination of a vertically-disposed curved and slotted segment, a series of type-bars pivoted to work in the slots of said segment, and a dust-shield covering the pivots
85 of said type-bars and secured to and bearing directly on the slotted portion of said segment.

2. In a type-writing machine, the combination of a type-bar segment, the upper edge
90 whereof is curved in transverse section, a series of type-bars pivoted in said segment, and a cover-plate or dust-shield that is curved in transverse section to conform to the top edge of the segment and which bears thereon and
95 covers the pivotal bearings of the type-bars.

3. In a type-writing machine, the combination of a type-bar segment having a series of radial slots therein, a series of type-bars pivoted in the slots in said segment, and a segmental dust-shield that is curved in transverse section and fitted to bear upon the slot-
100 ted portions of the upper edge of the segment and which wholly caps the said slots and protects the slots and pivotal bearings against
105 the admission of dust or grit.

4. In a type-writing machine, the combination of a type-bar having a curved recess therein, and a dust guard or shield which is curved to conform substantially to the cur-
110 vature of the recess in the type-bar.

5. In a type-writing machine, the combination of a pivoted type-bar, and a dust guard or shield that is substantially concentric in transverse section with the type-bar pivot. 115

6. In a type-writing machine, the combination of a pivoted type-bar, and a dust guard or shield that is substantially concentric with the type-bar pivot and is fixed to the type-bar support. 120

7. In a type-writing machine, the combination of a pivoted type-bar having a recess that is substantially concentric with the pivot thereof, and a dust-guard that is within said recess in both the normal and printing posi-
125 tions of said type-bar.

8. In a type-writing machine, the combination of a pivoted type-bar having a recess that is substantially concentric with the pivot thereof, and a dust-guard that is concentric
130 in transverse section to the type-bar pivot.

9. In a front-strike type-writing machine, the combination of a type-bar segment, a series of segmentally-arranged type-bars piv-

oted to said segment and each provided with a recess therein that is substantially concentric with the pivot of the associated type-bar, and a segmental strip that covers the pivot-bearings of said bars and is adapted to extend into the concentric recesses of said type-bars.

10. In a type-writing machine, the combination of a type-bar, an actuating device therefor, and a dust-guard covering the bearing of the type-bar and interposed between the type-bar and the actuating device when the bar is in its normal position.

11. In a type-writing machine, the combination of a type-bar, an actuating device therefor, and a dust-guard covering the bearing of the type-bar and interposed between the type-bar and its actuating device when the bar is in its normal position, said guard being fixed with relation to the printing movement of the type-bar.

12. In a front-strike type-writing machine, the combination of a series of pivoted type-bars, actuating devices therefor, and a dust-guard covering the pivot-bearings of the type-bars and interposed between the type-bars and their actuating devices when the bars are in their normal positions.

13. In a front-strike type-writing machine, the combination of a series of segmentally-arranged pivoted type-bars, actuating devices therefor, and a segmental dust-guard covering the pivot-bearings of the type-bars and

interposed between the type-bars and their actuating devices when the bars are in their normal positions, said guard being fixed with relation to the printing movements of the type-bars.

14. In a type-writing machine, the combination of a slotted type-bar segment, a series of type-bars pivoted to said segment and working in the slots thereof, a series of actuating devices for said type-bars, and a segmental dust-shield secured to and bearing directly on the slotted portions of said segment and located between the pivotal bearings of the type-bars and the said actuating devices.

15. In a front-strike type-writing machine, the combination of a vertically-disposed type-bar segment having radial slots therein, a series of segmentally-arranged type-bars pivoted in said radial slots, a series of segmentally-arranged key-actuated links for said type-bars, and a segmental dust-shield fitted to and bearing directly on the slotted portions of said segment and capping the said slots in the segment beneath the said links.

Signed at borough of Manhattan, city of New York, in the county of New York and State of New York, this 14th day of July, A. D. 1903.

HENRY W. MERRITT.

Witnesses:

K. V. DONOVAN,
E. M. WELLS.