

No. 884,155.

PATENTED APR. 7, 1908.

E. B. HESS.
TYPE WRITING MACHINE.
APPLICATION FILED JUNE 30, 1903.

Fig. 1.

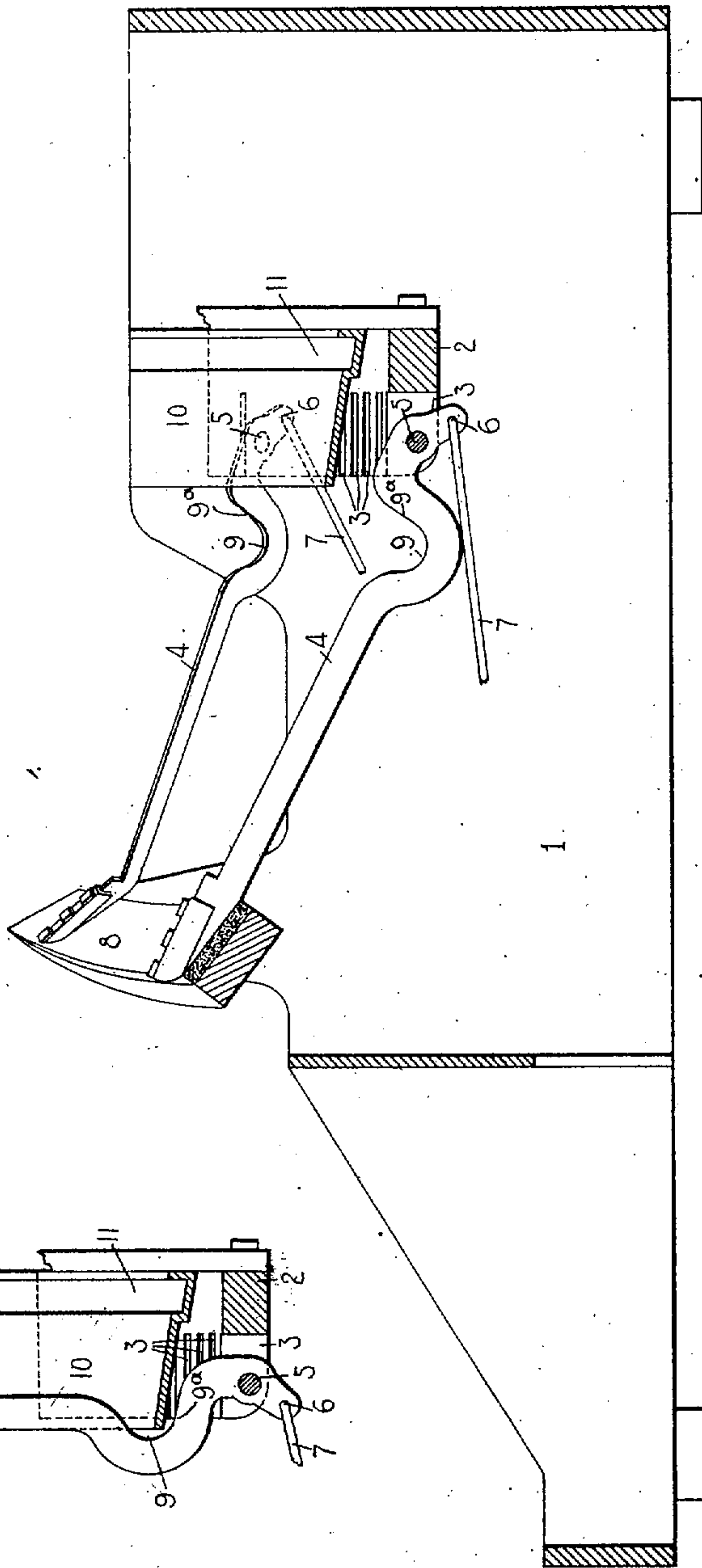
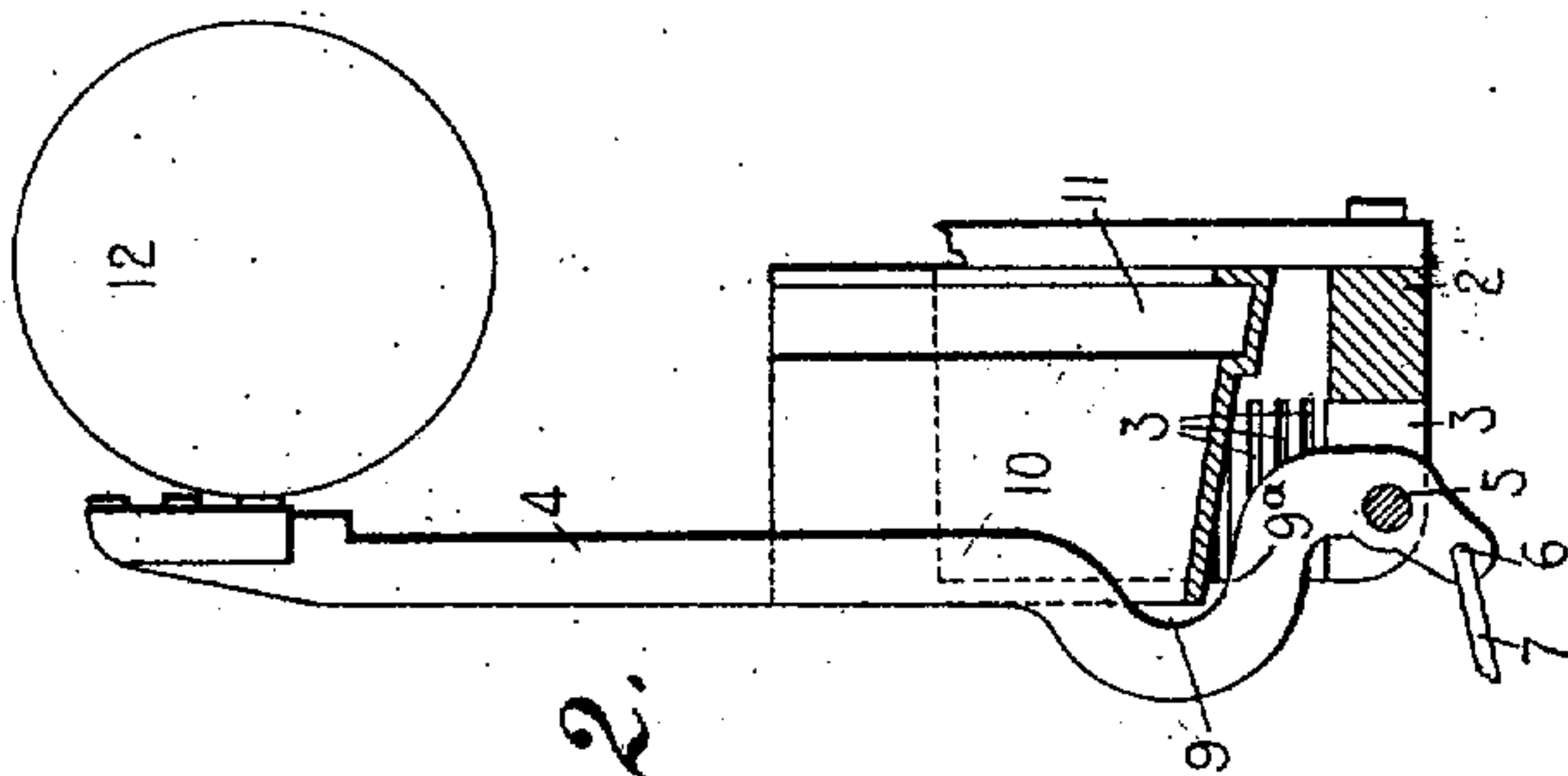


Fig. 2.



WITNESSES.

K. V. Donovan
Wm. E. Smith

INVENTOR.

Edward B. Hess
by Jacob Felsch
HIS ATTORNEY

UNITED STATES PATENT OFFICE.

EDWARD B. HESS, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNION TYPEWRITER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

No. 884,155.

Specification of Letters Patent.

Patented April 7, 1908.

Original application filed August 28, 1901, Serial No. 73,570. Divided and this application filed June 30, 1903. Serial No. 163,691.

To all whom it may concern:

Be it known that I, EDWARD B. HESS, citizen of the United States, and resident of the borough of Brooklyn, 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.

My invention relates to typewriting machines and more particularly to means for preventing the admission of dust or grit to the bearings of the type bars or carriers.

The present application is a division of my application Serial No. 73,570, filed August 28, 1901.

Heretofore great difficulty has been encountered by dust or grit entering the bearings of the type bars or carriers in typewriting machines and rendering the type bars heavy and sluggish in action, and it is at all times difficult to gain access to such bearings in order to clean them. These difficulties have been presented in a marked degree in "front strike" typewriting machines, where in the platen is ordinarily located above the type bars with the front face of the platen over the type bar bearings or pivots so that rubbings, dust or grit, composed of particles of sand, rubber and paper, falls from the paper or platen when the operator is making erasures, and passes into the bearings of the type bars or carriers, and affects the operation thereof.

The object of my present invention is to overcome the difficulties referred to by providing simple and efficient means to prevent the admission of dust or grit to the bearings of the type bars or carriers.

To the above and other ends which will hereinafter appear, 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 numerals indicate like parts in the various views, Figure 1 is a vertical front to rear sectional view of sufficient number of parts of one form of typewriting machines to illustrate my invention in its embodiment therein. Fig. 2 is a fragmentary side elevation of certain of the parts illustrated in Fig. 1, the view showing the type bar in the printing position, and certain of the parts in section.

The frame 1 of the machine supports a type bar segment or upright support 2 that opens upwardly and is slotted radially to provide bearing slots 3 for the segmentally arranged type bars 4, which are pivoted at 5 in said slots, and while I have shown but two type bars, it should be understood that a full set or system of segmentally arranged type bars is employed. The side walls of the slots or narrow spaces 3 guide the type bars in their movements in the particular construction shown, and constitute parts of the pivotal bearings. Each type bar is connected at 6 to an actuating device 7 which may in turn be connected to any suitable key actuated means for transmitting movement to the type bar, to swing it upwardly and rearwardly to printing position, as indicated at Fig. 2. The forward free ends of the type bars are supported upon a pad or support 8 and each of the type bars is notched, bent or formed so as to provide a recess, depression, space or notch 9 in the front edge thereof shown in the present instance adjacent to the pivot of the type bar, for purposes which will hereinafter appear. Extending above the bearings for the type bars, and forward of and intersecting a line drawn from any type bar pivot to the printing point, is a segmental strip 10 which constitutes a dust guard or shield that is preferably fixed and may be supported in place in any suitable manner, as for instance, by connecting the same rigidly to the ends of the type bar segment 2, so that the shield is independent of the type bars and remains fixed during the movement of the type bar to and from the printing position. This dust shield preferably wholly covers the bearing slots and type bar pivots and projects forward of the slotted portion of the type bar segment and is inclined downwardly and rearwardly from the front edge to the trough-like portion 11 that is adapted to receive any particles of dust or grit from the dust shield; and when a type bar is in the printing position, the shield extends into the space or recess 9 in the bar and portions of the bar are on opposite sides of the shield, one portion of the type bar being above and another portion being below the shield, so that the shield does not interfere with the free movement of the type bars to the printing positions.

It will be seen that the portion 9* of each

type bar constitutes an offset that enables the type bar to clear the shield in the printing movement of the bar and so that the heel and pivoted portion of the type bar remains beneath the shield or guard when the type bar is in the printing position.

It will be observed that the shield 10 constitutes a segmental strip that covers a plurality or series of type bar bearings and when these, or like terms are employed herein, it should be understood that they are intended to designate such a structure, whether a single strip is employed for all of the type bar bearings or several strips are employed, each covering the bearings of a plurality of the entire number of type bars embodied in the machine.

From an examination of Fig. 1, it will be observed that the front face of the platen 12, which platen is diagrammatically illustrated, is in the same plane or substantially the same plane as the pivots of the type bars, and that these pivots and the bearing slots for the type bars are fully protected from the admission of any rubbings, dust or grit which may drop from the paper at the front face of the platen; the dust or grit dropping upon the shield and passing to the trough-like portion 11 thereof.

It will be seen that the type bars are pivoted in an upright arc and are adapted to strike against the front face of the platen which is located above the pivots of the type bars; that the dust guard is located below the platen and extends both in front of and behind the type bar pivots and beneath the platen and between the front face of the platen and the pivoted bearings of the type bars and intercepts falling particles of matter or rubbings which drop from the front face of the platen and prevents such rubbings from entering and clogging said bearings; that the type bars are shaped to clear the dust guard during the printing movements of the bars and that I have provided simple and efficient means for preventing rubbings or grit from entering the pivotal bearings of the type bars.

It will be understood that for the purpose of my present invention it is immaterial what character of means are employed for actuating the type bars; that it is likewise immaterial whether the platen is shifted relatively to the type bars for upper and lower case printing or the type bars are shifted relatively to the platen, or in fact, whether more than one type is employed on each bar so that no relative shift between the type bars and platen will be required, as all of such features are well known; and when I refer herein to a "fixed dust shield" or "shield which is fixed against movement" or the like, I mean a shield that bears a fixed relation to the type bar bearings, whether the segment that carries the type bars is moved for upper

or lower case writing or the platen is moved relatively to the segment for this purpose.

While I have shown and described one form of construction embodying my invention, it should be understood that various changes may be made without departing from the spirit of my invention.

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

1. In a front-strike typewriting machine, the combination of a platen, type bars pivoted to strike against the front of the platen, the pivotal bearings of said type bars being below the front of the platen where rubbings from the paper on the platen tend to fall into said bearings, and a dust guard arranged between the front of the platen and the pivotal bearings of the type bars to intercept said falling rubbings and prevent them from entering and clogging the type bar bearings.

2. In a front-strike typewriting machine, the combination of a platen, a series of rearwardly striking pivoted type bars having their bearings arranged in an upright arc below the platen, and a dust guard interposed between the printing line on the platen and the bearings of said type bars and preventing particles of dust or grit which fall from the front of the platen from entering said bearings, each of said type bars being shaped to clear the dust guard when the bar is at the printing position.

3. In a front-strike typewriting machine, the combination of a platen, a segmentally arranged series of front-strike pivoted type bars, and a dust guard arranged above and covering the bearings of the type bars, each of said type bars having the part thereof that stands in front of said dust guard when said type bar is in printing position forward of a line joining the pivotal center of the type bar and the printing point, whereby the type bar clears the dust guard.

4. In a typewriting machine, the combination of a platen, pivoted type bars arranged below the platen and adapted to strike rearwardly against the front face thereof, and means for intercepting particles of matter that fall from the platen, said means being located between the bearings of the type bars and the front face of the platen and extending both in front of and behind the pivots of the type bars.

5. In a typewriting machine, the combination of a platen, pivoted type bars arranged below the platen and adapted to strike rearwardly against the front face thereof, and means for intercepting particles of matter that fall from the platen, said means being located between the bearings of the type bars and the front face of the platen and extending behind the pivots of the type bars.

6. In a typewriting machine, the combination of a platen, pivoted type bars arranged below the platen and adapted to strike rear-

wardly against the front face thereof, and a shield located between the bearings of the type bars and the platen and extending underneath the front of the platen.

7. In a typewriting machine, the combination of a platen, pivoted type bars arranged below the platen and adapted to strike rearwardly against the front face thereof, and means for intercepting particles of matter that fall from the platen, said means being located between the bearings of the type bars and the front face of the platen and being inclined downwardly and rearwardly and extending rearwardly of the pivots of the type bars.

8. In a typewriting machine, the combination of a platen, an upright segment located below the platen and containing a series of bearing slots, type bars pivoted in said slots, and a shield located between said slots and the platen and extending over the slots at their front ends.

9. In a front-strike typewriting machine, the combination of an upright type bar segment, a series of rearwardly striking type bars carried by said segment and pivoted to strike against the front face of the platen, and a segmental dust shield that projects forwardly of the segment and covers the pivotal bearings of the type bars and prevents particles which drop from the front face of the platen from entering the bearings of the type bars.

10. In a front-strike typewriting machine, the combination of a platen, type bars pivoted to strike rearwardly against the front face of the platen, and a dust shield located between the pivots of the type bars and the front face of the platen, each type bar being so constructed that a portion thereof will extend over the shield and a portion thereof will be under the shield when the type bar is in the printing position.

11. In a front-strike typewriting machine, the combination of pivoted type bars, a platen, an upright segment arranged below said platen and having bearing slots in which said type bars move and by the side walls of which the type bars are guided, and a dust shield which wholly covers said slots and prevents the admission of particles which drop from the front face of the platen to said bearing slots.

12. In a front-strike typewriting machine, the combination of a platen, a series of type bars pivoted below the platen to swing rearwardly to strike against the front face thereof, and a dust shield that covers the bearings of the type bars, each of said type bars being off-set to clear the shield when the type bar is in the printing position.

13. In a typewriting machine, the combination of a platen, an upright type bar support located below the platen and including walls which are separated by narrow spaces, type bars pivoted within said spaces, and a shield located between said spaces and the platen and extending over the spaces at their front ends.

14. In a typewriting machine, the combination of a type bar formed with a recess therein, and a dust shield for the bearing of said type bar, said shield being adapted to be received within the recess in said type bar.

15. In a front strike typewriting machine, the combination of a type bar segment, a series of segmentally arranged type bars pivoted to said segment and each provided with a recess therein, and a segmental strip that covers the pivot bearings of said bars and is adapted to extend into the recess in each type bar and constitutes a dust guard to prevent the admission of dust or grit to said pivot bearings.

16. In a typewriting machine, the combination of a pivoted type bar, and a dust shield to prevent the admission of dust to the pivot bearing of the type bar, said type bar being formed to receive the dust shield when the bar is in the printing position so as to enable the shield to cover the pivot bearing and not interfere with the printing movement of the bar.

17. In a writing machine, the combination of the platen, the type bar segment, type bars pivoted therein and notched or bent to form a recess in their front edges adjacent the pivots and a shield or guard located above the pivots, the front edge of which enters said recesses or notches as the type bars approach the printing point.

18. In a typewriting machine, the combination of a pivoted type bar having a notch or recess, and a dust shield which lies within said recess when the type bar is in its printing position.

19. In a typewriting machine, the combination of a pivoted type bar formed with a recess therein, and a dust shield for the bearing of said type bar located in close proximity to and partially inclosing said bearing, said shield being adapted to be received within the recess in said type bar.

Signed at the borough of Manhattan, city of New York, in the county of New York and State of New York, this 27th day of June A. D. 1903.

EDWARD B. HESS.

Witnesses:

JOSEPH M. STOUTON,
K. V. DONOVAN.