

(No Model.)

E. E. HILLS.
TYPE WRITING MACHINE.

No. 492,800.

Patented Mar. 7, 1893.

Fig. 1.

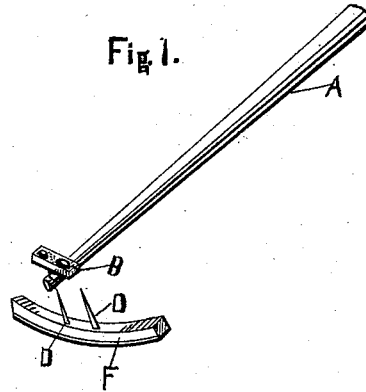


Fig. 2.

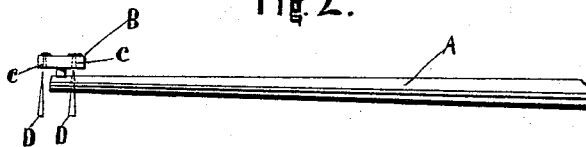
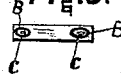


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

ELMER E. HILLS, OF DIXON, ILLINOIS.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 492,800, dated March 7, 1893.

Application filed November 25, 1892. Serial No. 453,068. (No model.)

To all whom it may concern:

Be it known that I, ELMER E. HILLS, a citizen of the United States, residing at Dixon, in the county of Lee and State of Illinois, have
5 invented certain new and useful Improvements in Type-Writing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which
10 it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention has reference to improvements in typewriters, and pertains more especially to the provision of mechanism or means for keeping the type clear of accumulating ink, which otherwise has the effect of blurring the type and rendering its impression less distinct.

In the use of the typewriter, it has been the general experience that those letters which, in their conformation, include within themselves an inclosed area, are very likely to fill
25 up, in said area with the heavier portions of the ink, to such an extent as to render the impression on the paper from the portion of type surrounding such area, indistinct, and to make a blur or blot from the accumulation
30 within such area.

It is the purpose of this invention to provide means for constantly removing from such inclosed areas, in such of the letters as have the same, the beginning of such accumulation, and thereby keep the edges, or impress-making portions of the type, in good operative condition. The difficulty referred to is not so serious with those letters in which there are no inclosed areas, and therefore my invention
40 is intended to be utilized only in connection with the class of letters first above mentioned.

My invention consists, in substance, of perforating such inclosed area, in the line of movement of the type, and providing behind
45 or below the type, at the point of its greatest retraction from the paper, a stationary projecting spindle or needle, adapted to pass through the aforesaid perforation in the type at each successive return stroke of the latter.

As my invention, with obvious changes, may be adapted for use in connection with any of the typewriters in which the type are carried

upon oscillating arms, and its method of application and operation can be readily understood from the description herein given, I do
55 not deem it necessary to show or describe the machine, to which it is an adjunct, any further than will make the mode of construction and operation of my invention intelligible to those versed in the art to which it pertains.

I attain the purpose aforesaid by the construction shown in the accompanying drawings, in which

Figure 1 is a side elevation, in perspective, of the type-bearing arm of an ordinary typewriter, provided with the usual type and the perforating needle, aforesaid, in position to project through said type on the return stroke of the latter, after each operation thereof. Figs. 2 and 3 are details of the same parts.

A is the usual type-bearing arm of the typewriter.

B is the usual type seated on the end thereof, in the ordinary mode, and in this instance bearing the letter O.

C is an opening formed centrally entirely through the type B, and the interior portion of said letter O, having, at its lower portion, the walls thereof beveled outwardly to afford more ready entrance therein of the needle D. The latter is firmly seated upon a base F, suitably attached to the frame of the machine, in position to present the point of the needle D to the lower or outer entrance of the opening C when the arm A has nearly reached the end
85 of its return stroke. The arm A, by its connection with its usual lifting lever, returns after each operation to precisely the same locality. But, if desired, slight guiding standards may be erected on the base F, on either side of the needle D, to insure the presentation of the opening C to the projected end of the needle D.

It is obvious that the inclination of the needle D will necessarily be such as to accommodate said needles to the line of movement of the type B at the end of the back or out stroke of the latter. As the degree of penetration or extent of movement, within the type is very slight, the rigidity of position of
100 the needle D can be readily assured.

The operation of my invention is as follows:—A series of needles D being suitably seated, respectively, behind such of the type

as have an inclosed area, as aforesaid, at each
return of said type, the momentum of the lat-
ter forces the opening C therein over the pro-
jected end of the needle D, whereby any in-
5 cipient accumulation within said area is
pushed from the type, and the accumulation
of any clog within said type prevented, and
the objectionable feature of such accumula-
tions thereby obviated.

10 What I claim as my invention, and desire to
secure by Letters Patent of the United States,
is—

In a typewriter, the combination of a mov-

able type B, provided with an opening C, and
a needle D, suitably seated on the frame of 15
the machine in position to enter said opening
at the limit of the out stroke of said type;
substantially as shown, and for the purpose
described.

In testimony whereof I affix my signature in 20
presence of two witnesses.

ELMER E. HILLS.

In presence of—

VIRGIL S. FERGUSON,
JANE REID.