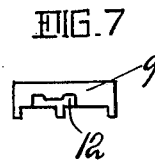
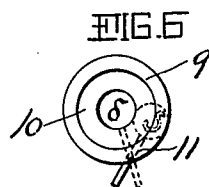
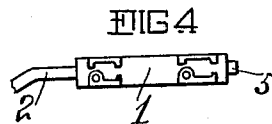
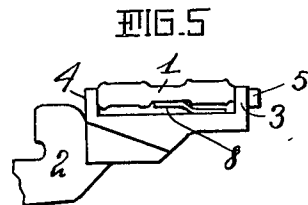
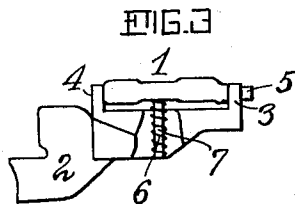
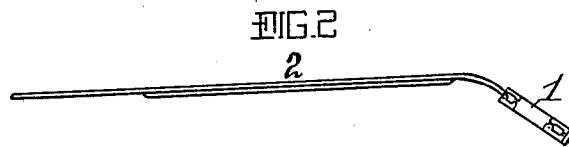
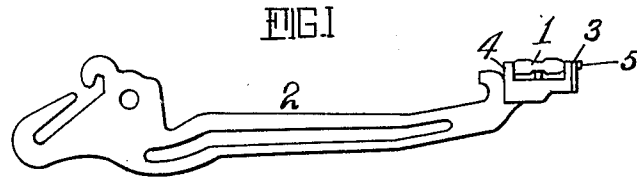


No. 895,652.

PATENTED AUG. 11, 1908.

G. MACIS.
CHANGEABLE TYPE FOR TYPE WRITERS.
APPLICATION FILED OCT. 5, 1906.



Witnesses
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GABRIEL MACIS, OF ST. PETERSBURG, RUSSIA.

CHANGEABLE TYPE FOR TYPE-WRITERS.

No. 895,652.

Specification of Letters Patent.

Patented Aug. 11, 1908.

Application filed October 5, 1906. Serial No. 337,519.

To all whom it may concern:

Be it known that I, GABRIEL MACIS, a subject of the Emperor of Russia, residing at St. Petersburg, Russia, have invented new and useful Improvements in Changeable Types for Type-Writers, of which the following is a specification, reference being had to the annexed drawing.

In all the most perfect typewriters, as for instance, the Remington, Underwood, Ideal and other systems, in which each printing lever is furnished with one letter block, it is possible to print only with one type, *i. e.* Russian or Latin. For changing the type in these machines it is necessary to change all the levers with the letters, which can be fulfilled only by a specialist and with a considerable loss of time. The present invention does away with this drawback and affords a possibility to change the types in these machines quickly by everybody, even by an altogether inexperienced person, working on the machine.

The important feature of the machine is in the fact, that the letter block does not form one whole piece with the lever and is not fastened rigidly to the same, but constitutes a separate part, connected in hinge-fashion with the lever, in such a manner, that it can be turned into a certain position, in which it is held with the aid of a spring. The block is principally made tetrahedral, although it may also have a larger number of sides. Each side may be furnished with letters of an alphabet or other signs, so that by turning all the letters into a certain position, it is possible to make use of either alphabet.

The machines affording most convenience in typing, are those in which one sign or letter is marked on the key and therefore in changing the alphabet, when turning the letter blocks, it is necessary to change the letters or signs on the keys, accordingly. An opening is made for this purpose in the key, in which the letters or signs corresponding with the changed alphabet may appear.

On the annexed drawing, Figure 1 represents, as an example, a side view of the letter lever of the "Underwood" typewriter, furnished with the proposed movable letter; Fig. 2 is an edge view of this lever; Figs. 3 and 4 represent, in a larger scale, a side view and plan of the movable letter block, held in a

certain position by a spiral spring; Fig. 5 is a side view of the letter block, which is held in proper position by a flat spring; Figs. 6 and 7 represent a plan and side view of a key furnished with changeable letters.

The letter block 1, having a tetrahedral form preferably, is located with its journals in lugs 3 and 4, which are cast to the ends of lever 2. One journal of the block ends in the shape of a square head 5, by means of which block 1 may be turned with the aid of a key in either direction. In each of the certain positions, the letter block is held in place by means of a spiral spring 6, pressing the stem 7 (Fig. 3) or with the aid of a flat spring 8, pressing directly against the block (Fig. 5).

An arrangement is shown in Figs. 6 and 7 for changing the letters on the keys, in accordance with the change of the alphabet on the letter levers. This arrangement is made so that there is an opening 10 in key 9, in which a letter or other sign may appear, this latter being fixed on a spring lever 11, for which purpose it is moved by the finger in the proper direction and is kept in a certain position, owing to its entering slot 12, made in the head of key 9.

Claims.

1. A type-bar for typewriting machines, having lugs at the end of said type-bar, a type-head provided with two types and journaled between the lugs aforesaid, a part formed with said type-head, for engagement by a key, to turn the same, and a spring carried by the type-bar and pressing against the underside of the type-head.

2. A type-bar for typewriting machines, having lugs at the end of said type-bar, a type-head provided with two types and with journals fitted between the lugs aforesaid, a part integral with said type-head and projecting from one of the lugs, for engagement by a key to turn the same, and a spring carried by the type-bar and pressing against the underside of the type-head.

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

GABRIEL MACIS.

Witnesses:

N. D. FORNIER,
EDWARD WANSCHREIDT.