June 12, 1928. 1,673,724

H. H. VICKERS

KEYBOARD ATTACHMENT FOR TYPING AND COMPUTING MACHINES

Filed April 29, 1925

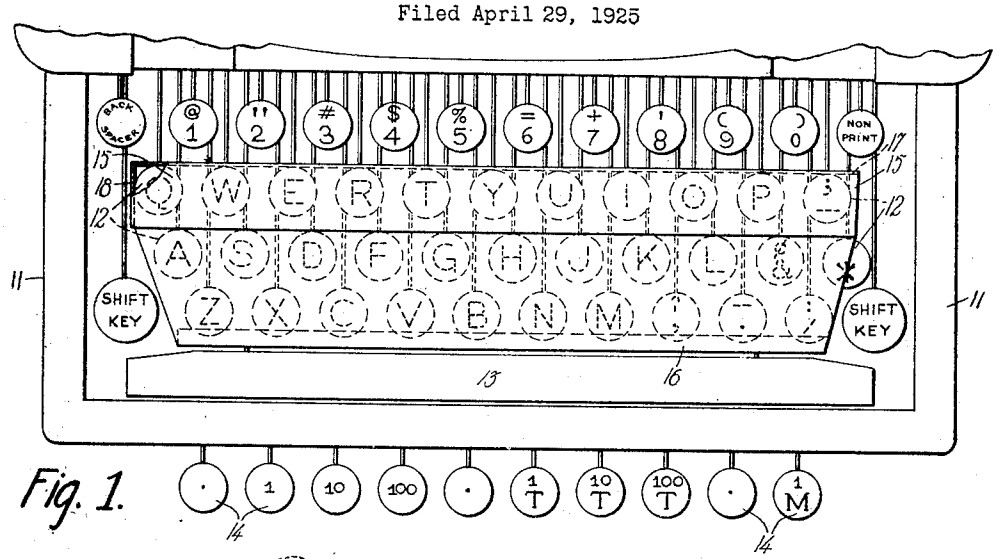


Fig. 1.

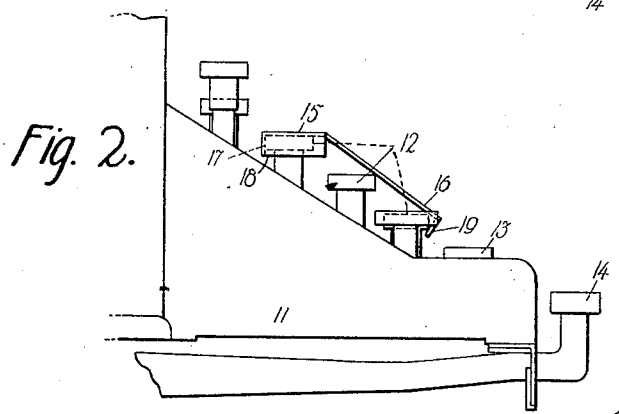


Fig. 2.

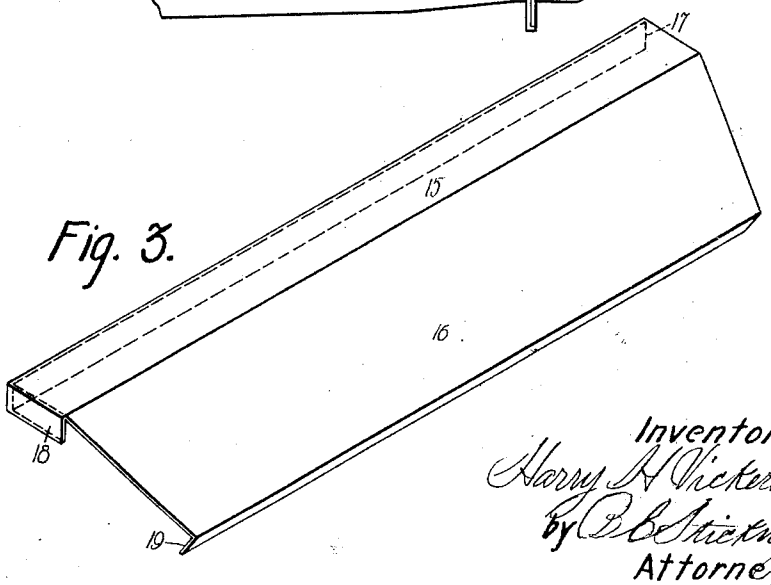


Fig. 3.

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Patented June 12, 1928. 1,673,724

UNITED STATES PATENT OFFICE.

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KEYBOARD ATTACHMENT FOR TYPING AND COMPUTING MACHINES.

Application filed April 29, 1925. Serial No. 26,587.

This invention relates to the keyboards of combined typewriting and computing machines, in which it is usual for the rear bank of keys to operate the numeral-types, and also to control the computing mechanism.

It sometimes is necessary to use the numeral-keys in computation for long periods of time, without using the alphabet-keys. Difficulties then arise, because the wearied and strained eyes of the operator take more or less notice of the remainder of the keyboard, thereby tending to confusion and to retardation of speed, and to increase in the liability of error in operation. Moreover, the tired fingers of the operator are apt occasionally to depress alphabet-keys by mistake, as it is quite difficult to control the fingers when operating the machine at high speed, especially if the operation consists wholly of numeral-keys. Mistakes in computation are not self-finding, so that even one error is a serious matter, and the reduction of the liability of error is a desideratum. These and other mistakes of manipulation are particularly objectionable in performing listing work on a combined adding and typewriting machine, since they cause errors in the totals that frequently are difficult to detect. It has been sought to overcome these objections by placing the numeral-keys in a bank at the front of the keyboard, but this necessitates reconstruction of the machine.

One of the objects of the invention is to overcome these and other objections, and to facilitate the operation of the numeral-keys and avoid errors and increase speed, without reconstructing the machine or going to any substantive expense.

For this purpose the present invention provides means for rendering the numeral-keys highly conspicuous, by the use of a screen which covers up the alphabet-keys of the typewriter, leaving exposed the numeral-keys. Confusion thereof with the alphabet-keys is thereby avoided, and the above-mentioned objections are overcome. The cover is readily detachable whenever it is desired to use the alphabet-keys. It is a simple and inexpensive article, which can be readily constructed and applied to machines that are already in use. Moreover certain of the numeral-keys are similar to alphabet-keys, as, for example, "1" and "0", and in consequence an alphabet-key is occasionally apt to be operated by mistake in place of the numeral-key. It has been found that in making the numeral-keys of a typewriting-computing machine stand out boldly and conspicuously according to this invention it helps greatly to prevent the occurrence of these errors.

Preferably there is provided a closely fitting opaque cover or shield for the alphabet and the other keys of a computing-typewriting machine.

The temporary alphabet-key cover may have a normally level portion arranged to rest upon the top row of alphabet-keys and a downwardly-inclined portion overlying the remaining alphabet-keys. The cover or plate may have flanges along its upper and lower ends and a flange at one side adjacent its level portion. These flanges may engage with keys of the typewriting machine to hold or lock the plate in operative position on the keyboard without hindering the operation of the numeral and other keys not under the plate.

Other features and advantages will hereinafter appear.

In the accompanying drawings,

Figure 1 is a fragmentary top view of an Underwood bookkeeping typewriting machine, showing my invention applied thereto.

Figure 2 is a fragmentary side elevation of Figure 1.

Figure 3 is a perspective view of the cover.

The keys of the Underwood typewriting machine 11 which are ordinarily used for listing work and similar purposes are the ten numeral-keys adjacent the highest row of the alphabet-keys 12, the back-spacer key, the non-print key, the right and left shift-keys, the spacer-bar 13 and the ten tabulator-keys 14. To have the numeral and tabulator keys stand out boldly and conspicuously on the keyboard of the typewriting machine 11 when it is being used for a time to do listing work, I cover the alphabet-keys 12 with a stiff, opaque plate which may be easily formed of sheet-metal or other suitable material. This plate may be made so that in operative position on a keyboard, a narrow portion 15 of it will be normally level, and may overlie and rest upon the top row of the alphabet-keys 12. A portion 16 of the plate may be integrally joined to the

level portion 15, and be downwardly inclined therefrom, so as to overlie and rest upon the remaining alphabet-keys. The level portion 15 of the plate may have a downwardly-bent flange 17 along its entire length arranged to engage closely behind the top row of the alphabet-keys 12, so that the flange may serve as a stop to prevent the plate from sliding downwardly out of operative position on the keyboard of the machine 11. The level portion 15 may have a downwardly-bent flange 18 on its left end arranged to fit closely against the first alphabet-key from the left (Q), in the top row of the alphabet-keys 12, and serve to stop the plate from moving, out of operative position, to the right. The inclined portion 16 of the plate may have a downwardly-bent flange 19 along its entire lower edge arranged to fit closely against the hook partly under the lowest or bottom row of the alphabet-keys 12. Part of the flange may be in line with or touching a portion of the left shift-key. The function of the flange 19 will appear hereinafter.

To put the plate in operative position on the keyboard of the typewriting machine 11, the left shift-key is depressed and held down and the plate is passed or slid over the keyboard from the left. The plate should be positioned while moving over the keyboard, so that the flange 17 will pass behind the top row of the alphabet-keys 12 and the flange 19 will pass partly in front of and partly under the bottom row of the alphabet-keys. When the plate has been moved to the right to its operative position on the keyboard, the flange 18 will have come up against the "Q" alphabet-key and thereby prevent further movement of the plate to the right. When the plate stops, its inclined portion 16 will have passed entirely over the left shift-key which may then rise to its normal position adjacent the left side of the plate-portion 16. The weight of the plate will slightly depress the alphabet-keys, so as to bring the inclined plate-portion 16 in line with the left shift-key, which will thus stop movement of the plate off the keyboard to the left. The flange 19 catching against the under side of the bottom row of the alphabet-keys 12 will prevent the plate from being raised directly or being swung upwardly around the upper row of the alphabet-keys 12. The flange 17 fitting closely against the keys in the upper row of the alphabet-keys 12 will engage with them to prevent the plate from being swung upwardly around the bottom row of the alphabet-keys 12. It will be thus seen that the plate is, in effect, locked on the keyboard of the machine 11 against movement in any direction whatever after the left shift-key has risen to its normal position.

The plate can be easily removed from the keyboard of the machine 11 by depressing the left shift-key of the machine and pulling or slipping the plate off to the left.

It can be readily seen that while the plate is in position on the keyboard of the machine 11, the numeral-keys will be better seen, and the alphabet-keys cannot be operated accidentally. It can also be seen that neither the plate nor its simple flange holding or locking means will hinder the free operation of the keys of the typewriting machine 11 not under the plate.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. Means for making conspicuous the numeral keys of a bookkeeping typewriting machine, said means comprising an opaque plate arranged so as to overlie the alphabet keys of said machine, said plate provided with a downwardly-bent flange at its upper end and a downwardly-bent flange at its side, said flanges arranged to engage with keys in the highest row of said alphabet keys so as to prevent movement of said plate on the keyboard of said machine downwardly or to the right, the lower portion of said plate arranged to engage with the left shift-key of said machine so as to prevent movement of said plate to the left on the keyboard of said machine.

2. Means for making conspicuous the numeral keys of a bookkeeping typewriting machine, said means comprising an opaque plate arranged so as to overlie the alphabet keys of said machine, said plate provided with three downwardly-bent flanges arranged to engage with certain alphabet keys so as to prevent movement of said plate with respect to the keyboard of said machine in any direction except to the left, the lower portion of said plate arranged to engage with the left shift-key of said machine so as to prevent movement of said plate to the left on the keyboard of said machine.

3. In a bookkeeping typewriting machine, in combination, a keyboard provided with numeral, alphabet and shift keys, and means for making conspicuous said numeral keys, said means comprising an opaque plate arranged to overlie said alphabet keys and provided with flange means arranged to engage with certain alphabet keys and a shift-key so as to hold detachably said plate on said keyboard.

4. A screen for typewriter keys made of sheet material bent to form a comparatively narrow upper part to overlie a single upper row of keys in horizontal relation thereto and a comparatively wide lower part declined from the front edge of the upper part to overlie a plurality of lower rows of keys, said upper part having a flange at one end to

cooperate with a key and its rear edge part angularly disposed to provide a downwardly projecting flange to engage the rear sides of the keys underlying said upper part to hold the screen in place.

5. A displaceable screen for typewriter keys made of sheet material bent to form a comparatively narrow upper part to overlie a single upper row of keys in horizontal relation thereto and a comparatively wide lower part declined from the front edge of the upper part to overlie a plurality of lower rows of keys, said upper part having at its rear edge a downwardly disposed flange to engage the rear sides of the keys underlying said part to hold the screen against downward displacement on the keys, and said lower part having at its front edge a downwardly projecting flange to engage the front sides of the adjacent keys to prevent accidental lifting of the screen.

6. A displaceable screen for typewriter keys made of sheet material bent to form a comparatively narrow upper part to overlie a single upper row of keys in horizontal relation thereto and a comparatively wide lower part declined from the front edge of the upper part to overlie a plurality of lower rows of keys, said upper part having at an end a downwardly disposed flange to engage the outer side of the adjacent key to prevent lateral displacement of the screen, and holding means on the upper side of the upper keys and lower side of the lower keys to prevent displacement of the screen on the keys.

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