J. C. McLAUGHLIN.

TYPE WRITING MACHINE.

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948,669.

Patented Feb. 8, 1910.

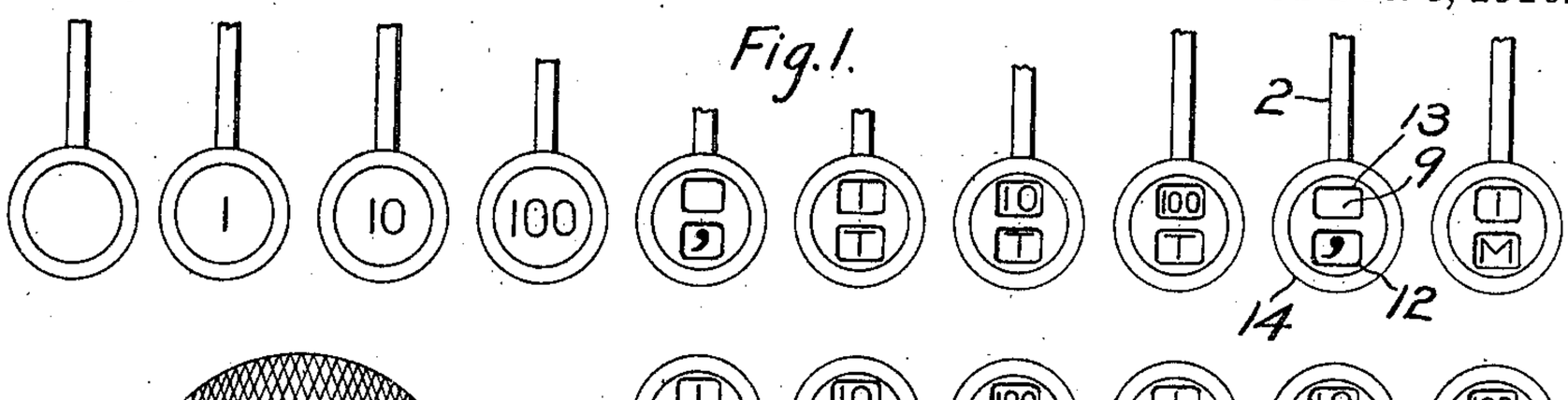

Fig. 1.

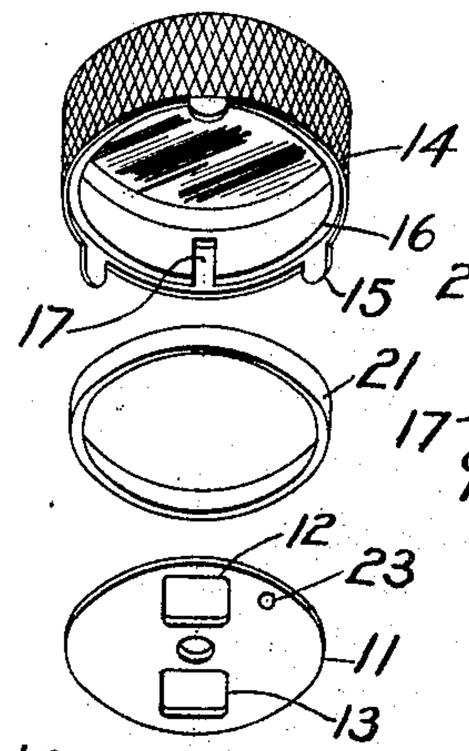

Fig. 2.

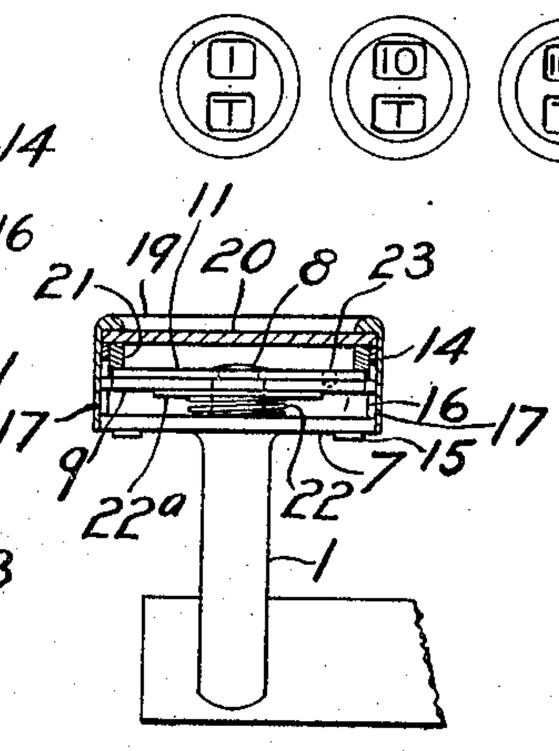

Fig. 3.

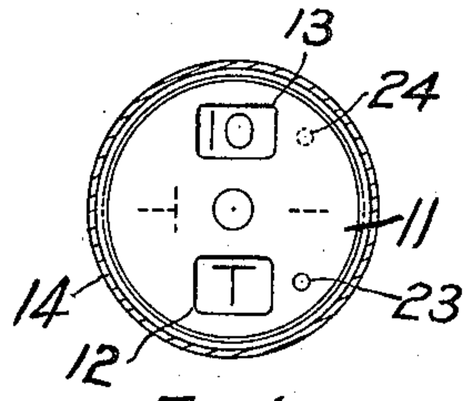

Fig. 4.

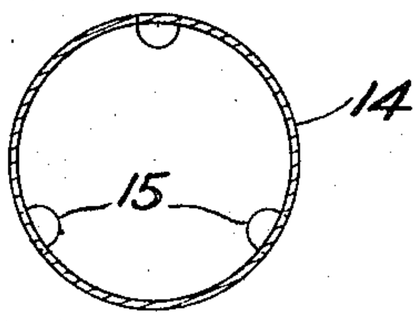

Fig. 5.

Fig. 6.

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TYPE-WRITING MACHINE.

948,669. Specification of Letters Patent. Patented Feb. 8, 1910.

Application filed February 7, 1908. Serial No. 414,664.

To all whom it may concern:

Be it known that I, JOHN C. McLAUGHLIN, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to the keys of type-writing and other instruments, and particularly to the denomination keys of tabulating mechanisms in which it is sometimes desired to have the same key indicate either one or another denomination.

The object of the invention is to provide simple and practicable means for effecting the desired changes in the keys.

In accordance with the present invention, a disk is provided with two sets of characters, and a shutter is placed over the disk and provided with an aperture or apertures sufficient to disclose only one set of characters. The shutter is fixed, and the character disk is connected to the key-cap, both being revoluble to bring the other set of characters into view beneath the opening in the shutter. I also provide suitable means for detaining the cap and the character disk in position to show either set of characters.

In the accompanying drawings, Figure 1 is a diagrammatic plan showing in the upper row a set of denomination keys, of which the first four are of ordinary construction, and the last six are constructed in accordance with the invention. Upon these six keys the fixed shutters are shown, the movable disks being partly covered up thereby. In said figure, the second row shows the same six keys, the movable disks having been turned so that the keys may now be used for different denominations. When adjusted according to the first row, the ten keys and their stops are adapted for denominational work up to millions, with punctuation marks between the hundreds and thousands, and also between the hundreds of thousands and millions. In the lower row, the punctuation marks are omitted and the capacity of the mechanism is increased to hundreds of millions. Fig. 2 shows diagrammatically a perspective of component parts of the keys separated from one another. Fig. 3 is a vertical sectional view of the key. Fig. 4 is a horizontal section taken above the shutter and showing the relation between the sets of characters. Fig. 5 is a horizontal section of the key-cap. Fig. 6 is a diagram showing the key connected to a denomination stop.

The key is illustrated as mounted upon a stem 1, the latter carried upon a lever 2, which is connected to a rod 3 having at its upper end a denomination stop 4 to cooperate with a column stop 5 carried upon a rack or bar 6 mounted upon the usual carriage (not shown). The key comprises a base or seat 7 fixed upon the stem 1; a post 8 rising from the middle of the seat; a character-bearing disk 9 pivoted upon the post and having one or more nibs or projections 10 whereby it may be revolved; a shutter 11 provided with openings 12, 13 and riveted upon the top of the post 8, and a cap 14 in the form of a ferrule and having ears 15 to catch under the seat 7. Within the cap is forced or otherwise secured a thin annular lining 16, having opposite slots 17 to engage the nibs 10 of the character disk, to rotate the latter to bring either set of characters thereon below the openings (or double opening) 12, 13. The cap has a rim 19 turned over upon a transparent cover in the form of a glass disk 20, the latter being retained by means of the lining 16. A ring 21 rests upon the shutter 11, and it will be seen that the glass disk 20 is confined between the rim 19 and said ring 21 and lining 16. The two last-mentioned parts may be made in one piece.

At Fig. 4, characters "10 T" are seen through the openings in the shutter, while characters "1 T" (seen in dotted lines) are covered up by the shutter. The former characters lie at right angles with the latter, so that a quarter revolution of the character disk causes "10 T" to become hidden and "1 T" to be brought into view. Between the disk 9, which is movable up and down on the post 8, and the seat 7, is a compression spring 22, which is coiled around the post and rests upon the seat, and bears up against a washer 22^a placed against the under side of the character disk 9. Upon the under side of the shutter 11 I form a projection 23, which may engage either of two depressions 24 formed on the top side of the character disk, thus enabling the spring 22 to detain the latter with either set of characters showing through the shutter. When it is desired to change from one set to the other set, it is only necessary to turn the

key-cap 14 until the other depression 24 comes into register with the projection 23, whereupon the spring 22 snaps the disk 9 upwardly and holds it against accidental turning.

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. A key within which is confined a disk having four characters thereon, a shutter having an opening through which only two of said characters may be read, and means upon the exterior of the key for effecting relative revolution of the character disk and the shutter.

2. A key within which are confined two disks, one of which is revoluble and provided with characters, the other disk being fixed to the key and having an opening through which to read any selected characters.

3. A key provided with a revoluble character disk and a shutter, and also having a cap connected to the character disk to adjust the same.

4. A key provided with a revoluble character disk and a shutter, and also having a cap connected to the character disk to adjust the same; said cap having a transparent disk over said shutter.

5. A key comprising a transparent disk, a shutter beneath the disk, and means for exhibiting different characters at will beneath the shutter.

6. A key comprising a transparent disk, a revoluble cap, a fixed shutter, and means connected to said cap for exhibiting beneath said disk different characters at will.

7. A key comprising a transparent disk, a shutter beneath the same, a shiftable character-bearing device beneath the shutter, and a revoluble finger-piece connected to the character-bearing device.

8. A key having a revoluble character disk, a fixed shutter above the same, a spring pressing the disk against the shutter, and a detent between the shutter and the disk for detaining the disk in different positions.

9. A key having two disks, one being in the form of a shutter and the other bearing characters, a cap connected to one of said disks to revolve the same, and a snap spring for holding said cap and said disk in either of a plurality of positions.

10. In combination, a character-bearing disk, a shutter thereover, a transparent cover over the shutter, and a key cap inclosing said disk and cover and connected to the disk to revolve the same independently of said shutter.

11. A key comprising a seat, a compression spring resting thereon, a character disk resting upon the spring, a shutter on the character disk, and a revoluble cap connected to said character disk.

12. A key comprising a seat, a compression spring resting thereon, a revoluble character disk, a shutter, and a cap connected to the disk and having a glass cover.

13. A key comprising a seat having a central post, a revoluble character disk, a shutter above the disk and fixed upon the top of the post, and a cap connected to said disk.

14. A key comprising a seat, a central post, a compression spring coiled around the post and resting upon the seat, a character disk revoluble upon the post and having a nib, a shutter fixed upon the top of the post, and a cap in the form of a ferrule and having a rim turned over upon a glass cover, the cover being confined by a lining secured within the cap, said lining having a slot to engage said nib.

15. A key comprising a seat having a central post, a character disk revoluble upon the post and having a nib, a shutter fixed upon the top of the post, and a cap having a rim turned over upon a glass disk, the glass disk being confined by a lining secured in the cap, said lining having a slot to engage said nib, and said cap having ears catching under said seat.

16. A key comprising a seat having a central post, a compression spring upon the seat, a character disk revoluble upon the post and having a nib, a shutter fixed upon the top of the post and having a detent to engage either of two depressions formed in the character disk, a ring resting upon the shutter and supporting a cap in the form of a ferrule and having a rim turned over upon a transparent disk, the latter being confined by a lining secured in the cap, said lining having a slot to engage said nib.

17. A key comprising a seat having a central post, a compression spring coiled around the post and resting upon the seat, a washer resting upon the compression spring, a character disk revoluble upon the post and having a nib, a shutter fixed upon the top of the post, a cap in the form of a ferrule and having a rim turned over upon a glass disk, the glass disk being confined by a lining secured in the cap, said lining having a slot to engage said nib, and said cap having means catching under said seat.

18. A key comprising a seat carried upon a stem and having a central post, a compression spring coiled around the post and resting upon the seat, a washer resting upon the compression spring, a character disk revoluble upon the post and having a nib, a shutter fixed upon the top of the post and having a detent to engage either of two depressions formed in the character disk, a ring resting upon the shutter, a cap in the form of a ferrule and having a rim turned over upon a transparent cover, the cover being con-

fined by a lining secured in the cap, said lining having a slot to engage said nib, said cover resting upon said ring and said lining, and said cap having ears catching under said seat.

19. A key comprising a revoluble character disk having a nib, a cap in the form of a ferrule and having a lining, and a glass cover confined by said lining, the latter having a slot to engage said nib.

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