No. 701,563. Patented June 3, 1902.

J. B. HAMMOND.

ADJUSTABLE TYPE WRITER KEY.

(Application filed Dec. 17, 1901.)

(No Model.)

Fig. 1.

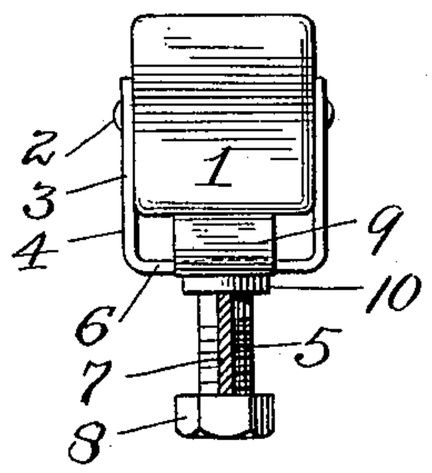


Fig. 2.

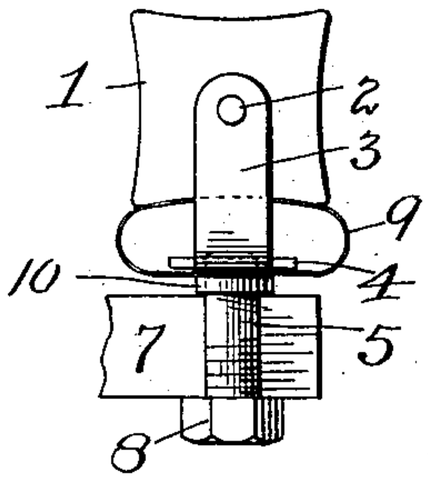
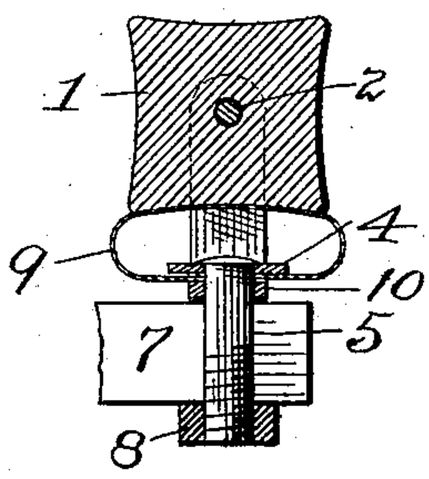


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES B. HAMMOND, OF CAMDEN, MAINE.

ADJUSTABLE TYPE-WRITER KEY.

SPECIFICATION forming part of Letters Patent No. 701,563, dated June 3, 1902.

Application filed December 17, 1901. Serial No. 86,234. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. HAMMOND, a citizen of the United States, and a resident of Camden, Maine, temporarily residing at New York city, State of New York, have invented certain new and useful Improvements in Adjustable Type-Writer Keys, of which the following is a specification.

My invention relates to the form of adjustable type-writer key disclosed in an application for Letters Patent of the United States filed by me May 11, 1901, No. 59,795. My present invention embodies the same general principles of operation disclosed in said application, the purpose being to provide a key having a plurality of character-bearing faces, any one of which faces may be brought into use by adjusting the key at the will of the operator.

In the accompanying drawings, Figure 1 is a front view of the key attached to a key-lever. Fig. 2 is a side elevation of the parts shown in Fig. 1, and Fig. 3 is a sectional view from front to rear of the key and its attaching means.

In the drawings a key proper is shown at 1, consisting of a body having a plurality of faces of symmetrical form and each adapted when adjusted to an uppermost position to receive the impact of the fingers in operating the machine. The key has journal pins or pintles 2, bearing in the arms 3 of a bracket 4. This bracket is connected with a post 5, said post being of cylindrical form and passing through an opening in the cross-arm 6 of the bracket, the head of the post bearing upon the upper side of said cross-arm. The post is provided with a vertically-extending slot or kerf to receive the key-lever 7, and its lower end is screw-threaded to receive a nut 8, by which the parts are held together. In order to provide an automatic lock for the key, so as to hold it in any of the positions to which it may be turned, a spring 9 is employed consisting of a thin flat strip of spring metal arranged with its upper portion to bear on the under face of the key-body, the ends of the spring leaf or strip being brought around to form a closed loop and connected with the post immediately under the bracket, for which purpose the said ends are overlapped, and the post passes through openings formed in said ends.

In order to clamp the parts tightly together, I provide a collar, sleeve, or ferrule 10 between the upper edge of the key-lever and the ends of the leaf-spring below the bracket, so that when the key-lever is forced up into the slot in the post and clamped by the nut the collar pressing against the under side of the spring and bracket and the head of the post pressing against the upper side of the bracket will firmly clamp said bracket to the post and hold it rigidly in place. In adjusting the key to the key-lever and before the parts are clamped tightly the key, with its bracket, may have a swiveling action about the post, so that it may be adjusted accurately in relation to the key-lever. It will be seen from Fig. 2 that the leaf-spring on its upper side bows upward slightly and fits into the concaved lower face of the key-body, so that said key-body will be held against turning movement. When the key is turned, the corner thereof will press the leaf-spring downwardly, and immediately the key-body has been sufficiently turned the spring will react to lock the key in its new position. The spring thus provides an automatic lock of a resilient nature. This same principle is embodied in the form of key disclosed in the application referred to above; but I prefer the present arrangement in which the leaf-spring is employed.

In the present arrangement the key is to a certain extent of an elastic nature in that when it is struck to either side of its center or at an angle to a vertical plane passing through the pintles the tendency will be to rock the key on its pintles, the leaf-spring allowing this slight yielding action, but at the same time effectually holding the key in proper position to receive the stroke of the fingers. It will be noticed that the leaf-spring presents rounded surfaces at the points marked 11, so that no obstruction is offered to the ready turning of the key-body when the proper amount of pressure is employed.

In adjusting the key it is sufficient to turn it so that the corner thereof will cross the ver-

tical plane of the pintle, and the spring will then act to complete the turning movement and automatically lock the key-body in place.

By my invention the keyboard may be changed to expose for use any one of the several different alphabets which are carried on the different faces of the keys.

I claim as my invention—

1. A type-writer key having a plurality of faces and means for supporting said key adjustably whereby the different faces may be brought into use, substantially as described.

2. An adjustable type-writer key adapted to be turned, having a plurality of faces to be used at different times, substantially as described.

3. A type-writer key having a plurality of faces, and means for automatically locking said key when it is turned to bring a different face into use, substantially as described.

4. A type-writer key having a plurality of faces, and resilient means for automatically locking said key when it is turned to bring a different face into use, substantially as described.

5. A type-writer key having a plurality of faces, and means for automatically locking said key when it is turned to bring a different face into use, said means consisting of a spring arranged to act in connection with the key-body, substantially as described.

6. In combination with the key-body, means for supporting the same to allow it to turn, said key having a plurality of faces and means bearing upon one of the faces to hold the key in an adjusted position, substantially as described.

7. In combination with a key-body, means for supporting the same so that it may be turned and a leaf-spring to bear on the key-body to hold it in an adjusted position, substantially as described.

8. In combination, a key-body, means for supporting the same so that it may be turned, said body having concavities in its faces and a spring to engage the same to hold the key-body in adjusted position, substantially as described.

9. In combination with a key-body having concaved faces, means for supporting the key-body to allow the same to turn, and a leaf-spring arranged beneath the key-body to engage the lowermost face thereof, substantially as described.

10. In combination, a key-body having a plurality of faces, arms in which said key-body is journaled and a spring engaging one of the faces of the key-body to allow the same slight yielding movement in its bearings under the stroke of the fingers, substantially as described.

11. In combination, the key-body having the concaved faces, means for supporting the key-body so that it may be turned and a spring having a convex portion conforming substantially to the concave faces of the key-body, substantially as described.

12. In combination with the key-body, means for supporting the same so that it may be turned, comprising the bracket and a leaf-spring in the form of a closed loop bearing on the key-body, substantially as described.

13. In combination, a key-body, a slotted post connected therewith, a key-lever arranged within the slot and a nut screwed onto the post for holding the parts together, substantially as described.

14. In combination, a key-body, a bracket supporting the same, a post having a head engaging the bracket, said post being slotted and screw-threaded, a key-lever fitting within the slot and a collar or sleeve between the key-lever and bracket with a nut on the post for holding the parts together, substantially as described.

15. In combination, a key-body, a bracket supporting the same, a post extending through the bracket and having a head to engage the same, a key-lever connected with the post, and a spring for holding the key-body in place, said spring being clamped in place between the parts, substantially as described.

16. In combination, a key-body, a bracket supporting the same so that it may be turned, a leaf-spring engaging the key-body, a post passing through the bracket and the ends of the spring, said post having a head to engage the bracket, a key-lever and means for holding the parts together, substantially as described.

17. In combination, the bracket, a key-body arranged to turn therein, a post passing through the bracket, a leaf-spring engaging the key-body and having its ends perforated and engaging the post, said post being slotted, a key-lever in said slot, a nut for holding the key-lever in place and a ferrule between the key-lever and the ends of the spring, substantially as described.

18. In combination, the adjustable key having a plurality of character-bearing faces, a key-lever and a friction-tight connection between said key-lever and key by which the exposed face may be adjusted to the desired position, substantially as described.

19. In combination with the key-lever, a key, and a swivel friction-tight connection between said key and key-lever with means for adjusting the frictional contact, substantially as described.

20. In combination, the key, the post about which the said key may swivel and means for holding the post adjustable to the key, said means serving to produce and adjust the frictional pressure at the swivel to hold the key in place, substantially as described.

21. In combination, the key-lever, a post having a slot to receive the same, means for holding said parts together, the arms on which the key is supported arranged to swivel about the post and the sleeve between the key-lever

and the said arm forming a friction-tight joint, substantially as described.

22. In combination, the slotted post, the key-lever fitted to the slot, a nut threaded on the lower end of the post to press the lever upward, supporting means carried by the post for the key and a ferrule between the key-lever and said supporting means, substantially as described.

23. A type-writer key having a plurality of character-bearing faces and adapted to be adjusted to bring different faces to the position of use, a support for the said key and a friction-tight connection between the key and its support, substantially as described.

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

JAS. B. HAMMOND.

Witnesses:
J. M. BANCROFT,
CHAS. M. KEIN.