June 18, 1929. J. A. DUNN 1,717,765

TYPEWRITING MACHINE

Filed Aug. 23, 1927

Fig. 1.

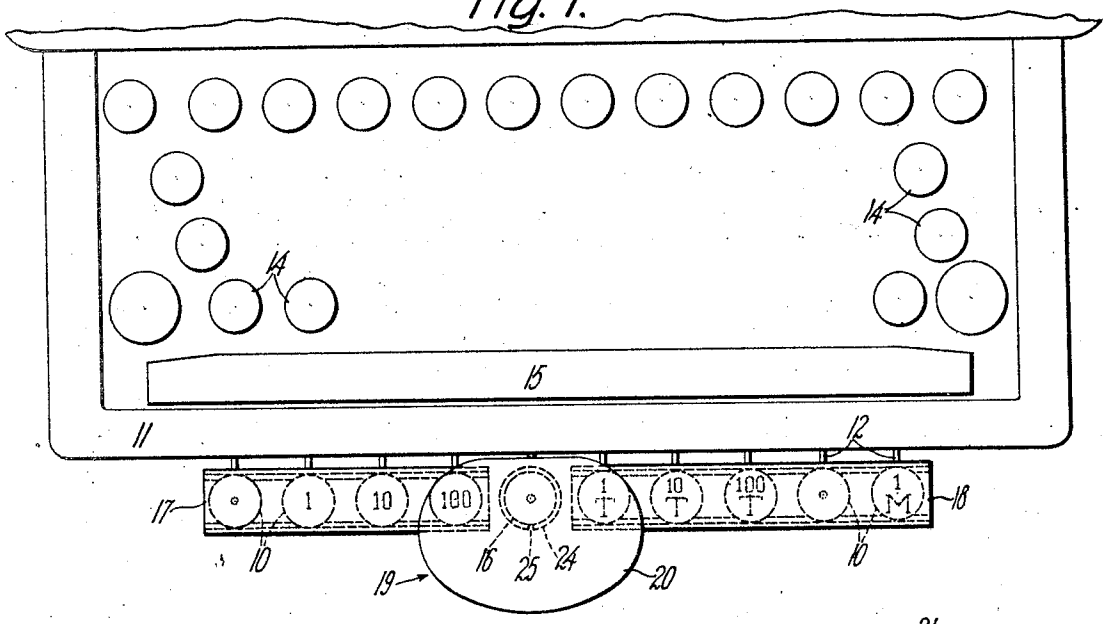
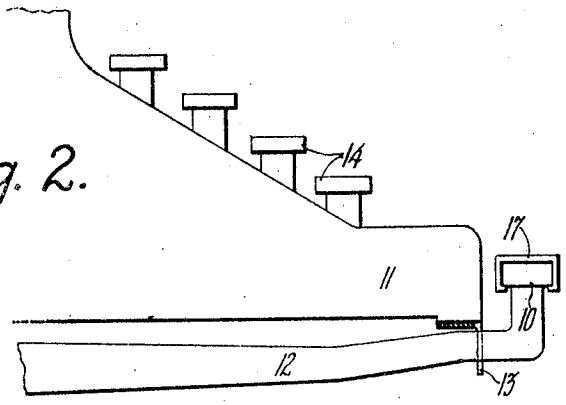


Fig. 2.



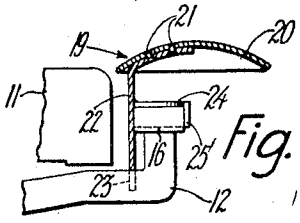
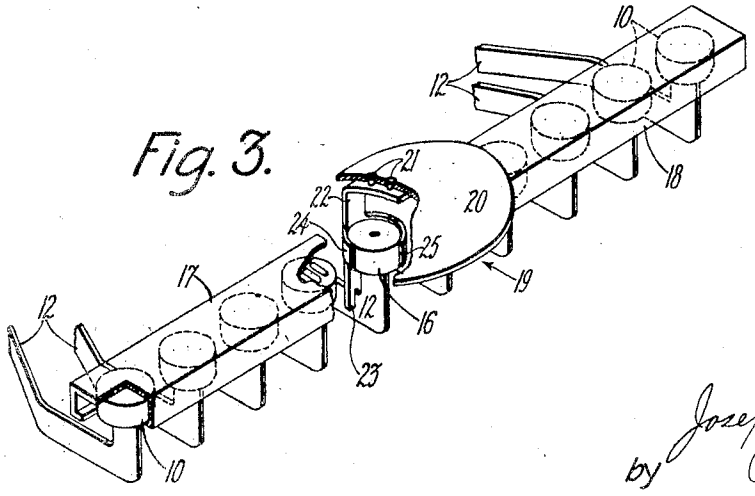


Fig. 4.

Fig. 3.



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UNITED STATES PATENT OFFICE.

JOSEPH A. DUNN, OF NEW YORK, N. Y., ASSIGNOR TO UNDERWOOD ELLIOTT FISHER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPEWRITING MACHINE.

Application filed August 23, 1927. Serial No. 214,814.

This invention relates to a decimal-tabulating key-mechanism for typewriting machines, and more particularly to means for locating certain of a series of tabulator-keys when their exclusive use for a cetrain type of tabulating work is desired, the object being to minimize time and labor in performance.

Decimal tabulator-keys are effective, upon depression thereof, to actuate a mechanism for releasing the carriage and also arresting the same according to their denomination, and are generally used in billing work and the like to jump the carriage for certain columns or digits. In the instance of the well-known standard type of the Underwood typewriter, such keys are provided in a row in front of the machine as herein shown.

The preferred embodiment of the invention takes advantage of the fact that for certain classes of work one-position-tabulation is required, or, in other words, the repeated use of one selected tabulator-key for a certain length of time. According to a feature of the invention, there are provided covers to be slipped over the key-buttons not being used at the time, to render them invisible, said covers causing the once selected key to stand out, and relieving the operator of frequent selecting. These covers, therefore, eliminate loss of time and a source of possible serious mistakes liable to occur when an uncovered row of keys confuses strained eyes and tired fingers and leads the operator to depression of the wrong key.

The covers preferably are made in the nature of slides, so that they may readily be placed on and removed from the machine, and, if it should be desired to use any other key in place of the one being used, the covers may be easily adjusted by sliding the same.

One feature provides angular means upon said key-covers designed to engage upon the lower side of the key-buttons, to retain the covers thereon; and another feature provides said retaining means to be resilient so as to render the covers self-sustained upon the key-buttons.

Another feature consists in a palm-key of novel construction, which, as an extension, may be readily attached upon any of the tabulator-keys which happens to be selected for exposure, to render it more accessible and more conveniently operable, thereby further increasing ease and speed in operation of the machine. This novel feature especially concerns seating means for said key-extension, so that it may be securely and rigidly attached and properly positioned.

Other features and advantages will hereinafter appear.

In the accompanying drawings,

Figure 1 is a fractional plan view of the machine, showing the tabulator-keys in front of the machine-frame with novel key-covers and palm-key attached thereto.

Figure 2 is a side elevation taken upon Figure 1, diagrammatically showing the key-banks within the machine-frame and the tabulator-keys with key-covers in front thereof.

Figure 3 is a detached perspective view of a tabulator-key-bank, with the novel expedients attached thereto and partially sectioned to plainly disclose their application.

Figure 4 is a detail showing in section the novel palm-key attached to a tabulator-key and key-lever.

The invention is illustrated as applied to an Underwood standard typewriting machine, in which a plurality of depressible tabulating keys 10 is arranged in a row in front of and adjacent the machine-frame 11. The keys 10 are fixed upon the tabulating key-levers 12 which are guided in operation by a usual comb-plate 13. Upon depression of tabulating keys 10, a mechanism is operated to effect releasing of the carriage and arresting the same in any of the plurality of denominational positions. This mechanism is well known from the standard Underwood machine and not shown in the drawings.

Within the machine-frame 11 are indicated keys 14 of a usual ordinary keyboard and a letter-space-bar 15. In Figures 1 and 3 of the drawings, there is shown, as an instance, the tabulator-key 16 as being selected to be used in a certain class of work. According to the invention, the keys at the right and left hand side of key 16 are rendered invisible by slipping over the respective key-buttons the novel key-covers 17 and 18 so as to avoid confusion and accidental operation of a wrong key. Said covers preferably may take the form of slides to be slipped sidewise over the key-buttons and sidewise readily adjustable, if, for another

establishment in operation, a different tabulator-key is to be exposed. It furthermore is of advantage that the covers be made of resilient material to render them self-retaining when seated upon said key-buttons.

The numeral 19 designates, as a whole, a novel palm-key which is attached to the selected key 16 for the purpose of furthermore facilitating the tabulating operation, in that it may be performed by the palm of the operator without requiring special attention or effort.

The detachable palm-key 19 includes, elevated above the row of tabulating keys, the convex palm-piece 20 which is riveted at 21 to a supporting stem 22. To ride upon the tabulating key-lever 12, the stem has a bifurcated end 23 actually transmitting the blow upon the key-lever and serving for properly positioning the key, and has further fixed thereon or integrally built therewith a sleeve 24 which is split at 25 to resiliently fit around the tabulating key. Through this novel seating means engaging two different points of the tabulating key, the palm-key, although interchangeable, is rigidly held in place upon the tabulating key and will oppose its rigidity to the blow of the relatively heavy palm and effectively aid in transmitting motion upon the tabulating key-lever. The novel palm-key, as a whole, aside from being rigid and convenient in operation, is inexpensive to manufacture.

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. In a typewriting machine having a key-governed tabulating mechanism arranged for denominational operation, the combination with a tabulating key-bank having depressible key-buttons, of means for locating certain of said keys where their exclusive use for special work is required, said means including detachable covers which render invisible the faces of the unused key-buttons, each of said covers adjustable to a plurality of key-buttons adjacent said selected keys to cause the same to stand out and to prevent the depression of a wrong key.

2. In a typewriting machine having a key-governed tabulating mechanism arranged for denominational operation, the combination with a row of depressible tabulating key-buttons level with one another, said row extending transversely of the machine, of means for locating certain of said keys when their continued use for special work is required, said means including covers to be slipped over said key-buttons so as to render invisible the faces thereof, said covers extending beneath said buttons to be retained thereon while free for sideward adjustment upon the row so as to cover various sections thereof for exposure of certain selected keys.

3. In a typewriting machine having a key-governed tabulating mechanism arranged for denominational operation, the combination with a row of depressible tabulating key-buttons level with one another, said row extending transversely of the machine and in front of the machine-frame, of means for locating certain of said keys when their continued use for special work is required, said means including covers to be slipped over said key-buttons so as to render invisible the faces thereof, said covers extending beneath said buttons, to be retained thereon, while free for sideward adjustment upon the row so as to cover various sections thereof for exposure of certain selected keys.

4. In a typewriting machine having a key-governed denominational tabulating mechanism, the combination with a tabulating key-bank having a row of depressible key-buttons level with one another, said row extending transversely of the machine, of means for locating certain of said keys when their exclusive use for special work is required, said means including covers in the form of slides to be sidewardly slipped over the key-buttons so as to render invisible the faces thereof and made of resilient material, said covers being self-sustaining upon the key-buttons.

5. In a typewriting machine having a key-governed tabulating mechanism arranged for denominational operation, the combination with a tabulating key-bank having a row of key-buttons level with one another, of means for locating a certain key when its exclusive use for special tabulating work is required, said means including detachable covers to render invisible the faces of the unused key-buttons and a relatively large false-key to be attached upon said selected key to facilitate its operation, each of said covers adjustable to a plurality of key-buttons adjacent said selected key, to prevent the depression of a wrong key.

6. In a typewriting machine having a transverse row of keys and key-levers governing a denominational tabulating mechanism, the combination with depressible key-buttons level with one another and placed upon the forward turned-up ends of said horizontal key-levers, of means for locating a certain key whose exclusive use for special work is required, said means including covers to render invisible the faces of the unused key-buttons and a false key to be attached to said selected key and including a palm-piece for convenient operation, said palm-piece elevated above the row of tabulating keys, a stem supporting said palm-piece, and, by means of its bifurcated end, straddling the key-lever to be securely seated thereon adjacent to the key-button,

and a sleeve rigidly provided upon said stem to resiliently fit around said key-button.

7. In a typewriting machine having a transverse row of keys and key-levers governing a denominational tabulating mechanism, the combination with depressible key-buttons level with one another and placed upon the forward turned-up portions of said horizontal key-levers, of means for locating a certain key whose exclusive use for special work is required, said means including detachable covers to render invisible the faces of the unused key-buttons, each of said covers adjustable to a plurality of key-buttons adjacent said selected key, and a false key to be attached to said selected key and including a relatively large finger-piece for convenient operation, said finger-piece elevated above the row of tabulating keys, and a stem supporting said finger-piece and arranged to engage the tabulating key near each end of said vertical portion of the key-lever so as to rigidly secure said false key thereon, to take up the blow of the palm.

8. In a typewriting machine having a key-governed tabulating mechanism arranged for denominational operation, the combination with a tabulating key-bank having depressible key-buttons level with one another, of means for locating certain of said keys selected for exclusive use in special work, said means including detachable covers which render invisible the faces of the unused key-buttons, each of said covers adjustable to, and sustained upon, a plurality of key-buttons adjacent said selected keys.

9. In a typewriting machine having a key-governed tabulating mechanism arranged for denominational operation, the combination with a row of depressible tabulating key-buttons level with one another, said row extending transversely of the machine, of means for locating certain of said keys when their continued use for special work is required, said means including covers, each adjustable to a plurality of key-buttons so as to render invisible the faces thereof and so as to expose certain selected keys, and including holding means provided upon said covers to engage upon the lower side of said key-buttons so as to retain the covers thereon.

10. In a typewriting machine having a key-governed tabulating mechanism arranged for denominational operation, the combination with a row of depressible tabulating key-buttons level with one another, said row extending transversely of the machine, of means for locating certain of said keys when their continued use for special work is required, said means including covers adjustable to a plurality of said key-buttons so as to render invisible the faces thereof, and so as to expose certain selected keys, said covers having extensions at opposed end thereof to engage upon the lower side of said buttons, to retain the covers thereon.

11. In a typewriting machine having a key-governed tabulating mechanism arranged for denominational operation, the combination with a row of depressible tabulating key-buttons level with one another, said row extending transversely of the machine, of means for locating certain of said keys when their continued use for special work is required, said means including covers adjustable to a plurality of said key-buttons so as to render invisible the faces thereof and so as to expose certain selected keys, and resilient holding means upon said covers to engage upon the lower side of the key-buttons so as to render the covers self-sustained when set in place upon the key-buttons.

12. In a typewriting machine having a key-governed tabulating mechanism arranged for denominational operation, the combination with a row of depressible tabulating key-buttons level with one another, said row extending transversely of the machine, of means for locating certain of said keys when their continued use for special work is required, said means including covers adjustable to a plurality of said key-buttons so as to render invisible the faces thereon, and so as to expose certain selected keys, said covers having angular holding portions extending parallel with a row of keys, said holding portions to engage upon the lower side of the key-buttons.

13. In a typewriting machine having a key-governed tabulating mechanism arranged for denominational operation, the combination with a row of depressible tabulating key-buttons level with one another, said row extending transversely of the machine, of means for locating certain of said keys when their continued use for special work is required, said means including covers adjustable to a plurality of said key-buttons so as to render invisible the faces thereon, and so as to expose certain selected keys, said covers having angular holding portions to locate and retain the covers upon the key-buttons.

14. In a typewriting machine having a key-governed tabulating mechanism arranged for denominational operation, the combination with a row of depressible tabulating key-buttons level with one another, said row extending transversely of the machine, of means for locating certain of said keys when their continued use for special work is required, said means including covers adjustable to a plurality of said key-buttons so as to render invisible the faces thereon, and so as to expose certain selected keys, said

covers having angular holding portions resiliently provided upon the covers so as to locate and retain the same upon the key-buttons.

15. In a typewriting machine having a key-governed tabulating mechanism arranged for denominational operation, the combination with a row of depressible tabulating key-buttons level with one another, said row extending tranversely of the machine, of means for locating certain of said keys when their continued use for special work is required, said means including covers adjustable to a plurality of said key-buttons so as to render invisible the faces thereon, and so as to expose certain selected keys, said covers having angular holding portions to engage upon the lower side of the key-buttons, and means to locate the covers upon said key-buttons.

16. In a typewriting machine having a key-governed denominational tabulating mechanism, the combination with a tabulating key-bank having a row of depressible key-buttons level with one another, said row extending transversely of the machine, of means for locating certain of said keys when their exclusive use for special work is required, said means including covers made of flexible metal in the form of slides to be sidewardly slipped over the key-buttons so as to render invisible the faces thereof, said covers being self-sustaining upon said key-buttons.

17. In a typewriting machine having a transverse row of keys and key-levers governing a denominational tabulating mechanism, the combination with depressible key-buttons level with one another, of means for locating a certain key whose exclusive use for special work is required, said means including a false key to be attached to the selected key and including a palm-piece for convenient operation, said palm-piece elevated above the row of tabulating keys, a stem supporting said palm-piece and securely seated at two separated points upon the selected key-lever, and means to interlock the unused key-buttons so as to prevent the operator from depressing the same.

18. In a typewriting machine having a transverse row of keys and key-levers governing a denominational tabulating mechanism, the combination with depressible key-buttons level with one another and placed upon the forward turned up ends of the horizontal key-levers, of means for locating a certain key whose exclusive use for special work is required, said means including a false key to be attached to the selected key and including a palm-piece for convenient operation, said palm-piece elevated above the row of tabulating keys, and a stem supporting said palm-piece and securely seated at two separated points upon the selected key-lever.

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