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CALCULATING TYPEWRITERS
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Fig. 1

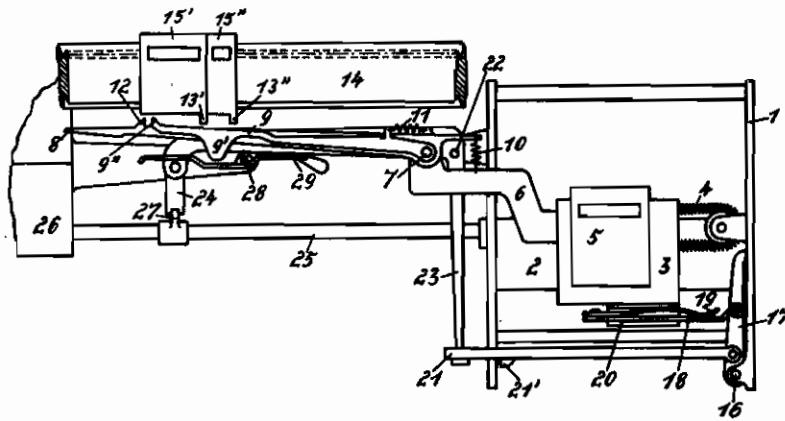
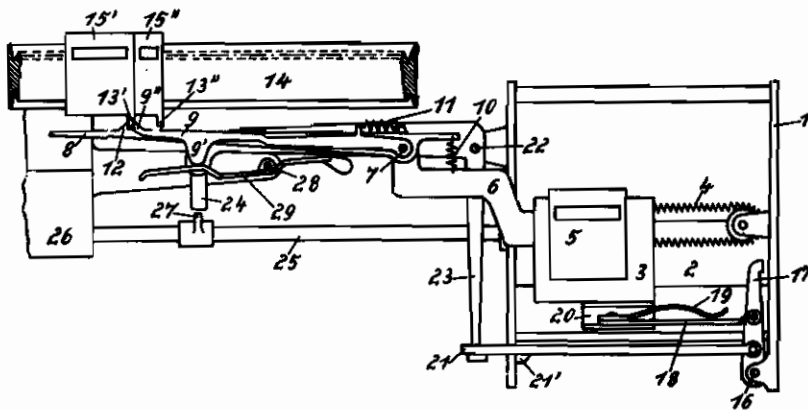


Fig. 2



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ALIEN PROPERTY CUSTODIAN

CALCULATING TYPEWRITERS

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This invention relates to calculating typewriters having longitudinally movable totalizers (vertical totalizers) arranged on the paper carriage and transverse totalizers arranged on a slide.

The object of the invention is to provide a mechanism which, directly after the conclusion of a calculating operation, that is, after the operation in the last ordinal place, will make possible the locking of the calculating mechanism in simple, reliable, and advantageous manner, so that in particular, unintentional introduction of any digits into a longitudinal or transverse totalizer during the return of the transverse totalizer out of calculating position, will be prevented.

According to the present invention this is achieved by providing mechanism which the longitudinal totalizer occupying the calculating position, renders calculating mechanism locking means operative through the agency of transmission devices actuated by the transverse totalizer slide, while the rendering operative of the said locking means is effected by members actuated by means on the longitudinal movable totalizers.

An example of this mechanism embodying the invention is shown in the drawing, which illustrates diagrammatically the pertinent portions of a calculating typewriter,

Fig. 1 showing the parts in writing position before the transverse accumulator has been engaged, and

Fig. 2 the parts in calculating position with the transverse accumulator engaged, wherein both figures are shown as side views.

The machine frame 1 has guides 2 on which a slide 3 can slide horizontally. The slide 3 is drawn to the right by means of a spring 4 and serves to carry a transverse totalizer 5. The slide 3 has an arm 6 carrying at the left-hand end a pivot pin 7 on which is mounted a spear 8 and the tongue 9. Tension springs 10 and 11 are provided between the spear 8 and the tongue 9 and the arm 6. The spear 8 has a lug 12 and the tongue 9 has a hump or projection 9'', these parts constituting in known manner a tongs device for holding a projection 13 (13' or 13'') on the longitudinal totalizers 15', 15'' which are mounted on the paper carriage 14, the hump 9'' preventing the slide 3 from being forced away from the longitudinal totalizer.

A pivot pin 16 on the machine frame carries a lever 17 to which is jointed a bar 18 attached to a plate spring 19; the bar 18 and spring 19 extending into a socket 20 mounted on the slide 3, in such a manner as to form a frictional

connection between this slide and the lever 17. The lever 17 is connected by means of a rod 21 with one arm of a bell crank lever 23 pivoted on a pin 22, the other arm of which bell crank carries a member 24 serving to lock the operating shaft 25 of the calculating mechanism 26 of the machine, as soon as said member 24 lies in front of a cam member 27 on this shaft.

A pivot pin 28 on the machine frame 1 supports a release rocker 29 which rocker cooperates with the hump or projection 9', on the tongue 9 and also with the horizontal arm of the bell crank lever 23.

In operation of the machine the paper carriage 14 moves step-wise to the left. This causes the tongue 9 to be depressed as soon as the projection 13' of the longitudinal totalizer 15' moves over the hump 9''. Upon passing the hump 9'' the projection 13' encounters the upwardly directed lug 12 of the spear 8 and carries the latter along, whereby the slide 3 is also moved to the left. This results in the lever 17 being rotated counter-clockwise because of the frictional connection resulting from the spring 19 and bar 18 engaging the socket 20 on the slide 3. The movement continues until a stop 21' on the rod 21 encounters the machine frame 1. From this point the socket 20 of the slide 3 moves relatively to the bar 18 and spring 19.

Movement of the lever 17 effects turning of the bell crank lever 23 whereby the locking member 24 is raised and the drive shaft 25 released; the calculating mechanism 26 can therefore operate and digits can be introduced into the longitudinal totalizer 15 occupying the calculating position, and the transverse totalizer 5.

When the engaged longitudinal totalizer has passed through the calculating position to its last ordinal place, the next step of the carriage 14 causes the spear 8 to be depressed in known manner by means not shown, whereby the lug 12 is disengaged from the projection 13' of the longitudinal totalizer. The slide 3 is then impelled to the right under the action of the spring 4. The bar 18 and the spring 19 are held due to friction in the socket 20, so that they participate in the movement of the slide 3 causing the lever 17 to turn back whereby also the bell crank lever 23 is restored to its previous position and the locking means 24 attached thereto is again brought in front of the cam 27, thus locking the drive shaft 25. The printing of any digits is therefore at once rendered impossible. As soon as the lever 17 has completed its return movement and bears against the frame 1, the friction

between the socket 20 and the bar 18 and spring 19 is overcome and these two parts are inserted into the socket.

If the carriage 14 carries a second longitudinal totalizer 15'' with a very small number of ordinal places, arranged directly behind the totalizer 15', then the lug 12 on the spear 8 is again caught by the projection 13'' of the totalizer 15'', before the slide 3 has completed its return movement. As a result the bar 18 and the spring 19 will be inserted into the socket 20 by only a small amount, and there is a possibility that the frictional connection will be imperfect, whereby the lever 17 might not immediately be operated by the slide 3 in its next advancing movement. The tongue 9, however, is slightly depressed during the movement of the paper carriage 14 to the left, at each passage of a totalizer finger 13', 13'' over the hump 9''; this takes place every time before drive of the spear 8 by the projection 13 begins. If in these conditions the slide 3

should lie in its extreme right-hand position, Fig. 1, then the lower hump 9' of the tongue 9 will lie above the downwardly offset middle portion of the release rocker 29 and will exert no action on this rocker. If, however, the slide 3 has not arrived in its right-hand end position, then the hump 9' lies above the higher left-hand portion of the release rocker 29 (Fig. 2); the said hump therefore rocks the rocker 29 in counter-clockwise direction about the pin 28, as soon as it is depressed, and the right-hand arm of the release rocker 29 engages below the horizontal arm of the bar crank 23 and turns the latter in clockwise direction whereby the drive shaft 25 is locked by the member 24 in the same manner as when the bell crank 23 is actuated by the lever 17.

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