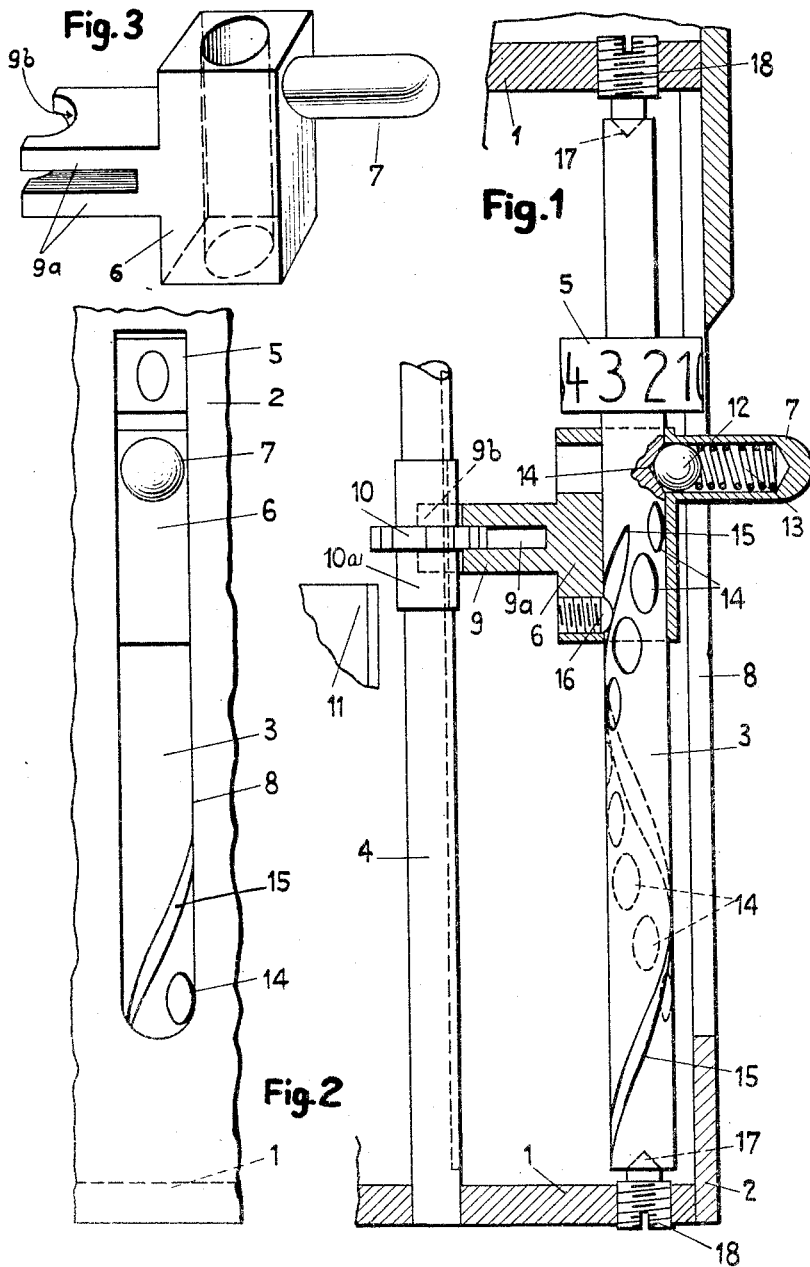


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VISIBLE SETTING CONTROL MECHANISM FOR
CALCULATING MACHINES
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VISIBLE SETTING CONTROL MECHANISM
FOR CALCULATING MACHINESCurt Herzstark, Mauren, Liechtenstein, assignor
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1

In the known types of calculating machines with slidebar setting and visible setting control register, the setting mechanism and the control mechanism constitute two devices entirely separate from each other but mutually connected by special coupling members.

The object of the present invention is to simplify the setting mechanism and control mechanism to the greatest possible extent as compared with previously known types, and to accommodate same in the smallest conceivable space such as is available, for instance, in a pocket-size calculating machine. To this end the setting members for the setting wheels are, according to the invention, mounted in such a way on the shafts carrying the control numeral rollers as to be axially movable and are coupled to said shafts. Accordingly, when the setting members are operated, the control numeral rollers are positively rotated, so that the figure set is visible in the window of the setting control register.

The drawing shows a typical embodiment of the device in accordance with the invention, in which drawing Fig. 1 shows the combined setting and control mechanism of one column of the calculating machine in considerably enlarged vertical section, Fig. 2 an appurtenant front elevation and Fig. 3 an elevation of a detail.

In the retaining plates 1 of the body of the calculating machine, the shafts 3 of the control mechanism and, behind them, the shafts 4 of the setting mechanism are mounted in the vicinity of the wall 2 of the case; only one of each of said shafts is illustrated in the drawing. The control numeral roller 5 is rigidly mounted on shaft 3, on which shaft a setting member is so mounted as to be longitudinally slidable. In the case here depicted, said setting member is a slide-bar 6 which projects on one side, by a handle or knob 7, from a longitudinal slot 8 on the wall 2 of the case, and is provided on its other side with a projection 9. Said projection 9 is provided (Figs. 1 and 3) with two bifurcations 9a, 9b offset at an angle of 90° to each other. The slide-bar 6 is coupled, in the axial direction of motion, to the setting wheel 10 of the relevant column by means of the bifurcation 9a, whilst said slide-bar laterally embraces the bearing 10a of said setting wheel by means of recesses 9b provided in the outer ends of the bifurcation 9a. As a result of this lateral embracing of the setting wheel the slide-bar 6 is held in a simple manner, without the use of special guide means, against rotary movement. The setting wheel 10 is fixedly mounted on the bearing 10a which latter is so keyed to shaft 4 as to be slidable

2

in the lengthwise direction of said shaft, and is driven, when a numeral has been set, by the driving member, for example a stepped roller 11. The slide-bar 6 is retained in the set position by a retaining device. Said retaining device preferably comprises a ball 12 mounted in the hollow knob 7 and loaded by a compression spring 13 also accommodated in said knob. In the drawing the slide-bar 6 is shown in the zero position.

In this position, the ball 12 engages in a recess 14 in the shaft 3 and by the action of the spring 13 retains the slide-bar 6 with sufficient firmness to ensure that said slide-bar can only be moved by overcoming the pressure of said spring.

The slide-bar 6 is positively connected to the shaft 3. To this end the shaft 3 is provided with a spiral groove 15 into which projects a radial pin 16 of the slide-bar 6. Along a curve corresponding to the spiral groove 15 are provided, in addition to the recess 14 corresponding to the zero position of the push-bar, nine further recesses 14 for the Figures 1-9 which may possibly be set. The longitudinal slot 8 serves at the same time as a sight hole for the control numeral roller 5 and is of such width that only one figure on the roller 5 is visible.

In the device described, when the slide-bar 6 is displaced, the ten-figure numeral roller 5 is rotated according to the figure operated, so that the combined figure set can be readily seen in the sight holes and, if it has been wrongly set, corrected before being transferred to the counting mechanism.

To enable the entire unit, i. e., the shaft 3, the push-bar 6, the retaining device 12, 13 and the numeral roller 5 to be laterally removed integrally from the machine or integrally placed therein without it being necessary to unscrew or otherwise move the retaining plates 1, the shaft 3 is mounted on centres 17 constituted by the free ends of screws 18 fitting in threaded holes in said plates 1. With this system of mounting, the shaft 3 with the setting wheel 10 may also, if required, be finely adjusted to the driving member 11.

I claim:

1. In a calculating machine, a setting mechanism with visible setting control register setting members for setting wheels, the said setting members being so mounted on shafts carrying a control numeral roller, as to be axially slidable, the said setting members being coupled to said shafts, so that when the setting members are operated the control numeral rollers are simultaneously and correspondingly set, the setting members consisting of slidebars provided with

lateral extensions projecting toward the center axis of the machine and having two bifurcations, said bifurcations being provided with a recess at their outer ends, said extensions being coupled through said bifurcations in the axial direction of movement of the setting wheels, while slidable bearings on which the setting wheels are fixed, are received by the recess of said bifurcations whereby said setting members are held against rotation.

2. In a calculating machine, a casing having a wall provided with straight longitudinally extending slots, a setting mechanism with visible setting control register setting members for setting wheels, rotatable shafts on which said setting members are slidably and rotatably mounted, handles on said setting members and extending through said slots, a control numeral roller fixedly mounted on each of said shafts, a spiral groove in each shaft and pins on said setting members projecting into said grooves, and a plurality of recesses extending along said spiral grooves in said shafts and engageable by a yieldable member carried by said setting member, whereby upon slidable adjustment of said setting members by means of said handles, said control numeral rollers are simultaneously rotated and

set, the setting members consisting of slidebars provided with lateral extensions projecting in the opposite direction from said handles and having two bifurcations, said bifurcations being provided with a recess at their outer ends, said extensions being coupled through said bifurcations in the axial direction of movement of the setting wheels, while slidable bearings on which the setting wheels are fixed are received by the recess of said bifurcations, whereby said setting members are held against rotation.

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