

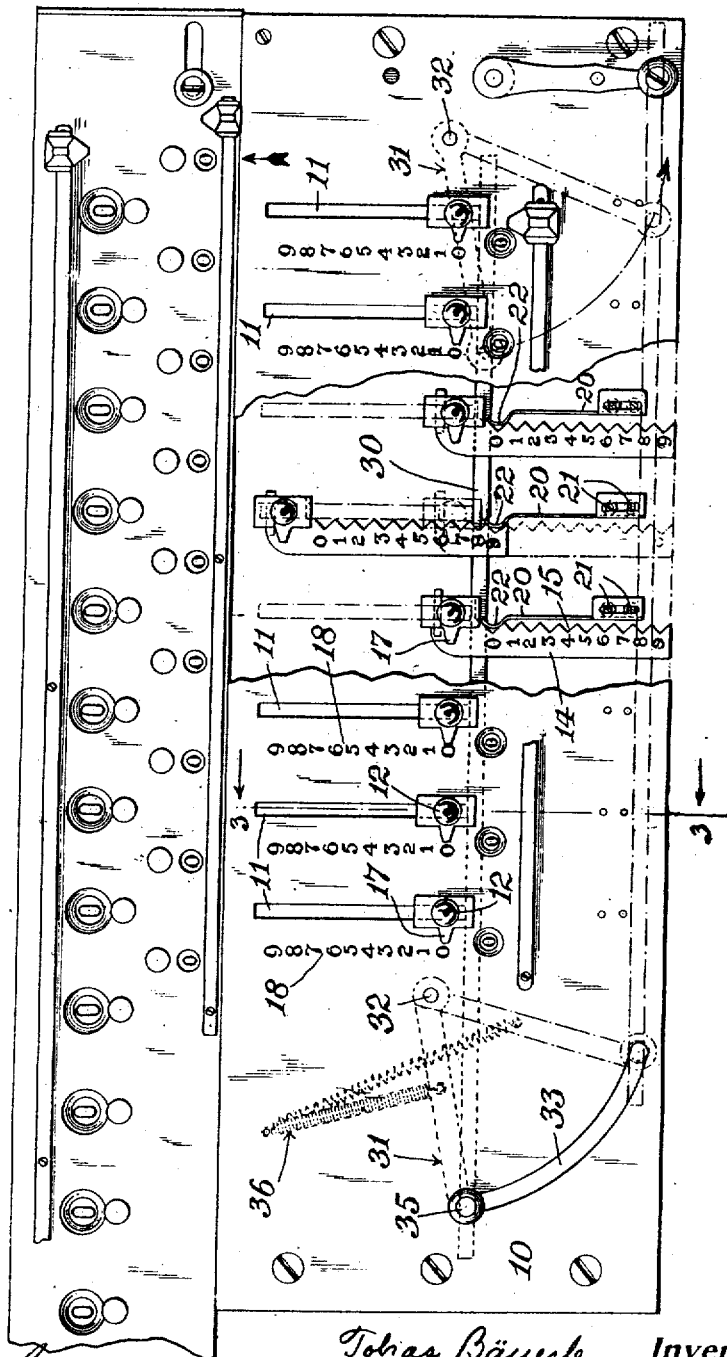
No. 892,704.

T. BÄUERLE.
CALCULATING MACHINE.
APPLICATION FILED FEB. 18, 1908.

PATENTED JULY 7, 1908.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

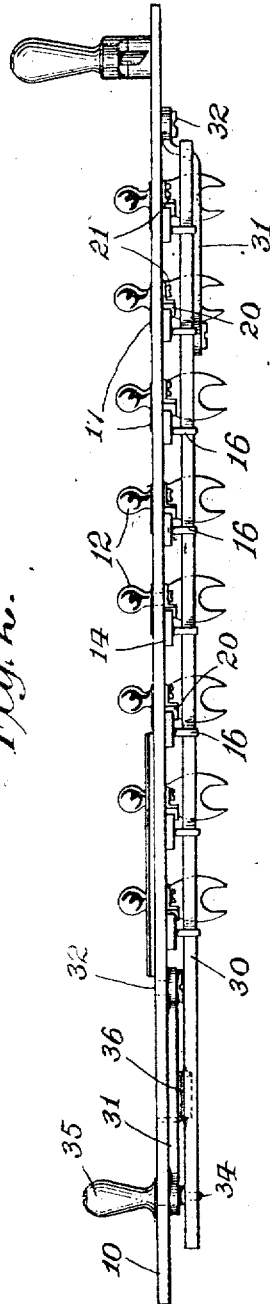
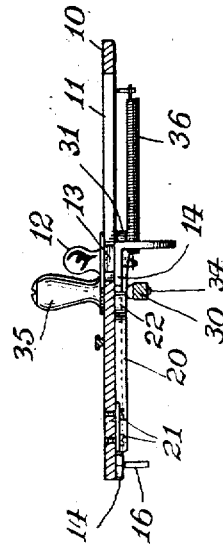


Fig. 3.



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UNITED STATES PATENT OFFICE.

TOBIAS BÄUERLE, OF ST. GEORGEN, GERMANY.

CALCULATING-MACHINE.

No. 892,704.

Specification of Letters Patent.

Patented July 7, 1908.

Application filed February 18, 1908. Serial No. 418,594.

To all whom it may concern:

Be it known that I, TOBIAS BÄUERLE, a citizen of the Grand Duchy of Baden, and a subject of the Grand Duke of Baden, residing at St. Georgen, Schwarzwald, Baden, Germany, have invented certain new and useful Improvements in Calculating-Machines, of which the following is a specification.

This invention relates to calculating machines and its novelty consists in the construction and adaptation of the parts as will be more fully hereinafter pointed out.

There has long been upon the market a class of calculating machines employed in performing the operations of addition, subtraction, multiplication and division in which the upper casing of the machine is provided with a series of slots along side of which are displayed numerals in denominational series and in which slots buttons are adapted to slide and which buttons are connected by appropriate means with the calculating mechanism, so that when the buttons are adjusted opposite the proper numerals, the items so set up are used in performing the operations of arithmetic above indicated. A recent machine of this class is described in the patent of Alexander Rechnitzer, issued Jan. 2, 1906, No. 809,075 and assigned to the Keuffel & Esser Company, of Hoboken, N. J. In using this machine and other machines supplied with the mechanism above referred to, it sometimes occurs that when an item to be used in an arithmetical operation is set up by moving the buttons referred to in the slots in the casing of the machines, the operator inadvertently places one or more of the buttons in such a position between two of the numerals in the series that it is thereafter impossible to tell to which one it belongs, and sometimes it also happens that after an item has been properly set up in the machine and the operation upon it has been performed, all of the buttons representing the item are not restored to zero and consequently when a new item is enumerated and an operation is sought to be performed with it, the user of the machine is uncertain concerning the number enumerated.

It is the purpose of this invention to overcome these disadvantages and this is done by providing means whereby the item setting buttons are accurately positioned opposite the proper numerals and whereby, when the desired arithmetical operation has been completed, all of the buttons are restored by a

common means to their zero or original positions.

In the drawings, Figure 1 is a top plan view of the upper plate of the casing of a calculating machine embodying the invention with a portion of the main plate removed to show the parts underneath; Fig. 2 is a front elevation of the same parts, and Fig. 3 is a transverse section on the plane of the line 3—3 in Fig. 1.

In the drawings 10 is the upper plate of the casing in the machine. It is provided with slots 11 arranged in suitable positions with respect to the calculating mechanism (not shown). Each of the slots is provided with a button 12 having a shank 13 of suitable rectangular form to prevent it from turning in its slot, and which shank is provided with a longitudinal plate 14 having notches 15 along its inner edge, and a depending projecting pin 16 secured to its under side. The button 12 is also provided with a pointer 17 projecting over the plate 10. On top of the plate 10 and along side of each slot is displayed a series of numerals 18, from 9 to 0, and reaching from the edge of the plate forward. To the under surface of the plate 10 is secured a series of springs 20, one for each slot. The springs are fastened to the plate by screws 21, or in any other convenient manner. Each spring is bent at its extremity 22 to form a sort of a tooth which is adapted to engage with the notches 15 on the plate 14.

The purpose of the construction described is to secure accurate positioning of the buttons 12 with respect to the different numerals of the series displayed on the plate. As a button is moved so that its pointer 17 is opposite any selected numeral of the series, the corresponding notch 15 on the plate 14 will engage with the bend 22 of the spring 20 and indicate by such engagement to the operator that the desired position has been reached, thus preventing him from moving the button any further. After such of the buttons as may be required for the purpose have been set to their respective positions to enumerate a particular item in the operation of the machine, it has been usual, after the calculation has been completed, manually to move each of the buttons back to zero. As before stated, sometimes the operator neglects or forgets to restore the buttons to zero and when a new item is sought to be enumerated, errors arise as has been stated. A restoring mechanism is therefore provided by which

all of the buttons are surely and simultaneously brought back to their original positions. To that end a restoring bar 30 is supported upon two links 31 mounted on pivots 5 32 secured to the under surface of the upper plate. The plate is provided with a curved slot 33 to permit of the passage of the shank 32 of a button 35 mounted at the end of the left-hand link 31. The shank 34 is securely 10 connected to the bar 30. A spring 36 secured to one of the links 31 and to the plate 10, serves to retract the links and under its tension to move them back to their original position. The bar 30 is so arranged that it 15 will engage with any of the pins 16 on the plates 14 and when the bar is moved, which is done by moving the button 35 toward the operator, along the slot 33, all of the pins 16 on the buttons which have been moved away 20 from their zero positions will be simultaneously moved back by reason of the fact that their respective pins 16 will be brought into engagement with the bar 30.

What I claim as new is:

25 1. In a calculating machine, comprising item enumerating buttons arranged in series, each button having a row of digits displayed along its line of movement, means for simultaneously retracting to their original position 30 all of the buttons which have been moved therefrom.

2. In a calculating machine comprising item enumerating buttons arranged in series, each button having a row of digits displayed along its line of movement, means for simultaneously retracting to their original position all of the buttons which have been moved therefrom, comprising a pin on each button and a common retracting bar adapted 40 to engage with all of said pins.

3. In a calculating machine, comprising item enumerating buttons arranged in series, each button having a row of digits displayed along its line of movement, means for simultaneously retracting to their original position all of the buttons which have been moved therefrom, comprising a depending pin on each button, a retracting bar adapted to engage all of said pins and means for normally preventing said engagement. 50

4. In a calculating machine, comprising item enumerating buttons arranged in series, each button having a row of digits displayed along its line of movement, means for simultaneously retracting to their original position all of the buttons which have been moved therefrom, comprising a depending pin on each button, a retracting bar adapted to engage all of said pins and means for normally 60 preventing said engagement, consisting of a spring secured directly or indirectly to the bar and to a fixed part of the machine.

5. In a machine of the class described, an

upper plate provided with slots, item enumerating buttons slidable in said slots and 65 having projections extending beneath the plate, a restoring bar suspended beneath the plate to contact with said projections and means for moving the bar to sweep against all of said projections. 70

6. In a machine of the class described, an upper plate provided with slots, item enumerating buttons slidable in said slots and having projections extending beneath the plate, a restoring bar suspended beneath the 75 plate on parallel links and a handle projecting upwardly through the plate whereby the bar may be moved to contact with said projections.

7. In a machine of the class described, an 80 upper plate provided with slots, item enumerating buttons slidable in said slots and having projections extending beneath the plate, a restoring bar suspended on parallel links beneath the plate and provided with a 85 handle whereby it may be moved to contact with said projections to sweep all of said buttons.

8. In a machine of the class described, an upper plate provided with slots, item enumerating buttons slidable in said slots and having projections extending beneath the plate, a restoring bar suspended on parallel 90 links beneath the plate and provided with a handle whereby it may be moved to contact with said projections to sweep all of said buttons, and a spring adapted normally to keep the bar out of contact with said projections. 95

9. In a machine of the class described, an upper plate provided with slots, item enumerating buttons slidable in said slots, and having projections extending beneath the plate and means whereby they may each be positioned at optional places along the slots in combination with a restoring bar suspended 100 beneath the plate to contact with said projections and means for moving the bar to sweep all of said projections. 105

10. In a machine of the class described, an upper plate provided with slots, item enumerating buttons slidable in said slots and having projections extending beneath the plate and provided with a notched slide beneath the plate and a spring adapted to engage therewith in combination with a restoring 110 bar also suspended beneath the plate and adapted, when moved, to contact with said projections to sweep all of the buttons to their original positions. 115

Signed at Freiburg, Baden, January 24, 120 1908.

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Witnesses:

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