

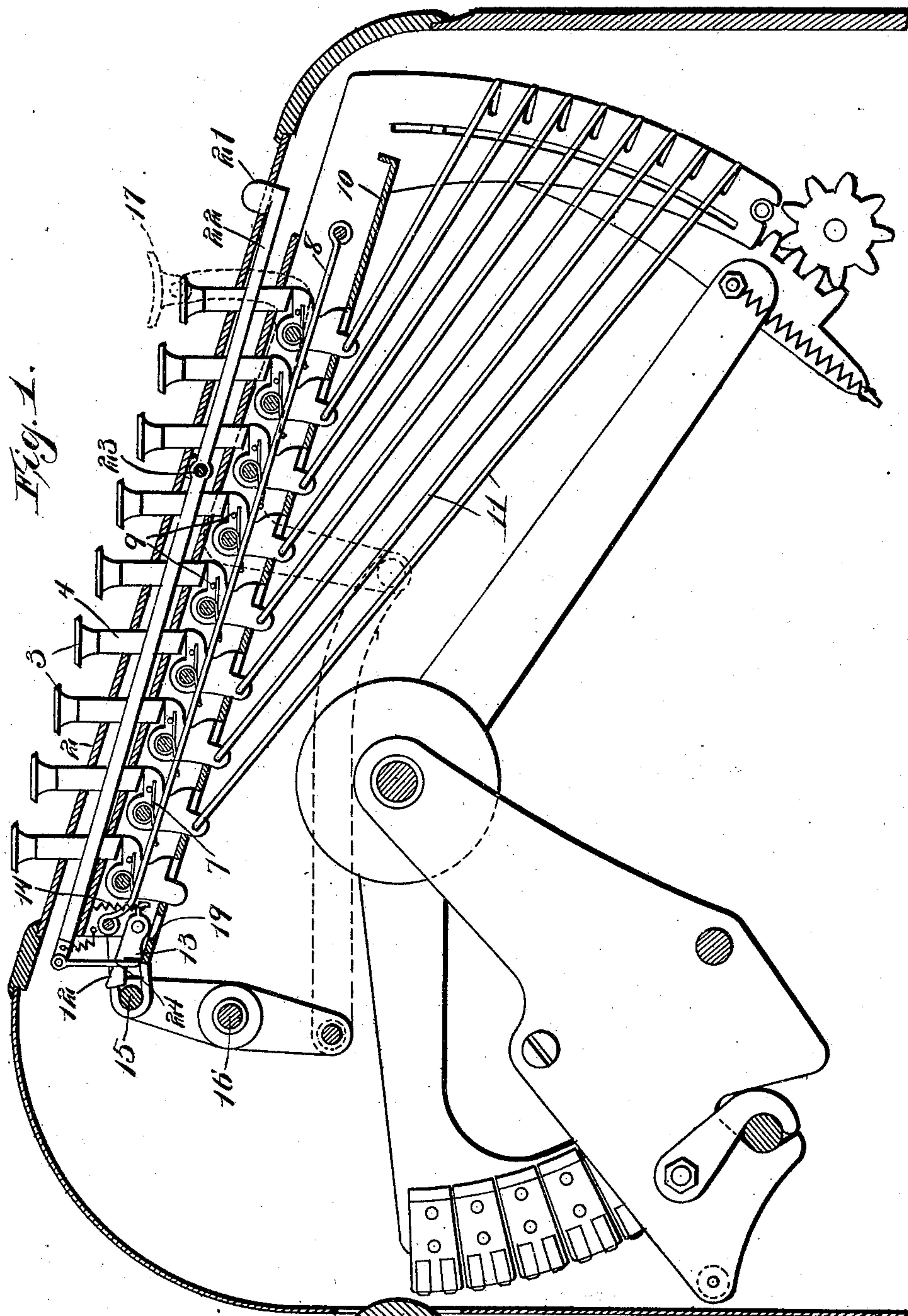
No. 756,168.

PATENTED MAR. 29, 1904.

A. C. JACKSON.  
CALCULATING MACHINE.  
APPLICATION FILED AUG. 24, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses  
*E. J. Stewart*  
*Jno E. Parker*

*A. C. Jackson* Inventor  
by *Chas. Snow*  
Attorneys

No. 756,168.

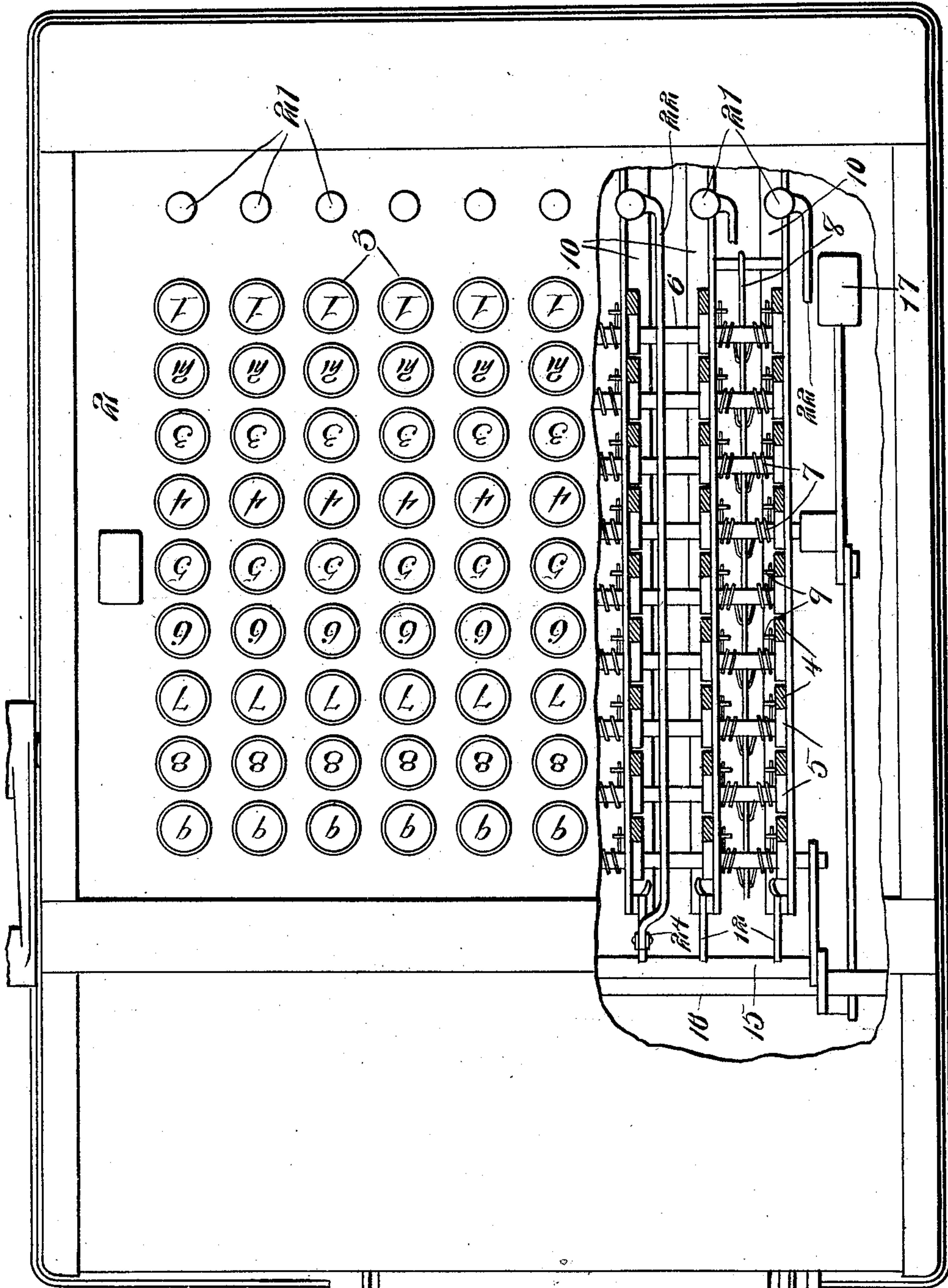
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3 SHEETS—SHEET 2.



Witnesses  
*E. H. Stewart*  
*J. M. E. Parker*  
Fig. 2.

by

A. C. Jackson Inventor  
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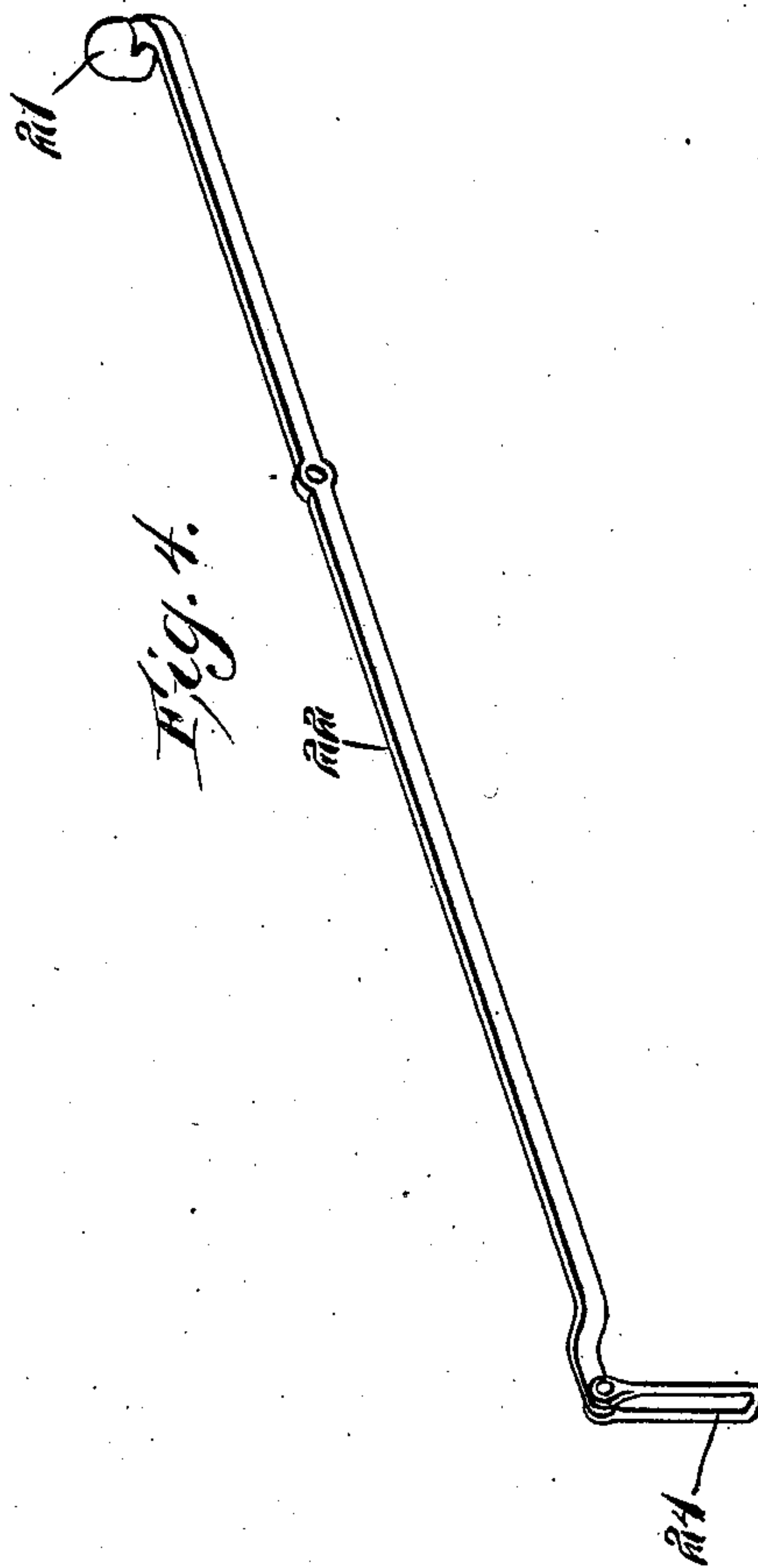
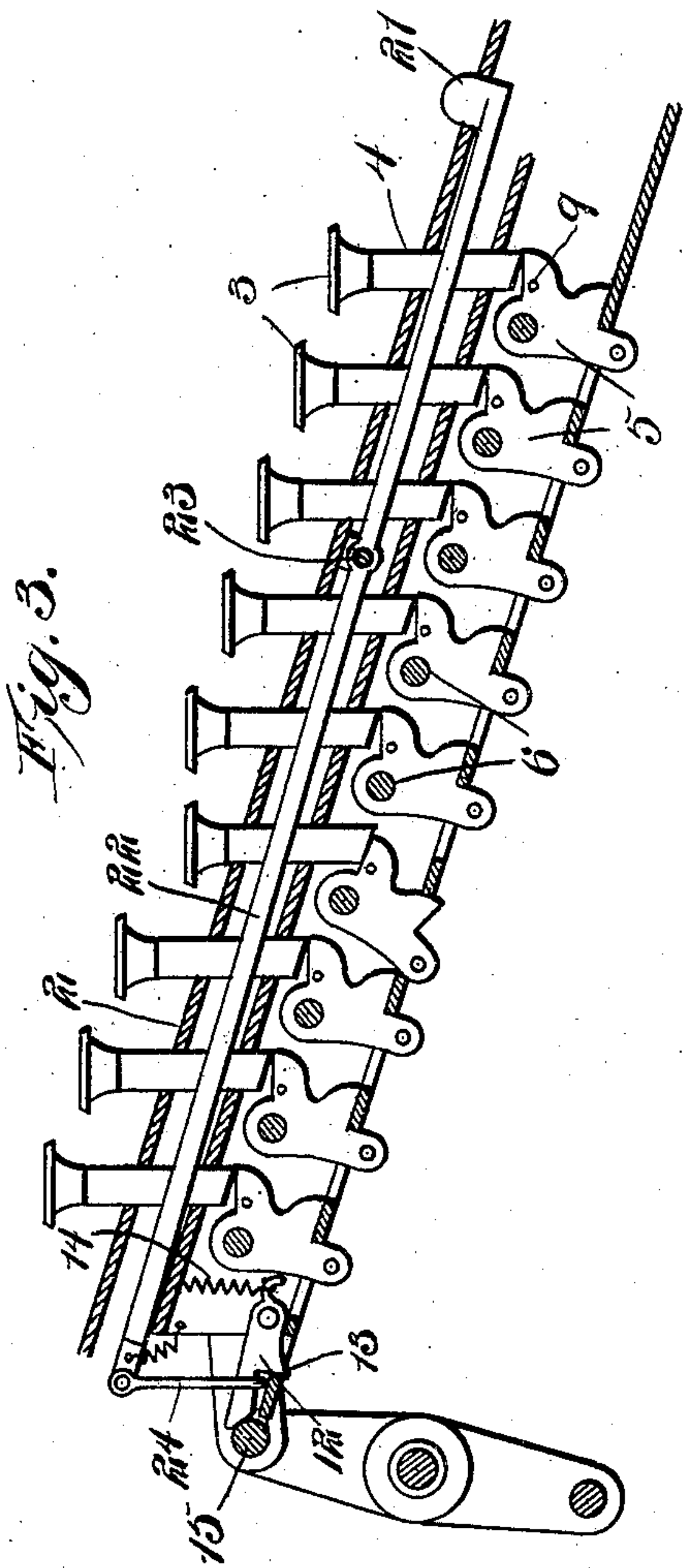
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NO MODEL.

3 SHEETS—SHEET 3.



Witnesses  
*E. H. Stewart*  
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# UNITED STATES PATENT OFFICE.

ALBERT C. JACKSON, OF HARRIMAN, TENNESSEE, ASSIGNOR TO AMERICAN ARITHMOMETER COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION.

## CALCULATING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 756,168, dated March 29, 1904.

Application filed August 24, 1903. Serial No. 170,642. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT C. JACKSON, a citizen of the United States, residing at Harri-  
man, in the county of Roane and State of Ten-  
nessee, have invented a new and useful Calcul-  
ulating-Machine, of which the following is a  
specification.

This invention relates to certain improve-  
ments in calculating-machines of that general  
class in which the registering mechanism is ad-  
justed to printing position by the depression of  
finger-keys, and while applicable to calculat-  
ing-machines of different type it is adapted  
more especially for use in connection with the  
well-known Burroughs calculating-machine.  
In machines of this class a single release-key is  
employed for releasing the mechanism and  
allowing all of the operating parts of the ma-  
chine, including the finger-key, to return to  
initial position, and should the operator de-  
press the wrong key during the registration  
of any single horizontal row of numerals he  
is compelled to depress the release-key and  
restore all of the depressed keys of the row,  
including the one in error, and again start out  
at the beginning of the row. This necessi-  
tates unnecessary work in that registration  
of the row of figures in seven, eight, or more  
columns the last key may be the one erro-  
neously operated and it is necessary to reset  
the entire line in order to correct this one nu-  
meral.

It is the principal object of the present in-  
vention to overcome this objection and to en-  
able the operator to correct errors more  
quickly by providing means whereby an error  
in any column may be instantly corrected  
without the necessity of restoring all of the  
previously-depressed keys in other columns  
to initial position.

With this and other objects in view, as will  
more fully hereinafter appear, the invention  
consists in the novel construction and arrange-  
ment of parts hereinafter described, illus-  
trated in the accompanying drawings, and par-  
ticularly pointed out in the appended claims,  
it being understood that various changes in  
the form, proportions, size, and minor details  
of the structure may be made without depart-

ing from the spirit or sacrificing any of the  
advantages of the invention.

In the accompanying drawings, Figure 1 is  
a sectional elevation of sufficient of a calcu-  
lating-machine to illustrate the application of  
my invention thereto. Fig. 2 is a plan view  
of the machine, partly in section. Fig. 3 is a  
transverse sectional elevation of a portion of  
the machine on the line 3 3 of Fig. 1. Fig. 4  
is a detail perspective view of one of the aux-  
iliary release-keys forming the subject of the  
present invention.

Similar numerals of reference are employed  
to indicate corresponding parts throughout  
the several figures of the drawings.

While the present invention may be em-  
ployed in connection with machines of any  
class where the keys are arranged in rows or  
columns and connected to the registering  
mechanism, it is particularly applicable to  
machines of that general type shown in the  
Burroughs Patent No. 504,963, September  
12, 1893, and it has not been deemed necessary  
to fully illustrate all of the mechanical details  
of said machine.

The frame or casing is of the usual type and  
supports the upper keyboard 2. The key-  
board is provided with any desired number of  
rows of finger-keys, each row comprising nine  
keys and numbered from "1" to "9" in con-  
secutive order, as shown more clearly in Fig.  
2. Each of the keys 3 is secured to a verti-  
cal stem 4, extending through a suitable guid-  
ing-opening in the keyboard, and the lower  
end of each stem bears upon one arm of a bell-  
crank lever 5, pivoted to a cross-bar 6, extend-  
ing transversely of the machine. Each cross-  
bar is provided with a torsion-spring 7, hav-  
ing a central looped portion that passes under  
a retaining-rod 8, and the ends of said spring  
bear on the under sides of pins 9, carried by  
said lever 5 and tending normally to elevate  
the horizontal arms of the lever and raise the  
key and its stem to normal position.

Arranged under each series of keys is a lock-  
ing-strip 10, having a series of slots for the  
reception of an ear or projection forming the  
vertical member of the bell-crank lever, and  
the lower end of said ear or projection is con-



nected by rods 11 to the mechanism for ad-  
 justing the recording devices in the manner  
 well known to persons familiar with machines  
 of this class. The strip 10 is locked in the  
 5 position to which it is moved by the compres-  
 sion of the finger-keys by means of a pawl 12,  
 having a lug 13 to engage a shoulder or stop  
 on the strip, said pawl being actuated by a  
 suitable tension-spring 14. After the line of  
 10 numerals has been printed the keys are un-  
 locked and this effected by simultaneously lift-  
 ing all of the pawls 12. To accomplish this,  
 the machines now on the market are provided  
 with a cross-bar 15, carried by the arms of the  
 15 rocking lever on a shaft 16, the lower end  
 of one of the locking-levers being connected  
 by a system of levers and links to a releasing-  
 key 17, usually disposed at the lower and left-  
 hand side of the keyboard. The restoring-  
 20 bar 15 simultaneously engages all of the pawls  
 and raises the same from contact with the  
 shoulders 19 of the locking-strips, so that all  
 of the parts are free to reassume an initial  
 position.

25 The construction thus far described is com-  
 mon to machines of the Burroughs type and  
 forms no part of the present invention. It  
 will be noted, however, that in the machine  
 thus far described there is no mechanism for  
 30 returning one of the locking bars or strips to  
 its initial position without returning all of  
 said bars or strips, and this causes a consider-  
 able amount of extra work when the operator  
 accidentally depresses the wrong key, it be-  
 35 ing necessary to restore all the keys in the  
 line to initial position and again start the op-  
 eration from the beginning of the line.

In carrying out my invention I provide  
 means whereby any single locking-strip may  
 40 be restored to its initial position without ef-  
 fecting the movement or altering the position  
 of any of the other locking-strips. To this  
 end the keyboard is provided with a number  
 of extra keys 21, one of which is placed be-  
 45 low each row of finger-keys. This finger-key  
 21 is mounted on a key-lever 22, pivoted on  
 a transversely-disposed rod 23, immediately  
 under the keyboard. The rear end of the key-  
 lever is provided with a depending link or  
 50 hook 24, that rests under the outer portion of

the pawl 12 in such position as not to inter-  
 fere with the movement of the pawl when the  
 latter is moved to automatically engage the  
 locking-strip. One of these auxiliary key-le-  
 55 vers is employed in connection with each row  
 or series of finger-keys, and each is movable  
 independently of the others. Should the op-  
 erator depress a wrong finger-key by mis-  
 take, he can restore the finger-key and the  
 locking-strip to their original positions by de- 60  
 pressing the auxiliary finger-key in alinement  
 with the key erroneously depressed, and the  
 hook 24, associated with said auxiliary key,  
 will engage and raise the pawl 12 from the  
 shoulder 19 of the locking-strip and permit 65  
 the latter to reassume its initial position, a  
 suitable spring or other auxiliary mechanism  
 being employed to restore the strip to posi-  
 tion when released from the influence of the  
 pawl. 70

Having thus described the invention, what  
 is claimed is—

1. In a calculating-machine, the combina-  
 tion with a plurality of series of keys, of a lon-  
 75 gitudinally-movable locking-strip for each se-  
 ries, an independent pawl for engaging each  
 locking-strip, means for simultaneously mov-  
 ing all of the pawls to releasing position, and  
 an independent releasing device for each pawl.

2. In a calculating-machine, the combina- 80  
 tion with a plurality of series of keys, of a lock-  
 ing-strip for each series, a pivoted pawl for  
 each of the strips, means for engaging the se-  
 ries of pawls to simultaneously release the  
 same, an auxiliary key-lever for each series of 85  
 keys, a finger-key carried by each lever and  
 projecting through the keyboard, and a pend-  
 ent hook member disposed at the opposite end  
 of each lever for loosely engaging a pawl  
 whereby either a single or the plural releas- 90  
 ing means may be independently actuated, sub-  
 stantially as specified.

In testimony that I claim the foregoing as  
 my own I have hereto affixed my signature in  
 the presence of two witnesses.

ALBERT C. JACKSON.

Witnesses:

W. S. McKINNEY,  
 J. F. NICHOLSON.