

No. 631,345.

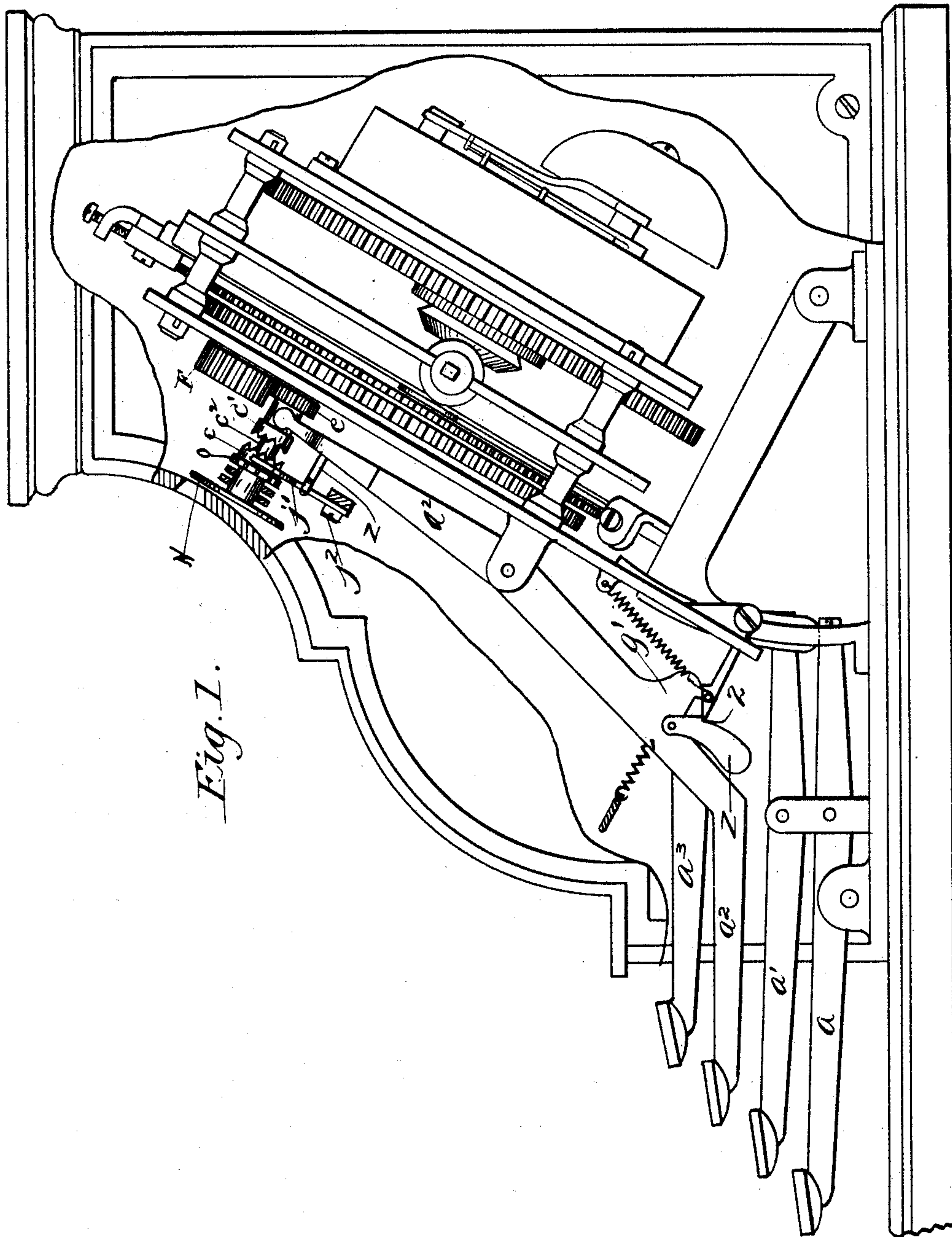
Patented Aug. 22, 1899.

J. A. TURCK.
ADDING MACHINE.

(Application filed June 21, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.

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Alfred Cardwell

Inventor.

Joseph A. Turck.

by

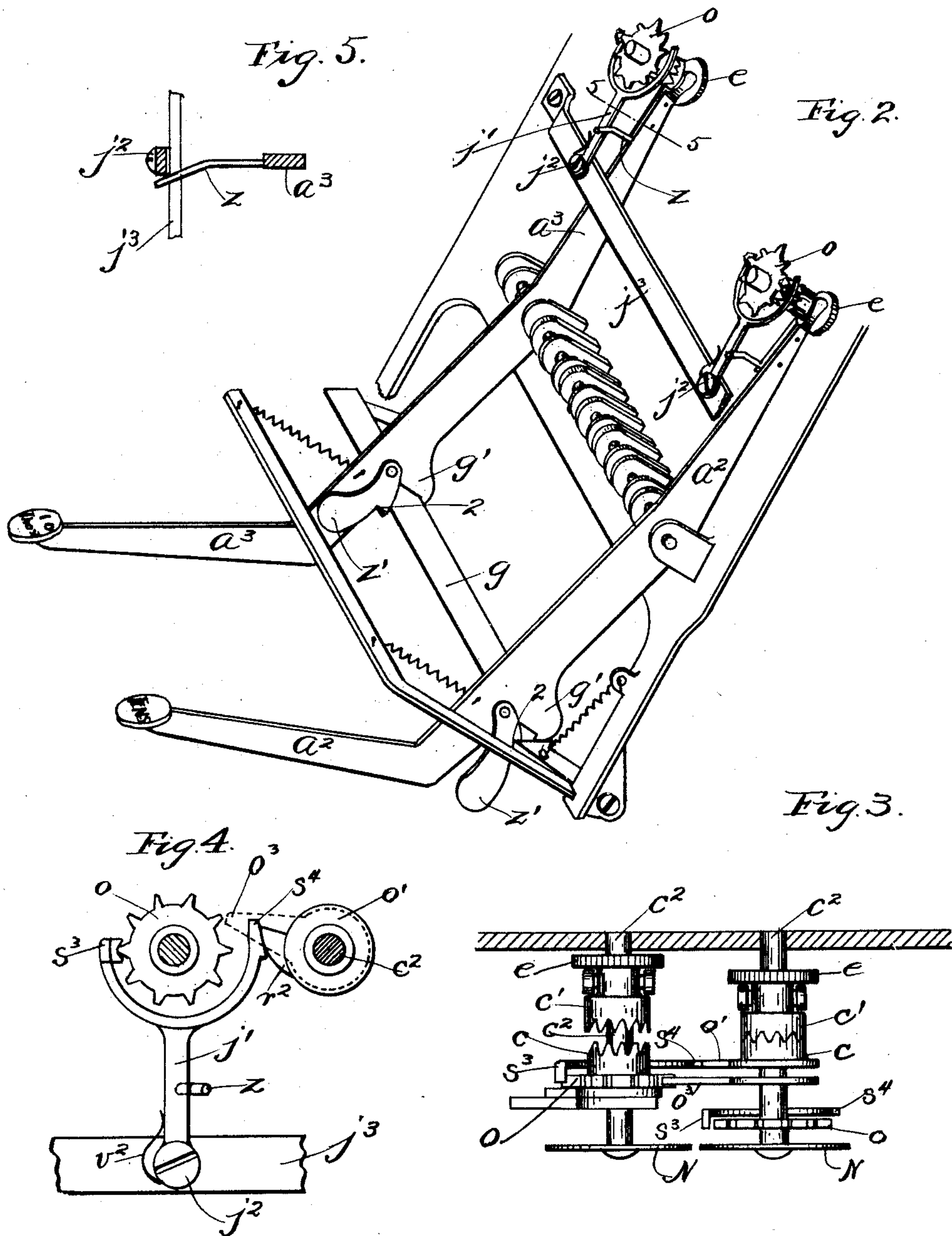
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UNITED STATES PATENT OFFICE.

JOSEPH A. TURCK, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR, BY DIRECT
AND MESNE ASSIGNMENTS, TO THE MECHANICAL ACCOUNTANT COM-
PANY, OF SACO, MAINE.

ADDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 631,345, dated August 22, 1899.

Application filed June 21, 1899. Serial No. 721,315. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. TURCK, of Providence, in the county of Providence and State of Rhode Island, have invented certain
5 new and useful Improvements in Adding-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures
10 of reference marked thereon, which form a part of this specification.

This invention relates to adding-machines and registers.

It is fully explained and illustrated in this
15 specification and the accompanying drawings.

Figure 1 is an elevation of the machine with one side of the case removed. Fig. 2 is a perspective view of the parts of the machine to which the improvements are applied
20 separate. Fig. 3 is a top view of the improvements. Figs. 4 and 5 show detail views of same parts that will be hereinafter fully described.

This invention consists in improvements in
25 my Letters Patent of the United States bearing date the 28th day of March, 1899, No. 622,091, all other parts of the machine, excepting the improvements, being constructed and operated as described in the specification of
30 said patent.

The objects of these improvements are to facilitate the locking and the releasing of the levers that indicate which dials are to be operated by the levers that turn them according
35 to the figures on the levers, and also to provide retaining devices to hold the dials, so that they shall not be accidentally turned when the levers are not operating them, and to release them to turn when required.

In the drawings, N N are a series of dials
40 with figures from "0" to "9" on their faces, as described in said patent. They are held on stationary studs c^2 , and c' c' are the parts of clutches sliding on said stud and carrying
45 gears e e , that engage with the series of connecting-gears F, by which the dials N are rotated. c c are the other parts of the clutches, made fast on the sleeves of the dials N. (See Fig. 2.) The sleeves of the dials also carry
50 each a ten-toothed wheel o and a one-toothed

wheel o' , by means of which they move each other. In said patent each individual dial is free to turn when the machine is not in operation and is liable to be turned independently of the key-levers a a' and cause errors in the
55 calculations. To prevent this, a forked lever j' is held to swing on a stud j^2 , fast in a bar j^3 , under each dial-stud c^2 (see Fig. 2) and arranged to bring the toothed wheels o between the arms of the forked lever j' , as in Fig. 4. 60
One end s^3 of each fork is made to catch one of the toothed wheels o by a spring v^2 at the lower end of the forked lever and hold that wheel and dial from turning at any time, except when the tooth of the wheel o' on the
65 next stud comes around to turn it, when a cam r^2 on the wheel o' strikes the other arm s^4 of the fork and pushes the lever j' over, so that the wheel o and its dial will be free to be moved by the tooth one space. Then the cam
70 r^2 having passed by the fork will be thrown back again against the wheel o by the spring v^2 and hold it fast until the wheel o' has made another revolution.

In this machine, as described in said patent, 75
there are two sets of key-levers. The first or upper set a^3 a^2 , (see Fig. 1,) are indicating-levers—that is, they do not turn the dials, but simply throw each dial that is to be operated by the second or lower set of key-le- 80
vers a' a into connection with the turning mechanism by sliding the half-clutch c' into engagement with the half-clutch c on the dial-sleeve. When a dial N is thrown into en- 85
gagement with the mechanism by which the lower set of key-levers turn it, it is necessary that its wheel o should be free from the arm of the forked lever j' . This is done by a bent arm z , (see Fig. 5,) that projects out from the key-lever a^3 that puts the dial in engagement, 90
and this arm z , when that lever puts the dial into engagement, pushes by its bent portion the forked lever over to one side, so as to leave the wheel o free to turn, (see Fig. 5,) which is a section taken on line 5 5 in Fig. 2, 95
looking downward. When an indicating key-lever is pressed down to cause a dial to be engaged by the turning mechanism, it is necessary to hold it down while the lower key-levers operate the dial. This is accomplished in my 100

patent, *supra*, by having a hook projection g' (see Fig. 2) made on the back of the key-lever to catch over a bar g and keep it down until another upper lever is pressed down to
 5 release it. This way does not release the locked lever quick enough or with sufficient certainty. To do this, a swinging dog z' is pivoted to the key-levers a^3 a^2 (see Fig. 2) in position to have a notch 2 in its back edge
 10 swing over the bar g when the key-lever is not caught on the bar and to hang down in front of the bar g when the key-lever is caught. (See Fig. 2, in which the key-lever a^2 is free and the key-lever a^3 is depressed and caught
 15 on the bar g .) It will be seen that upon a slight downward motion of the free lever a^2 the notch 2 will depress the bar g and release the lever a^3 before the lever a^2 is caught on the bar. This makes it certain that no two
 20 of the indicating-levers will be down at the same time.

Having thus described my improvements, I claim as my invention and desire to secure by Letters Patent—

25 1. In an adding-machine the combination with one or more dials and mechanism to operate them, of a forked lever with each dial to hold it stationary with one of its arms, a

cam moving with the next dial to press on the other arm of said forked lever and release the
 30 dial held stationary, substantially as described.

2. In an adding-machine the combination of a series of dials, a stop-lever in connection with each dial to hold the latter from turn-
 35 ing, a key-lever to put said dial in engagement with the operating mechanism, and an arm attached to said key-lever arranged to free the dial from said stop-lever in making
 40 said engagement, substantially as described.

3. In an adding-machine a series of dials, a key-lever in combination with each dial to put the dial in engagement with the operating
 45 mechanism, a notch made in said key-lever, a bar for said notch to catch on and hold the lever down when depressed, a dog pivoted to the key-lever and arranged to catch on said
 50 bar and depress it when the key-lever is depressed, and release the key-lever that is caught on it, substantially as described.

In testimony whereof I have hereunto set my hand this 10th day of June, A. D. 1899.

JOSEPH A. TURCK.

In presence of—

BENJ. ARNOLD,

HOWARD E. BARLOW.