

No. 756,280.

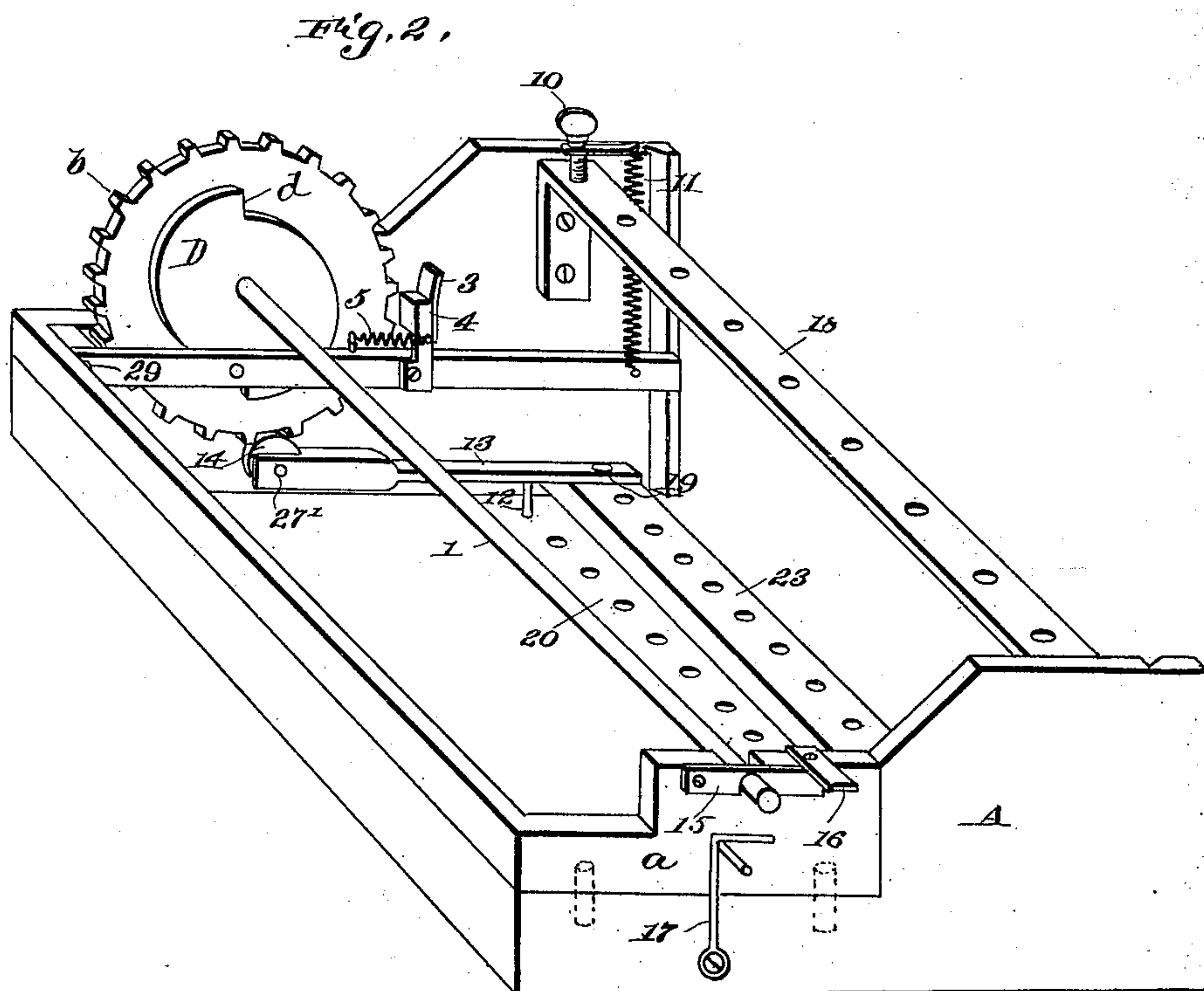
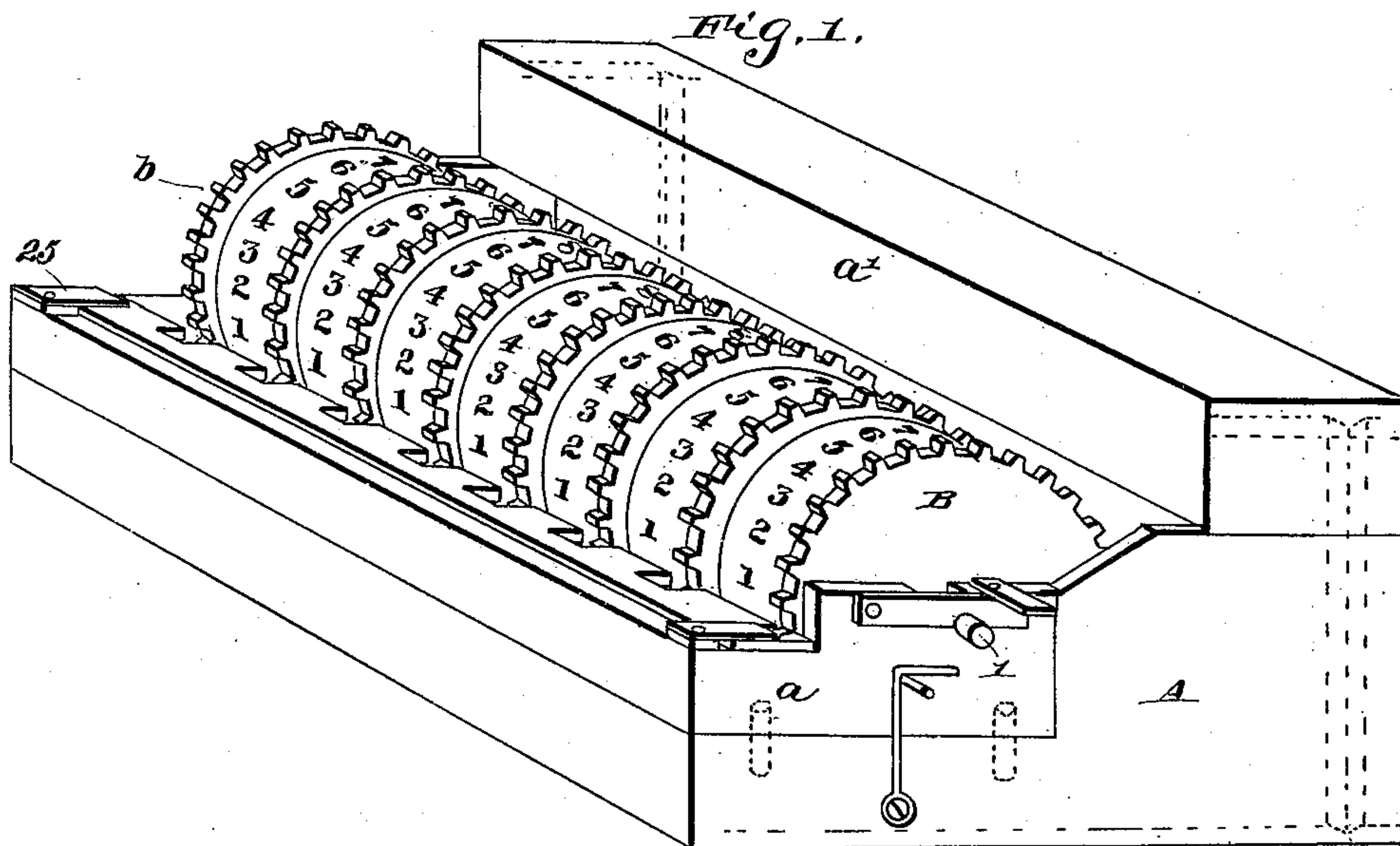
PATENTED APR. 5, 1904.

C. H. PLATT.
ADDING MACHINE.

APPLICATION FILED FEB. 6, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:

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J. M. Eastman

Inventor:

Corwin H. Platt

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2 SHEETS—SHEET 2.

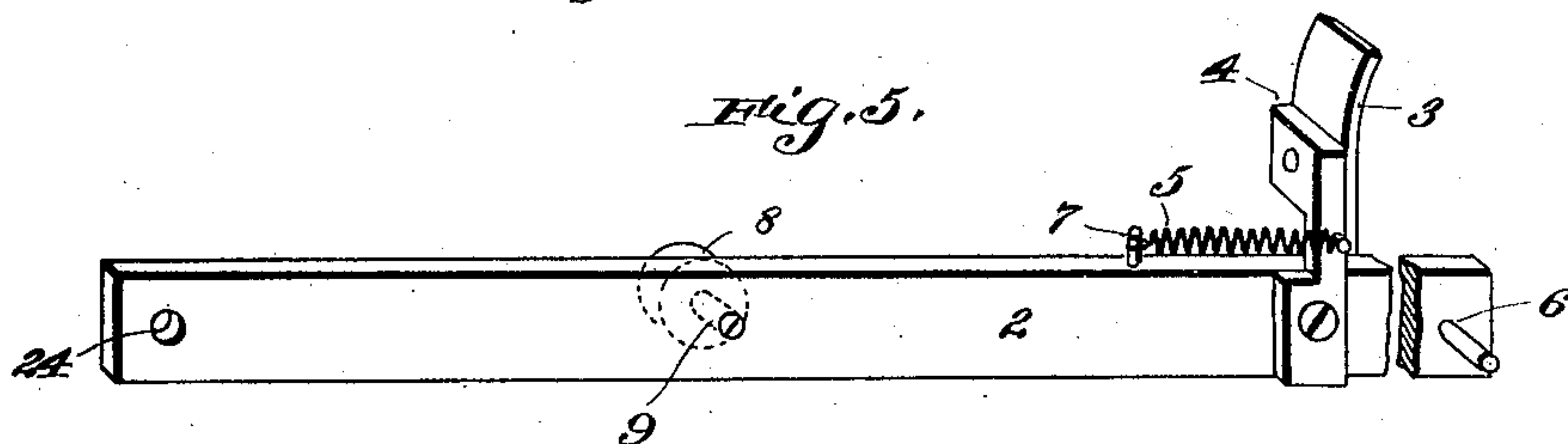
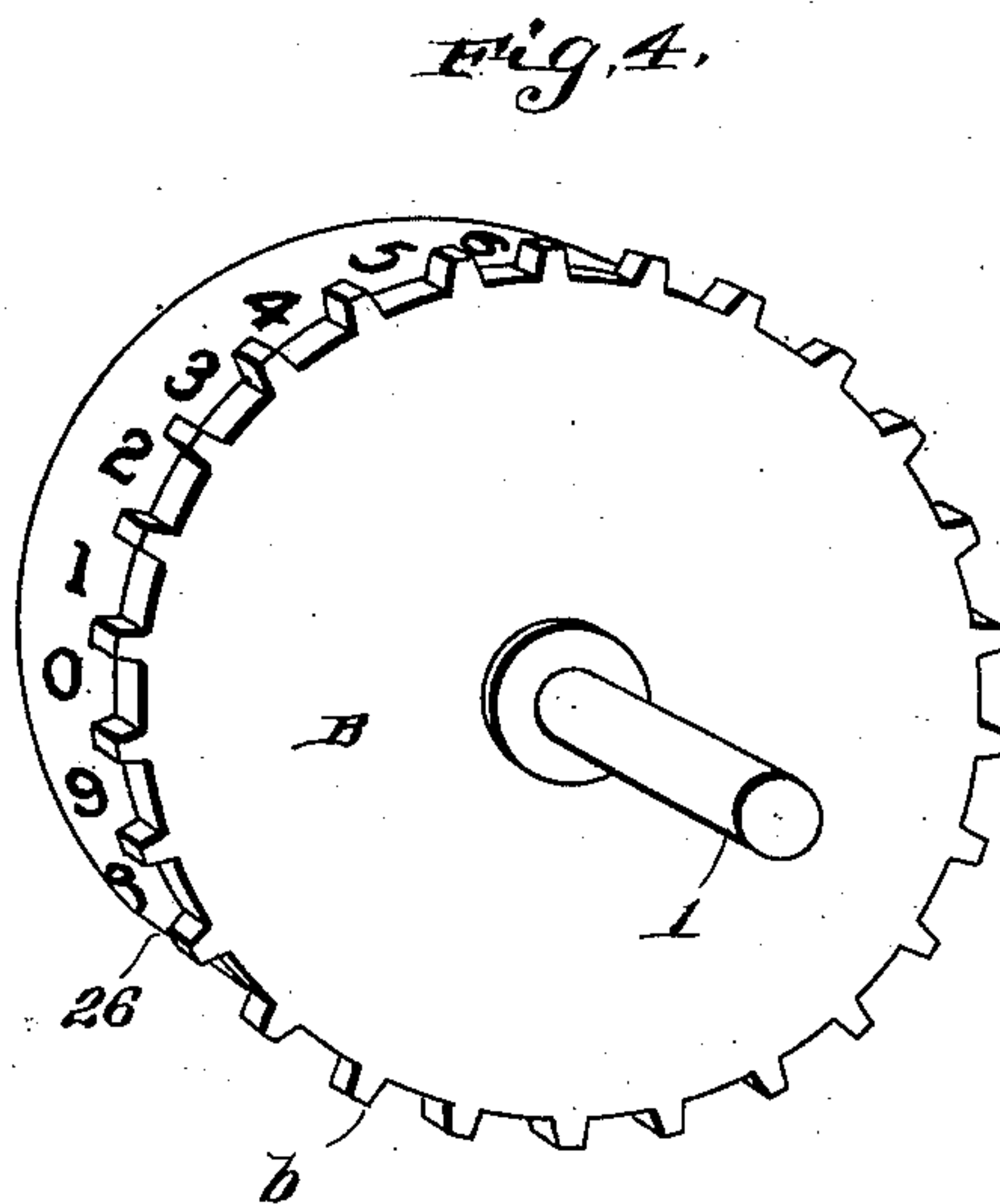
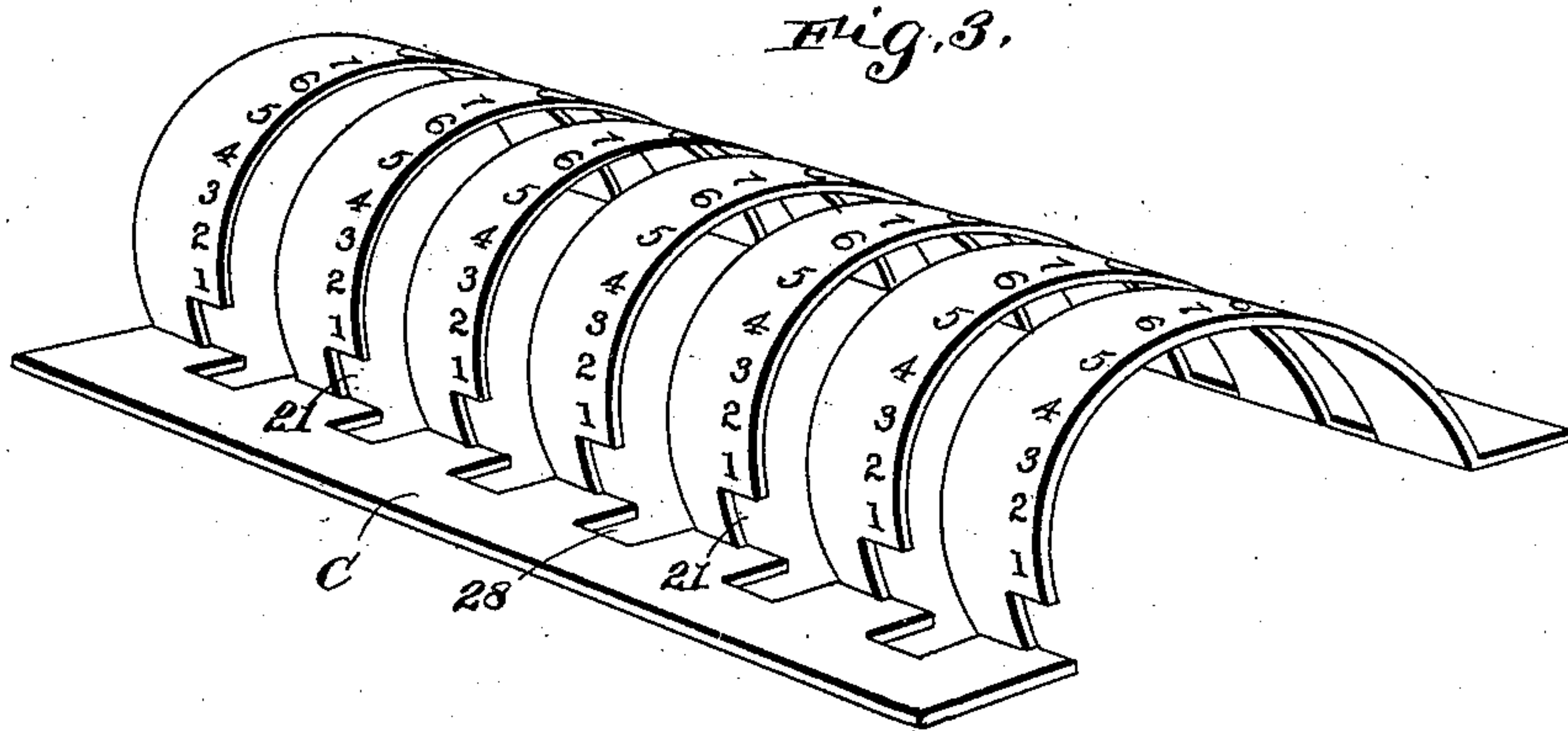
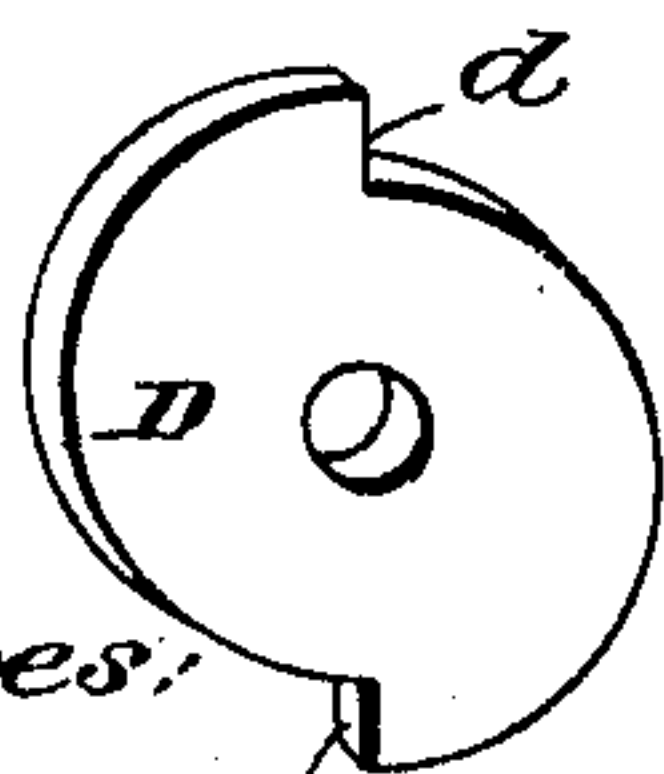


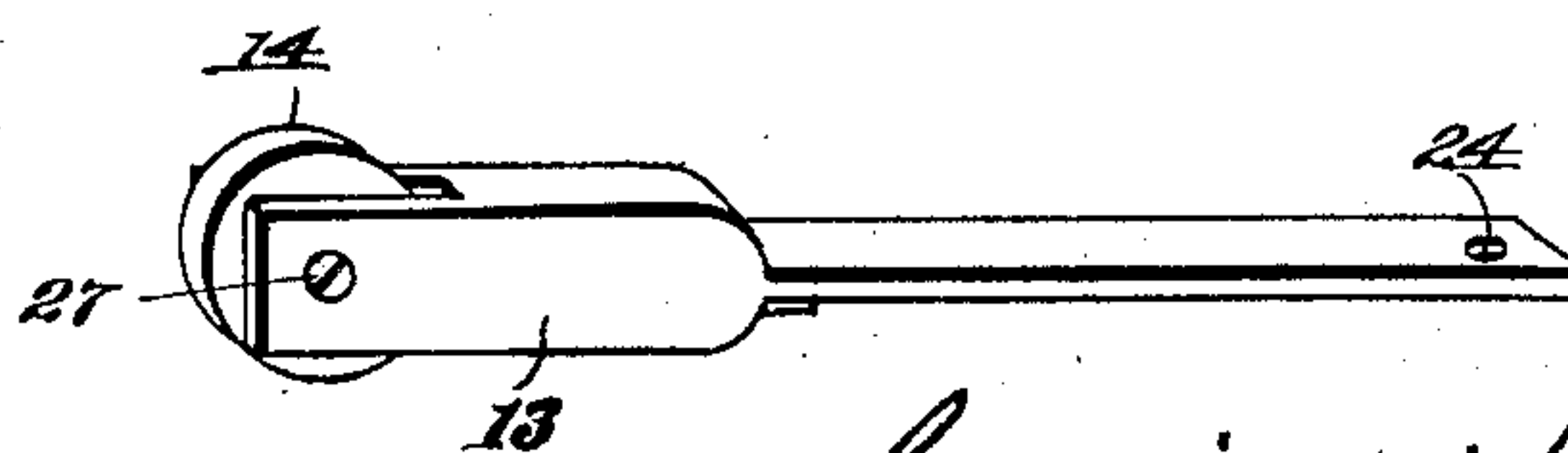
Fig. 6.



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Fig. 7.



Inventor:

Corwin H. Platt

UNITED STATES PATENT OFFICE.

CORWIN H. PLATT, OF CLEVELAND, OHIO.

ADDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 756,280, dated April 5, 1904.

Application filed February 6, 1903. Serial No. 142,194. (No model.)

To all whom it may concern:

Be it known that I, CORWIN H. PLATT, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Adding-Machines, of which the following is a specification.

My invention relates to improvements in adding-machines which add by means of accumulator-wheels; and the objects of my improvement are, first, to dispense with keys and their connecting mechanism; second, to simplify the construction by reducing the number of parts used in this class of machines; third, to so construct and assemble the various parts of the machine that it may be quickly taken apart and all its parts be of easy access for the purpose of oiling, cleaning, and the care of the machine. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective, showing the body, accumulator-wheels, finger-spurs, index-plate, index-locks, and back. Fig. 2 is a detached view showing accumulator-wheels B, cam D, shaft 1, lever 2, ratchet 3, lever and ratchet-springs 11 and 5, screw 10, with arm, spring-brake 13, carrying roller 14, shaft-retainer 15, retainer-lock 16, hook 17, regulating-screw 12, supporting-span 18, lever-supporting block, screw 29, and holes 20 and 23 for screws 19 and 12. Fig. 3 is a detached view of a portion of the index-plate C, showing index-figures, recesses 21, and recesses 28. Fig. 4 is a detached view of accumulator-wheel B, showing band carrying total-figures 26. Fig. 5 is an enlarged detached view of carrying-lever 2, ratchet 3, and spring 5, with connecting-pins, connecting-pin 6, revolving knurl 8, screw 9, and hole 24 for screw 29. Fig. 6 is a detached view of compound cam D, showing sections $d d'$. Fig. 7 is a detached view of spring-brake 13, provided with roller 14 and pin or screw 27, and hole 22 for screw 19. Similar letters and figures refer to similar parts throughout the several views.

The body is preferably constructed in sections, as shown, A being the main portion of the body, a the removable portion, and a' the

removable back. The body can be constructed from wood or metal, as may be preferred. Section a is attached to the main section A by being placed on pins and secured by hooks 17. The front of section a is provided with a table or flat surface, which supports the front portion of the index-plate C and serves for a finger-stop when operating wheels B, as shown in Fig. 1. The back a' is secured to the main section A by dropping or sliding it in grooves in the rear part of section A and is preferably used as the method for securing the back a' to the body A. The top portion of the back a' is provided with a box-compartment, which covers screws 10 and span 18, as shown.

Index-plate C is convexed and enters between the wheels B, the convex portion carrying index-figures, which indicate the finger-spur to be operated in adding on the machine. It is provided with a series of recesses 21 to show the total-figures on wheels B. The front and rear of the plate is angled, the rear angle resting on the span 18 being held in place by back a' . The front angle is provided with recesses 28, which receive the finger-spurs b and is secured to table a by swinging locks 25, which are secured by screws, as shown, Fig. 1.

Shaft 1 rests in recessed journals in the top portion of section a and is secured in place by retainers 15, retainers 15 in turn being locked by swinging locks 16. Shaft 1 receives and supports wheels B, which are provided with finger-spurs b for rotating the wheels on shaft 1. The wheels B have holes provided through their centers to receive shaft 1. Each wheel B is provided with and operates as many sets of total-figures 26 as there are sections in the cam D. Each wheel B carries and turns a compound cam D. (Shown in Figs. 2 and 6.)

The compound cam D is constructed with direct relation to the number of finger-spurs used on the wheel B, (twenty finger-spurs and a two-section cam D being the least number that can be used on a wheel.) When twenty finger-spurs are used on the wheel, the cam D has two sections. When thirty spurs are used on a wheel, the cam D has three sections.

The principle embodied in the compound cam D allows ten (10) to be carried to the next higher wheel with a half or even a third of a revolution of the operating-wheel. By supplying the wheel with finger-spurs, with which the wheel is rotated, a keyboard and its connecting mechanism are dispensed with, thereby simplifying the construction of the machine.

The cam D actuates carrying-lever 2 by contact with revolving knurl 8, which is secured to the lever by screw 9. Lever 2 is provided with a hole 24, through which it is secured with the screw 29 to its relative position in the machine. Lever 2 carries pin 6 to receive the end of spring 11, a pin to receive one end of spring 5, revolving knurl 8, and is provided with threaded holes to receive screw 9 and ratchet-screw, all as shown in Figs. 2 and 5. The upper portion of the ratchet-body is provided with an offset or shoulder, which engages the finger-spurs *b*. The lower portion carries an arm provided with a hole, through which it is attached, by means of a screw, to lever 2. The body 3 carries a pin to receive one end of spring 5. This spring is made very light and merely holds ratchet 3 in working position if the machine should be raised or thrown backward. The machine can be operated without spring 5, and it is only used to prevent the ratchet from falling away from the finger-spurs, as above stated.

Carrying-lever 2 operates ratchet 3, which consists of a shouldered arm provided with a hole to receive the ratchet-screw, a pin to attach the end of spring 5, the shouldered body 4, which engages the finger-spurs *b*, and spring 5, all as shown in Figs. 2 and 5.

Spring-brake 13 engages the finger-spurs *b* and prevents the wheel B from being thrown more than one spur at a time when operated by carrying-lever and ratchet. It carries the roller 14, which is secured by a pin or screw 27, on which the roller 14 revolves. It is attached to section A, all as shown in Figs. 2 to 7.

Screw 12 passes through the bottom of section A under the brake 13, as shown, and regulates the brake by turning it to or from the brake. Span 18 is secured to section A. It is provided with threaded holes to receive the screws 10, which are provided with arms to receive the end of spring 11. Raising or lowering screw 10 in span 18 regulates the tension of spring 11. (All shown in Fig. 2.) Coiled springs 5 and 11 when attached as shown actuate ratchet 3 and lever 2 and keep them in their proper working positions.

This machine is assembled in two sections, the lower section consisting of the section A, provided with a series of bearing-blocks, one of which is shown, a series of brakes, a series of levers 2, with knurls and pins attached, a series of ratchets 3 and springs 5, attached to levers, span 18 attached, a series of screws 10,

with arms, a series of springs 11, a series of screws 12, and the back *a'*, all as shown in Figs. 1 and 2. The upper section consists of section *a*, a series of wheels B, provided with finger-spurs *b*, carrying total-figures 26, and cams D, all being placed on shaft 1 and secured as above described and shown. Index-plate C, with locks 25, is secured and supported by both upper and lower sections, as shown and described.

When the machine is assembled, as shown in Fig. 1, the operation of the machine is as follows, beginning with the units-wheel at the right of the machine: If this wheel be turned ten (10) spurs, the compound cam depresses the lever by contact with the knurl carried on the lever. The lever carries the ratchet down with it one spur on the next wheel to the left of the one operated. When the knurl drops off the section of the cam, the lever is raised by the lever-spring, raising the ratchet with it, which rotates the second wheel on the machine one spur, thereby carrying one ten (10) to the second wheel on the machine. This principle follows through all the wheels on the machine. If all the wheels on the machine are set at "9" in the total-figures and one be added to the units-wheel, all the wheels will be operated by the levers and ratchets, and naughts (0) will appear on all the wheels in the total-recesses of the machine.

This machine is operated in the following manner: First, see that the machine is cleared, which is done by turning the wheels so that naughts (0) appear in the total-recesses on the machine. Add by means of the index-figures and finger-spurs. To add the amount "250" to another amount of "250," begin with the third wheel from the right-hand side of the machine. Place the finger on the spur indicated by the figure "2" on the index-plate. Turn the wheel down until the finger strikes the table. Next place the finger on the next wheel to the right on the spur indicated by figure "5." Turn this wheel down the same as the first. The last or units wheel has nothing to add to it. Repeat the above operation, when it will be found that the total-figures on the wheels will show the sum of "500," which can be read from the wheels in the recesses of the machine.

Rule for operating this machine: First, always see that the machine is cleared; second, set up the first amount on the machine, always placing the figures set up in their proper denominations on the wheels, and turn the wheels down until the finger strikes the table; third, add the next amount in the same manner and continue until all amounts are added or until the limit of the machine is reached; fourth, read the total sum from the total-figures shown on the wheels.

This machine can be operated rapidly, is

practically infallible in its adding, and all its parts are made strong and simply constructed. It is so assembled that it can be taken apart almost instantly to clean, oil, and care for the machine.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In adding-machines, the combination of the herein-described improvement, comprising a series of hand-wheels B provided with finger-spurs *b*, bands carrying total-figures 26, compound cams D, central holes for shaft 1, shaft 1, index-plate C carrying index-figures, recesses 21 and 28, with section *a* provided with stop or finger table, locks 16 and 25, retainers 15, recess-journals for shaft 1, engaging pins for hooks 17 for the purpose shown and set forth.

2. In adding-machines, the combination of the herein-described improvement, comprising a series of levers 2 carrying knurls 8, screws 9, ratchets 3 and ratchet-screws, spring 5 with connecting-pins, holes 24, bearing-blocks, screws 29, springs 11, screws 10 with arms, span 18, brakes 13 rollers 14, screws 27

and 12, with section A carrying back *a'* and hooks 17 all as set forth and shown.

3. In adding-machines, the combination of the herein-described improvement, comprising a series of hand-wheels B provided with finger-spurs *b*, bands carrying total-figures 26, compound cams D, central holes for shaft 1, shaft 1, index-plate C carrying index-figures, recesses 21 and 28, section *a* provided with stop or finger table, locks 16 and 25, retainers 15, recess-journals for shaft 1, engaging pins for hooks 17, with a series of levers 2 carrying knurls 8 screws 9, ratchets 3 and ratchet-screws, springs 5 with connecting-pins, holes 24, bearing-blocks, screws 29, springs 11, screws 10 with arms, span 18, brakes 13 rollers 14, screws 27 and 12, section A back *a'*, hooks 17 all substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CORWIN H. PLATT.

Witnesses:

W. G. PLATT,

F. M. EASTERMAN.