

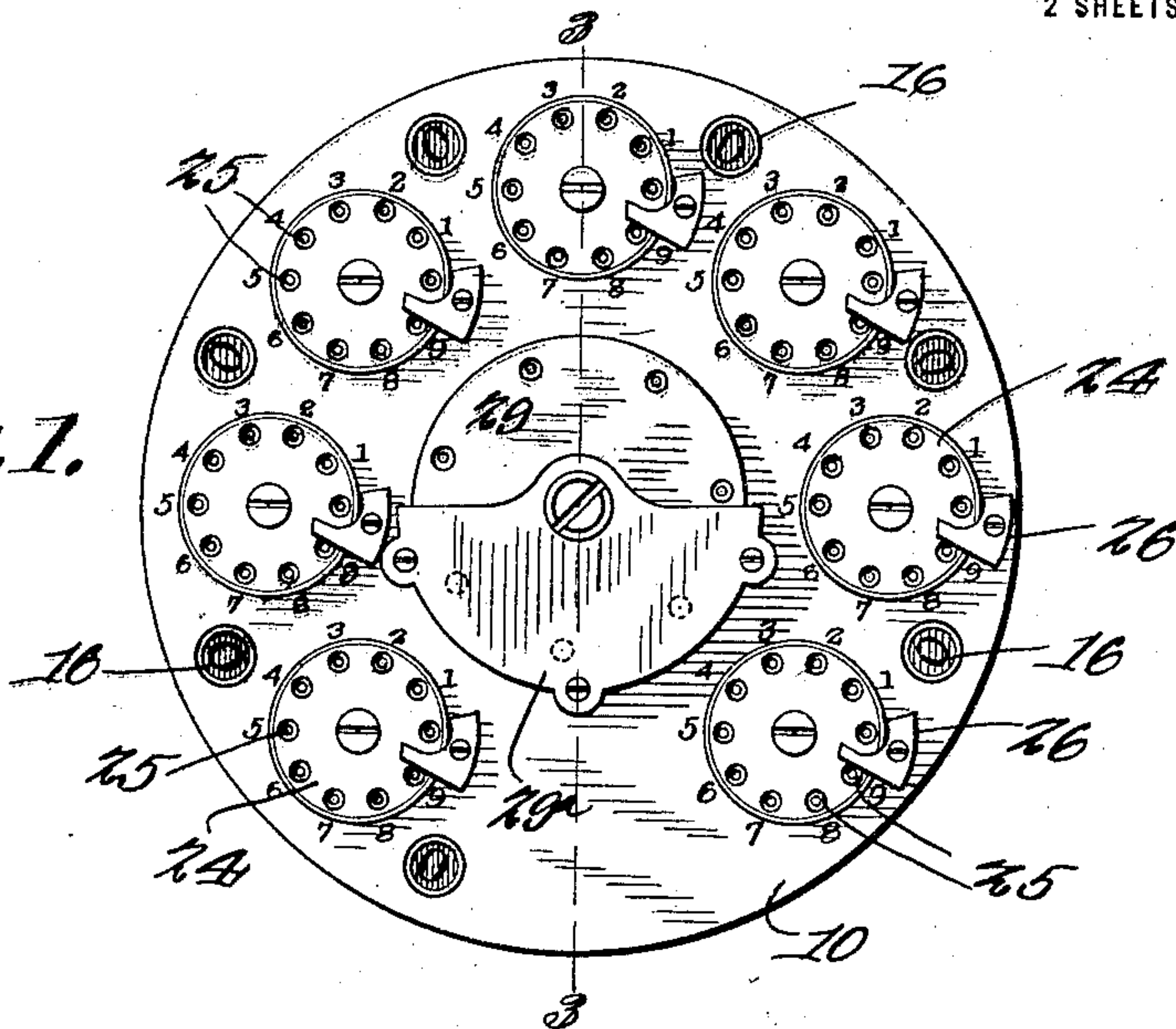
W. W. TALBOT.  
 ADDING MACHINE.  
 APPLICATION FILED AUG. 15, 1917.

1,298,599.

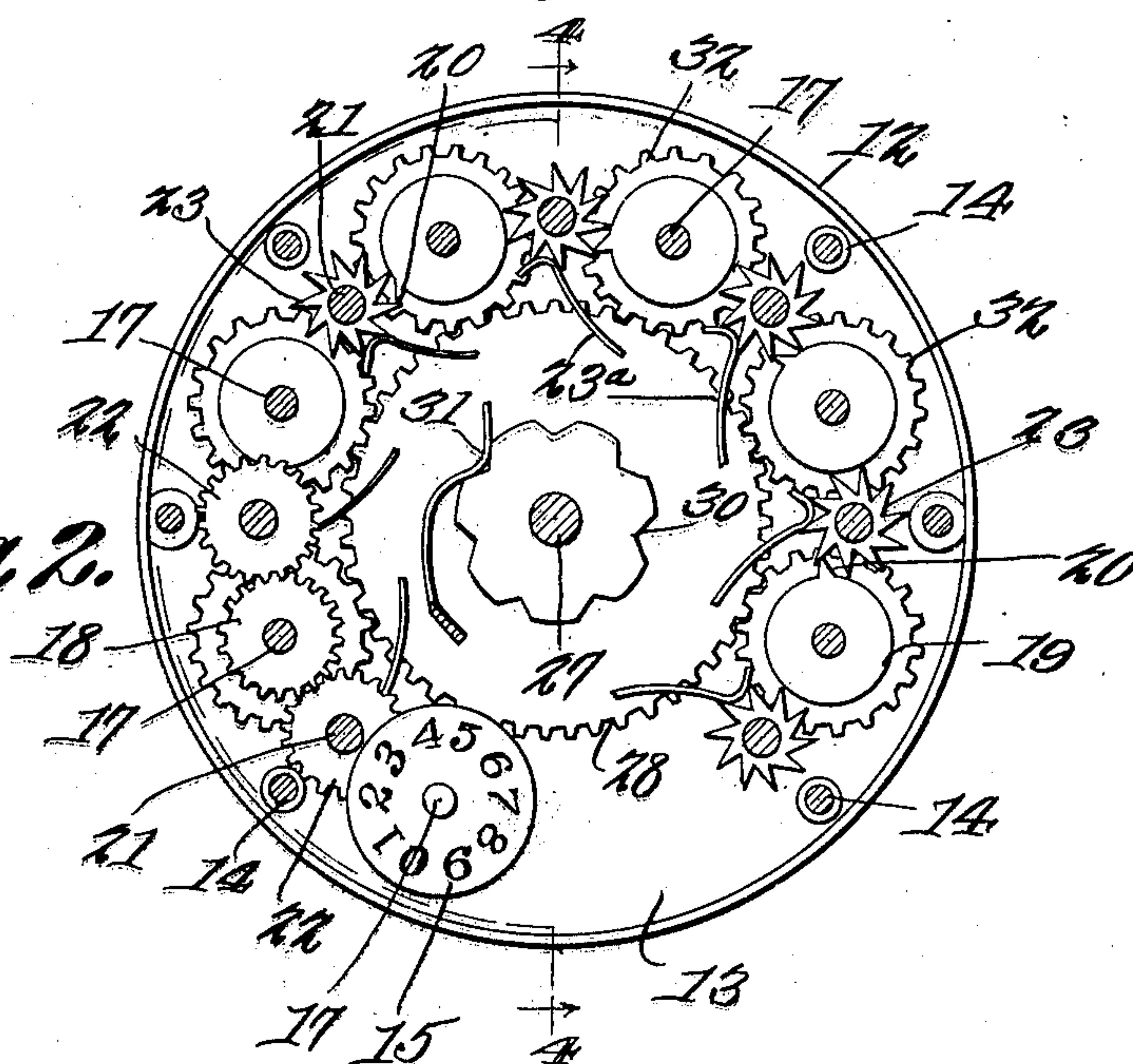
Patented Mar. 25, 1919.

2 SHEETS—SHEET 1.

*Fig. 1.*



*Fig. 2.*



Inventor

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By *Henry J. Brewington,*

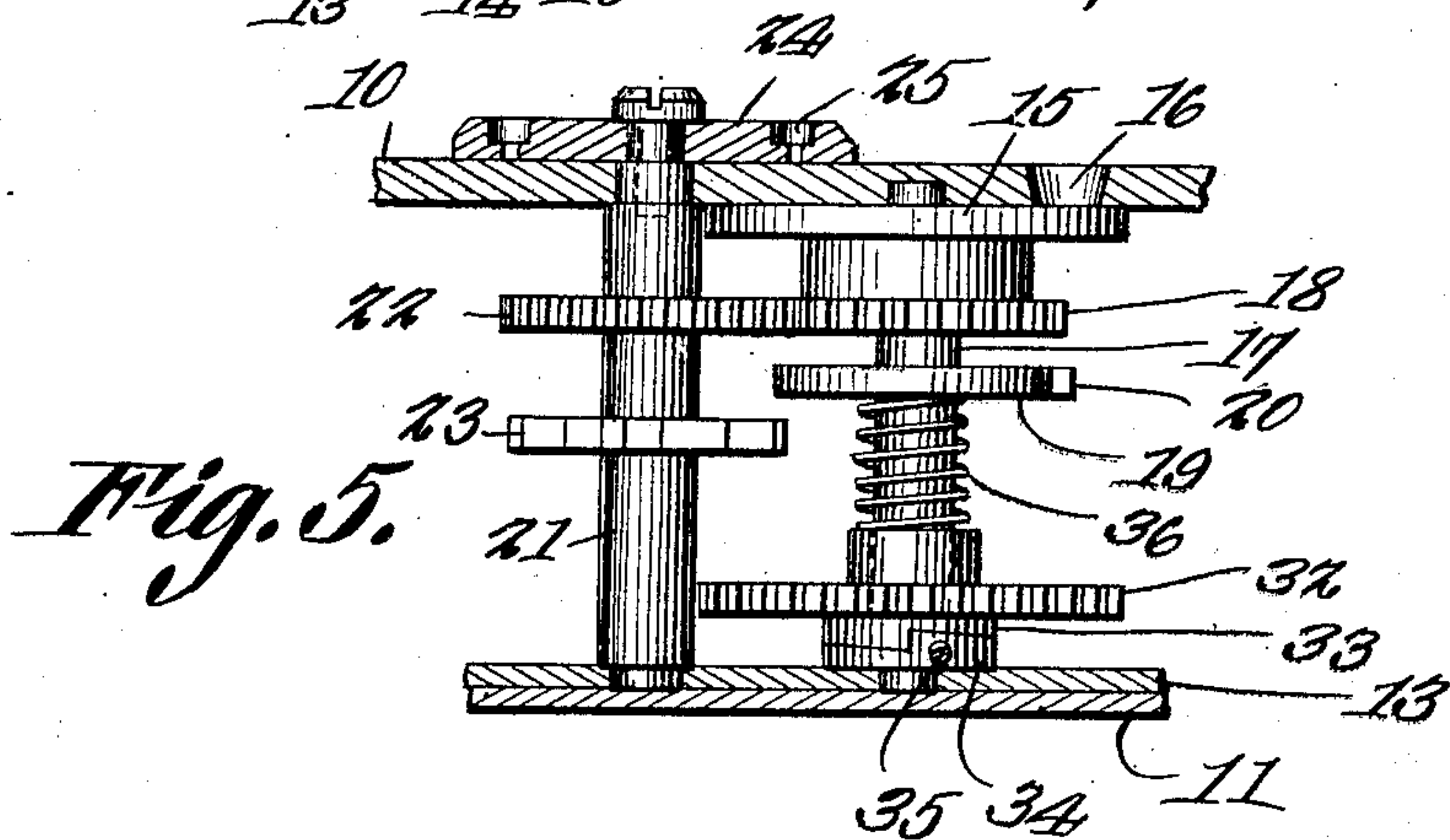
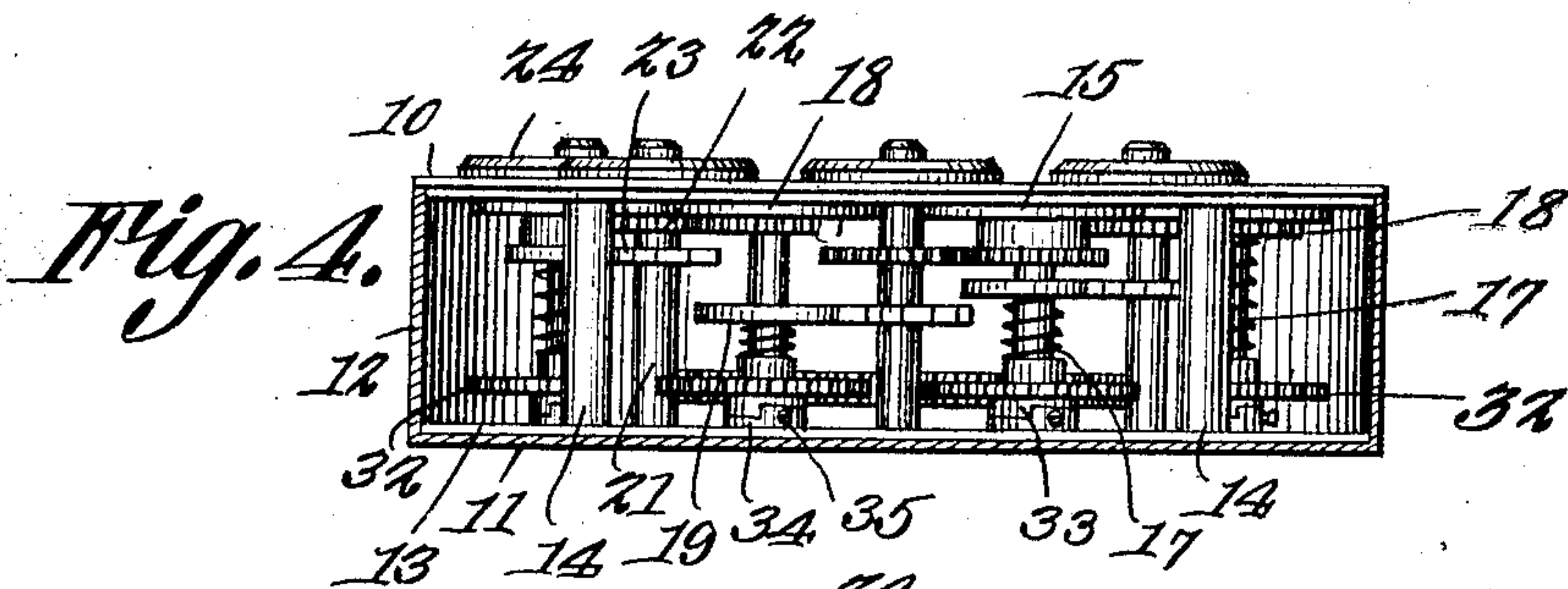
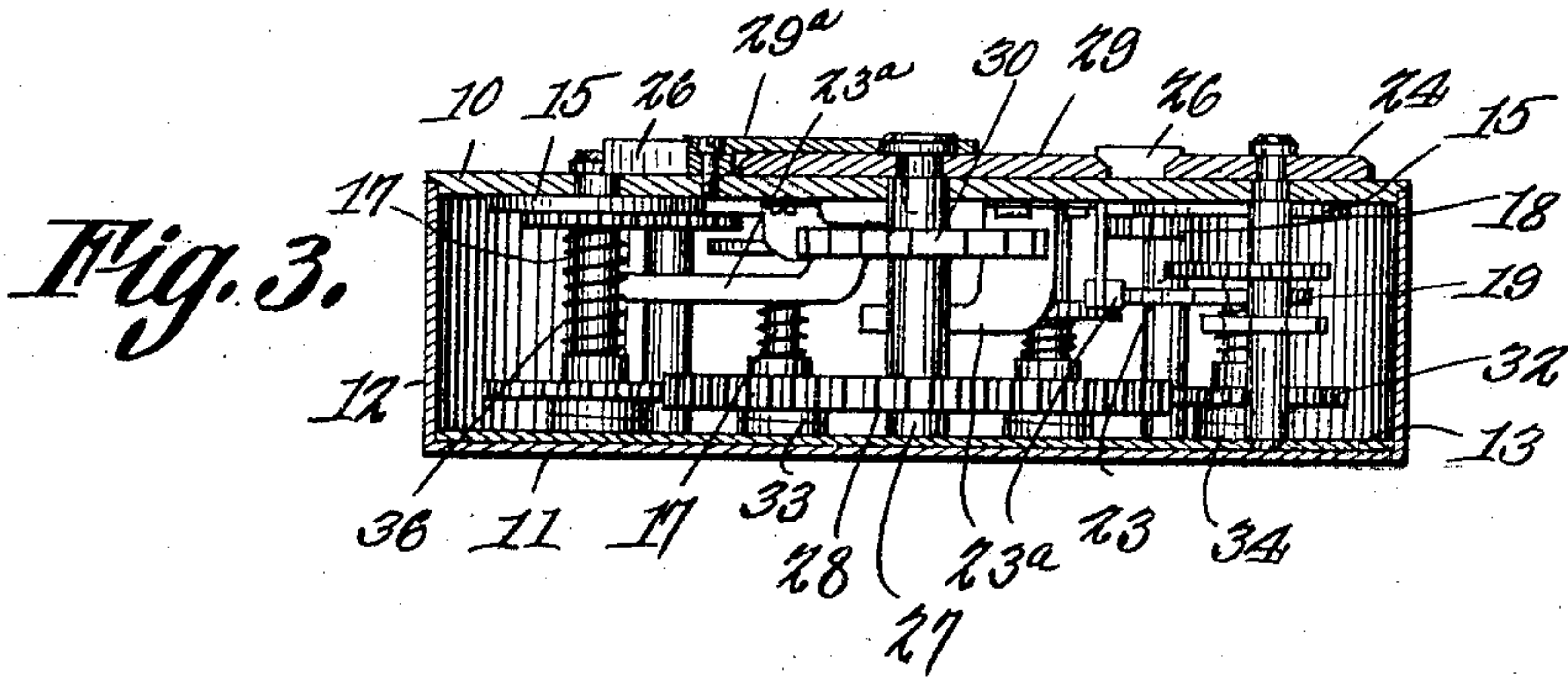
Attorney

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Inventor

William W. Talbot,

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# UNITED STATES PATENT OFFICE.

WILLIAM W. TALBOT, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO HOYT P. SIMMONS, OF BALTIMORE, MARYLAND.

## ADDING-MACHINE.

1,298,599.

Specification of Letters Patent.

Patented Mar. 25, 1919.

Application filed August 15, 1917. Serial No. 186,264.

*To all whom it may concern:*

Be it known that I, WILLIAM W. TALBOT, a citizen of the United States, residing at Baltimore city and State of Maryland, have invented certain new and useful Improvements in Adding-Machines, of which the following is a specification.

This invention relates to machines or apparatus for mechanically performing the mathematical operation of addition, and its object is to provide a simple and reliable mechanism of this kind.

The object stated is attained by means of a novel combination and arrangement of parts to be hereinafter described and claimed and in order that the same may be better understood, reference is had to the accompanying drawings forming a part of this specification.

In the drawings—

Figure 1 is a plan view of the invention;

Fig. 2 is a similar view with certain parts removed;

Figs. 3 and 4 are cross-sections on the lines 3—3 and 4—4, respectively, of Fig. 1, and Fig. 2, and

Fig. 5 is an enlarged elevation of one of the register units.

Referring specifically to the drawings, the casing and supporting frame of the adding mechanism comprises circular top and bottom plates 10 and 11, and a rim 12 extending therebetween, said rim being on the bottom plate and seating in the rabbeted edge of the top plate. In this casing is mounted another circular plate 13, the same seating on the bottom plate 11. The plates 10 and 13 are fastened together in spaced relation by posts 14, and they support the adding mechanism, the bottom plate 11 and its rim 12 serving as a cover, leaving the outer surface of the top or face plate 10 exposed. The parts will be suitably connected so that they may be readily assembled, and also separated when necessary.

The adding mechanism comprises a plurality of register wheels 15 and actuating means therefor. The wheels 15 are positioned beneath the plate 10 close thereto and bear numerals from "0" to "9" on their top faces, said numerals being exposed through apertures 16 on the plate, there being an aperture for each wheel. These register wheels extend in a circular series around the center of the plate 10 and the first one of the

series is a "unit" wheel, the second one a "tens" wheel and so on. An actuating mechanism is provided for the register wheels 15 and also a transfer mechanism, whereby a register wheel of a higher order is advanced one step each time a wheel of the next lower order has made one complete turn. These devices comprise the following parts:

Each register wheel 15 is fast on a shaft 17 extending between and journaled in the plates 10 and 11. On this shaft is also fast a pinion 18 and a transfer wheel 19 having a single tooth 20 on its periphery. Associated with each register wheel is an actuating device comprising a shaft 21 extending between and journaled in the plates 10 and 11, said shaft carrying a pinion 22 which is in mesh with the pinion 18, and also carrying a ratchet wheel 23. Above the plate 10, the shaft 21 is fitted with a disk 24 whereby it may be conveniently turned, said disk having, near its periphery, a circular series of apertures 25 into which a pencil point, stylus or other device may be inserted for turning the shaft 21. The apertures 25 are spaced apart equally and there are ten of such apertures in the disk 24. The top of the plate 10 bears numerals from "1" to "9" arranged in a circle around the disk 24 and spaced so as to serve as index marks. The plate 10 carries a stop abutment 26 projecting across the apertured portion of the disk 24 so as to be in the path of the stylus or other device whereby the disk is operated. In operation, the stylus or other operating device is inserted into the aperture 25, opposite the index number corresponding to the number to be added, and the disk 24 is turned by the operating device until the latter is stopped by the abutment 26, whereupon the disk has been turned the proper distance corresponding to the number to be added. This movement of the disk 24 is transmitted to the register wheel 15 through the pinions 22 and 18, and the wheel 15 is thus set to display a number through the aperture 16 corresponding to the number to be added. When the wheel 15 has made one complete revolution the register wheel of the next higher order is advanced one step by the tooth 20 engaging the ratchet wheel 23 associated with said register wheel of the next higher order.

The ratchet wheels 23 are engaged by spring pawls 23<sup>a</sup> for preventing accidental movement of the parts and for preventing



a register wheel or other moving part from being carried by momentum farther than it should go.

For setting the register wheels 15 back to "zero", the following mechanism is provided:

Mounted centrally between the plates 10 and 11, and journaled therein, is a shaft 27 carrying a large gear wheel 28 fixed to the shaft to turn therewith. Above the plate 10, the shaft 27 has an apertured actuating disk 29 similar to the disks 24. A plate 29<sup>a</sup> carried by the plate 10 bridges and partly covers the disk 29. On the shaft 27 is a ratchet wheel 30 engageable by a spring pawl 31 for preventing accidental movement of the shaft. On each register wheel shaft 17 is a pinion 32 which is in mesh with the gear wheel 28 and is slidable and loose on the shaft 17. The pinion 32 has a ratchet hub 33 adapted to engage a ratchet collar 34 fixed on the shaft 17 by a set screw or other suitable means 35. A spring 36 coiled around the shaft 17 and pressing against the hub of the pinion 32 holds the ratchet members 33 and 34 in engagement. The contiguous surfaces of the ratchet members are inclined, as clearly shown in Fig. 5, and hence the ratchet member 33 can slip over the ratchet member 34 when turned in one direction. The parts 33 and 34 form a ratchet clutch, the interlocking surfaces being so arranged that when the shaft 17 is turned in the proper direction to set the register disk 15, the clutch member 34 slips over the member 33 and the two interlock-

ing shoulders separate. To reset the disks 15, the disk 29 is turned in such a direction that through the gear wheel 28 the pinions 32 are turned to again interlock their clutch members 33 with the clutch members 34. The shafts 17 having now all been picked up, upon continuing to turn the disk 29, the register wheels 15 are reset to "zero" position.

The mechanism is very simple and entirely devoid of complicated parts liable to get out of order, and in operation it is reliable and accurate. It will also be noted that the parts are so constructed and arranged that the machine has a small and compact form, enabling it to be conveniently handled.

I claim:

In an adding machine, a casing, a central shaft in the casing, a plurality of shafts arranged in a circular series around the central shaft, registering members of different orders carried by said circular series of shafts, a pinion loosely and slidably mounted on each of the last-mentioned shafts, and having a ratchet clutch member, a cooperating ratchet clutch member on each one of said shafts, and a resetting gear wheel on the central shaft in mesh with all the aforesaid pinions.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM W. TALBOT.

Witnesses:

HOWARD D. ADAMS,

E. WALTON BREWINGTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."