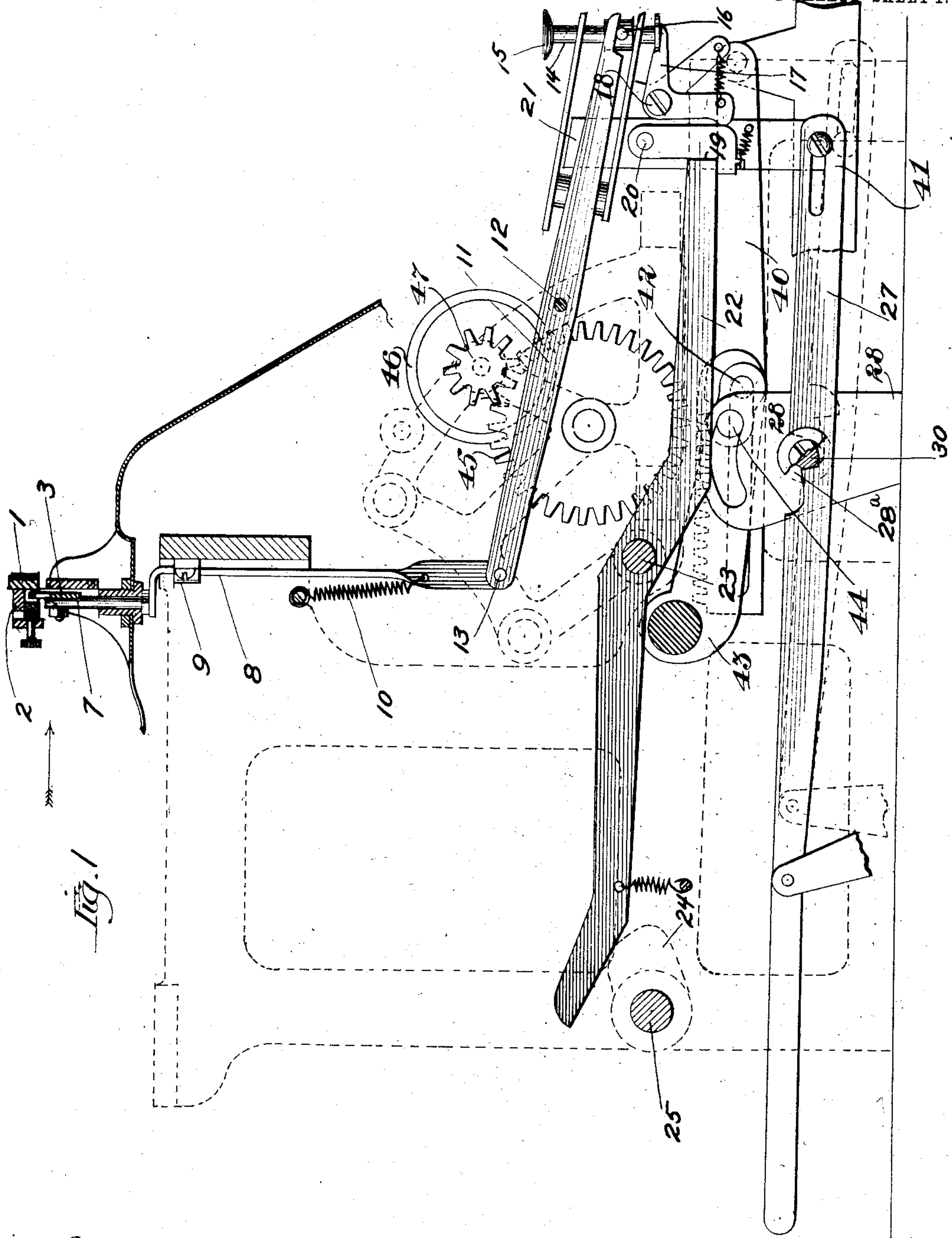


978,527.

W. W. WILSON.  
 ADDING MACHINE.  
 APPLICATION FILED MAR. 14, 1908.

Patented Dec. 13, 1910.

2 SHEETS-SHEET 1.



Witnesses:  
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 Annie C. Courtney.

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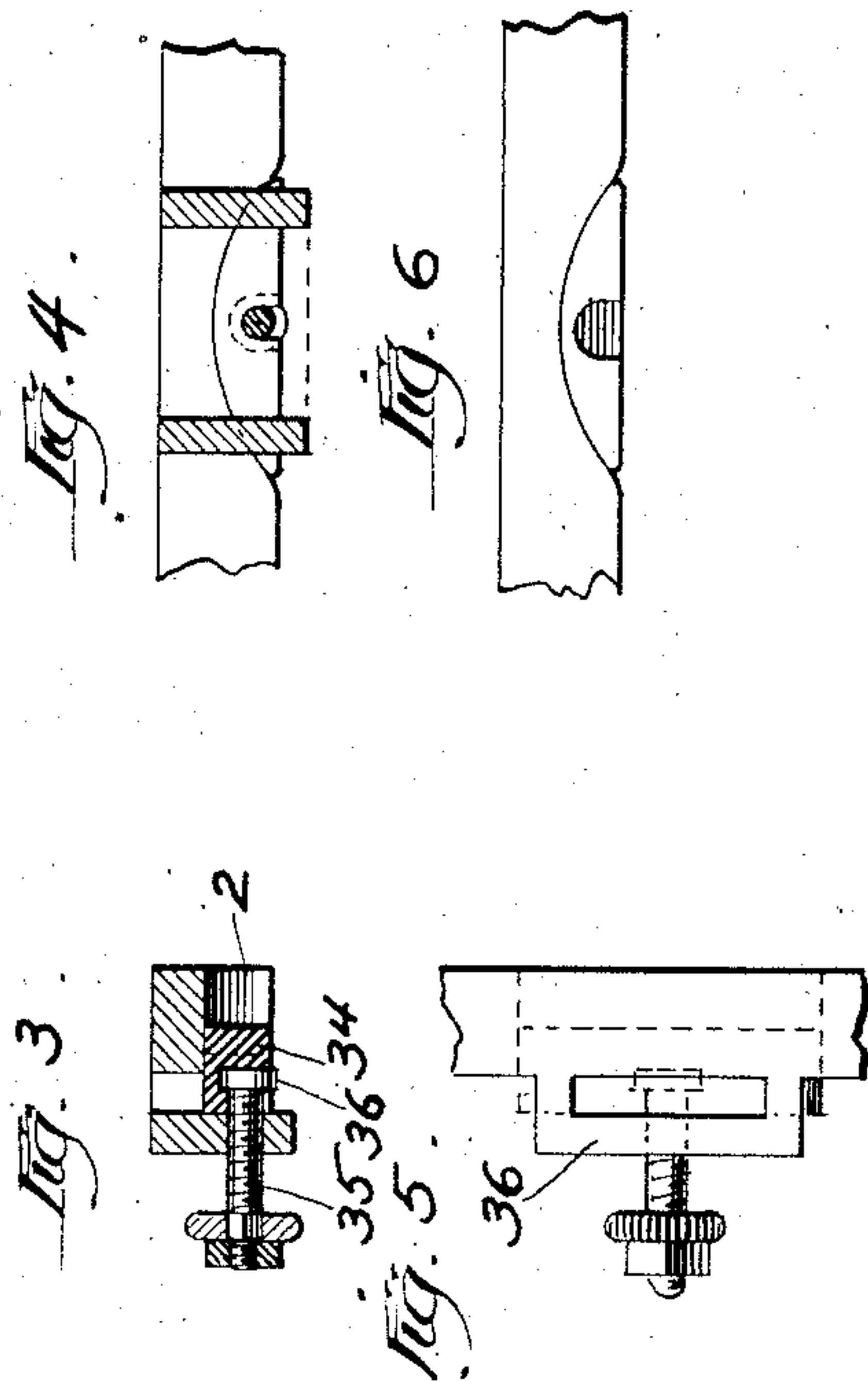
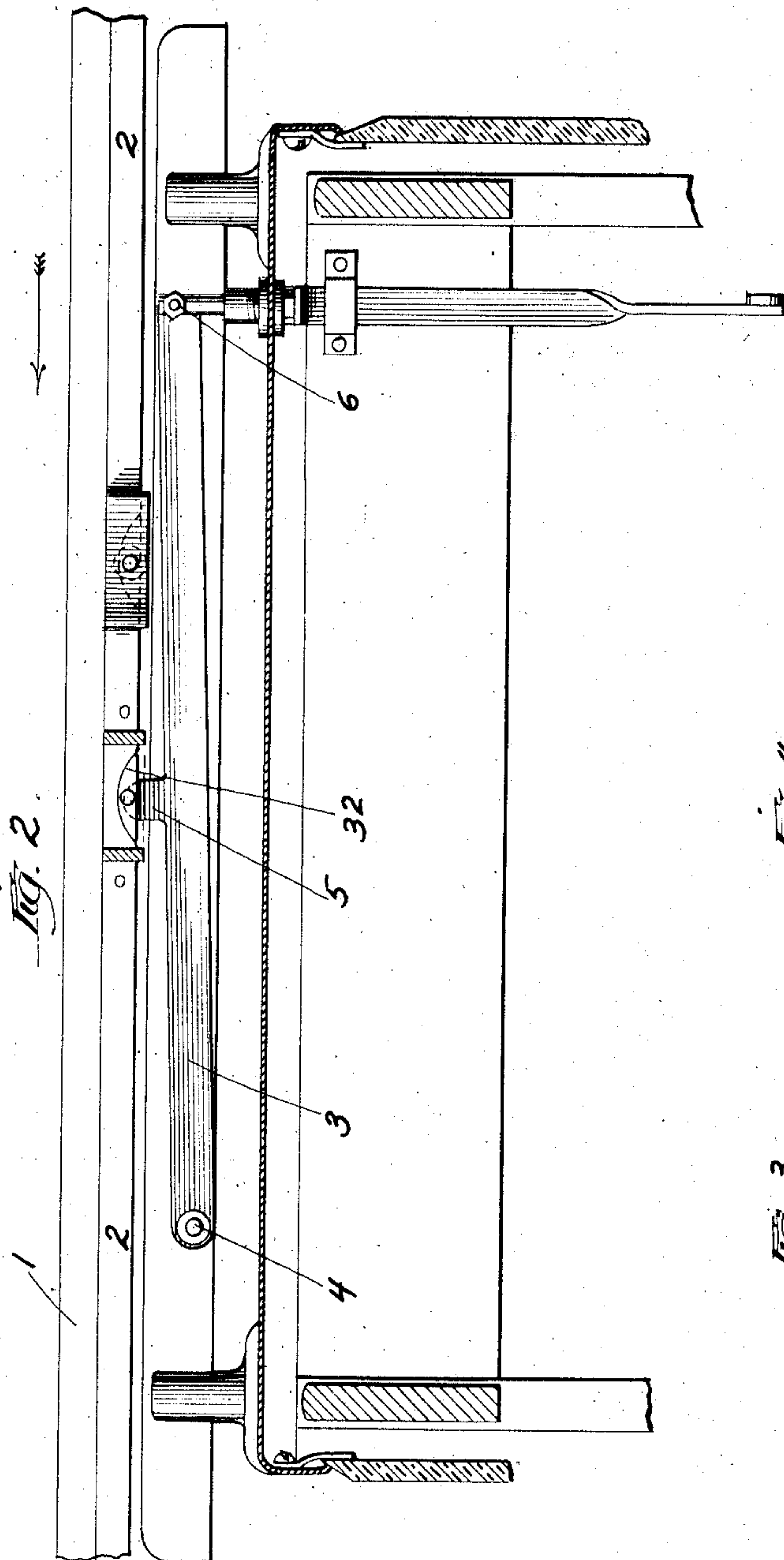
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# UNITED STATES PATENT OFFICE.

WILLIAM W. WILSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO UNIVERSAL ADDING MACHINE COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

## ADDING-MACHINE.

978,527.

Specification of Letters Patent. Patented Dec. 13, 1910.

Application filed March 14, 1908. Serial No. 421,103.

To all whom it may concern:

Be it known that I, WILLIAM W. WILSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Adding-Machines, of which the following is a specification.

The object of my invention is to provide improved means whereby it will be impossible for an operator of an adding machine to enter an item in the accumulator while the paper carriage is out of operative relation with the printing mechanism. It sometimes happens that in the use of adding machines, as now constructed, the operator will move the paper carriage out of operative relation with the printing mechanism for the purpose of inspecting the work previously done, and upon resuming operations will impress a number upon the keyboard of the machine and pull the operating handle before restoring the paper carriage to operative position. The effect of this is to enter a number in the accumulator of the adding machine without printing said number. This leads to a discrepancy between the total registered by the machine and the actual total of the printed list. In order to overcome this source of inaccuracy I have devised an improved machine whereby it is possible to enter a number in the accumulator of the adding machine when the carriage is moved out of coöperative relationship with the printing mechanism.

In the drawings—Figure 1 is a sectional view of the parts of an adding machine to which my invention is applied. Fig. 2 is a cross sectional view from the rear of the machine. Figs. 3 to 6, inclusive, are detail views.

I have illustrated my improvement applied to the Universal adding machine, see prior Patent 751,207, issued February 2, 1904, on the invention of F. C. Rinsche.

The front rail 1 of a paper carriage such as shown in said patent carries a projecting part designated generally by the numeral 2, which is adapted to coöperate with the lever 3, which is pivoted at 4 upon the frame of the machine. The lever 3 is provided with a projection 5 with which the carriage of the machine directly coöperates. The lever

3 is pivoted at 6 to a downwardly projecting plunger 7, which is slidably mounted in the frame of the machine, and adapted to move in a vertical direction. The lower end of the plunger 7 coöperates with the upper end of a slide 8, which moves in a guide 9 attached to the front frame of the machine. The slide 8 is normally impelled upwardly by means of a coil spring 10 attached at its lower end to the arm 8 and at its upper end to the frame of the machine. A lever 11 is pivoted at 12 to a fixed part of the machine and at its rear end is pivoted at 13 to the lower end of the slide 8. The stem 14 of an "eliminating" key 15 is provided with a projecting stud 16, and the forward end of the lever 11 bears upon the upper side of said stud.

The projecting flange 2 extends the entire width of the carriage. When the carriage is in its lowered position the part 2 will contact with the upward extension 5 of the lever 3 and depresses the same, thus carrying the plunger 7 downwardly against the upper end of the slide 8. This has the effect of elevating the forward end of the lever 11 and permitting the eliminating key to rise to its normal inactive position, thus permitting all items to be entered in the accumulator. Whenever the carriage is raised, however, pressure will be removed from the lever 3 and the spring 10 will draw the slide 8 upwardly, thus depressing the forward end of the lever 11 and with it the eliminating key. The depression of the eliminating key rotates the bell crank lever 17 upon its pivot 18, thus thrusting the hook 19, which is pivoted at 20, upon the slide 21 beneath the forward end of the lever 22. The lever 22 is pivoted at 23 to a fixed part of the machine and is oscillated by the cam 24, which is mounted upon the shaft 25. The shaft 25 is oscillated at each movement of the operating handle of the machine, thus imparting movement to the lever 22. When the eliminating key is depressed therefor, the forward end of the lever 22 through its contact with the hook 19 will carry the slide 21 downwardly. The lower end of the slide 21 is connected to the bar 27, which operates the cam 28. The cam 28 in the Universal machine, as now upon the market, (see part



88 in said prior patent) operates to raise the racks which actuate the accumulator as explained in said patent. One of the racks appears in Fig. 1 designated by the numeral 5 40, said rack being pivoted as usual to a sliding bar 41 and being slotted to receive a cross-rod 42 of a bail 43 which has a stud 44 engaging the cam slot of the piece 28. The adding gear which coöperates with said rack is designated by the numeral 45 and the corresponding display wheel by the numeral 46, the latter having a pinion 47 in mesh with the gear 45. The upper side of the bar 27 is notched as shown at 28<sup>a</sup>. When said bar 15 27 is in its elevated position the notch 28 engages the stud 30 upon the cam 28, thereby causing said cam to oscillate upon each movement of the operating handle, thus raising the racks into engagement with the accumulator gears. When, however, the eliminating 20 key is depressed the bar 27 is moved downward to the position shown in dotted lines in Fig. 1, said bar 27 will oscillate forward and back without imparting movement to the cam 28. This has the effect of rendering the racks inactive, thus causing items im- 25 pressed upon the keyboard to be eliminated from the accumulator.

I have shown the projecting bar 2 as pro- 30 vided with a notch 32, the purpose of which is to permit the lever 3 to rise when the carriage is in such a position that said notch 32 is opposite the projection 5. This will have the effect of causing the elimination of 35 all items entered in the machine when the carriage is in this position regardless of whether the carriage is raised or lowered. The function of this construction is to cause the elimination from the accumulator of all 40 items printed in a certain column. This, however, is an independent feature of my construction and I have provided means for rendering the lower surface of the projec- 45 tion 2 continuous, thus causing the accumulation of all items when the carriage is in its lowered position. The means for rendering the lower edge of the projection 2 continuous consists in a block 34. This block is 50 moved in and out of the notch 2 by means of a screw 35 provided with an enlarged end 36 engaging a recess in said block. The screw 35 engages a threaded aperture in the yoke 36, which forms part of the projection 2. By turning the screw 35 inwardly the 55 block 34 will obstruct the groove 2.

While I have shown one specific embodiment of my invention it will be apparent that the result may be accomplished in various ways dependent upon the particular construction of the mechanism to which the invention is applied. I, therefore, do not consider that my invention is limited to the specific mechanism shown and described 60 herein, or to its application to any particular form of adding machine, but that it includes

broadly the mechanism defined in the appended claims whereby the accumulation of items not printed is prevented.

I claim:

1. In a machine of the character described, 70 the combination with adding mechanism and a paper carriage movable into and out of effective position; of means for automatically disabling the adding mechanism when said paper carriage is out of such position, 75 said means comprising a depressible key and connections for depressing the same by the carriage.
2. In a machine of the character described, the combination with adding mechanism 80 and a paper carriage movable into and out of effective position; of means for automatically disabling the adding mechanism when said paper carriage is out of such position, said means comprising a depressible key, a 85 lever engaged therewith, and a plunger acted on by the carriage and operating said lever.
3. In a machine of the character described, the combination with adding mechanism 90 and a paper carriage movable into and out of effective position and also laterally movable; of means for automatically disabling the adding mechanism when said paper carriage is out of effective position together 95 with provisions for so disabling the adding mechanism when the carriage is in a certain predetermined lateral position.
4. In a machine of the character described, the combination with adding mechanism 100 and a depressible key and connections for disabling the same; of a laterally shiftable paper carriage, and connections for depressing said key when the carriage is in a certain predetermined position. 105
5. In a machine of the character described, the combination with adding mechanism and a depressible key and connections for disabling the same; of a laterally shiftable 110 paper carriage, and connections for depressing said key when the carriage is in a certain predetermined position, said connections comprising a lever engaging the key and a plunger operated upon by the carriage. 115
6. In a machine of the character described, the combination with adding mechanism and a depressible key and connections for disabling the same; of a laterally shiftable carriage having a rail with a depression or 120 reëtrant portion, and connections for depressing said key comprising a spring-actuated plunger adapted to enter said depression in the carriage and a lever engaging the key and connected with the plunger. 125
7. In a machine of the character described, the combination with adding mechanism and a depressible key and connections for disabling the same; of a laterally shiftable carriage having a rail with a depression or 130



reëtrant portion, and connections for depressing said key comprising a spring-actuated plunger adapted to enter said depression in the carriage and a lever engaging the key and connected with the plunger, together with means for closing the depression in the carriage rail at will.

8. In a machine of the character described, the combination with adding mechanism and a depressible key and connections for disabling the same; of a laterally shiftable carriage having a rail with a depression or reëtrant portion, and connections for de-

pressing said key comprising a spring-actuated plunger adapted to enter said depression in the carriage and a lever engaging the key and connected with the plunger, together with an adjustable block for closing depression in the carriage rail at will.

In testimony whereof, I have subscribed my name.

WILLIAM W. WILSON.

Witnesses:

C. H. L. FLINTUMANN,  
F. C. RINSCHÉ.