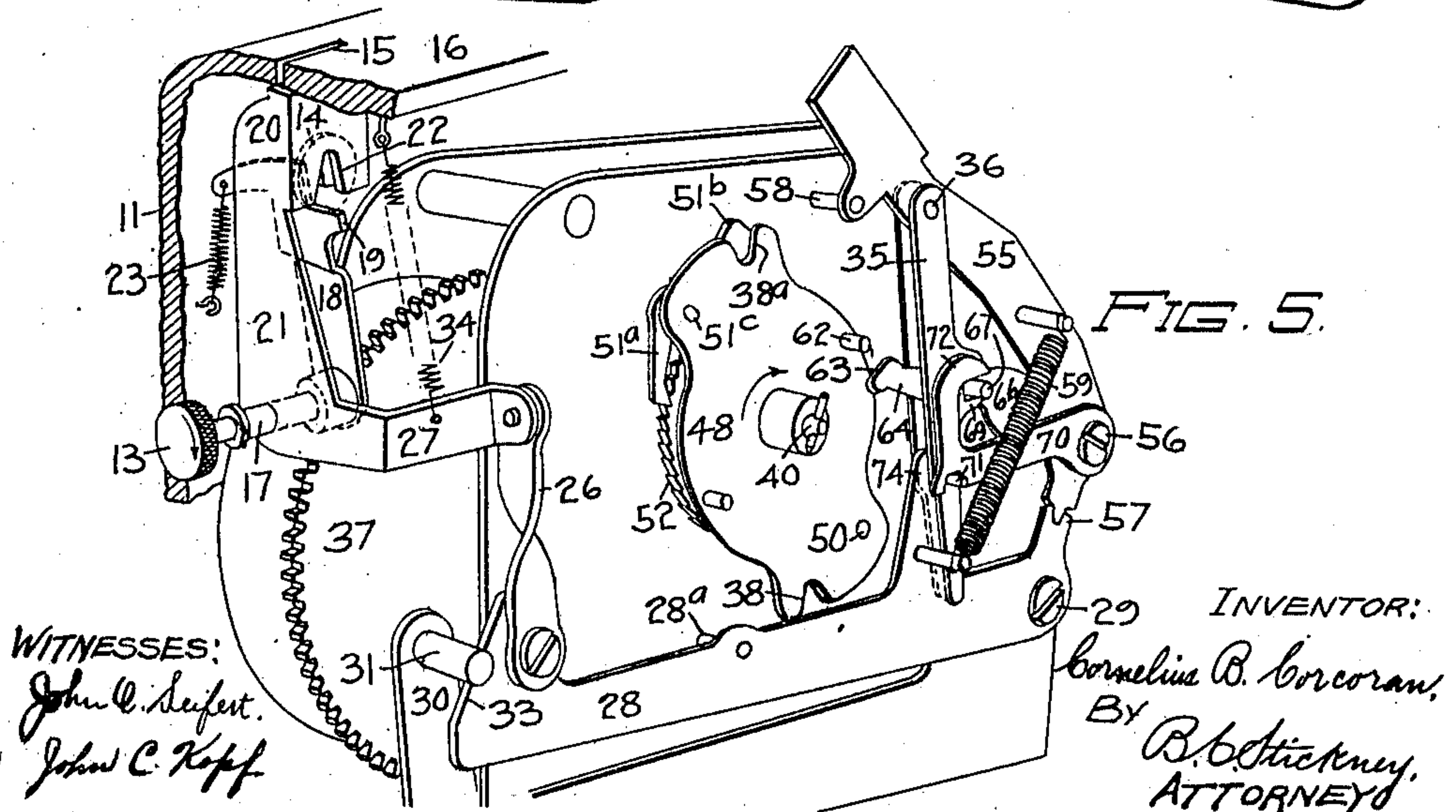
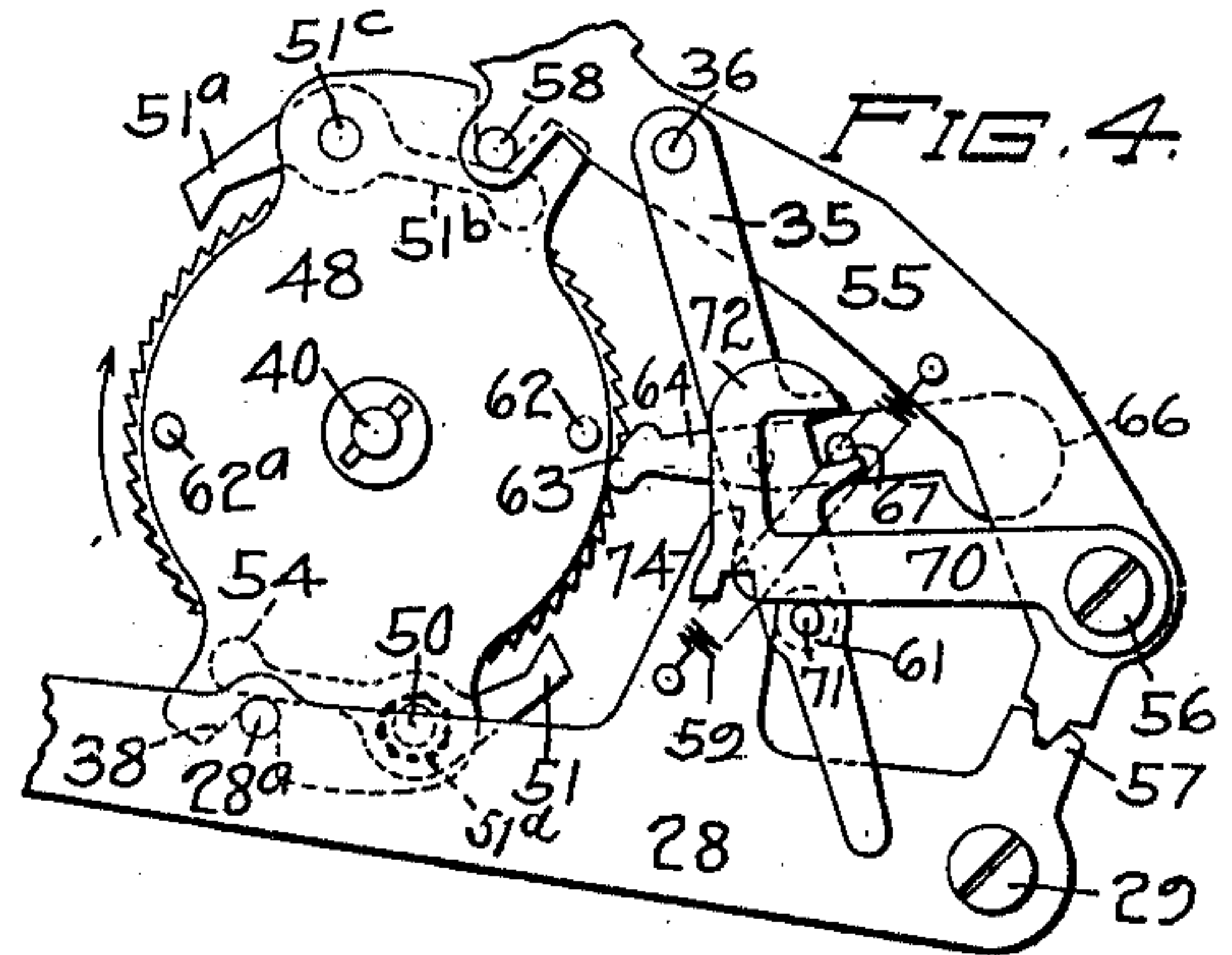
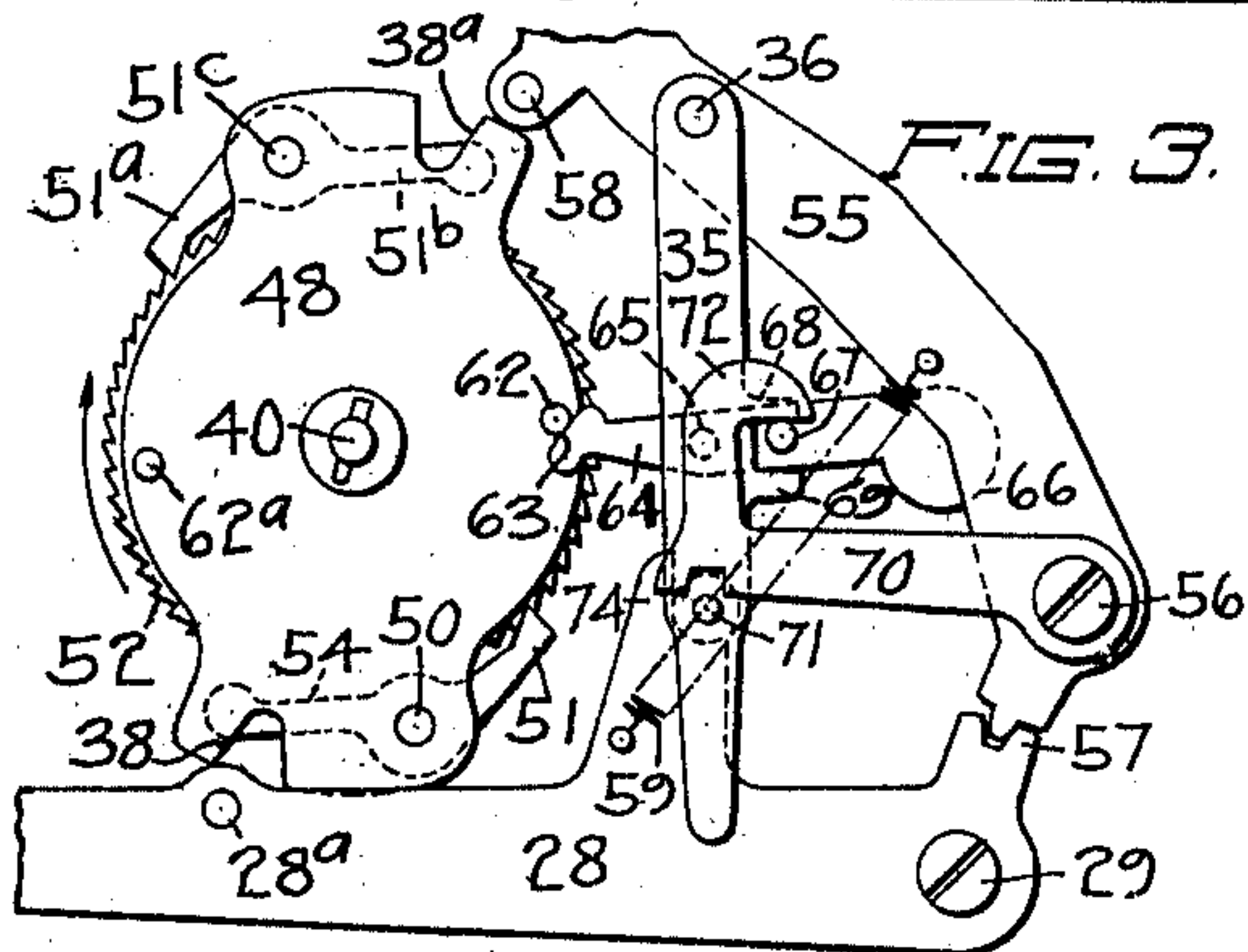
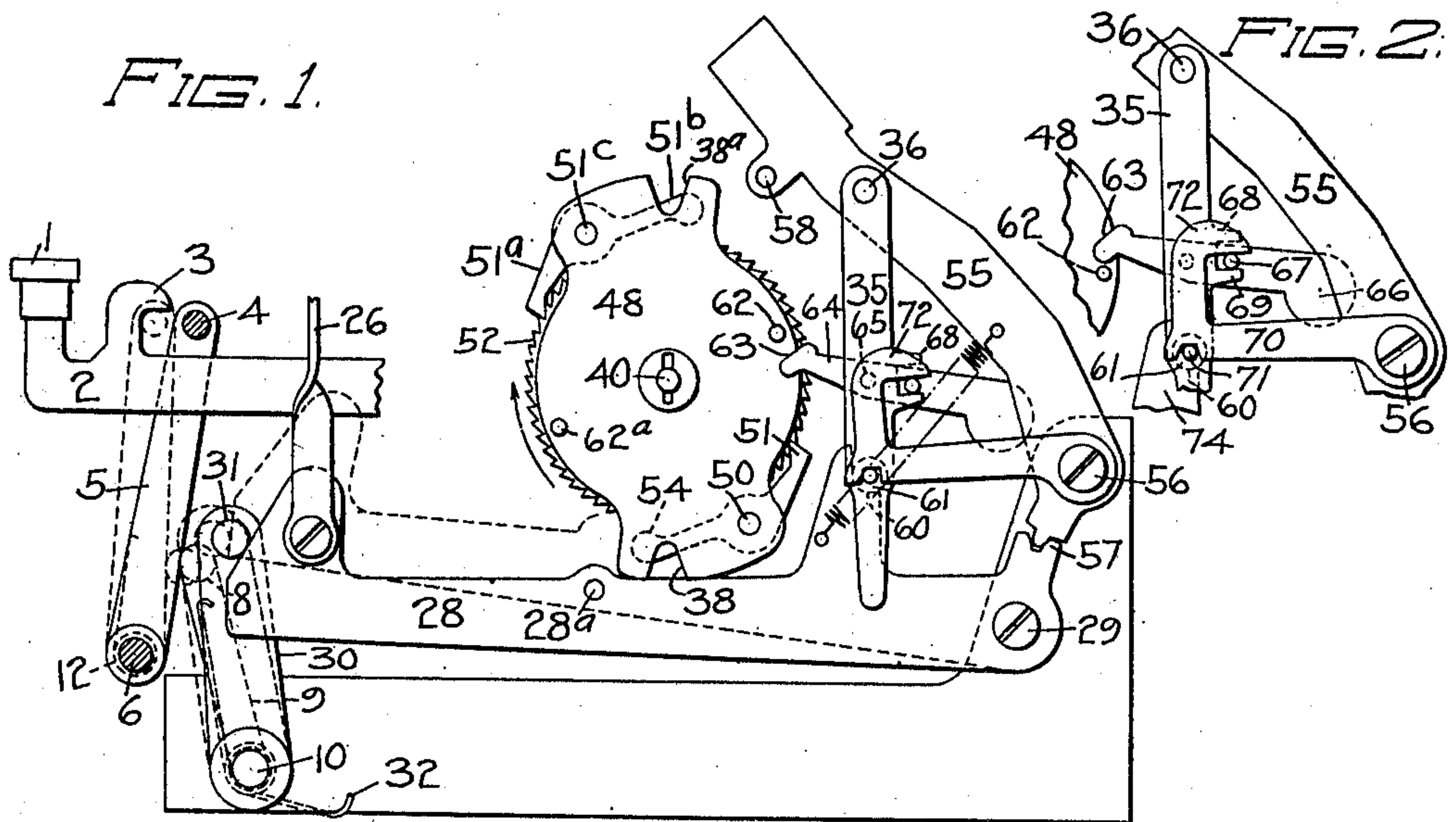


C. B. CORCORAN.  
 TIME CONTROLLING MECHANISM FOR TYPE WRITING OR OTHER MACHINES.  
 APPLICATION FILED MAY 24, 1909.

990,112.

Patented Apr. 18, 1911.





# UNITED STATES PATENT OFFICE.

CORNELIUS B. CORCORAN, OF NEW YORK, N. Y., ASSIGNOR TO UNDERWOOD AUTOMATIC TYPEWRITER PAY STATION COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

TIME-CONTROLLING MECHANISM FOR TYPE-WRITING OR OTHER MACHINES.

990,112.

Specification of Letters Patent.

Patented Apr. 18, 1911.

Application filed May 24, 1909. Serial No. 497,898.

*To all whom it may concern:*

Be it known that I, CORNELIUS B. CORCORAN, a citizen of the United States, residing in borough of Bronx, city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Time-Controlling Mechanism for Type-Writing or other Machines, of which the following is a specification.

This invention relates to coin-operated, time-controlled devices for limiting the use of typewriting and other machines or apparatus, and is in the nature of an improvement upon the invention disclosed in United States application of Rice and Broughton, filed May 22, 1909. Said application discloses a typewriting machine normally out of condition for use, and means whereby by depositing a coin and operating a lever, the machine is put into condition for use for a period limited by a clockwork; and at the termination of said period, the typewriter or other machine is automatically locked or returned to normal condition, in which it cannot be manipulated. Said application also discloses a locking arm which normally holds in effective position the key-locking or line-locking bar of the Underwood typewriting machine, so as to prevent manipulation of the keys. Said arm can be turned to ineffective position by means of a lever after the deposit of a coin; and a latch connected to said lever is automatically set to restrain said lever, so that the typewriter remains in condition for manipulation, until a clockwork trips the latch after the use of the typewriting machine for half an hour or other interval; whereupon the parts are returned to normal condition, and the typewriter is again locked against manipulation. The latch which holds the locking arm out of use is supported independently of the clockwork or of any revolving part. It is desirable that said latch should be so constructed that it may be tripped very easily, so as to avoid the necessity of subjecting the clockwork to undue strain or restraint; and when the latch is so constructed it may sometimes be liable to become accidentally tripped, owing to the jarring of the machine when in use or when being carried about.

The principal object of the present invention is to avoid this possible objection; and to that end, I provide a lock or device, which automatically moves into position to lock the latch against accidental tripping. This lock is released by the clockwork, to permit the latter to trip the latch.

In the accompanying drawings, Figure 1 is a view of a time-controlled coin-operated device of the character described, showing the positions of the parts at the approach of the completion of the half hour interval during which the typewriter may be operated; the typewriter locking arm being shown out of use, and the controlling wheel or head being rotated by the clockwork in the direction of the arrow. Fig. 2 is a fragmentary view showing the parts as having been immediately reset after the key-locking operation, to withdraw the key-locking bar and permit further operation of the typewriting machine. Fig. 3 is an elevation to show the vibration of a tappet, which is pivoted on a latch, by means of a projection carried on a revolving head connected to the clockwork; such vibration of the latch having released the lock preparatory to tripping the latch. Fig. 4 is a similar view to illustrate the tripping of the latch and the consequent movement of the parts to lock the typewriter keys, and also to unclutch the revolving head from the clockwork and lock the head against further rotation. Fig. 5 is a perspective view showing the parts in the same positions as at Fig. 1.

The type keys 1 of the typewriting machine are mounted upon levers 2, which have hooks 3 beneath which normally lies a stop bar 4. Said bar is supported on arms 5 rising from a rock-shaft 6 suitably mounted on the framework. The bar 4 forms part of a line-locking mechanism which locks the keys automatically at the completion of each line of writing in a well known manner, and it will be understood that it continues to perform its usual functions in the present case whenever the writing machine is put into condition for use by operation of the coin-controlled mechanism. In the present instance, use is made of the line-locking mechanism to put the typewriting machine normally out of condition for operation; the locking bar 4 for this purpose being nor-



mally held in effective position by a projec-  
 tion 8 provided upon a locking arm 9, the  
 latter carried upon a rock shaft 10 forming  
 part of a coin and time controlled apparatus,  
 5 and extending into a casing 11 which con-  
 tains said apparatus. Normally the locking  
 arm 9 is in its forward dotted position, Fig.  
 1, to hold the locking bar 4 beneath the  
 hooks 3 of the key levers, so that the keys  
 10 cannot be manipulated. Upon the deposit  
 of a coin, the locking arm 8 may be swung  
 back to permit the locking bar 4 to be swung  
 back on the arms 5 by means of a spring 12,  
 thereby freeing the keys and putting the ma-  
 15 chine into condition for manipulation. The  
 movement of the locking device 9 from dot-  
 ted-line to full-line position to release the  
 typewriter for use, is effected by a finger-  
 piece 13, upon the operator depositing a coin  
 20 14 in a slot 15 formed in the top 16 of the  
 casing 11. Before the coin is deposited, the  
 finger piece 13 may rock idly, without hav-  
 ing any effect on the machine; but the de-  
 posited coin serves temporarily to effect a  
 25 connection for transmitting the movement of  
 said handle 13 to the general mechanism in  
 the casing. Said handle 13 is fixed upon a  
 rock shaft 17; and upon the inner end of  
 the latter is secured an upstanding arm 18  
 30 having at its top a notch or lip 19, upon  
 which the deposited coin 14 rests for the  
 purpose of performing its temporary func-  
 tion, aforesaid. Directly over said arm 18  
 and beneath the coin slot 15 is a coin-chute  
 35 20, in which the coin reposes while it rests  
 upon said lip 19 of the arm 18. This chute  
 serves as a holder or bearing for the coin,  
 and enables the latter to effect the desired  
 connection between the arm 19 and a lever  
 40 21 upon which said chute is formed or  
 mounted. Said lever 21 is loosely mounted,  
 preferably upon the shaft or axis 17. When  
 the finger-piece 13 is turned in the direc-  
 tion of the arrow, Fig. 5, it presses the coin  
 45 and hence the chute 20, together with the  
 lever 21, in the same direction. The reason  
 that this movement of the lever 21 cannot  
 be effected without the coöperation of the  
 coin, is because the holder 20 is formed with  
 50 an opening 22 in its face sufficient to permit  
 the arm 19 to swing idly therethrough. The  
 finger-piece 13 is normally held back by a  
 spring 23, but after the deposit of a coin the  
 finger-piece swings the lever 21, and during  
 55 this stroke, a link 26, pivoted at its upper  
 end to an arm 27 of the lever 21 and at its  
 lower end to a horizontal lever or arm 28,  
 serves to depress the latter about its fulcrum  
 29. This arm 28 controls the typewriter  
 60 locking device 9. It will be seen that the  
 shaft 10, carrying said arm 9, is provided  
 within the casing with an upright crank 30  
 having at its top a wrist 31, which is caused  
 by a spring 32 to press against the end of  
 65 the arm 28, the latter hence normally lock-

ing the arm 9 in the dotted line position at  
 Fig. 1. When, however, said arm 28 is swung  
 down in the manner just described, the  
 wrist 31 rides off from the end of the arm 28  
 and along a cam or beveled edge 33 thereon, 70  
 so that the spring 32 is permitted to swing  
 the locking arm 9 to ineffective position,  
 thus releasing the typewriter for manipula-  
 tion. A spring 34 connected to the coin-  
 controlled lever 21, 27 tends constantly to 75  
 lift the arm 28 to normal position, as shown  
 in dotted lines at Fig. 1; but said arm 28 is  
 latched down in abnormal position by means  
 of a latch 35 pivoted at 36. The period dur-  
 ing which said arm 28 is latched down (and 80  
 during which the typewriting machine is in  
 condition for manipulation) is limited by a  
 clockwork 37. A pin 28<sup>a</sup> projecting from  
 the side of arm 28 normally occupies a notch  
 or one of two notches 38 and 38<sup>a</sup> formed in a 85  
 head or disk 48 which is mounted loosely  
 upon an arbor 40 of the clockwork. At Fig.  
 4, the projection 28<sup>a</sup> is shown in normal posi-  
 tion in one of the notches as 38; while at  
 Fig. 1, it is shown as pulled down from the 90  
 notch and held down by the latch 35. After  
 the finger-piece 13 has been turned to latch  
 down the arm 28, said finger-piece may be  
 released, and the spring 23 will return it to  
 normal position, together with the arm 18 95  
 having the coin-support 19. The coin-oper-  
 ated lever 21, 27 remains stationary, because  
 of its connection to the latched arm 28; and  
 upon withdrawal of the arm 18, the coin 14  
 drops into a receptacle (not shown). 100

Upon the head 48 is pivoted at 50 a spring-  
 pressed pawl 51, which engages the ratchet  
 52 fixed upon the clock-arbor 40 which  
 makes a complete revolution once every half  
 hour. The spring which presses said pawl 105  
 into the ratchet is indicated at 51<sup>a</sup>.

The pin 28<sup>a</sup> on the arm 28 is made long  
 enough to engage a releasing arm 54 of the  
 pawl 51 at the upstroke of said arm 28,  
 whereby said pawl is withdrawn from the 110  
 ratchet 52 (Fig. 4) to permit the clock to  
 continue in operation while the typewriting  
 machine is locked out of use.

An auxiliary lever or arm 55 pivoted at  
 56 upon the framework and geared at 57 to 115  
 the arm 28, has a projection 58 to release the  
 pawl 51; said pawl being released consecu-  
 tively by the main arm 28 and the auxiliary  
 arm 55, to withdraw said pawl from the  
 ratchet twice in each revolution of the head 120  
 48. The projections 28<sup>a</sup> and 58 therefore  
 serve to disconnect the head 48 from the  
 clockwork and to lock the head against ac-  
 cidental rotation, by reason of their engage-  
 ment with the notches 38 and 38<sup>a</sup>. A simi- 125  
 lar pawl 51<sup>a</sup>, having a releasing arm 51<sup>b</sup>,  
 may be pivoted at 51<sup>c</sup> upon the latch wheel  
 head 48 diametrically opposite to the pawl  
 51, to be released consecutively by the pro-  
 jections 28<sup>a</sup>, 58; the two pawls being there- 130



fore released simultaneously at each operation. A draw-spring 59 may be connected between levers 28 and 55.

The arm 28 is provided with a shoulder 60, and the latch 35 (pivoted at 36 upon the auxiliary arm 55) has preferably a roll 61 normally caught upon said shoulder, Figs. 1, 2 and 3. A projection 62 provided upon the revolving head 48 strikes the cam edge 63 of a trip 64, which is pivoted at 65 upon the latch 35 and provided with a counterweight 66. The movement of the trip 64 upon its pivot is limited by a pin 67 playing between lower and upper stops 68 and 69 provided upon the latch 35. The pin 62 on the revolving head turns the latch idly down from the position at Fig. 1 to the position at Fig. 3; and since the trip can turn no more about its pivot 65 during the continued downward movement of the pin 62, the latter cams both trip 64 and latch 35 to the right from the position at Fig. 3 until the roll 61 runs off from the shoulder 60, and the arms 28 and 55 collapse under the tension of the springs 34 and 59, which cause them to resume their normal positions, releasing the pawls 51 and 51<sup>a</sup>, and locking the head 48 against turning as at Fig. 4. The latch 35 is retained against accidental releasing movement by means of a gravity tumbler or lock 70 pivoted upon the same screw 56 which fulcrums the arm 55.

Upon inserting a coin and turning the handle 13 to the right, the levers 18 and 21 are swung together, and the link 26 is depressed, thus forcing down the arm 28 and permitting the latch 35 to swing to the left from the position at Fig. 4 to that at Fig. 1, thus locking down the arm 28 and locking up the auxiliary arm 55. The latch 35 is moved by gravity to the position at Fig. 1; and its motion is arrested by a stop 74 adjacent to the shoulder 60. The pawls 51 and 51<sup>a</sup> swing into engagement with the rotating ratchet 52 of the clockwork, and the head 48 is slowly revolved. It will be understood that the latch 35, which may of course be moved by gravity or otherwise, is incapable of stirring from the normal Fig. 4 position, unless something is done by the operator to cause such movement. To cause the motion of said latch, the operator deposits a coin, and then turns the handle 13 in the direction of the arrow, thus driving down the arm 27 and link 26, and forcing down the arm 28 and lifting the arm 55. This operation is the occasion or cause of the latch 35 swinging or gravitating from the Fig. 4 position to the Fig. 5 position. The rotatable head or device 48 is normally disconnected from the clockwork. The mechanism controlled by the finger piece 13 includes means 51 and 51<sup>a</sup> to connect said head 48 to said clockwork to be rotated thereby; said finger piece 13 also operating the head-releasing mem-

bers 28 and 55 and the latch 35, and causing the latter to retain the members 28 and 55 in ineffective positions. Said latch, as seen at Fig. 5, is locked against movement from effective position, the locking being effected by the tumbler 70. The head 48 has means 62 and 62<sup>a</sup> to release and trip said latch 35, as above described, thereby permitting the head-releasing members 28 and 55 to move to Fig. 4 position. The members 28 and 55, by means of said finger piece, are moved from the Fig. 4 position to the Fig. 5 position, to cause the restoration of the latch 35 to effective position; and the manually controlled mechanism also includes the tumbler 70, which, by upward movement of the arm 55 and latch 35 and pin 71, is raised until the roll 61 falls into the notch 60, whereupon the tumbler 70 falls on pin 71 and locks it. In half an hour, it completes half a revolution, and a pin 62<sup>a</sup> (diametrically opposite from the pin 62) engages the trip 64 and turns it from the Fig. 1 position to the Fig. 3 position, thus lifting the gravity lock 70 from a pin 71 provided on the latch 35, whereby the latter is prevented from accidental movement off from the shoulder 60. The lock 70 is thus lifted above the pin 71, and continued downward movement of the pin 62<sup>a</sup> swings aside the latch 35 and causes arms 28 and 55 to collapse, again releasing the head 48 from the clockwork, and relocking the head against rotation. On the downward movement of the arm 28, the wrist 31 is permitted by the cam 33 to turn to the right, thereby permitting the bar 4 to release the typewriter keys 1.

It will be noted that the manually-controlled mechanism includes the finger-piece or button 13, the main function of which is, first, to connect the head 48 to the clockwork, and second, to move the movable device 34 to the full line ineffective position at Fig. 3.

At Fig. 4 the lock 70 is shown resting on the pin 71. When the arm 28 is pressed down by the finger-piece 13, and the latch 35 gravitates to the Fig. 1 position, the lock 70 falls down behind the pin 71, to lock the same; the parts remaining in this position until the stop pin 67 on the trip 64 lifts the lock 70 by means of a catch 72 formed thereon (Fig. 3).

Variations may be resorted to within the scope of the invention.

Having thus described my invention, I claim:

1. The combination of a clockwork, a rotatable head or device normally disconnected therefrom, manually controlled mechanism to connect said head to said clockwork to be rotated thereby; said manually controlled mechanism including both a head-releasing member and a latch to retain said releasing member in ineffective position; said head



having means to trip said latch, to render said releasing member effective, a lock for said latch, and means to release said lock.

2. The combination of a clockwork, a rotatable head or device normally disconnected therefrom, and manually controlled mechanism including means to connect said head to said clockwork to be rotated thereby, said manually controlled mechanism including both a head-releasing member and a latch to retain said releasing member in ineffective position, a lock to hold said latch in effective position, said head having means to release said lock and trip said latch, to render said releasing member effective, means being included in said manually controlled mechanism to control the restoration of said latch to effective position and the movement of said lock to effective position.

3. The combination of a clockwork, a rotatable head or device normally disconnected therefrom, manually-controlled mechanism including means to connect said head to said clockwork to be rotated thereby; said manually-controlled mechanism including a head-releasing member; a latch to retain said releasing member in ineffective position; a lock for said latch; said head having means to release said lock and trip said latch, to render said releasing member effective and thereby disconnect the head from the clockwork; a manually operable machine; a movable device normally preventing manipulation of said machine; and means for controlling the movement of said movable device to ineffective position so that it will occur simultaneously with the connection of the head to the clockwork.

4. The combination of a clockwork, a rotatable head normally disconnected therefrom, a clutch for connecting the clockwork to the head to rotate the latter, an arm to control said clutch, a manually operable device to move said arm, whereby said clutch may be closed, a spring tending to move said arm to cause the opening of said clutch, a latch movable at the operation of said manually operable device to a position to lock said arm against actuation by said spring, a projection upon said head, a pivoted trip on said latch to be caused by said projection to trip said latch to release said arm, and a lock to prevent accidental tripping of said latch; said trip having means to release said lock.

5. The combination of a clockwork, a rotatable head normally disconnected therefrom, a clutch for connecting the clockwork to the head to rotate the latter, an arm to control said clutch, a manually operable device to move said arm to control the closing of said clutch, a spring tending to move said arm to open said clutch, a latch movable by said manually operable device to a position to lock said arm against actuation by said

spring, a device for automatically locking said latch in effective position, means upon said head to release said lock and trip said latch to release said arm, a machine, and means normally preventing manipulation of said machine and connected to be moved by said manually operable device to ineffective position at the clutch-closing operation.

6. The combination of a clockwork, a rotatable head normally disconnected therefrom, releasable means to connect said head to said clockwork, an arm, a spring or means tending to move said arm in a direction to release said head from said clockwork, a manually operable device for setting said arm in the opposite direction, a latch to detain said arm when so set, a lock for the latch, a tappet, and a trip cooperating with said tappet to enable the head, when driven by the clockwork, to trip the latch; said tappet having a yielding construction to permit said arm to be set back and latched, and also having means to release said lock.

7. The combination with a clockwork having a ratchet, of a head to turn about the axis of rotation of the ratchet, a pawl pivoted on said head to engage the ratchet to turn said head, said pawl normally disconnected from the ratchet, a pair of arms mounted upon the framework to engage said pawl at either of two points in the travel of the wheel, means connecting said arms to cause them to move together, means tending to move said arms to release the pawl, a latch to hold said arms away from the pawl, a lock for said latch, a trip on said arm, and a projection upon said head to engage said trip to trip the latch; the trip having a yielding construction to permit the arms to be re-set and latched, and also having means to release said lock to permit the latch to be tripped.

8. The combination of a clockwork, a rotatable head normally disconnected therefrom, means to clutch said head to said clockwork, a manually operable arm or member to control said clutch, a spring or means tending to move said arm in a direction to release the clutch, means independent of said rotatable head for restraining said arm, a lock for said restraining means, and means dependent upon the rotation of the head for releasing said lock and also releasing said arm to enable it to open the clutch.

9. The combination with a manipulable machine, of a movable device normally preventing manipulation of said machine, manually operable means to control the movement of said movable device to ineffective position, a latch to hold it there, a support for said latch, a lock for said latch, a clockwork and a revolving member connected to said clockwork and having means to release said lock and trip said latch from said support.

10. The combination of a manipulable



5 machine, a movable device, a manually operable arm having means to control the movement of said movable device to ineffective position, a spring to cause said movable device to move to ineffective position, a spring tending to return said arm, a latch to restrain said arm, a support for said latch, a lock for said latch, a clockwork, and a revolving member connected to said clock-

work and having means to release said lock 10 and trip said latch from said support, to permit said arm to restore said movable device and render said manipulable machine inoperable.

CORNELIUS B. CORCORAN.

Witnesses:

JOHN O. SEIFERT,  
K. FRANKFORT.

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

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