

(No Model.)

4 Sheets—Sheet 1.

A. B. CHANDLER & G. H. POWELL.
VENDING MACHINE.

No. 481,689.

Patented Aug. 30, 1892.

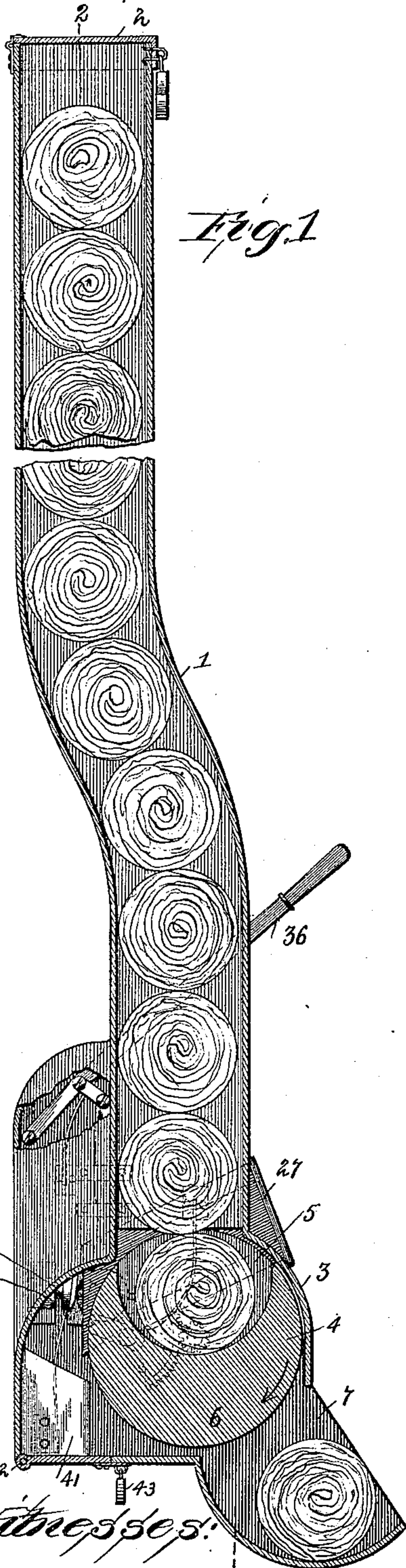


Fig. 1

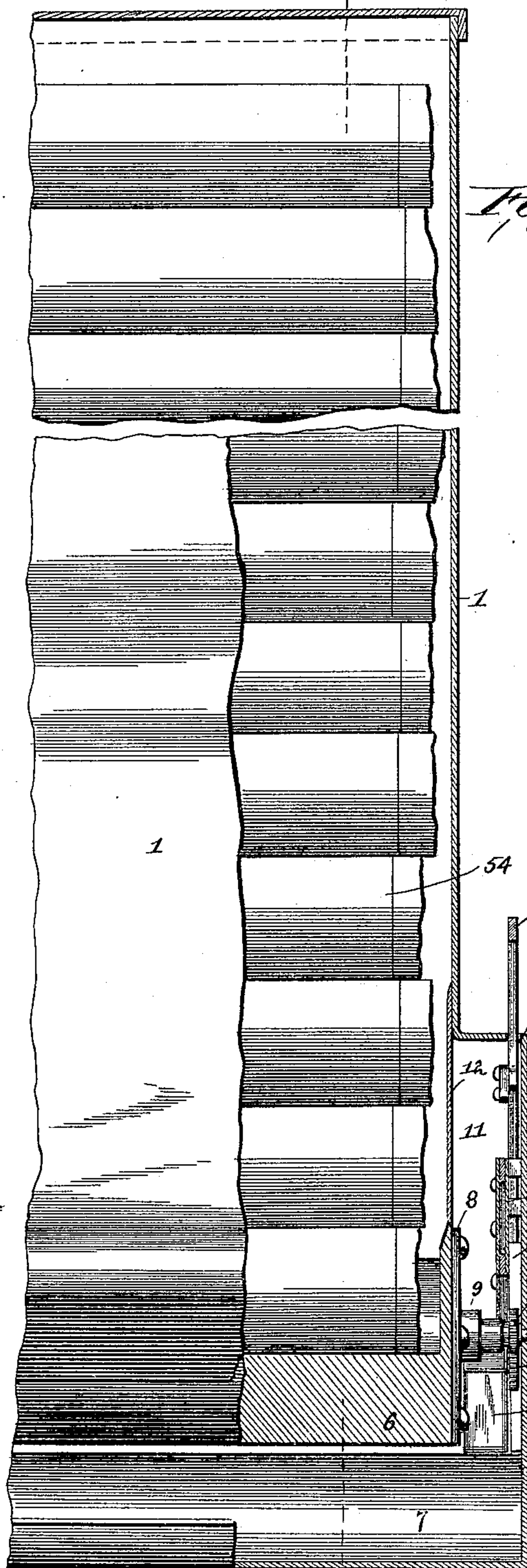


Fig. 2

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By Elliott & Quinlan

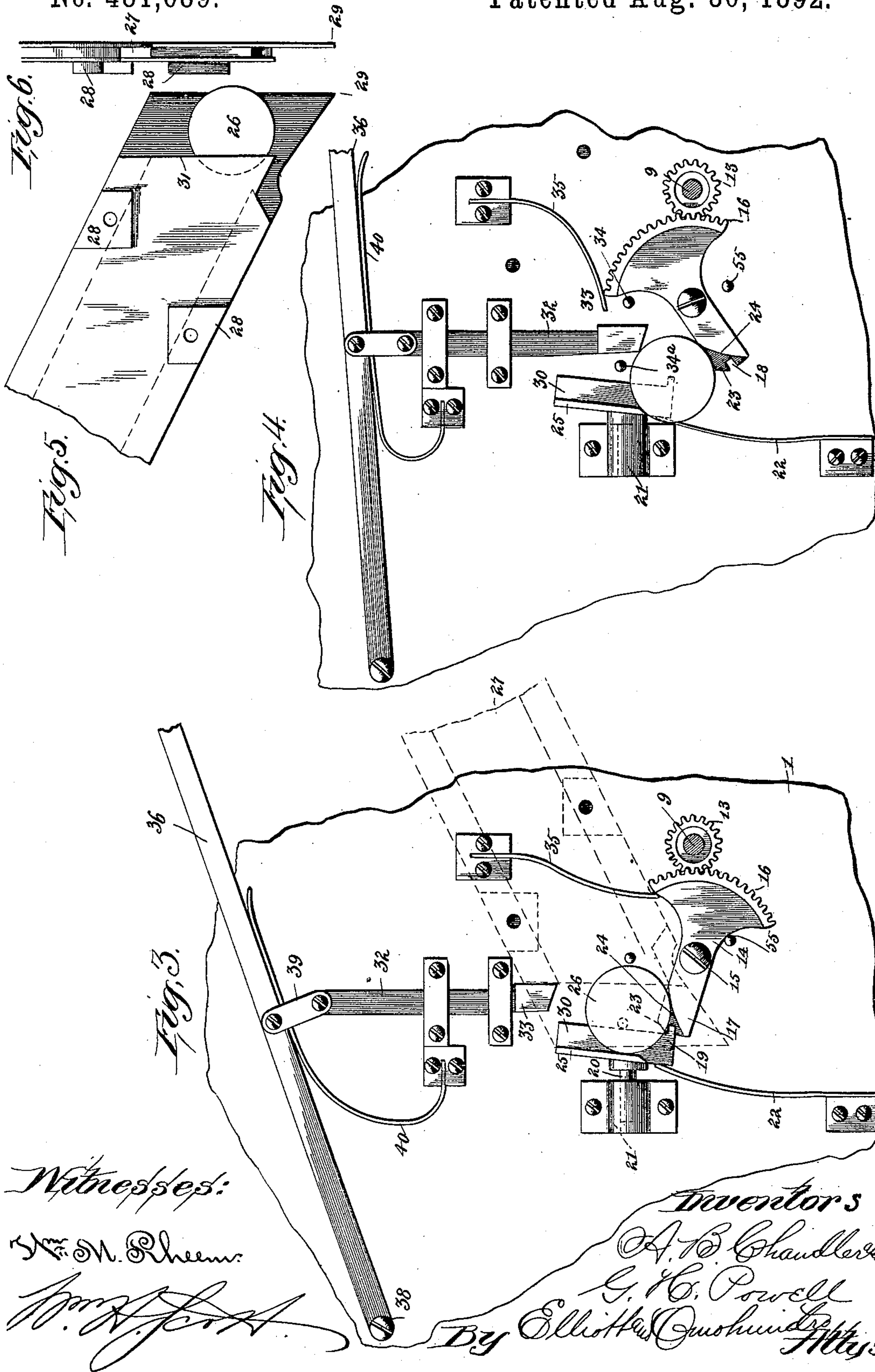
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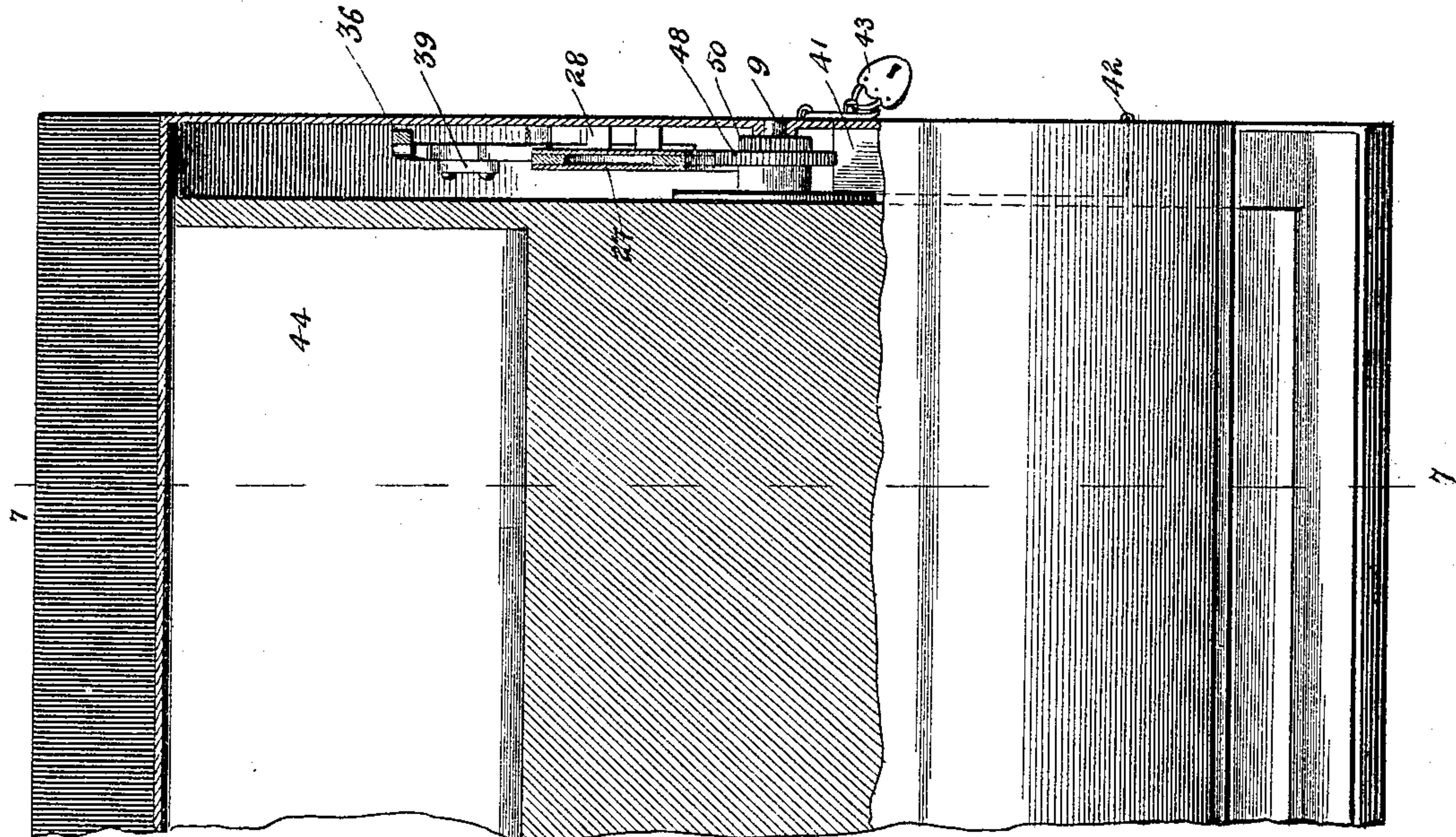
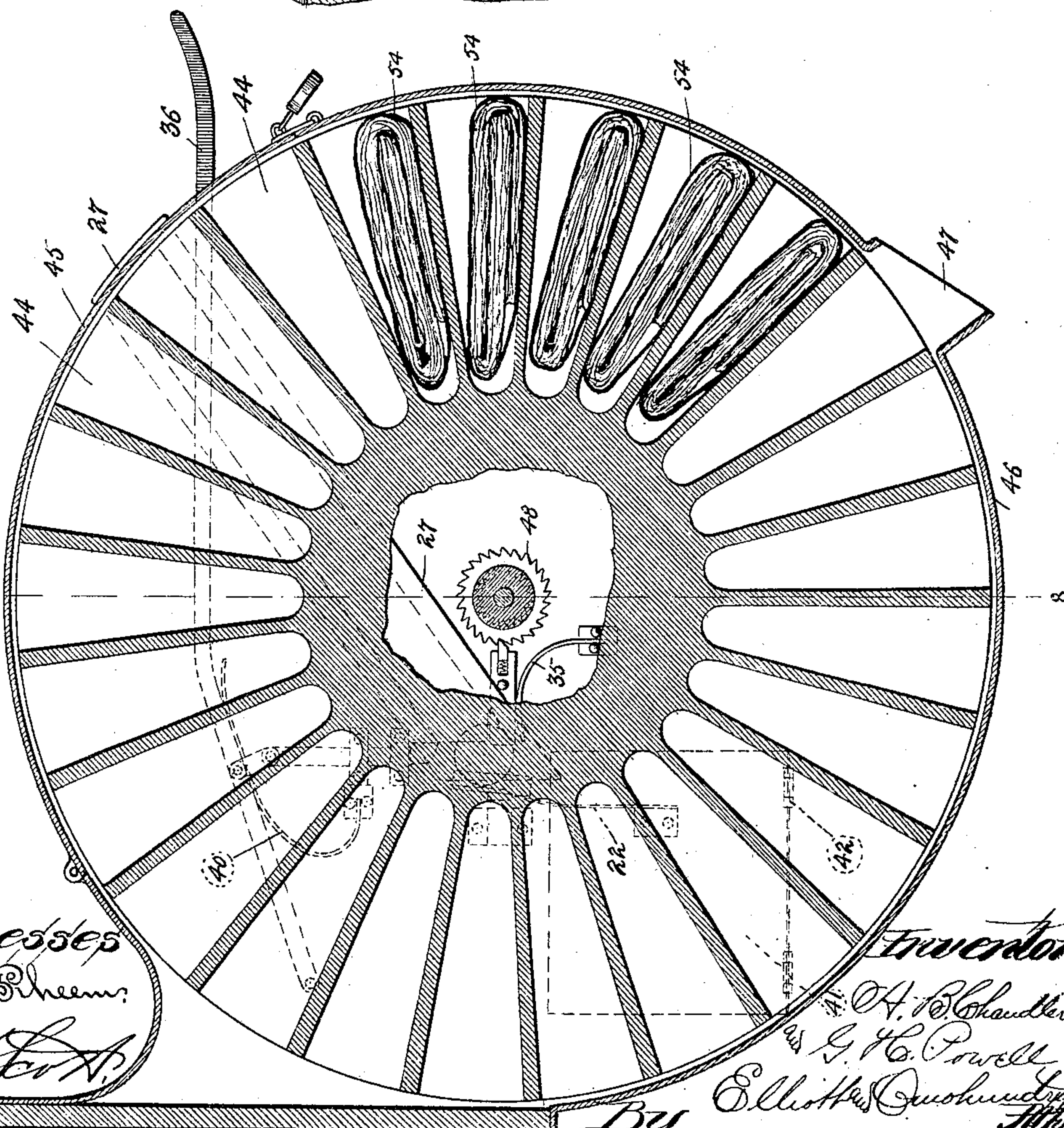


Fig. 8.

Fig. 7.



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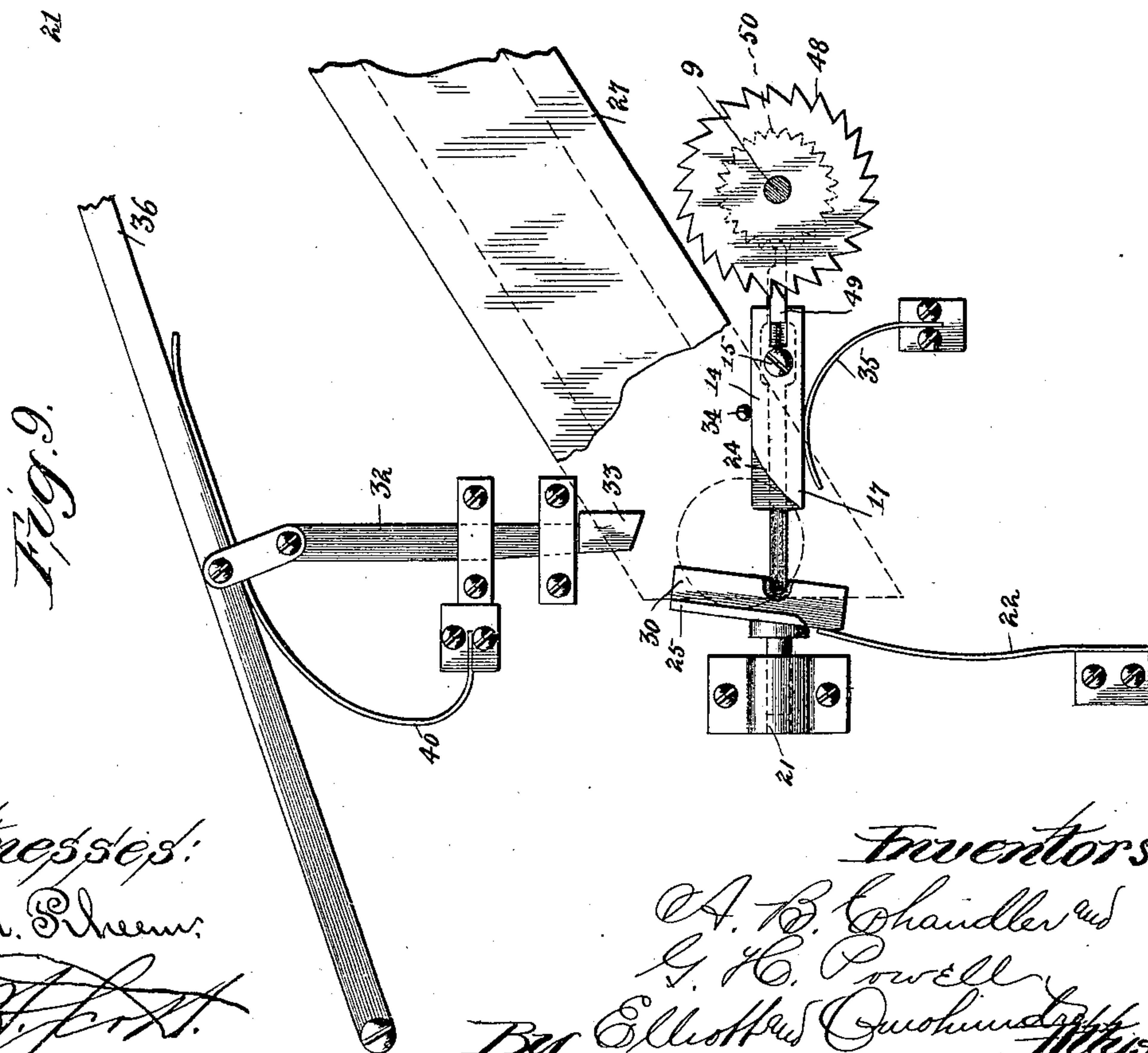
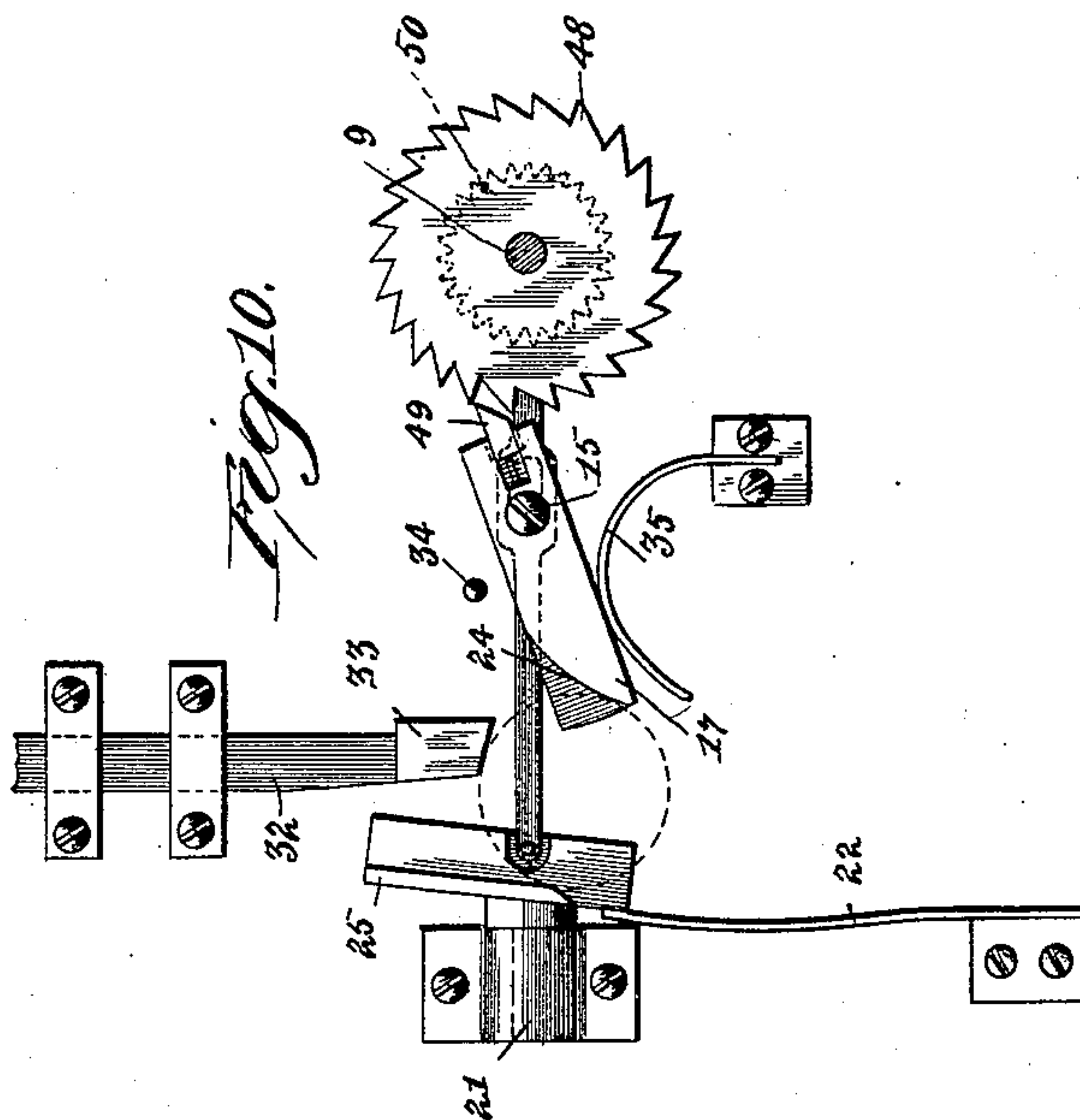
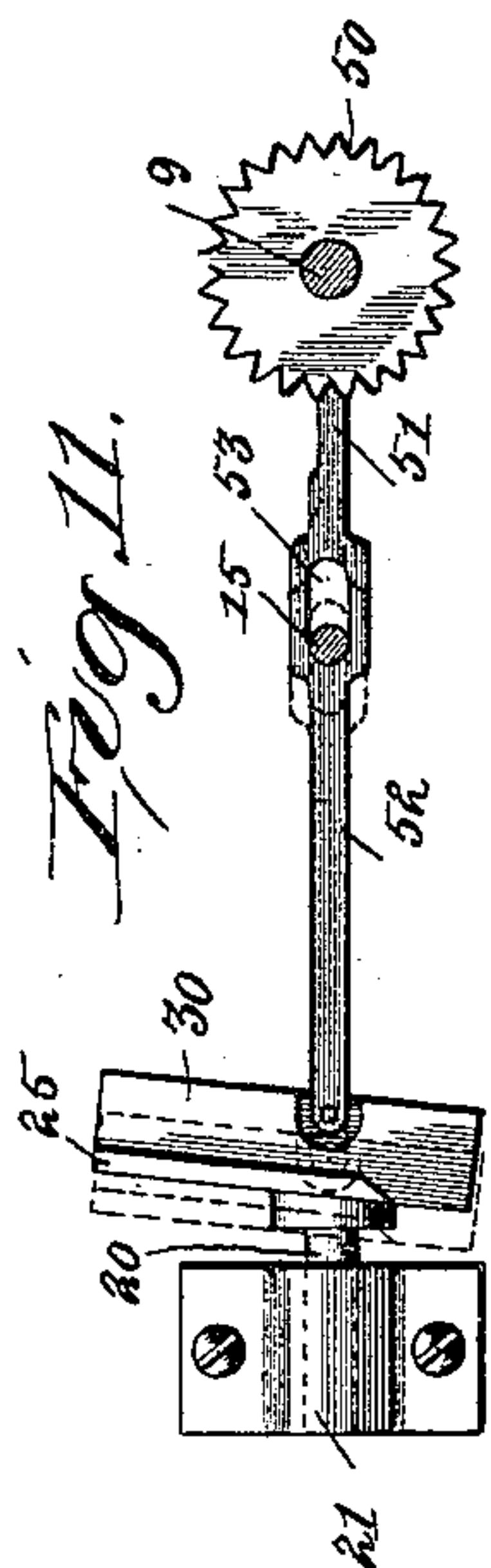
(No Model.)

4 Sheets—Sheet 4.

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No. 481,689.

Patented Aug. 30, 1892.



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UNITED STATES PATENT OFFICE.

ALFRED B. CHANDLER AND GUY H. POWELL, OF CHICAGO, ILLINOIS, AS-
SIGNORS OF ONE-THIRD TO C. T. CHANDLER, JR., OF SAME PLACE.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 481,689, dated August 30, 1892.

Application filed February 19, 1892, Serial No. 422,090. (No model.)

To all whom it may concern:

Be it known that we, ALFRED B. CHANDLER and GUY H. POWELL, citizens of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Vending-Machines, of which the following is a full, clear, and exact specification.

Our invention relates to vending-machines, and more particularly to that class employing a coin-actuated mechanism in which the unlocking and actuation of the vending mechanism is effected through the medium of a coin deposited therein.

Our invention is especially designed for vending newspapers and the like; and it has for its object to provide a device of this nature which will be effectual and simple of construction and adapted to contain a large number of papers to be vended in a compact and convenient form.

With these ends in view our invention consists in certain features of novelty in the construction, combination, and arrangement of parts hereinafter described with reference to the accompanying drawings, and more particularly pointed out in the claims.

In the said drawings, Figure 1 is a vertical transverse section of the preferred form of our invention, taken on the line 1 1, Fig. 2. Fig. 2 is a vertical longitudinal section thereof, taken on the line 2 2, Fig. 1, passing through the center of the magazine and delivery-chute. Fig. 3 is a detail view of the coin-actuated mechanism on an enlarged scale, showing the position of the parts when the coin is first dropped into the coin chute or slot. Fig. 4 is a similar view showing the manner of unlocking and actuating the mechanism through the medium of the coin. Fig. 5 is a rear side elevation of the coin chute or slot, showing the position of the coin before the mechanism has been unlocked. Fig. 6 is an end view of such coin chute or slot, looking toward its discharge end. Fig. 7 is a vertical transverse section of a modified form, in which the papers to be vended are stored in the delivery-cylinder instead of in a separate magazine, the sections being taken on the line 7 7, Fig. 8. Fig. 8 is a vertical longitudinal section of the same, taken

on the line 8 8, Fig. 7. Fig. 9 is a modified form of coin-actuated mechanism, showing the position of the parts before such mechanism has been released or unlocked. Fig. 10 is a similar view showing the position of the parts after the mechanism has been unlocked, the coin-chute and main actuating-lever being omitted; and Fig. 11 is a detail view of a modified form of latch or locking mechanism.

In the drawings, wherein like signs of reference indicate like parts throughout the several views, 1 is an upright magazine or receptacle constructed of any suitable material and being of such a height as to contain a large number of papers to be vended when rolled into cylindrical forms. This receptacle is preferably provided at its upper end with a hinged cover or door 2, and is of such dimensions as to hold the papers therein, one upon the other, in a single row or line, as more clearly represented in Fig. 1, in order that such papers will not jam therein and will be free to descend as soon as the bottom paper is removed.

The magazine 1 is provided at its lower end with a casing 3, which communicates with the magazine through its upper side and in which is journaled a delivery-cylinder 4, having formed therein a pocket or cavity 5, which is sufficiently large to receive one of the papers, so that when such pocket is coincident with the lower end of the magazine the lowermost paper will drop thereinto, and when the cylinder is turned in the direction of the arrow a blind portion 6 of such cylinder will turn under and close the lower end of the magazine 1, and at the same time the paper contained in the pocket 5 will be dumped out into a delivery-chute 7 of any suitable construction formed at the lower side of the casing 3; and when the movement of such delivery-cylinder 3 is reversed or continued sufficiently far in the same direction the empty pocket 5 will again coincide with the lower end of the magazine and the lowermost paper will drop therein. This delivery-cylinder 4 may be provided at one end with any suitable and convenient journal mounted in any suitable bearing formed in the casing or elsewhere; but at its other end it is preferably provided with a plate or disk 8, suitably secured to the end

of the cylinder by means of screws or otherwise and having a shaft or journal 9, whose outer end is suitably mounted in the side of the casing, as more clearly shown in Fig. 2, 5

The side of the casing at this end of the cylinder is provided with an offset 10, forming a recess or box 11, which is preferably partitioned off at its inner side from the magazine 1 by means of a plate 12, which fits around the 10 upper side of the delivery-cylinder. Formed upon or suitably secured to the journal 9 within this recess 11 is a pinion or spur wheel 13, which, as more clearly shown in Figs. 3 and 4, is engaged by a toothed lever 14, pivoted at 15, to the side of the casing. The end of this lever is formed on the arc of a circle and provided with a number of teeth 16, which are complementary to and engage with the teeth of the spur 13, and the segment-rack thus formed is of sufficient length to cause the delivery-cylinder 4 to turn from the position shown in Fig. 1, with its pocket coincident with the lower end of the magazine, to a position in which such pocket will register with the delivery-chute 7. 20

The other end 17 of this lever 14 is provided with a notch 18, in which engages a latch or catch 19 when such lever is in its normal position, holding the pocket of the delivery-cylinder coincident with the lower end of the magazine. This latch 19 is provided with a stem 20, which is held by and adapted to slide in a box or guideway 21, suitably secured to or formed on the end of the casing or other fixed portion of the apparatus, and the latch 30 is impelled toward the lever 14 by means of a suitable spring 22, so that when the end 17 of such lever rises a beveled portion 23, formed thereon just above the notch, will engage the end of the latch 19 and force it backward against the action of the spring 22 until the notch has risen sufficiently far to receive the end of the latch. 40

The lever 14 is provided on the upper side of its end 17 with a rounded or beveled ledge or shoulder 24, and the latch 19 is provided 45 on one side with an upright flange or shoulder 25, which shoulders 24 25, when the parts are in their normal positions, are adapted and arranged to be impinged by the edge of the coin 26 and to retain the latter in the position shown in Fig. 3 until the requisite pressure has been applied to such coin for compressing the spring 22 and disengaging the latch 19 from the lever 14, the upper end of the 50 flange 25 being slightly inclined toward the coin-chute, so as to better direct the coin in its downward movement.

The coin chute or slot 27 (shown in dotted lines in Fig. 3) is so mounted on blocks 28 as 60 to be in the same vertical plane with the shoulders 24 25, and it is provided on its outer side with a depending guard or shield 29, which partially covers the latch 19 and the end of the lever 14, upon which the shoulder 24 is formed, so as to hold the coin on edge 65 while it is in engagement with the shoulders 24 25, and for the same reason the latch 19 is

provided with the broad flat portion 30, which holds the edge of the coin in proper position after it has passed the lower end 31 of the 70 inner side of the chute 27, which side of the chute is shortened to permit the downward movement of the plunger 32.

The plunger 32 is provided at its lower end with a shoe 33, which is inclined or beveled, 75 as shown, and which is adapted when such plunger is depressed to impinge the edge of the coin and by reason of such beveled end force the coin firmly against the shoulder or flange 25, and thereby disengage the latch 19 80 from the notch 18, whereupon the further-downward movement of such plunger will cause the coin to depress the end 17 of the lever 14, as shown in Fig. 4, and thereby permit the coin to be discharged into any suitable 85 receptacle below, and at the same time cause the segment-rack of the lever 14 to turn the delivery-cylinder until its pocket is brought into coincidence with the delivery-chute 7, the downward movement of the lever 14 being preferably limited by means of any suitable stop, such as 34, and the inward movement of the latch 19 being limited by a similar stop 34^a, so as to prevent the spring 22 90 from throwing the stem 20 out of its socket 95 or guideway 21 or placing the end of the latch too far over the lever 14 to enter the notch therein. As soon as the coin slips from between the shoulders 24 25 the lever 14, and consequently the cylinder 4, will be returned 100 to their normal positions (illustrated in Figs. 1 and 3) by means of a suitable spring 35, secured to any fixed portion of the device and bearing against the lever 14, so as to oppose the movement of said lever through the medium of the coin. 105

The plunger 32 may be operated in any suitable manner by means of a suitable handle or connection extending to the outside of the casing; but I prefer to accomplish the 110 movement of this plunger by means of a simple lever 36, passing through a slot 37 in the offset 10 and being provided at its outer end with any suitable handle within reach of the operator, while at its inner end it is suitably 115 pivoted to the casing at 38 and connected at a short distance from such pivot 38 to the plunger 32, preferably by means of a link 39. The lever 36 may be returned to its normal elevated position, together with the plunger, 120 by means of any convenient form of spring, such as 40.

The chamber 11, if desired, may be provided with any suitable coin-receptacle 41, located at or near the lower end of the coin-chute 27, and 125 being hinged at 42 to the bottom of the chamber 11 and provided with any suitable fastening device or lock 43.

In a modified form of our invention illustrated in Figs. 7 to 11, inclusive, we do away 130 with the magazine 1, before described, and provide the delivery-cylinder itself with a number of pockets, which are preferably so constructed and arranged that the papers to

be vended may be folded into flat packages in the ordinary way and placed therein through a suitable door or cover 45, hinged, preferably, to the upper side of the cylindrical casing 46, which surrounds the cylinder. In this form of the invention it is of course desirable that the cylinder should be turned in one direction, so as to bring the pockets successively opposite and coincident with the discharge-chute 47, formed in the lower side of the casing 46; and to this end we provide the journal 9 of the delivery-cylinder with a spur-wheel 48, which, unlike the spur-wheel 13 in the form before described, is in the form of a ratchet, and instead of providing the lever 14 with a number of teeth arranged on the arc of a circle we provide the end of such lever with a spring-pawl 49, which is adapted to engage the ratchet-teeth of the spur-wheel 48 and rotate such wheel when the lever 14 is oscillated in one direction, but to slip over the teeth of such wheel 48 without affecting the latter when the lever is oscillated in the opposite direction, and in order that the delivery-cylinder may be rotated the distance of one pocket only during each operation of the machine we provide the journal 9 with a notched wheel or disk 50, located, preferably, behind the spur-wheel 48 and being secured either to such wheel or to the journal 9 and adapted to be engaged and locked against rotation by means of a latch, whose end 51 is complementary in shape to the notches in the wheel or disk 50. This latch preferably consists of a bar 52, secured at one end to the plate 30 and being guided at its other end so as to reciprocate in a straight line by means of the pin or screw 15, which also constitutes the pivot of the lever 15 and which passes through a slot 53, formed in the bar 52. It is very obvious, however, that such bar 52 might be a continuation of the stem 20 or formed integrally with the plate 30. Thus it will be seen that when the coin is deposited and the lever 36 depressed, as before described, the first action of the coin will be to withdraw the end 51 of the latch from engagement with the wheel 50, and then cause the lever 14 to oscillate on its pivot, as shown in Fig. 10, and cause a partial rotation of the delivery-cylinder through the medium of the spring-pawl 49 and spur-wheel 48; but as soon as the flange or shoulder 25 is disengaged by the coin the spring 22 will immediately force the end 51 of the latch into engagement with the next notch in the wheel 50 and lock the cylinder from further turning in either direction until another coin is deposited and the parts again actuated in the manner described. It is of course, desirable that in each instance whether the papers be rolled into cylindrical form or folded in flat form, as shown in Fig. 7, each should be surrounded or held by some suitable wrapper or band 54.

It is of course very obvious that instead of the blade-spring 35, employed for returning the lever 14 and delivery-cylinder 4 to their

normal positions, as shown in Figs. 3 and 4, a common coil-spring might be secured directly to journal 9 and to any fixed portion of the casing, and would accomplish the same result, inasmuch as the upward movement of the segment rack on the lever 14 is limited by means of the stop 34 and its downward movement by the stop 55, and the return movement of the journal 9 would produce a similar movement of the lever 14.

Having thus described our invention, what we claim as new therein, and desire to secure by Letters Patent, is—

1. The combination, with the journal 9 and the lever for turning said journal, of the latch for preventing said journal from turning, means for lodging a coin against said lever and latch, and means for operating said latch and lever through the medium of the coin, substantially as set forth.

2. The combination, with the casing having a discharge opening or chute, of a cylinder journaled in said casing having a pocket adapted to coincide with said discharge opening, a lever for turning said cylinder, a latch for locking said cylinder, a coin-chute adapted to lodge a coin upon said lever and against said latch, and a plunger adapted to impinge the coin, substantially as set forth.

3. The combination, with the casing having a discharge-opening or delivery-chute, of a cylinder journaled in said casing having a pocket adapted to coincide with said discharge opening or chute, a spur-wheel on said cylinder, a toothed lever adapted to engage said wheel for turning said cylinder, a latch for locking said cylinder, a coin-chute adapted to lodge a coin upon said lever and against said latch, and a plunger adapted to impinge the coin, substantially as set forth.

4. The combination, with the casing having a discharge chute or opening, of a cylinder journaled in said casing, having a pocket adapted to coincide with said discharge opening or chute, a pivoted lever for turning said cylinder, a latch for locking said cylinder, a coin-chute adapted to lodge a coin upon said lever and against said latch, a plunger adapted to impinge said coin, a lever for actuating said plunger, and springs for returning said levers to their normal positions, substantially as set forth.

5. The combination of the journal 9, having a spur-wheel thereon, a toothed lever for rotating said spur-wheel, a latch for preventing said journal from turning, having a shoulder or flange, a coin-chute adapted to lodge a coin against said flange and lever, and a plunger adapted to impinge said coin, substantially as set forth.

6. The combination of the journal 9, having a spur-wheel thereon, a toothed lever for turning said spur-wheel, a sliding latch for preventing said journal from turning, having a flange or shoulder formed thereon, a guide-way for said latch, a coin-chute adapted to lodge a coin against such flange and lever,

and a plunger adapted to impinge said coin, substantially as set forth.

7. The combination of the journal 9, having a spur-wheel thereon, a toothed lever for turning said spur-wheel, having a rounded or beveled end, a latch for preventing said spur-wheel from turning, having a shoulder formed thereon, a coin-chute having a shield or projection overlapping said latch and lever and adapted to lodge a coin upon said lever and against said shoulder or flange, and a plunger adapted to descend upon the coin while thus supported, substantially as set forth.

8. The combination, with the journal 9, having a spur-wheel thereon, of a toothed lever for turning said spur-wheel, a latch for preventing said spur-wheel from turning, provided with the shoulder 25 and plate 30, a coin-chute having a shield overlapping said plate and said coin-chute being adapted to lodge a coin between said shield and plate against said flange, and a plunger adapted to descend upon the coin and disengage said latch and oscillate said lever, substantially as set forth.

9. The combination, with the delivery-cylinder, of a latch for preventing said cylinder from turning, having the flange 25, the coin-chute at the end of which said latch is arranged adapted to lodge a coin against said flange 25, a lever adapted to turn said cylinder, having its end arranged adjacent to said flange 25, so as to assist in supporting the coin, and a plunger having a beveled end adapted to descend upon the coin while thus supported, substantially as set forth.

10. The combination, with the cylinder, of a lever for turning said cylinder, a spring-latch for preventing said cylinder from turning, a coin-chute adapted to lodge a coin against said latch and upon the end of said lever, a

spring-actuated plunger having a beveled end adapted to descend upon the coin while thus supported, and a lever for operating said plunger, substantially as set forth.

11. The combination, with the shaft or journal 9 of a device to be actuated, of a spur-pinion on said journal, a pivoted segment-lever engaging said pinion, a spring-actuated latch for engaging said lever, having a flange or shoulder, a coin-chute adapted to lodge a coin upon said lever and against said shoulder, a plunger adapted to descend upon said coin while thus lodged, a lever 36, pivoted to said plunger, and means for returning said lever 36 and segment-lever to their normal positions, substantially as set forth.

12. The combination of a magazine having an open bottom adapted to contain rolls therein in a single row, a journaled delivery-cylinder arranged under said magazine and having a pocket as large as the open bottom of said magazine, a pinion for rotating said cylinder, a segment-lever engaging said pinion, a latch for locking said segment-lever, and means for actuating said segment-lever and latch through the medium of a coin, substantially as set forth.

13. The combination, with the casing 1, provided with the offset 10, having a slot 37 therein, of a delivery-cylinder mounted at the lower end of said casing, means for locking said cylinder arranged in said offset 10, and a lever pivoted in said offset 10 and projecting through slot 37 and adapted to unlock and actuate said cylinder through the medium of a coin, substantially as set forth.

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