

No. 628,656.

Patented July 11, 1899.

O. W. FISHER.
CIGAR VENDING APPARATUS.

(Application filed Feb. 24, 1898.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.

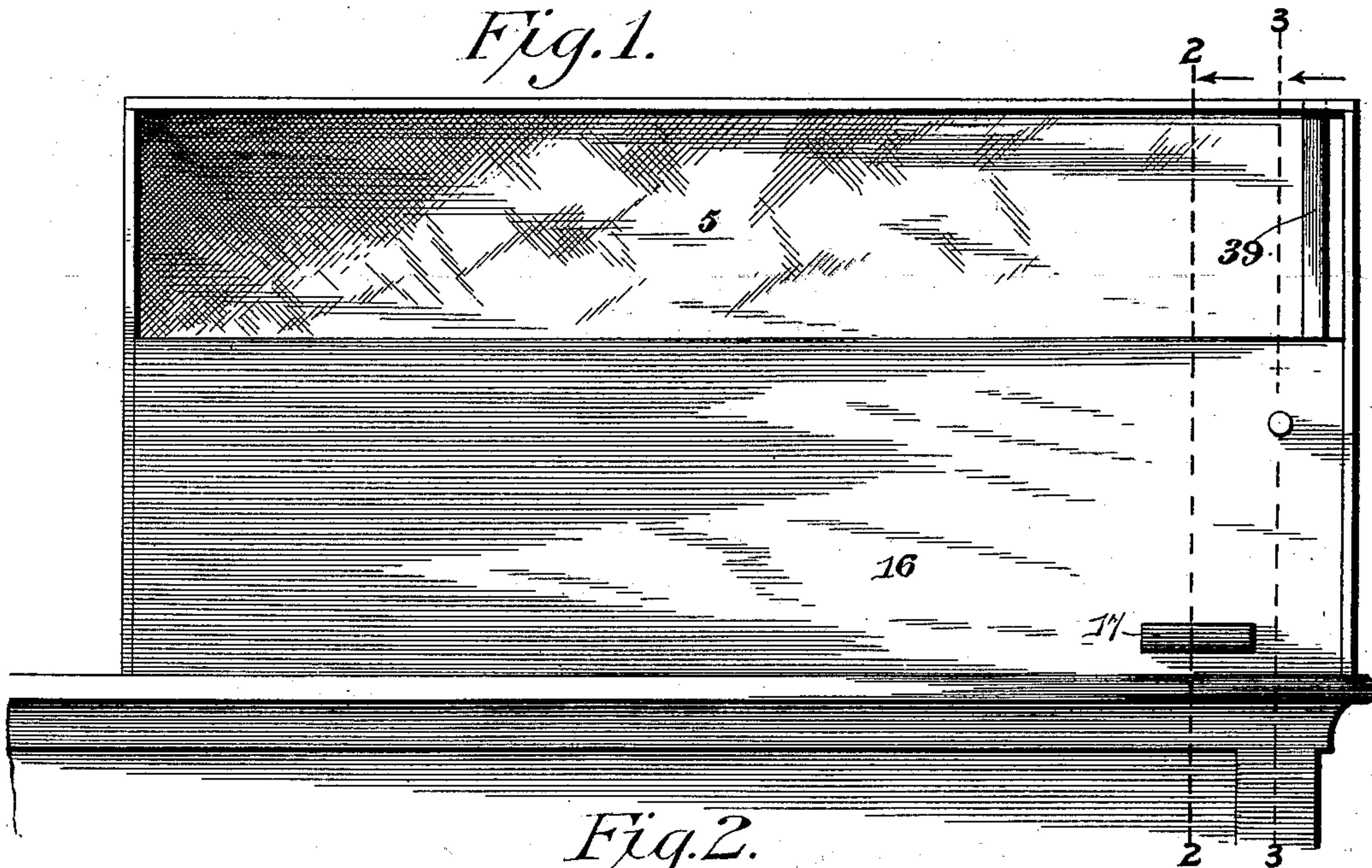
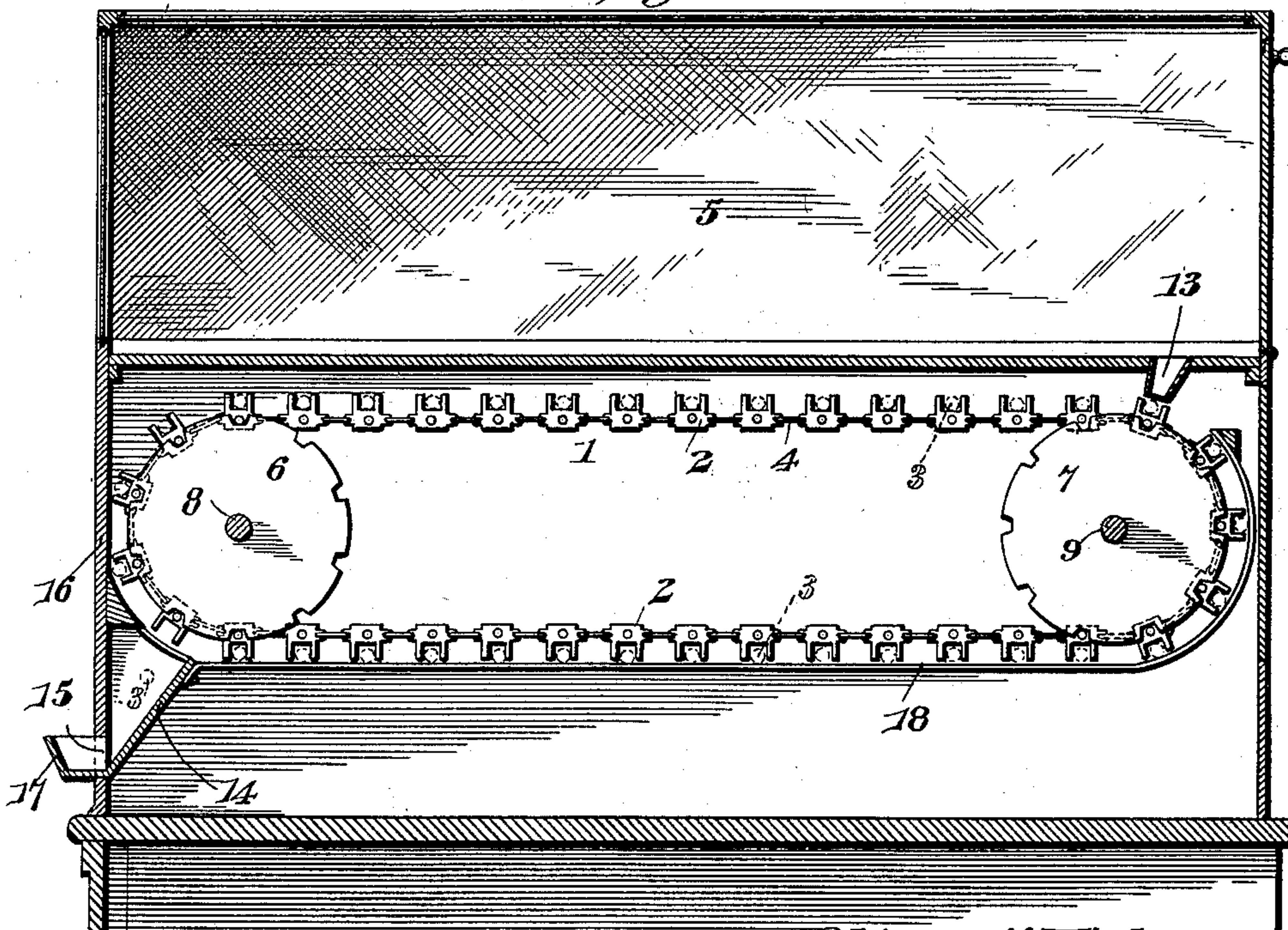


Fig. 2.



Witnesses

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3 Sheets—Sheet 2.

Fig. 3.

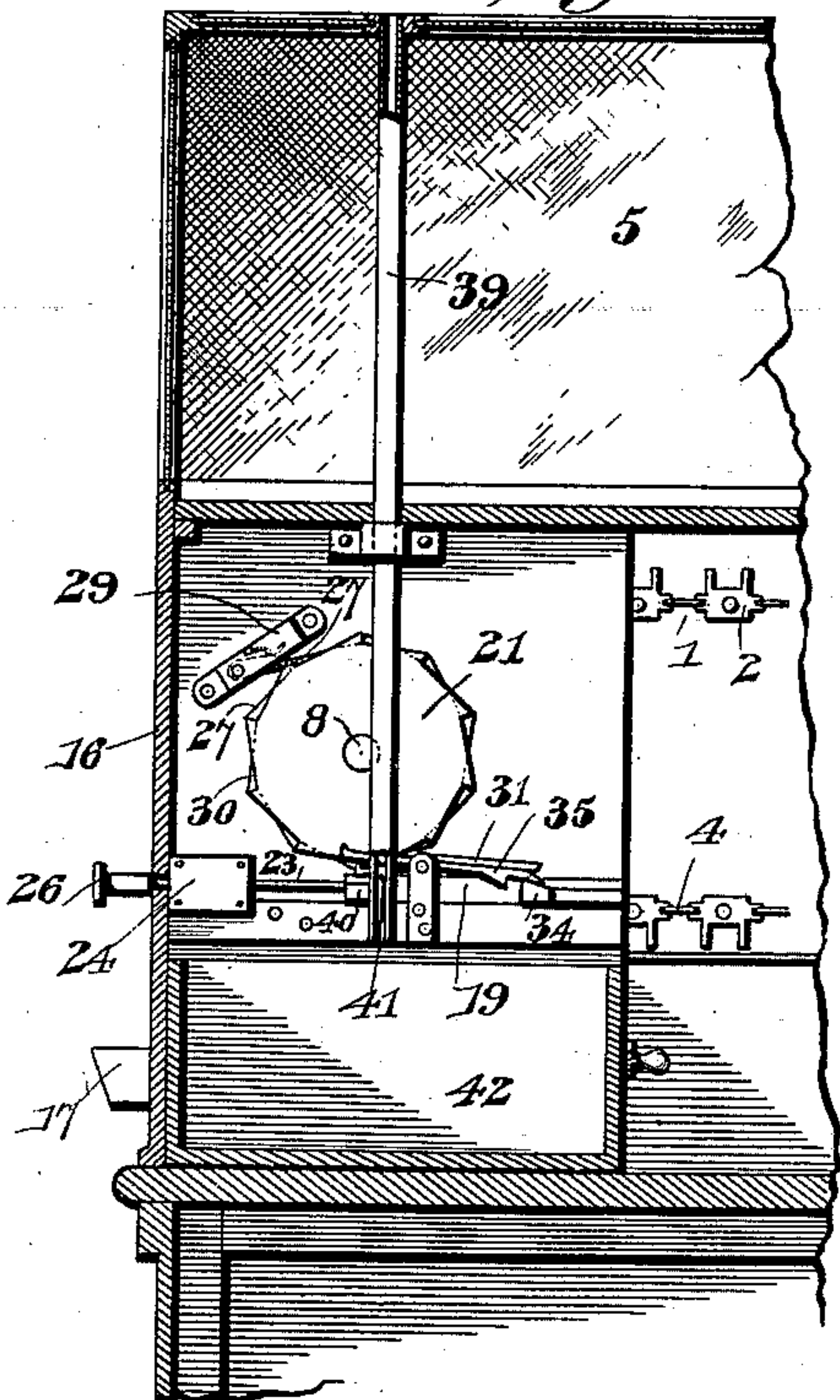


Fig. 5.

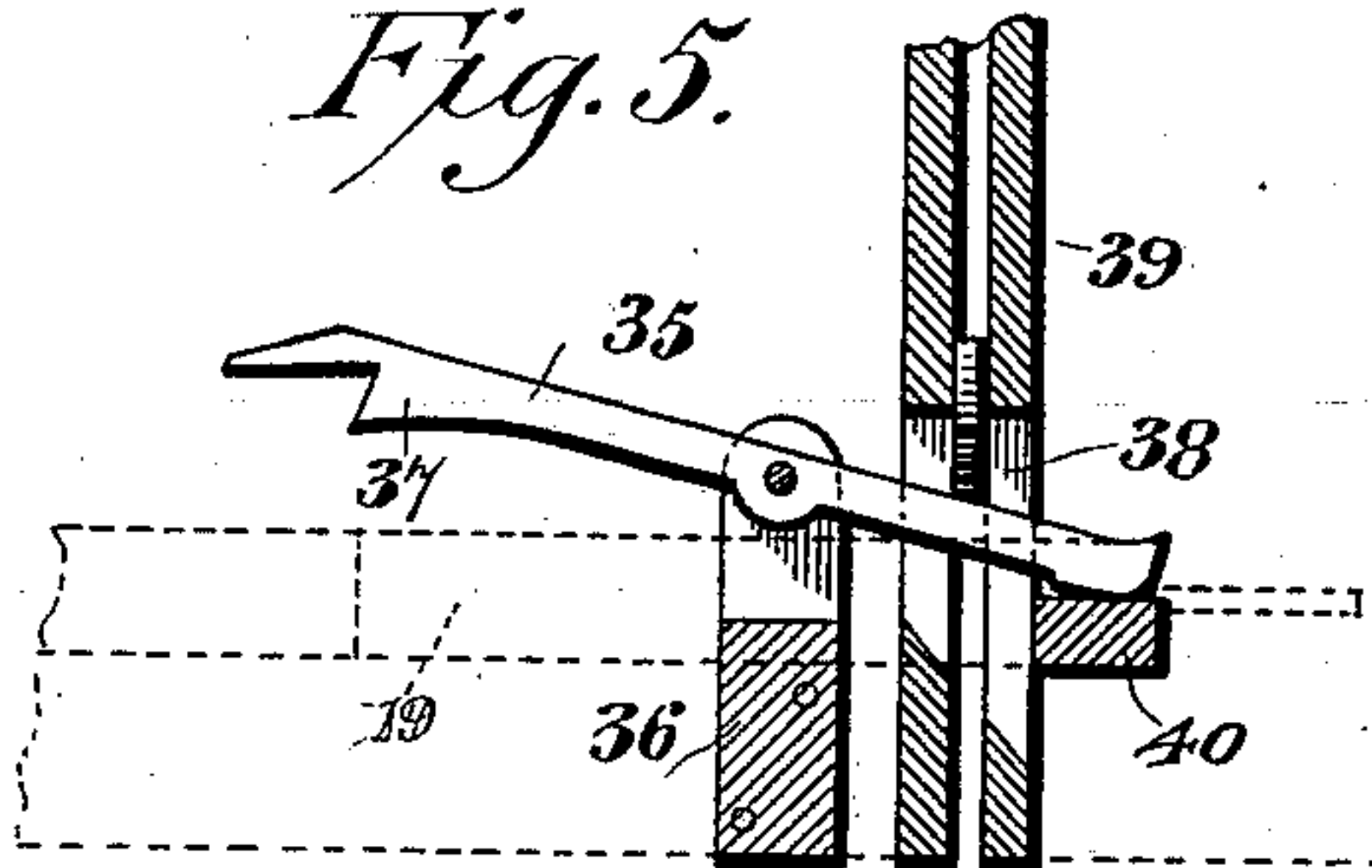


Fig. 6.

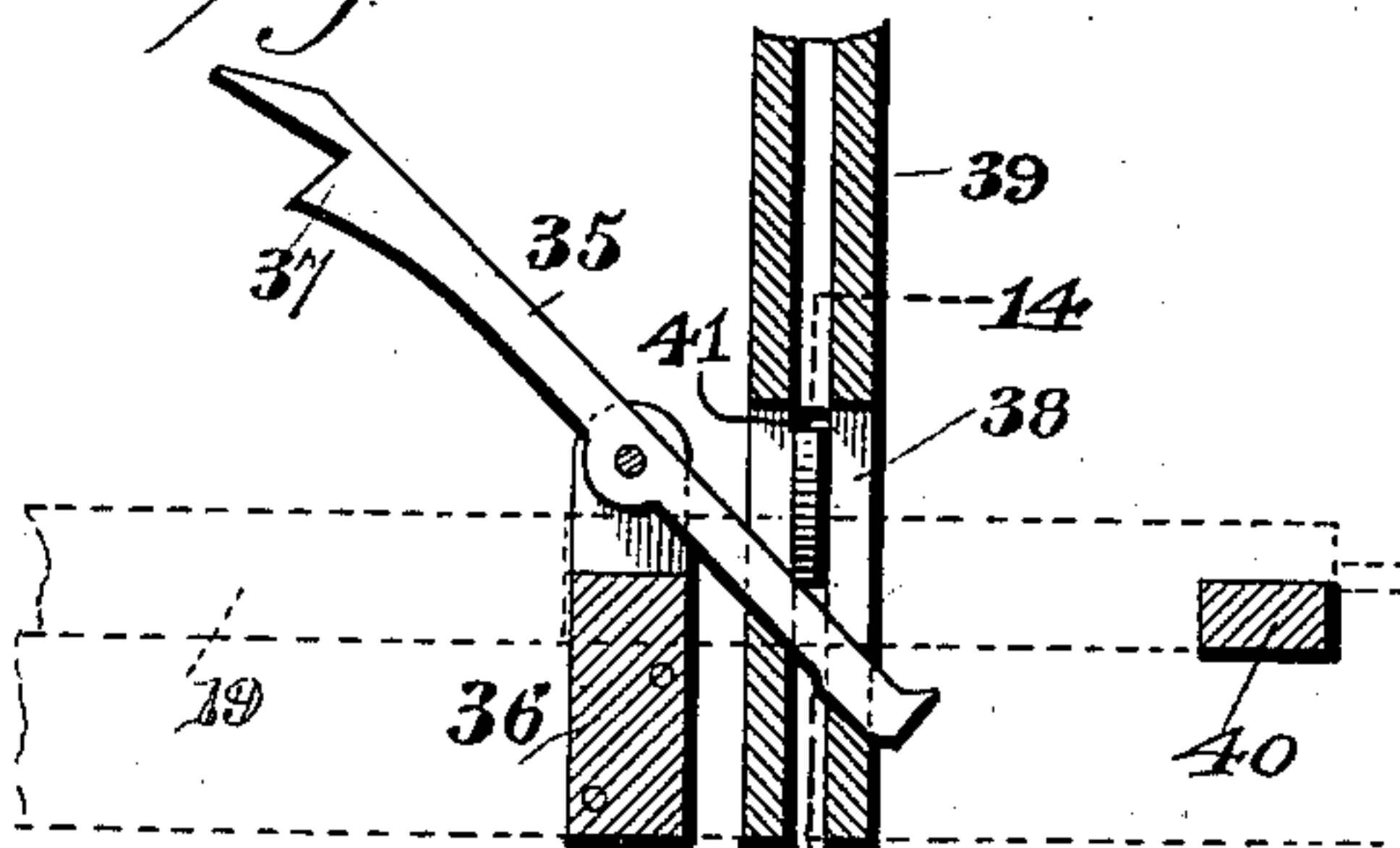


Fig. 13.

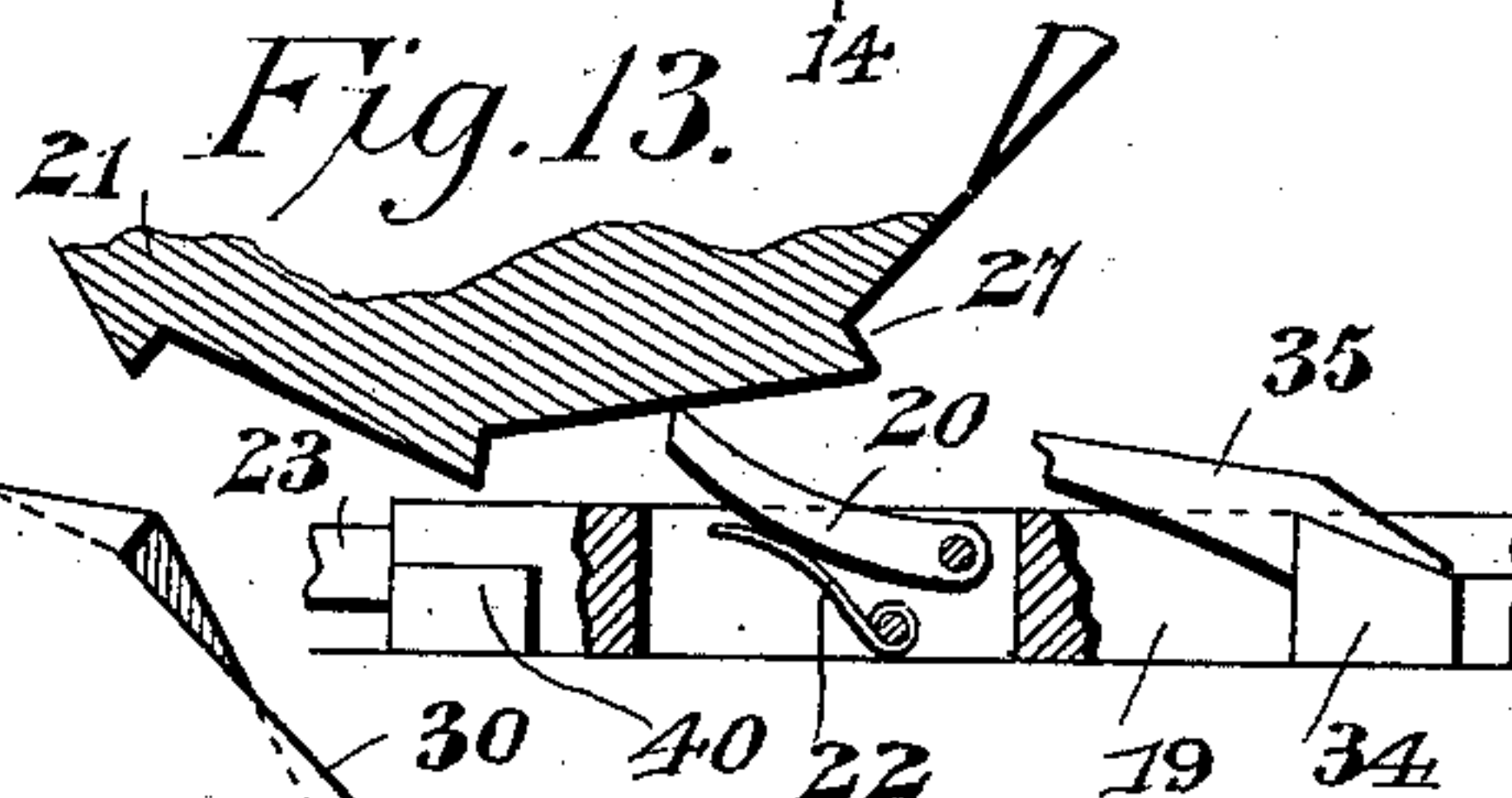


Fig. 4.

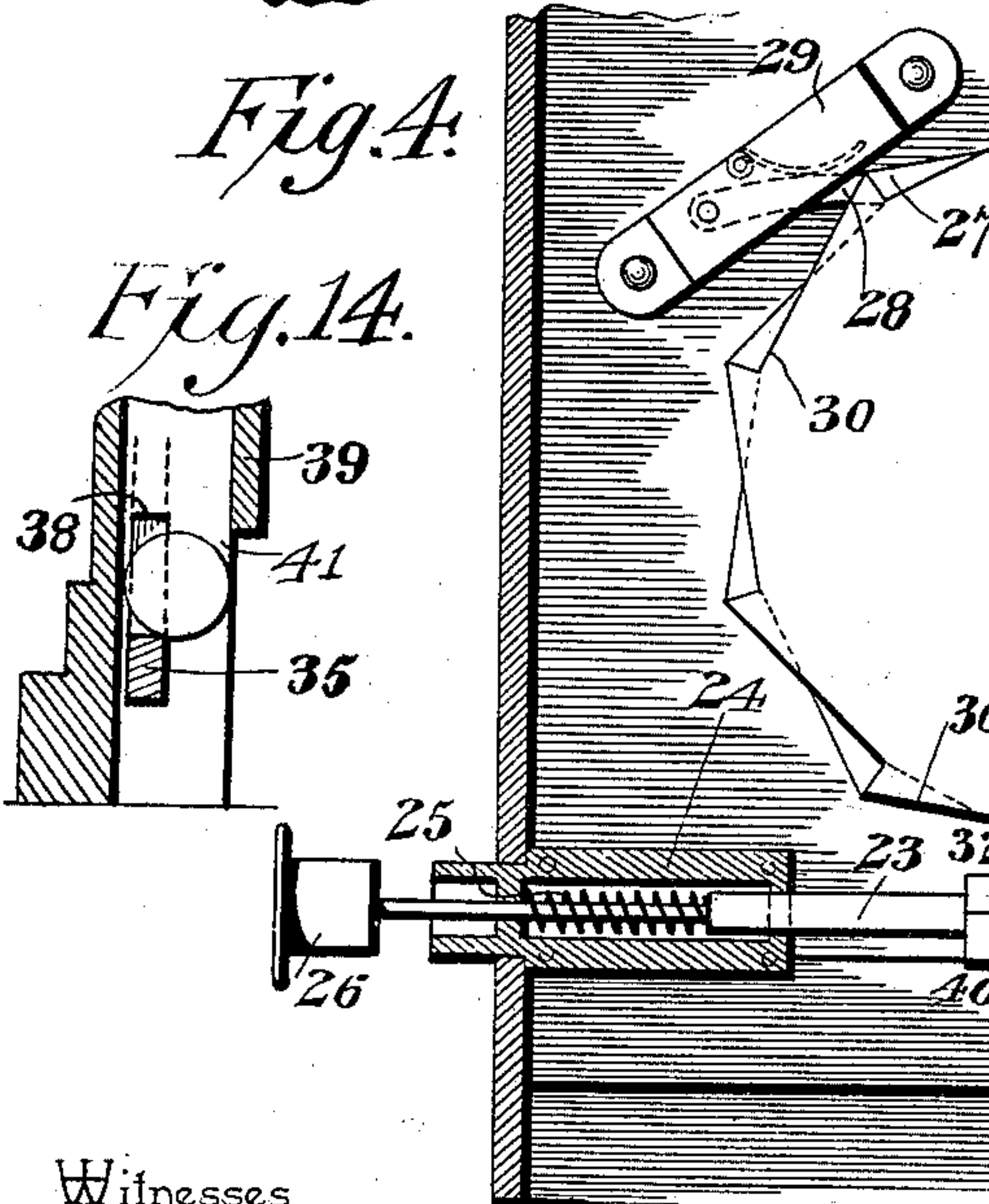
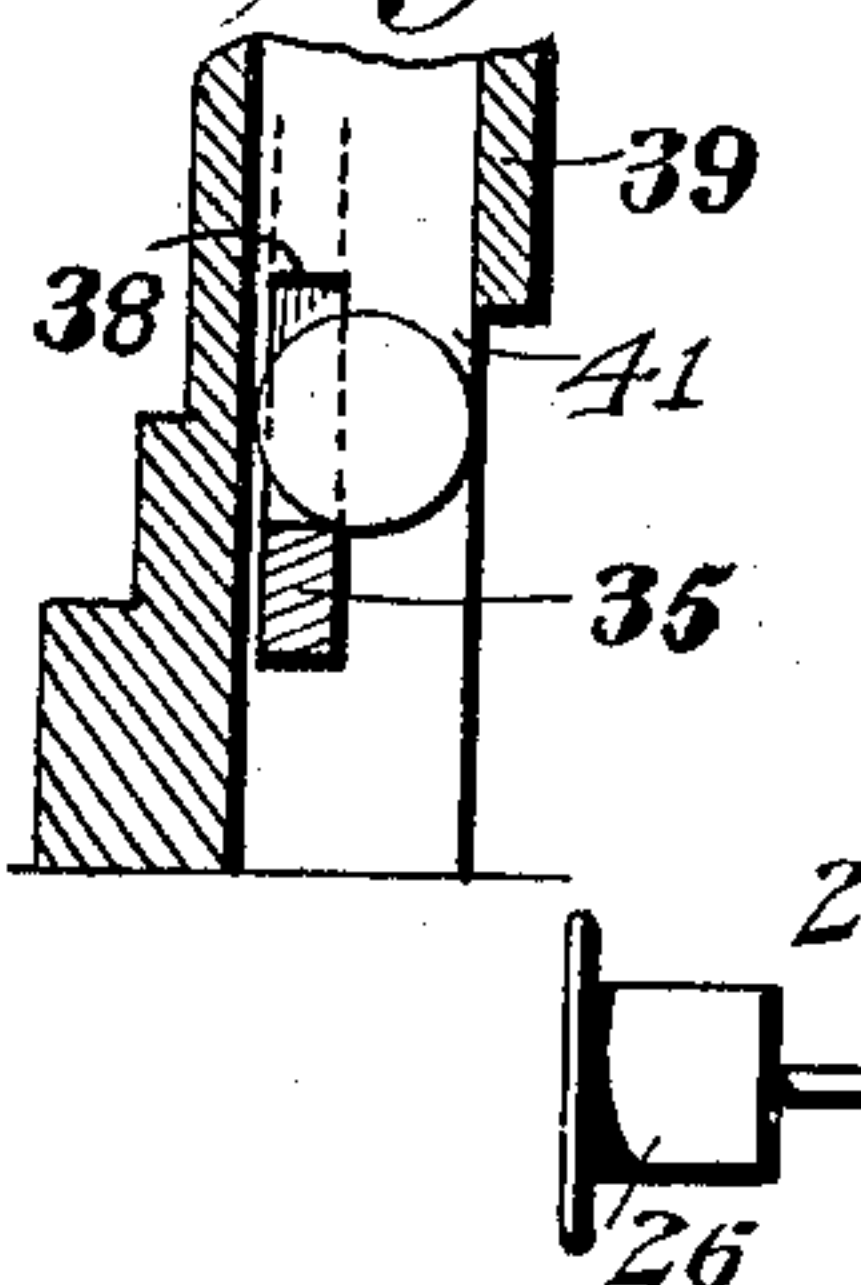


Fig. 14.



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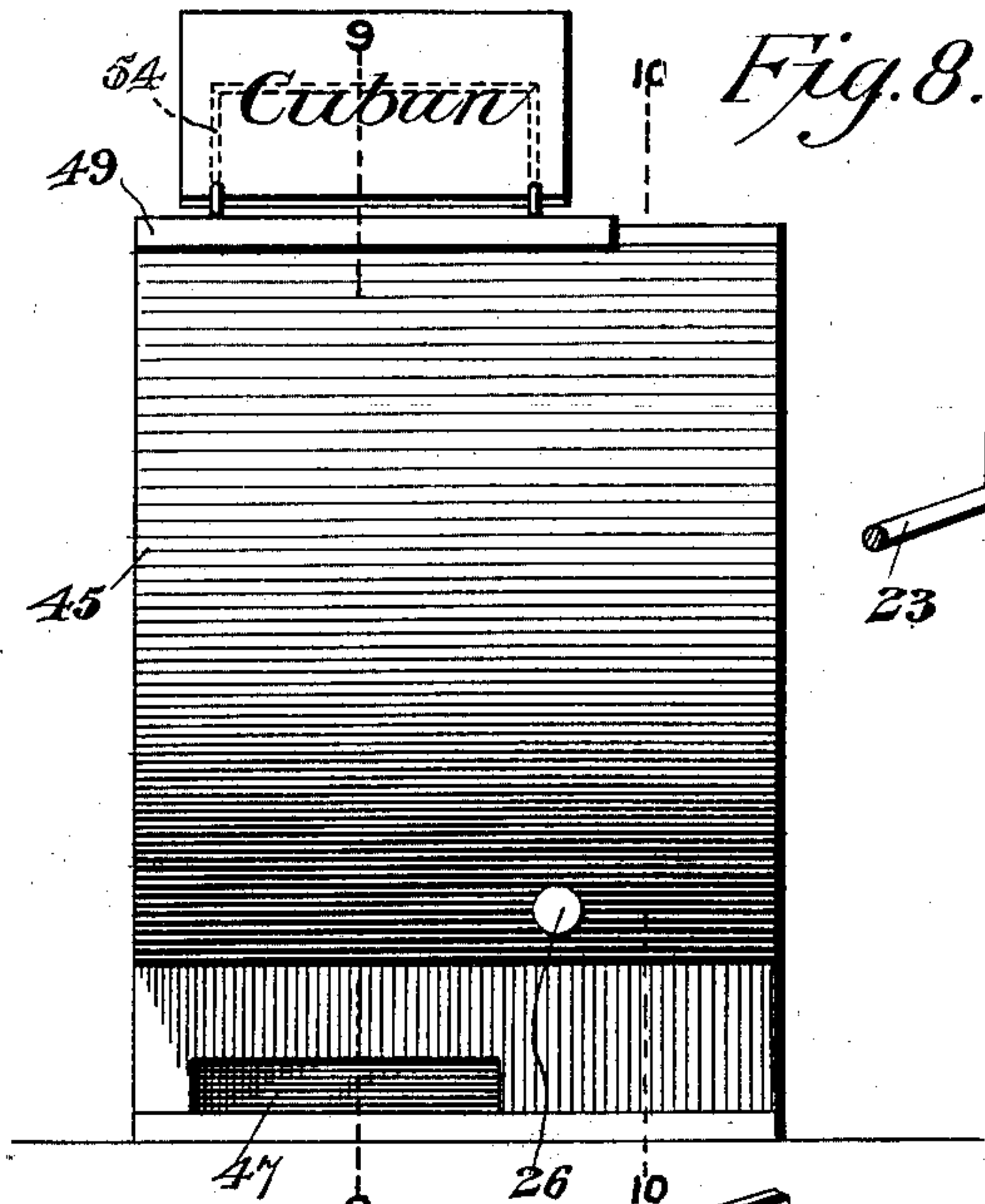


Fig. 8.

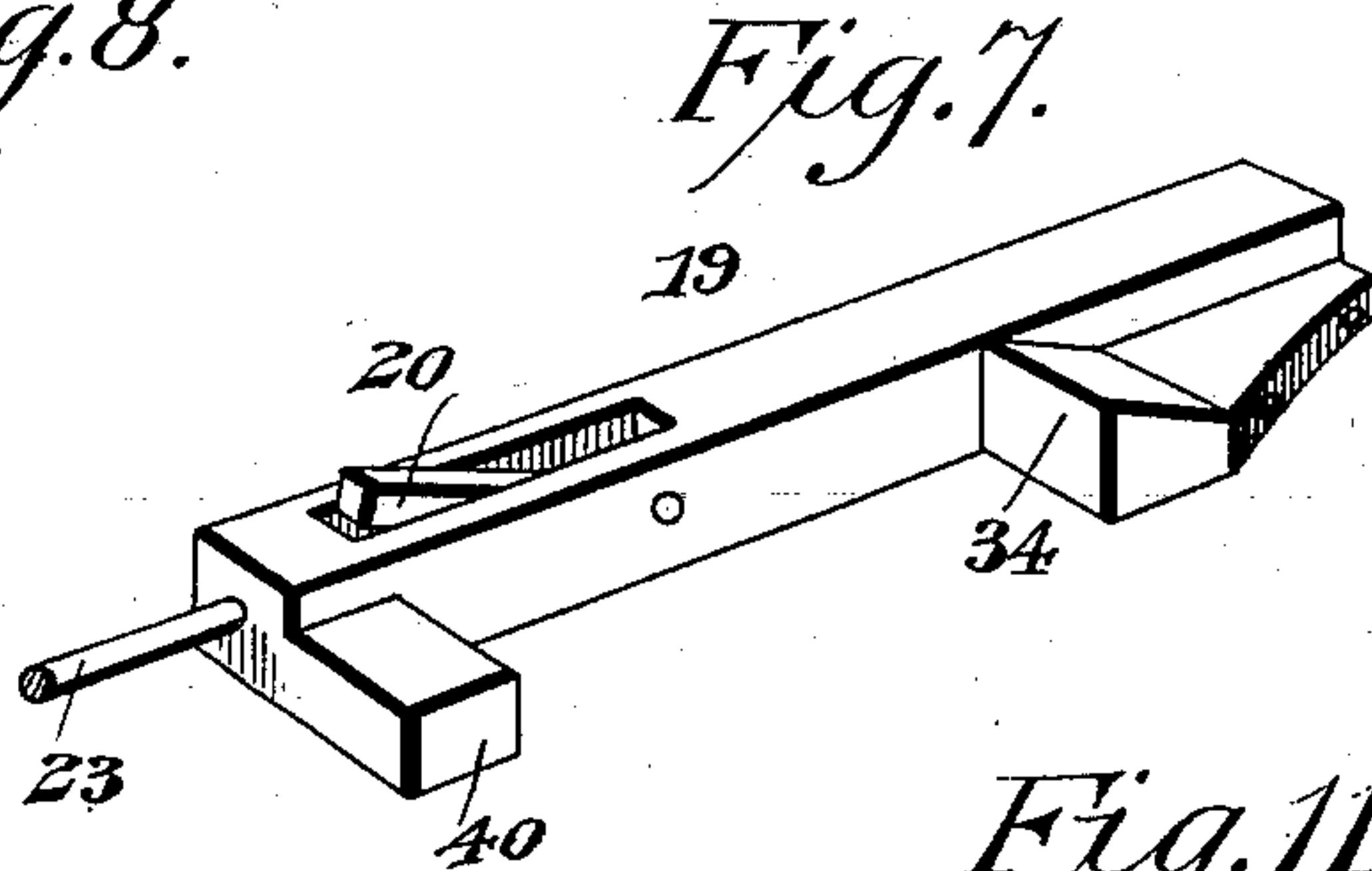


Fig. 7.

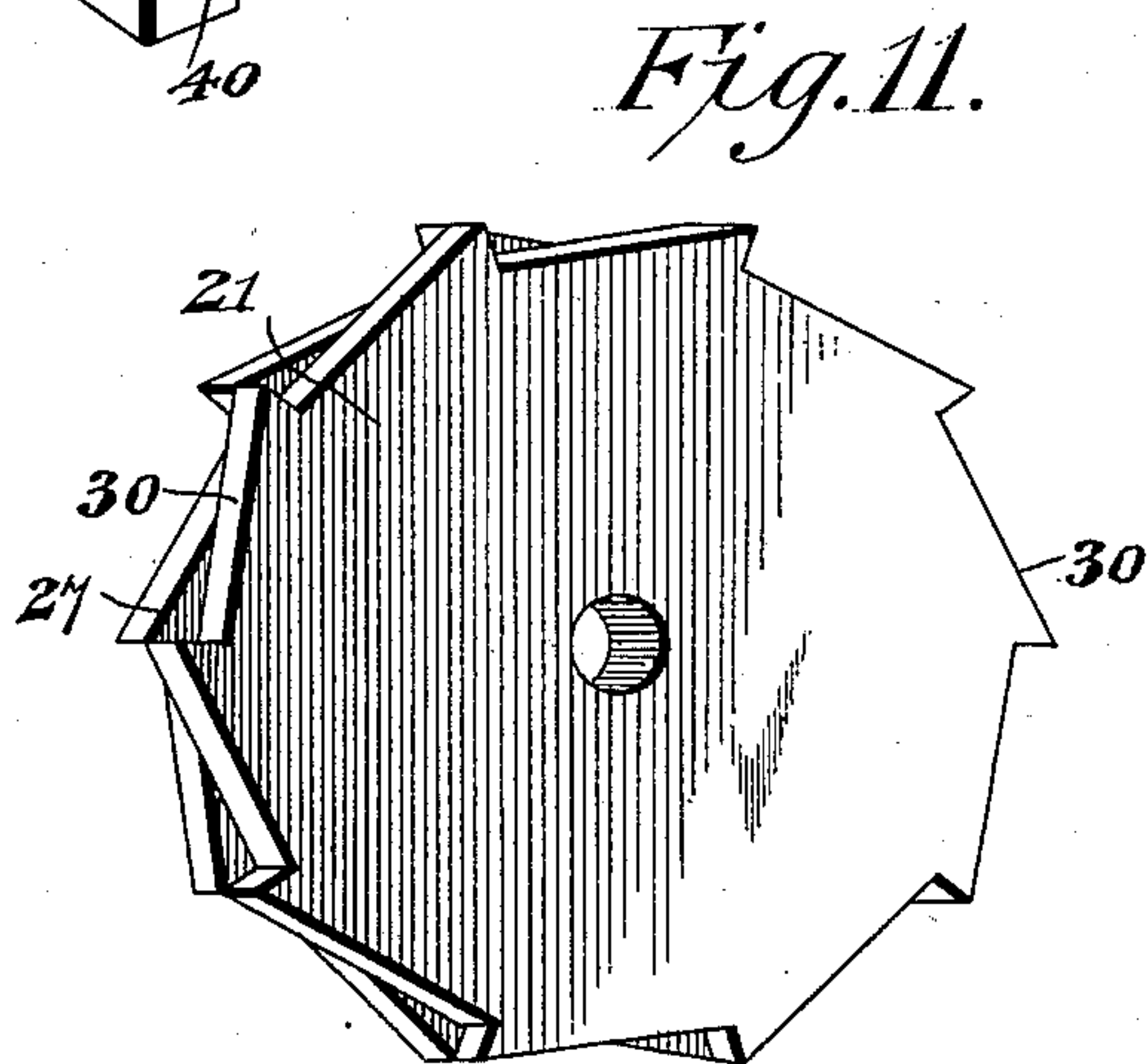


Fig. 11.

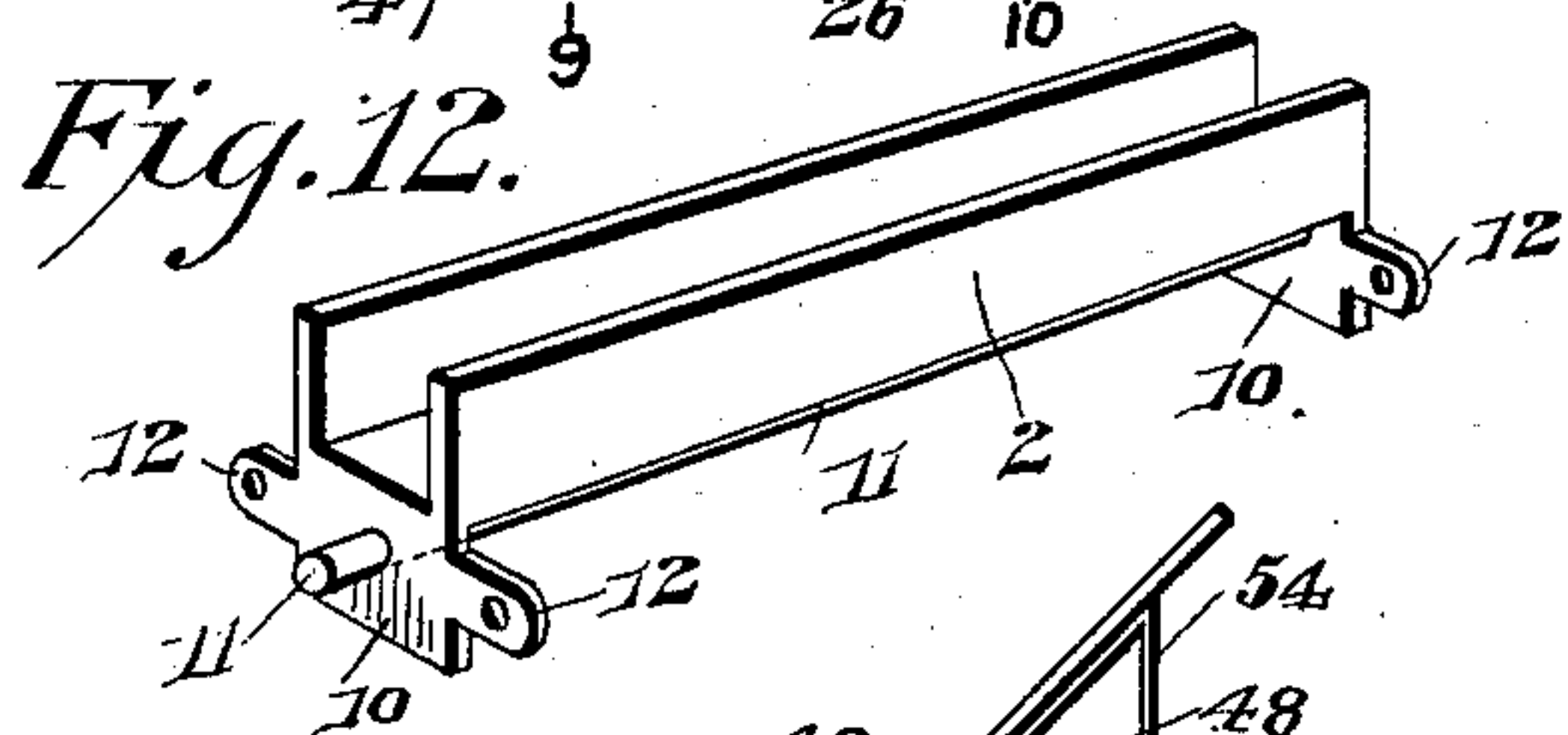


Fig. 12.

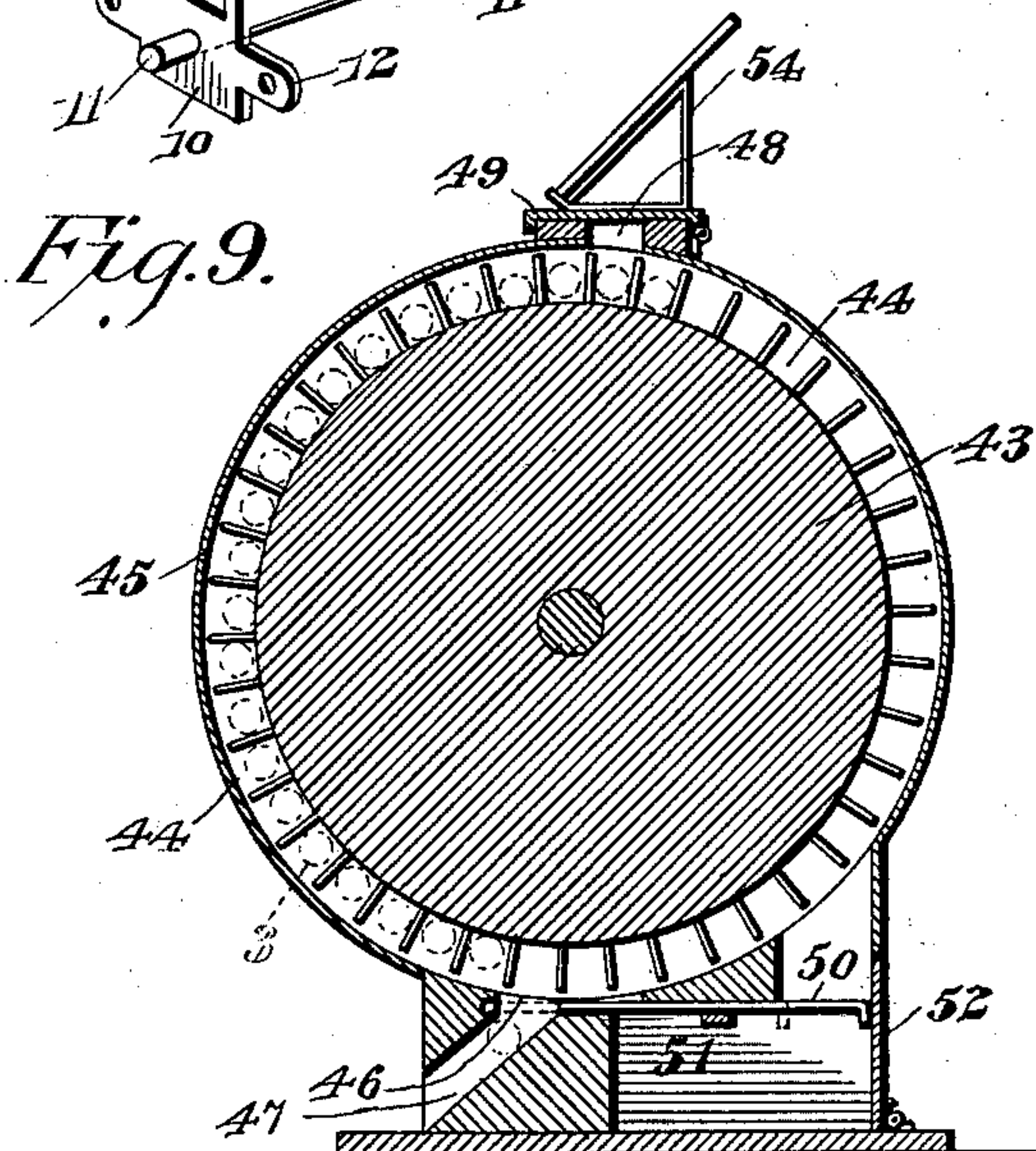


Fig. 9.

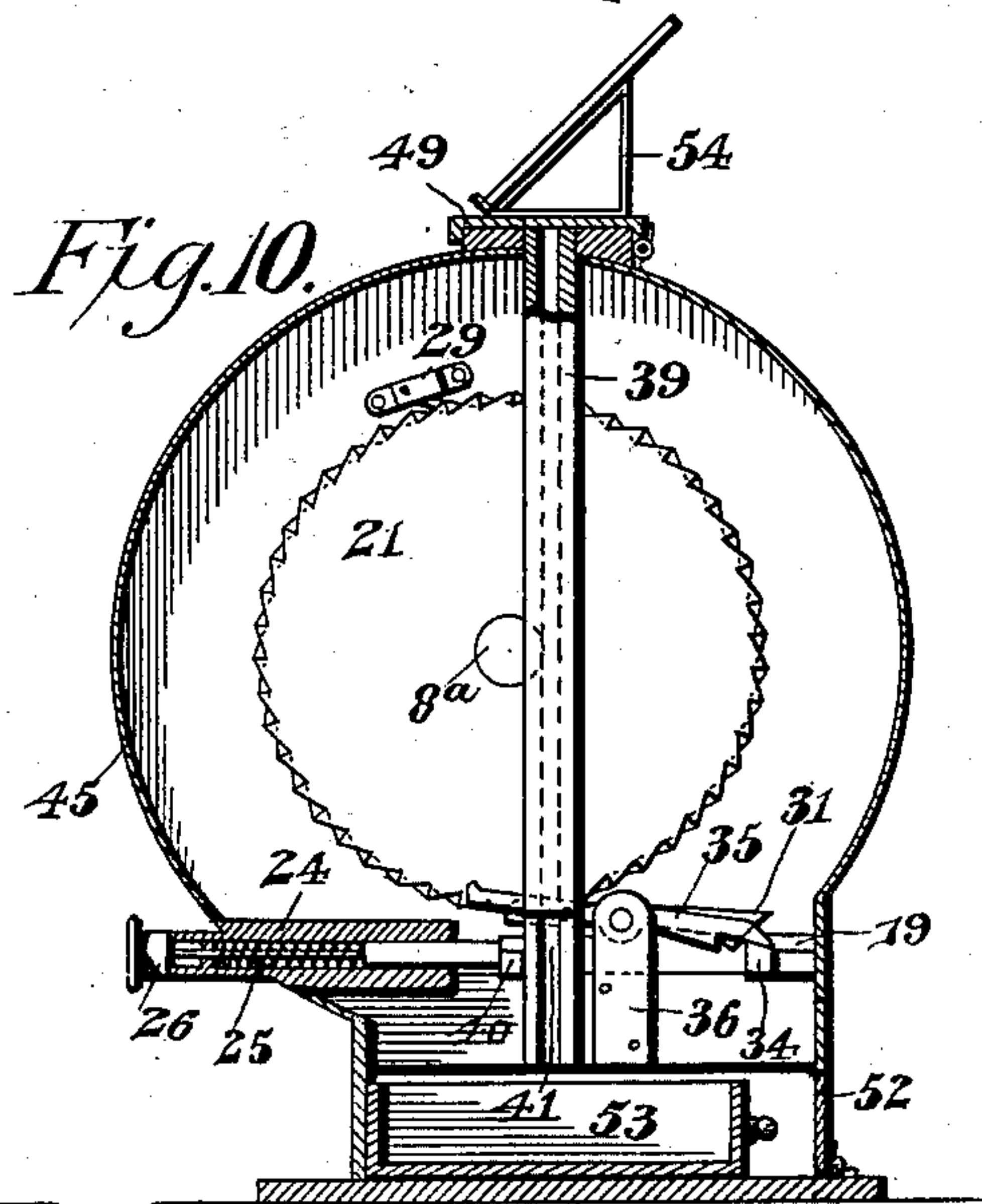


Fig. 10.

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UNITED STATES PATENT OFFICE.

OLIVER WATSON FISHER, OF TOMBS RUN, PENNSYLVANIA.

CIGAR-VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 628,656, dated July 11, 1899.

Application filed February 24, 1898. Serial No. 671,499. (No model.)

To all whom it may concern:

Be it known that I, OLIVER WATSON FISHER, a citizen of the United States, residing at Tombs Run, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Cigar - Vending Apparatus, of which the following is a specification.

The invention relates to improvements in cigar-vending apparatus.

10 The object of the present invention is to improve the construction of vending apparatus and to provide a simple and comparatively inexpensive device which will be strong and durable and not liable to get out of order
15 and which will be positive and reliable in operation.

20 A further object of the invention is to provide a cigar-vending apparatus adapted to be operated only by a coin of the proper size and capable of effectually preventing more than one cigar from being delivered at each operation of the device.

25 The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

30 In the drawings, Figure 1 is an elevation of a vending apparatus constructed in accordance with this invention and shown applied to a show-case. Fig. 2 is a vertical sectional view on line 2 2 of Fig. 1. Fig. 3 is a similar view on line 3 3 of Fig. 1. Fig. 4 is an enlarged detail sectional view of a portion of the operating mechanism, illustrating the arrangement of the actuating-tooth of the operating-
35 bar with relation to the teeth of the ratchet-wheel when the shoulder or tooth of the coin-operated latch-lever abuts against the rear arm of the operating-bar. Fig. 5 is a detail sectional view of the lower portion of the coin-chute, showing a coin in engagement with the coin-controlled latch-lever, the front end of the latter being supported by the operating-
40 bar. Fig. 6 is a view similar to Fig. 5, the front end of the coin-controlled latch-lever being unsupported. Fig. 7 is a detail perspective view of the operating-bar. Fig. 8 is an elevation of a cigar-vending apparatus, illustrating a modification of the invention. Fig.
50 9 is a vertical sectional view on line 9 9 of

Fig. 8. Fig. 10 is a similar view on line 10 10 of Fig. 8. Fig. 11 is a detail perspective view of the double ratchet-wheel. Fig. 12 is a detail perspective view of one of the troughs or receptacles of the endless carrier. Fig. 13 is a detail view of a portion of the operating-bar and the ratchet-wheel. Fig. 14 is a detail view of the lower portion of the coin-chute on line 14 14 of Fig. 6, showing the slot or
60 opening through which coins are discharged.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates an endless carrier consisting of 65 a series of troughs or receptacles 2, adapted to receive cigars 3, and connected together by links 4, located at the ends of the troughs or receptacles 2, which have their sides rigid with their bottoms. The endless carrier, which is
70 disposed horizontally beneath a show-case 5, is arranged within a suitable frame or casing and is mounted upon front and rear sprocket-wheels 6 and 7, arranged in pairs on shafts 8 and 9. Each trough or receptacle 2, which is
75 constructed of sheet metal or other suitable material, consists of a bottom and parallel sides, and is provided at its ends with depending arms or flanges 10 and receiving-rods 11, and provided at opposite sides with perforated ears 12, to which the links 4 are pivoted. 80
The plates or arms 10, which are arranged within or between the sprocket-wheels of each pair, are perforated for the reception of the rod 11, which extends longitudinally of the
85 trough or receptacle 2 and projects through the perforations of the plates or arms 10, the projecting ends of the rod 11 being arranged to engage the teeth of the sprocket-wheels and forming projections or teeth for the endless
90 carrier.

The upper flight of the endless carrier receives cigars from the show-case through a delivery-chute 13 and conveys the same forward to the front of the casing, where the cigars
95 are successively discharged from the endless carrier. The cigars fall upon a delivery-chute 14 and are directed by the same through an opening 15 of the front of the casing 16, where they are held by a fixed trough or ledge 17. The
100 delivery-chute is formed by the front of the casing and an inclined plate or piece extend-

ing downward from the bottom or partition 18, and the latter, which is arranged directly beneath the endless carrier, extends upward at the back of the same, as clearly shown in Fig. 2 of the accompanying drawings. The delivery-chute 14 may be constructed in any other suitable manner, and the supply-chute is tapering and depends from the bottom of the show-case, the lower end of the supply-chute being of the same width as the troughs or receptacles 2, which are adapted to register successively with the chute 13.

The carrier 1 is actuated by a sliding operating-bar 19, carrying a pivoted actuating-pawl 20, which is held against a ratchet-wheel 21 by a spring 22. The pawl 20 is mounted in a recess of the upper face of the sliding operating-bar, the spring being interposed between the pawl and the bottom of the recess to throw the engaging end or tooth upward, and the ratchet-wheel 21 is mounted on the shaft 8 of the carrier. The operating-bar, which is mounted on a suitable support, is provided at its front end with a stem 23, which passes through a tubular housing 24, and is provided at its outer end with a handle or grip, located on the exterior of the frame or casing and adapted to be grasped by the operator. The tubular housing 24 extends through the front of the casing, and in operating the apparatus the sliding bar 19 is drawn outward, carrying the pawl 20 into engagement with the ratchet-wheel and rotating the same forward the distance of one tooth, which is sufficient to advance one of the cigar-receptacles of the carrier to its discharging position.

The tubular housing 24 receives a spring 25 of spiral form disposed on a reduced outer portion of the stem and interposed between the shoulder formed by the reduction thereof and an annular shoulder or collar of the housing, and the coiled spring operates to return the sliding bar 19 to its initial position. The handle or grip 26 is preferably constructed separate from the stem of the operating-bar and suitably secured to the same, and the shoulders of the stem and the housing 24 may be made in any other suitable manner.

The teeth 27 of the ratchet-wheel 21 are engaged by a spring-actuated check-pawl 28, mounted in a suitable bracket 29 and adapted to lock the carrier against retrograde movement and prevent the same from slipping back with the operating-bar, so that there will be no liability of the same pocket or receptacle being brought to the discharging position a second time until a complete rotation of the carrier has been made.

The ratchet-wheel 21 is provided with a reversely-arranged series of ratchet-teeth 30, which are successively engaged by a lever 31, whereby the forward rotation or movement of the ratchet-wheel and the carrier is limited to prevent more than one receptacle or pocket 2 from being carried to the discharging position at each operation of the apparatus.

The teeth 30 may be formed on the ratchet-wheel 21, or a separate ratchet-wheel can be provided for this purpose.

The front end of the locking lever or catch 31 is provided with an upwardly-extending tooth 32 for engaging the teeth 30, and the rear end of the catch 31 is provided with a beveled projection or portion 33, arranged to be engaged by the operating-bar when the latter is drawn forward, whereby the catch or lever 31, which is pivoted between its ends in a suitable bracket or support, will be disengaged from the ratchet-wheel.

The sliding operating-bar is provided at its rear end with a horizontal arm 34, beveled at its upper face and arranged to engage the beveled portion 33 of the lever or catch 31, and the forward movement of the operating-bar is limited by a coin-operated latch-lever 35, pivoted in the bracket or support 36 of the catch or lever 31 and provided near its rear end with a depending lug or tooth 37, forming a shoulder or stop and located a short distance from the arm 34 when the operating-bar is in its initial position. The coin-operated latch-lever is pivoted between its ends, and its rear arm normally rests upon the arm 34 of the operating-bar 19, the shoulder of the coin-operated latch-lever being spaced from the arm 34 to permit the operating-bar to have a limited movement before engaging it, so that the said shoulder will drop into its locking position before the operating-bar has reached the inward limit of its movement and before the actuating-pawl has returned to a position for engaging another tooth 27 of the ratchet-wheel. When the shoulder formed by the lug 37 abuts against the arm 34 of the operating-bar, as illustrated in Fig. 4 of the accompanying drawings, the actuating-pawl has not reached a position for engaging another tooth, and by this construction it is impossible to return the operating-bar partially and reengage the ratchet-wheel without locking it against forward or outward movement, thereby preventing more than one cigar to be discharged at each operation.

The front arm or portion of the coin-operated latch-lever 35 is arranged in a vertical slot 38 of a coin-chute 39, and when a coin of the proper size is deposited therein it depresses the arm of the lever 35, lifting the shoulder out of engagement with the arm 34 of the operating-bar and permitting the latter to be drawn outward. The front portion of the lever 35 is held depressed, until the arm 34 passes beneath the lug 37, by an arm 40, extending from the operating-bar in advance of the coin-chute 39 and arranged to support the lever 35 and the coin until the arm 34 passes beneath the lug 37. The arm 40 is then carried from beneath the front end of the lever 35, which is permitted to swing downward sufficiently to cause the coin to be discharged through a slot or opening 41 of the coin-chute. The latch-lever 35 then drops at the rear por-

tion and rests upon the arm 34, the lug 37 being adapted to fall and assume a position in advance of the said arm 34 as soon as the operating-bar is moved inward sufficiently to carry the arm 34 past the shoulder. This operation takes place before the actuating-pawl is in position for engaging the ratchet-wheel for another partial rotation. The catch 31, which is disengaged from the reversely-arranged teeth by the arm 34 of the operating-bar, is capable of engaging the said reversely-arranged teeth again before the operating-bar has completed its forward or outward movement, as the beveled portion 33 of the catch begins to descend as soon as the upper edge of the arm 34 passes it.

The coin-chute terminates above a cash drawer or receptacle 42, which may be arranged in any suitable manner, or the coin-chute, if desired, can be extended for conveying the coins to any other desired point. Coins of a greater diameter than the coin-chute cannot of course be introduced into the same, and coins of a less diameter and smaller denomination than the one designed for operating the apparatus will be permitted to pass through the slot 41, the top of the slot being arranged with relation to the front portion of the coin-operated lever 35, so that a coin of the proper denomination will be too large to pass through the upper portion of the slot 41 until after the lever 35 has been released by the arm 40 in the manner before described.

In Figs. 8, 9, and 10 of the accompanying drawings is illustrated a modification of the cigar-vending apparatus in which a rotary carrier or drum 43 is employed. The rotary drum or carrier, which is provided at its periphery with pockets or receptacles 44 for cigars, is actuated and controlled by the coin-operated mechanism heretofore described, and it is mounted in a suitable casing 45. The casing 45, which may be constructed of any suitable material, consists of a cylindrical upper portion to conform to the configuration of the drum, and it is provided at its front with a slot or opening 46 for the discharge of the cigars, a suitable delivery chute or guide 47 being provided for directing the cigars through the opening 46 and for receiving them as they fall from the rotary carrier or drum. The rotary carrier or drum 43 is mounted on a shaft 8^a, which carries a ratchet-wheel 21, and is operated similar to the shaft 8 of the endless carrier. The coin-chute extends through an opening of the top of the casing, which is also provided with a slot 48, normally covered by a hinged door 49, adapted to be opened for filling the pockets of the rotary carrier with cigars. When filling the pockets of the rotary carrier, the space at the delivery-chute is temporarily covered by a plate 50 of sheet metal, whereby the rotary carrier may be rotated without discharging any of its contents, so that it can be completely filled. The plate 50 is arranged in a

compartment 51 at the base of the frame and is adapted to be readily advanced to a position across the delivery-chute and withdrawn within the compartment after the rotary carrier or drum has been supplied with merchandise. The back of the casing is provided with a hinged door 52 for closing the compartment 51 and also to afford access to the compartment in which is arranged the cash drawer or receptacle 53. The hinged door 49 is provided with clips 54, adapted to receive the top of a cigar-box to enable the same to be conspicuously displayed for indicating the kind of cigars contained in the apparatus.

The invention has the following advantages: The cigar-vending apparatus is simple and comparatively inexpensive in construction and not liable to get out of order, and it can be operated only by a coin of the proper size and denomination. The forward movement of the carrier is limited to prevent more than one compartment being carried forward by the operating-bar at each operation of the same, and it is locked against outward movement before the actuating-pawl has returned to a position for engaging the teeth of the ratchet-wheel.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention, such as adapting the apparatus for vending various kinds of merchandise.

What I claim is—

1. In an apparatus of the class described, the combination of an operating-bar provided with an arm, a ratchet-wheel located adjacent to the operating-bar and arranged to be actuated by the same, a coin-controlled latch-lever normally engaging the said arm to lock the operating-bar against outward movement, and a catch engaging the ratchet-wheel to lock the same against forward movement, said catch being arranged to be engaged by the arm to hold it temporarily out of engagement with the ratchet-wheel, substantially as described.

2. In an apparatus of the class described, the combination of an operating-bar provided with front and rear arms, a coin-controlled latch-lever normally engaging the rear arm of the operating-bar and having its front end located above the front arm of the operating-bar, and a catch engaging the ratchet-wheel to lock the same against forward movement and arranged to be engaged by the rear arm to hold it temporarily out of engagement with the ratchet-wheel, substantially as described.

3. In an apparatus of the class described, the combination of a ratchet-wheel having teeth 27, reversely-arranged ratchet-teeth, an operating-bar having an actuating-pawl arranged to engage the teeth 27, and a catch engaging the reversely-arranged ratchet-teeth and adapted to be thrown out of such engagement temporarily as the operating-bar moves forward, and capable of engaging the re-

versely-arranged teeth again before the operating-bar has completed its forward or outward movement, whereby a positive limited rotation of the ratchet-wheel is effected, substantially as described.

4. In an apparatus of the class described, the combination of a ratchet-wheel having teeth 27, reversely-arranged ratchet-teeth, an operating-bar having an arm, an actuating-pawl carried by the operating-bar and engaging the teeth 27 of the ratchet-wheel, a catch pivoted between its ends and having one end engaging the reversely-arranged ratchet-teeth, its other end being located in advance of the arm of the operating-bar in position to be engaged by the same when the operating-bar is moved outward or forward, and a coin-controlled latch-lever, substantially as described.

5. In an apparatus of the class described, the combination of a ratchet-wheel having ratchet-teeth 27, reversely-arranged ratchet-teeth, an operating-bar provided with an arm, an actuating-pawl mounted on the operating-bar and engaging the teeth 27, a catch pivoted between its ends and having one end engaging the reversely-arranged ratchet-teeth and provided at its other end with a beveled portion located in advance of the arm of the operating-bar, and a coin-operated latch-lever provided with a shoulder or lug for engaging the arm of the operating-bar, substantially as described.

6. In an apparatus of the class described, the combination of an operating-bar provided with arms, a coin-chute located between the arms and provided with slots 38 and 41 cut at an angle to each other, a latch-lever pivoted between its ends and having one arm passing through the slot 38 and located above one of the arms of the operating-bar, the other arm of the latch-lever being arranged to engage the other arm of the operating-bar, substantially as described.

7. In an apparatus of the class described, the combination of a coin-chute, an operating-bar provided with arms in advance and in rear of the same, a ratchet-wheel having teeth 27, reversely-arranged ratchet-teeth, an actuating-pawl carried by the operating-bar and adapted to engage the teeth 27, a catch pivoted between its ends and having

one end engaging the reversely-arranged ratchet-teeth and having its other end located in position to be engaged by the rear arm of the operating-bar when the latter moves forward or outward, and a latch-lever pivoted between its ends and provided at one side of the pivotal point with a lug to engage the rear arm of the operating-bar, the front end of the latch-lever being located above the front arm of the operating-bar, whereby it is supported by the same until the rear arm of the operating-bar has passed beyond the said lug, substantially as described.

8. An apparatus of the class described comprising a show-case provided at the back with a depending feed-chute 13, a frame or casing located beneath the show-case and provided at its front with a delivery-chute, an endless carrier composed of the sprocket-wheels located at the front and back of the frame or casing, a series of troughs or receptacles provided with depending plates or arms, links connecting the arms or plates, and projections extending from the latter and arranged to mesh with the teeth of the sprocket-wheels, and coin-controlled mechanism connected with the endless carrier, substantially as described.

9. In an apparatus of the class described, the combination of a show-case provided with a depending supply-chute, an endless carrier located beneath the show-case and comprising sprocket-wheels arranged in pairs, a series of troughs or receptacles provided with depending plates or arms, links connecting the arms at each side of the endless carrier, and rods disposed longitudinally of the troughs or receptacles and projecting beyond the arms or plates thereof, the projecting ends of the rods being arranged to mesh with the sprocket-wheels, and coin-controlled mechanism connected with the endless carrier and adapted to operate the same, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

OLIVER WATSON FISHER.

Witnesses:

JOHN H. SIGGERS,
HAROLD H. SIMMS.