

(No Model.)

2 Sheets—Sheet 1.

O. G. KLUGEL.

COIN CONTROLLED DICE SHAKING MACHINE.

No. 502,495.

Patented Aug. 1, 1893.

FIG. 1.

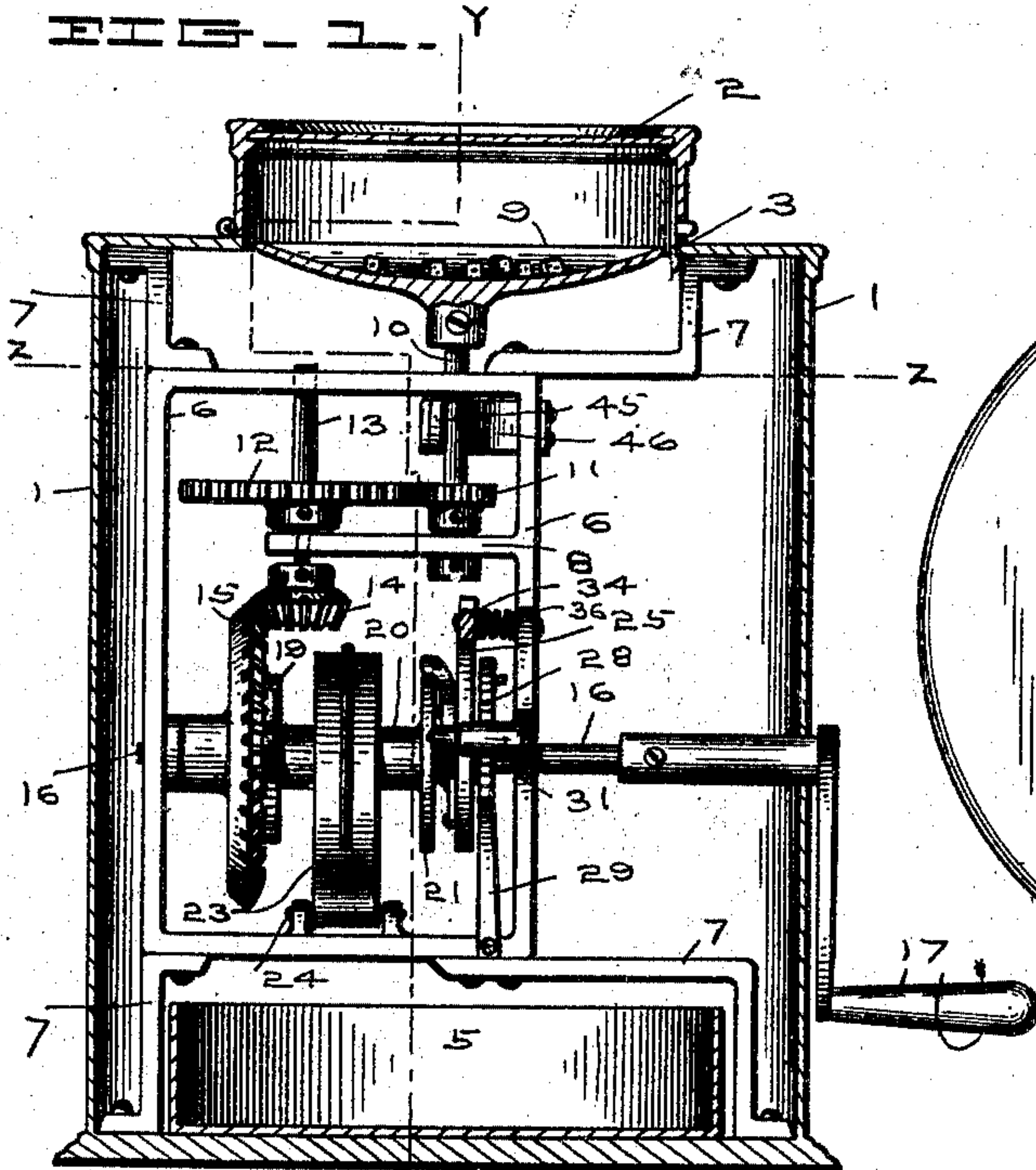


FIG. 3.

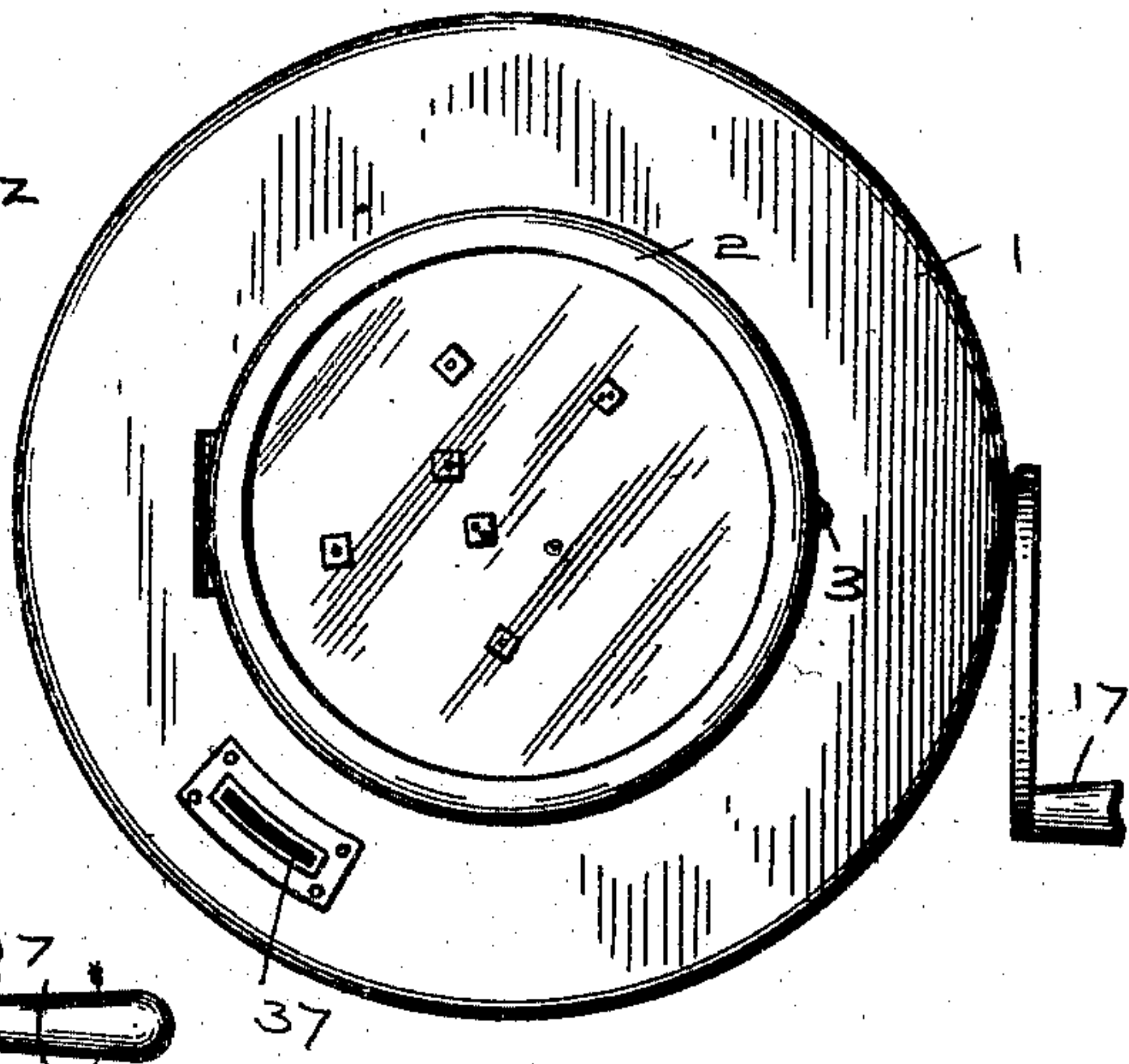


FIG. 2.

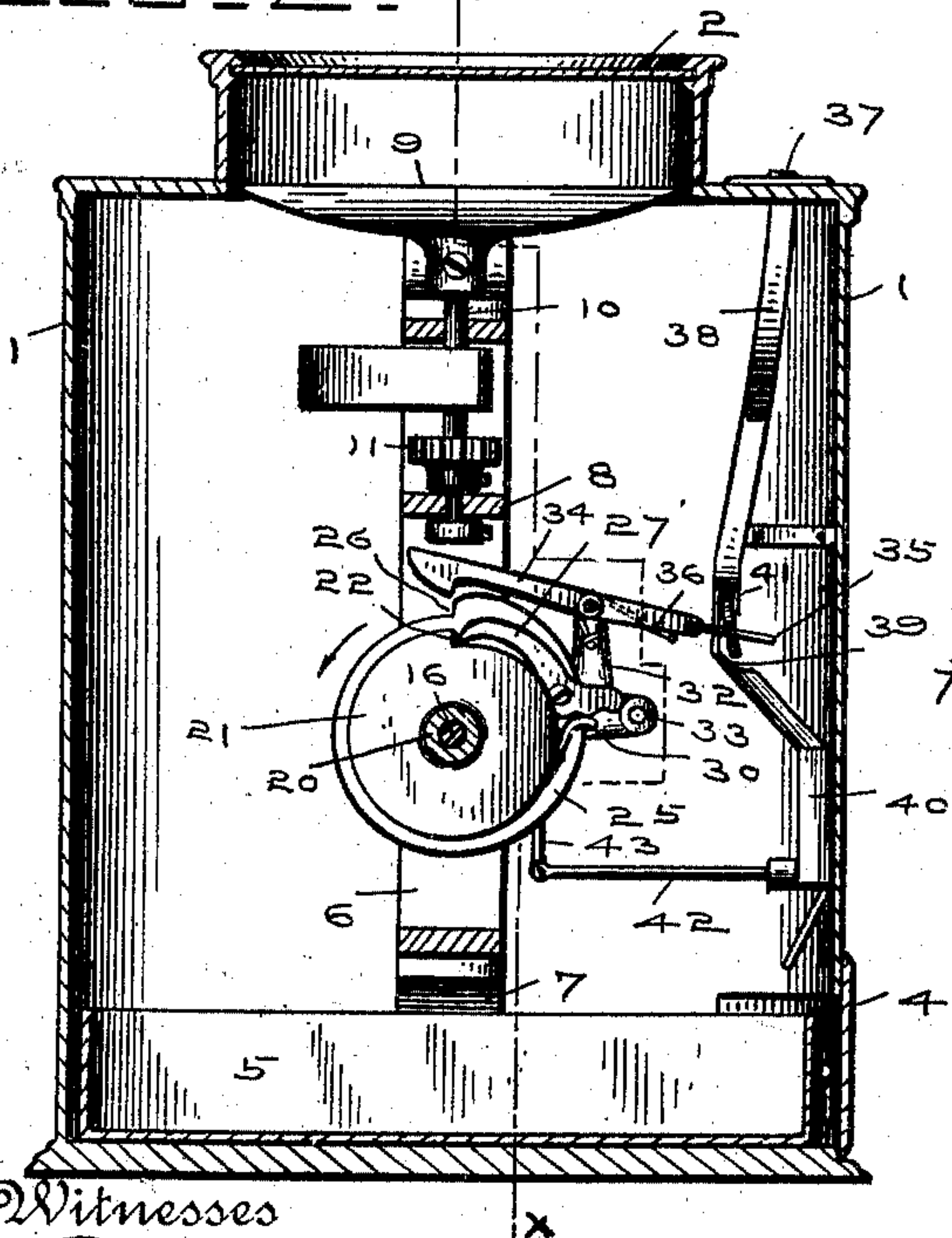
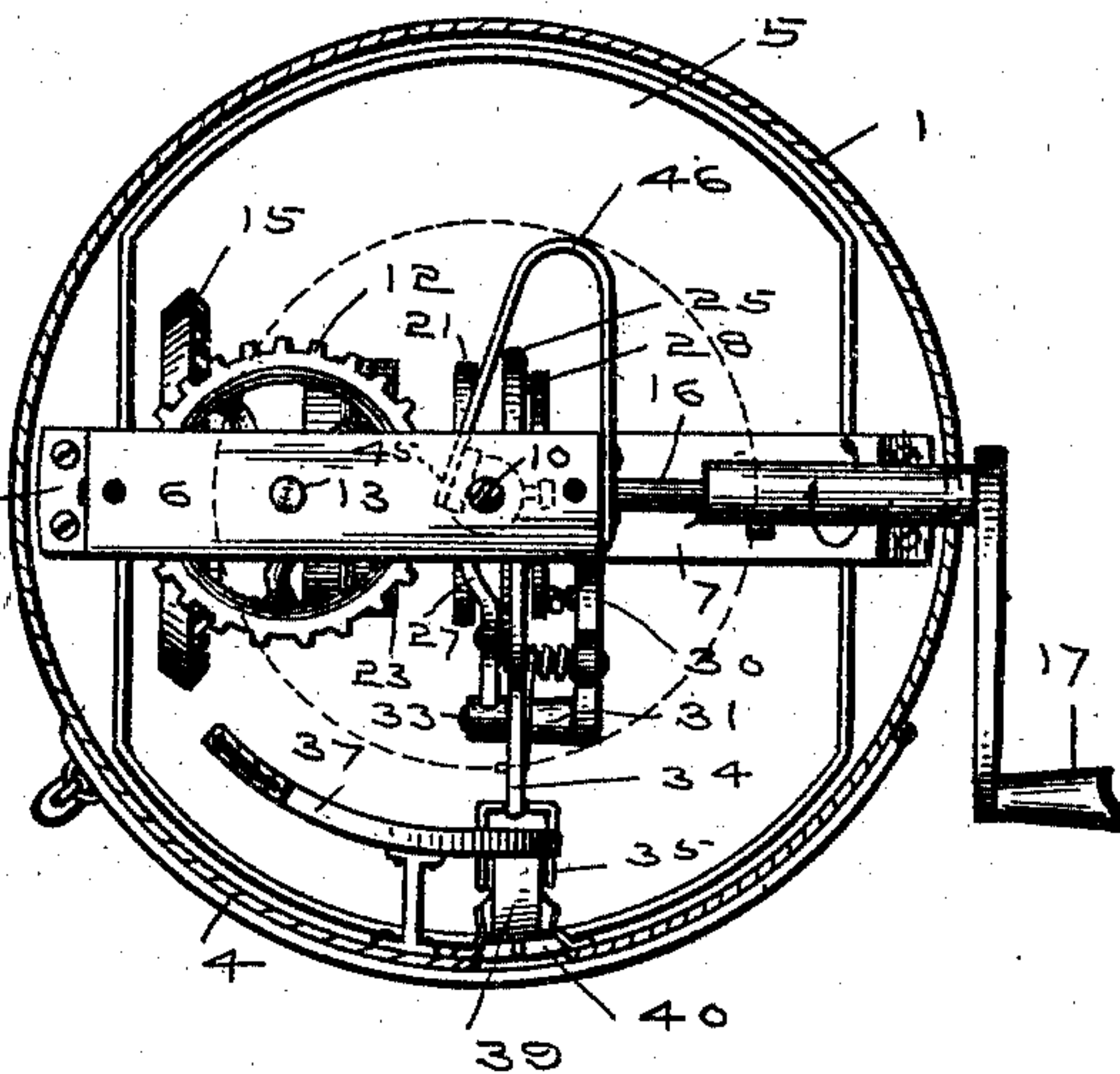


FIG. 4.



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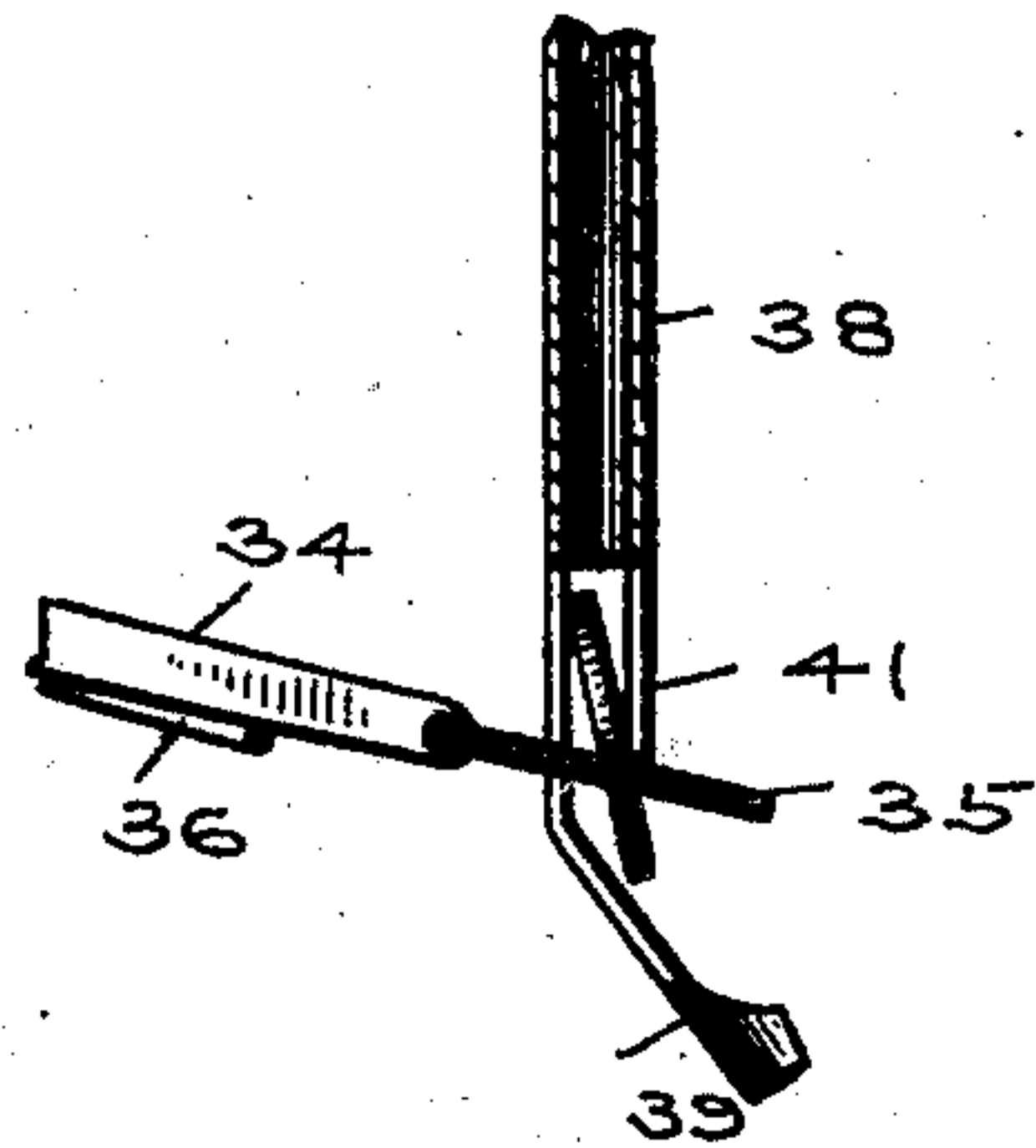
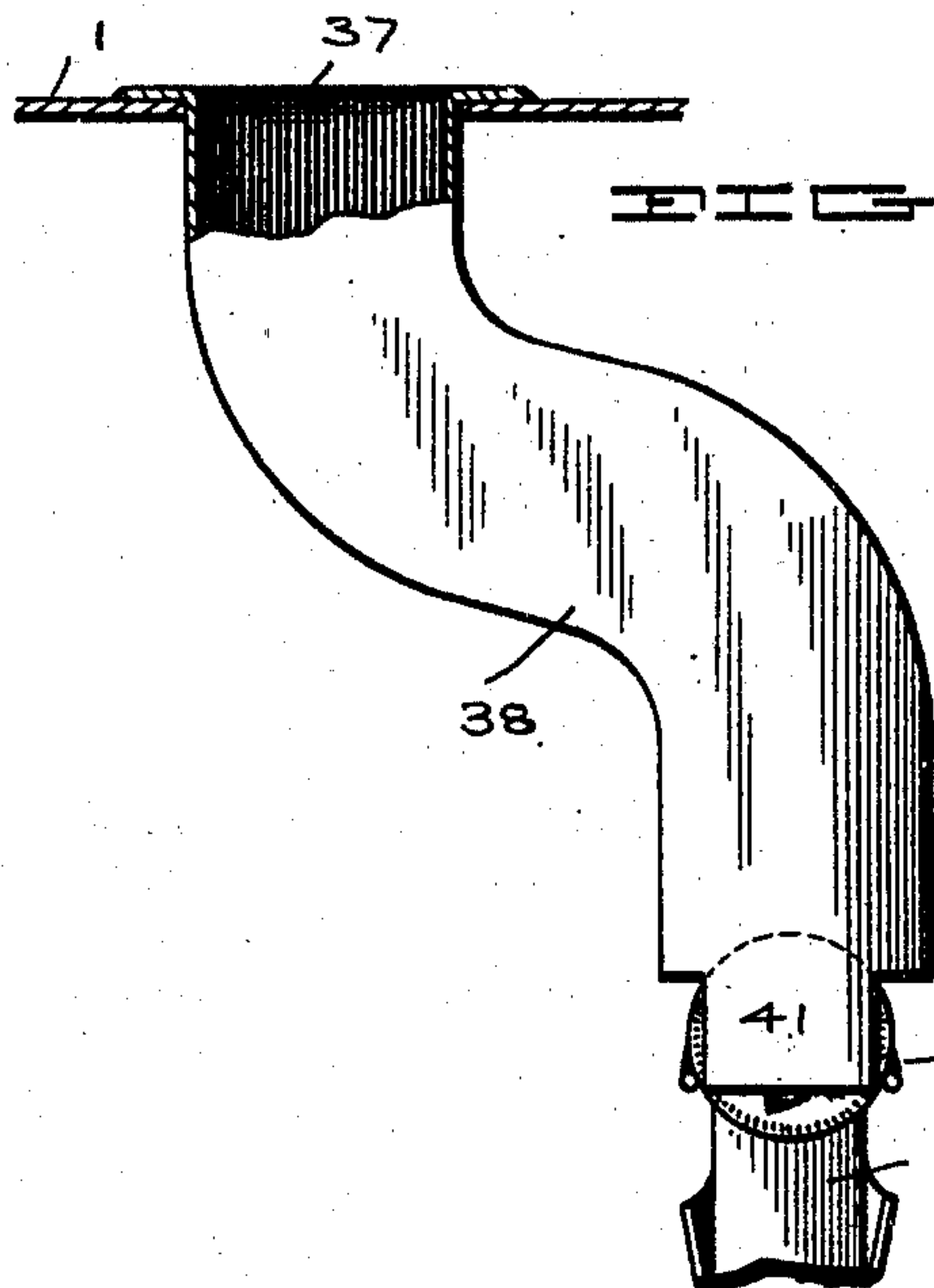


FIG. 5.

FIG. 7.

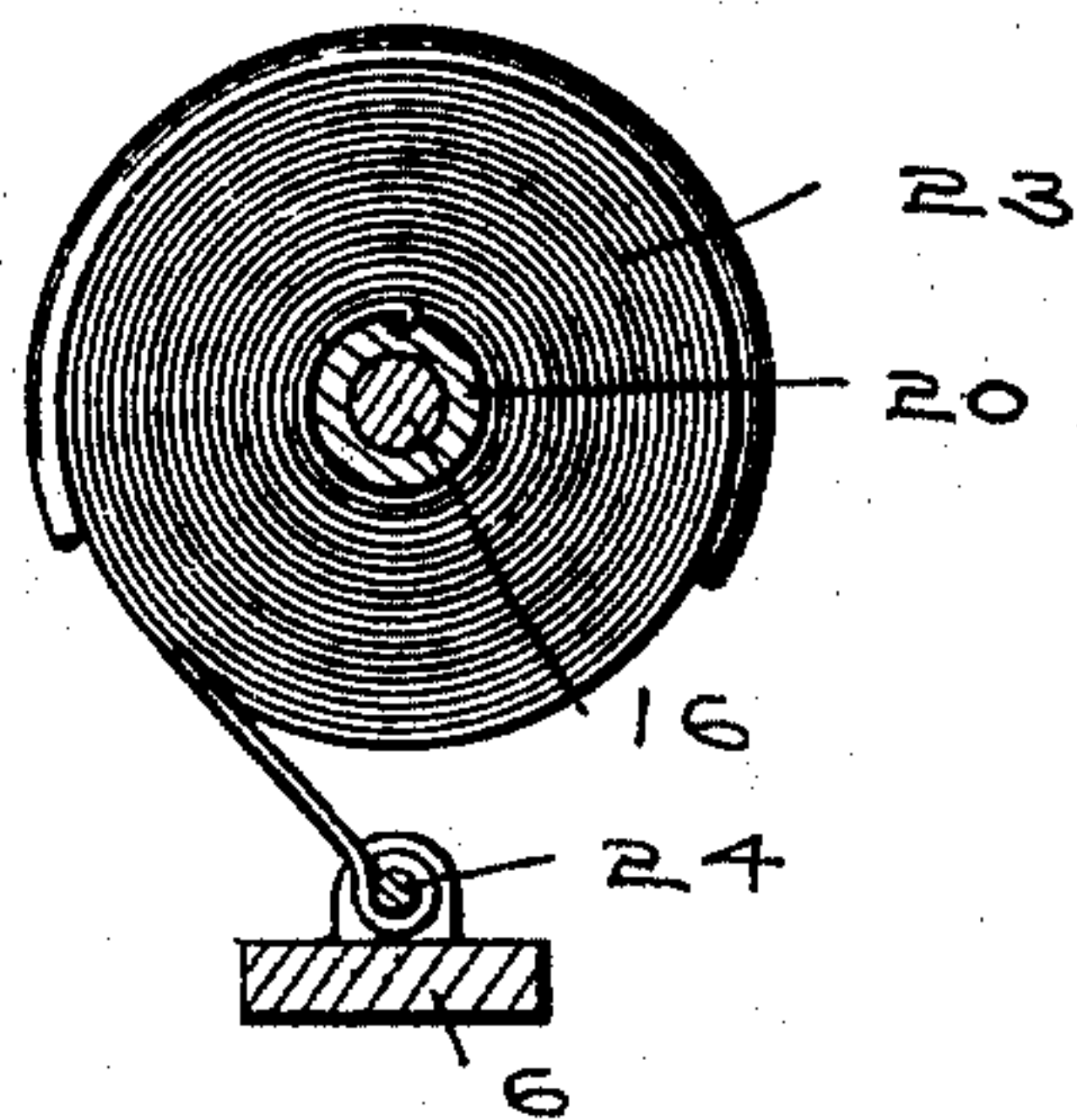
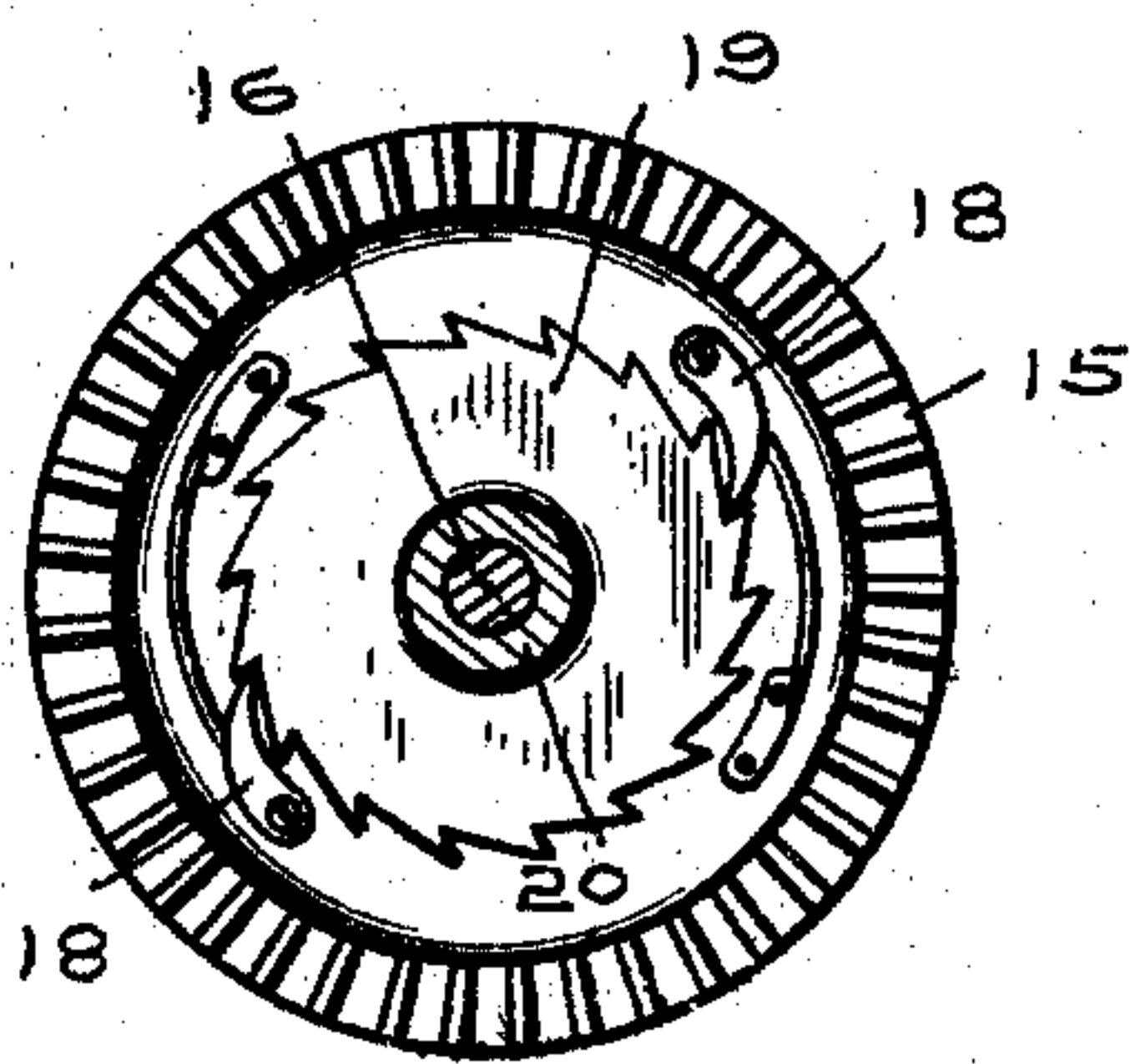
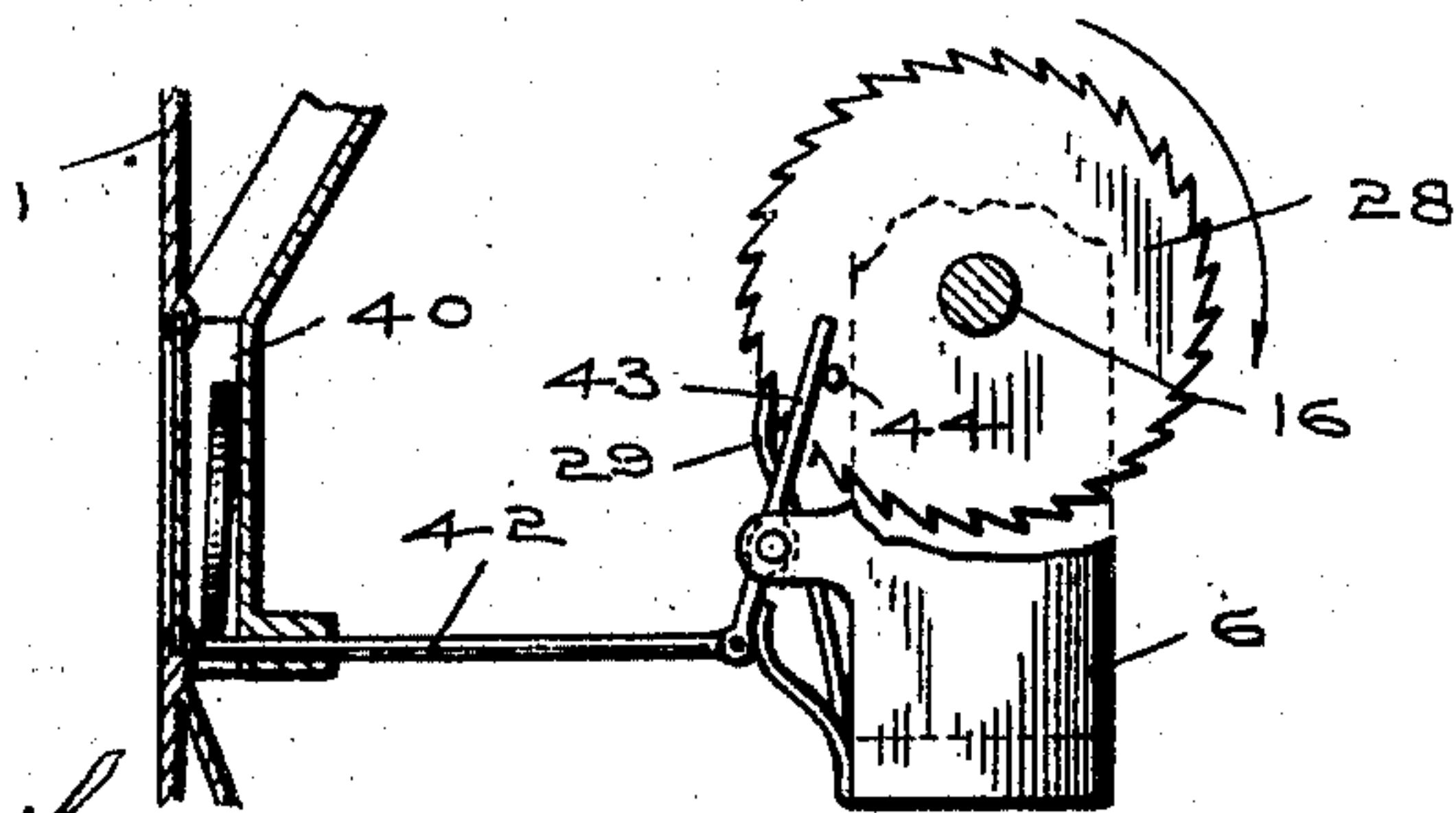


FIG. 8.



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UNITED STATES PATENT OFFICE.

OSCAR G. KLUGEL, OF INDIANAPOLIS, INDIANA.

COIN-CONTROLLED DICE-SHAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 502,495, dated August 1, 1893.

Application filed March 27, 1893. Serial No. 467,740. (No model.)

To all whom it may concern:

Be it known that I, OSCAR G. KLUGEL, of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Coin-Controlled Dice-Shaking Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures
10 refer to like parts.

My invention relates to new and useful improvements in dice shaking machines, and to one of that class that is actuated by a coin or piece of money of a given value, and it will
15 be understood from the following description.

In the drawings, Figure 1 is a sectional view through my machine on the line *x—x* of Fig. 2. Fig. 2 is a similar view on the line *Y—Y* of Fig. 1. Fig. 3 is a top view. Fig. 4 is a
20 cross sectional view on the line *Z—Z* of Fig. 1. Fig. 5 is an enlarged detail view of the coin slot and way in elevation and section, the latter partly broken away. Fig. 6 is an inner face view of the larger beveled gear of the
25 machine with the toothed ratchet wheel which connects it with the operating mechanism. Fig. 7 is an elevation of the spring which drives the machine, and showing its connections. Fig. 8 is an elevation of the levers and oper-
30 ating wheel for holding the deposited coin in view, and for releasing the same.

In detail, 1 is the shell or casing of the machine, which is cylindrical in form, and has an elevated cap 2 of smaller size on its top,
35 this being hinged to the casing, and has a glass cover and a latch or lock 3 for holding it when closed.

4 is a door in the casing near the bottom, and 5 a tray or drawer to receive the coins
40 deposited in the machine.

6 is a frame supported vertically in the casing 1 of the machine by brackets or feet 7, and near its top has an arm 8 in line with the top and bottom pieces of the frame.

9 is a shallow circular cup which is secured on the upper end of a vertical shaft 10, having bearings in the top piece and arm 8 of the frame 6, the cup 9 being on a line with the top of the casing 1 and below the elevated cap
50 2, and any desired number of dice are put in this cup to be shaken. Near the lower end of

the shaft 10 is mounted a small pinion 11, which gears with a larger one 12 mounted on the shaft 13 also having bearings in the top piece and arm 8 of the frame 6, a small beveled gear 14 being mounted on the lower end
55 of the shaft 13 below the arm 8, and engaging with a larger beveled gear 15 loosely mounted on the horizontal shaft 16 having bearings in the two side pieces of the frame 6, and a crank
60 is secured through an opening in the casing to one end of the shaft 16, this crank having a handle 17 for turning it and the shaft 16.

On the inner face of the beveled gear 15 are pivoted spring pawls 18 which engage the
65 teeth of a wheel 19 formed on one end of a sleeve 20 mounted loosely on the shaft 16, a circular disk 21 having a single tooth or notch 22 on its periphery being formed on the other end of the sleeve.
70

23 is a flat spring coiled around the sleeve 20, one of its ends being fixed to such sleeve, and the other secured to a pin 24 in brackets formed on the bottom piece of the frame 6.

25 is a cam shaped disk rigidly mounted on
75 the shaft 16, and has a single tooth 26, 27 being a spring pawl or stop pivoted on the side of the disk and bearing on the periphery of the disk 21 on the sleeve 20.

28 is a toothed wheel also rigidly mounted
80 on the shaft 16 to one side of the disk 25, and 29 is a spring, one end secured to the bottom piece of the frame 6, the other end of such spring engaging with the teeth of the wheel 28.

30 is a bracket formed on the frame 6, and
85 has two arms 31 and 32, the former being at right angles to such bracket and having mounted on its end a roller 33 adapted to engage with the outer end of the pawl or stop 27 on the disk 25 as it revolves. On the arm
90 32 of the bracket 30 is pivoted a lever 34, its inner end being weighted and it has a tooth which is adapted to engage with the tooth 26 on the disk 25, the outer end of such lever having two arms 35 whose use will be herein-
95 after described, 36 being a spring which is coiled around the pivot pin of the lever 34, one of its ends being fixed on the arm 32 and the other lying below the outer end of the lever.
100

37 is a slot or opening in the top of the casing to receive the coin to be deposited in the

machine, and opens into a way or channel 38 shown in detail in Fig. 5, this way having its sides cut out at the bottom and an inclined extension 39 leads to the receiver 40 formed on the inside of the casing 1, an opening being formed in such casing and covered with glass so that each coin as it is dropped in such receiver may be viewed.

41 is a lip or finger formed on the end of the way 38, and extends down vertically, the two arms 35 on the end of the lever 34 lying on either side of this lip and are of such distance apart as to engage the edges of the coin deposited in the machine.

42 is a rod, one end working in a bearing formed near the open bottom of the coin receiver 40 and normally lying across this opening catches and holds the coin as it is dropped in such receiver, the other end of such rod being pivoted to one end of a spring lever 43, it in turn pivoted near its center to a bracket formed on the frame 6, the upper end of such lever adapted to engage with a pin 44 on the side of the toothed wheel 28 as it revolves.

45 is a block mounted on a spring arm 46 secured to the frame 6 and bears against the vertical shaft 10, acting as a friction brake to such shaft, and also preventing the shaking cup from turning when the handle 17 and shaft 16 are turned for putting the machine in operation.

The operation of the machine is as follows: When a coin of the proper size is deposited in the slot 37, it drops down through the way or channel 38 until it reaches the bottom, where it is stopped by its edges contacting with the arms 35 of the lever 34, the weight of the coin being enough to partly tip the lever and release the tooth on its weighted end from the tooth 26 on the disk 25, but not enough to allow the coin to drop from the end of the way as the face of the coin bears against the lip 41. At this point the handle 17 is turned in the direction indicated by arrows, and it operates to turn the shaft 16, and with it the disk 25 and the toothed wheel 28, the spring 29 engaging with the teeth of such wheel and preventing the shaft 16 from being turned backward. At the first movement of these parts the pin 44 on the disk 28 engages with the end of the lever 43, moving it and causing the rod 42 to be withdrawn from the bottom of the coin receiver 40 and allowing any coin that had previously been deposited in the machine to drop into the tray or pan 5 below, the rod springing back into place in the end of the receiver as soon as the lever 43 is free from the pin 44. In the further movement of the parts, the disk 25 contacts with the weighted end of the lever 34, lifting it and tilting its outer end enough to allow the coin just deposited in the machine to escape from the end of the way 38 and drop into the coin receiver 40 below. As the disk 25 turns, its spring pawl engages with the tooth 22 on the disk 21, and turns it, together with the sleeve

20 on which it is formed, increasing the tension of the spring 23 and also turning the toothed wheel 19 on the sleeve 20, its teeth slipping on the pawls 18 and so does not turn the beveled gear 15 and the gears connecting it with the shaking cup shaft 10, the brake 45 bearing on this shaft sufficiently to prevent the parts from moving.

The handle of the machine is turned until the shaft 16 has made one revolution, at which time the outer end of the spring pawl 27 will engage with the roller 33 carried on the arm 31 and the pawl will be withdrawn from engagement with the tooth 22, when the spring 23 will exert its strength and the sleeve 20 will be quickly revolved, and its toothed wheel 19 engaging with the pawls 18, the beveled gears 15 and 14, together with the pinions 12 and 11 will be revolved, thereby revolving the vertical shaft 10 and with it the shaking cup 9, which makes about nine revolutions to one of the shaft 16, but before it is stopped by contact of the brake 45 on the shaft 10 the shaking cup will have made more than that number of revolutions, and the dice therein will have been thoroughly shaken and the throw may be viewed through the glass top of the cap 2.

The movement of the sleeve 20 as it is turned by the spring 23 will be stopped when it has made one revolution, by the spring pawl 27, and the several parts of the machine will be in the same position as before its operation.

The cap covering the cup in which the dice are shaken being hinged, any number of dice may be put in the machine at any time, so that any number of dice games may be shaken.

The slot and way of the machine shown in the drawings are of a size to receive a nickel, so that if any coin of a smaller size be deposited in the slot the machine will not operate, as the smaller coin will drop through the arms 35 on the lever 34 and into the receiver 40, where it will remain until the machine is operated, or the rod 42 in the bottom of the receiver may be set in one side of the same, so that while a nickel may be held in the receiver, a smaller coin could at the same time pass through it and drop into the tray below.

The way 38 is made in the bent shape shown to prevent the operation of the machine with sticks, and it is about impossible to operate it without first depositing the proper coin.

Having fully described my invention, what I claim is—

1. In a coin actuated dice shaking machine a slot and way through which the deposited coin passes, an inclined extension and a vertically extending lip formed on the lower end of such way, a pivoted lever having arms on either side of such lip and extension adapted to engage with and be moved by the deposited coin whereby such lever is first disengaged from a locking wheel of the operating mechanism, the movement of such mechan-

ism turning such wheel which further moves the lever and releases the coin from the arms of the lever and the lip of the way.

2. In a coin actuated dice shaking machine, 5
a way through which the deposited coin passes, a pivoted lever having arms on either side of a lip, and an inclined extension of such way, a receiver below such extension to receive the coin from such way, and in which it may be 10
viewed, a movable rod closing the bottom of such receiver, and means for operating such rod for releasing the coin, the arms of the lever above catching the coin when first deposited, such coin being released after the re- 15
ceiver below is empty and its bottom closed.

3. In a coin actuated dice shaking machine, a receiver in which the deposited coin may be viewed, a rod working across its open bottom to hold each coin therein, one end of such rod 20
pivoted to a spring lever, such lever centrally pivoted and its end engaging with a pin on one of the wheels of the operating mechanism, whereby it is tripped and the coin in the receiver withdrawn.

4. In a coin actuated dice shaking machine, 25
a pivoted lever having arms on either side of a lip and inclined extension to the end of the coin way or channel, and adapted to receive and be moved by the deposited coin, the inner 30
end of such lever engaging with a tooth on a disk of the operating mechanism, the engagement of the coin with the arms of such lever tilting it and disengaging it from the toothed disk, the movement of such mechanism fur- 35
ther tilting such lever, whereby the coin is released from the way.

5. In a coin actuated dice shaking machine, a frame, a shaking cup mounted on a vertical shaft having bearings therein and operated 40
through suitable connections by a spring actuated sleeve loosely mounted on a horizontal shaft below, a disk mounted on such shaft having a pawl engaging with a tooth on such sleeve, whereby it may be turned against the 45
tension of its spring with the shaft, and a roller for engaging such pawl and thereby allowing the sleeve to be revolved, and through its connections the dice shaker.

6. In a coin actuated dice shaking machine, a frame, a vertical shaft having bearings in 50
such frame with a shaking cup mounted thereon, such shaft connected by pinions and gears with a gear loosely mounted on a horizontal shaft having bearings in such frame, a spring actuated sleeve loosely mounted on 55
such shaft, and a toothed wheel thereon engaging with pawls on such gear, a stop engaging with a tooth on a disk formed on the other end of such sleeve, and means for turning such sleeve and releasing such pawl from 60
engagement with its disk, whereby the shaking cup is revolved.

7. In a coin actuated dice shaking machine, a frame, a vertical shaft having bearings in 65
such frame with a shaking cup mounted thereon, a pinion on such shaft gearing with a larger one mounted on a shorter shaft, a beveled gear also mounted on the latter shaft engaging with a larger one loosely mounted 70
on a horizontal shaft, pawls on the face of such gear engaging a toothed wheel on a spring actuated sleeve loosely mounted on such shaft, and a brake bearing on the shaking cup shaft, whereby the shaking cup and its connections will be moved in but one di- 75
rection.

8. In a coin actuated dice shaking machine, a frame, a shaking cup mounted on a shaft 80
having bearings therein and operated through suitable connections by a spring actuated sleeve loosely mounted on a shaft below, a toothed wheel and a disk mounted on such shaft, such disk having a pawl engaging a tooth on such sleeve, and a roller engaging such pawl and allowing the sleeve to be re- 85
volvied by its spring, a fixed spring engaging such toothed wheel, and means for turning such shaft and with it the sleeve against the tension of its spring.

In witness whereof I have hereunto set my 90
hand this 25th day of March, 1893.

OSCAR G. KLUGEL.

Witnesses:

THEO. P. JACOB,

DESIRE A. BRENNAN.