

No. 607,092.

Patented July 12, 1898.

E. H. SMITH.
DRINK REGISTER.

(Application filed June 26, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

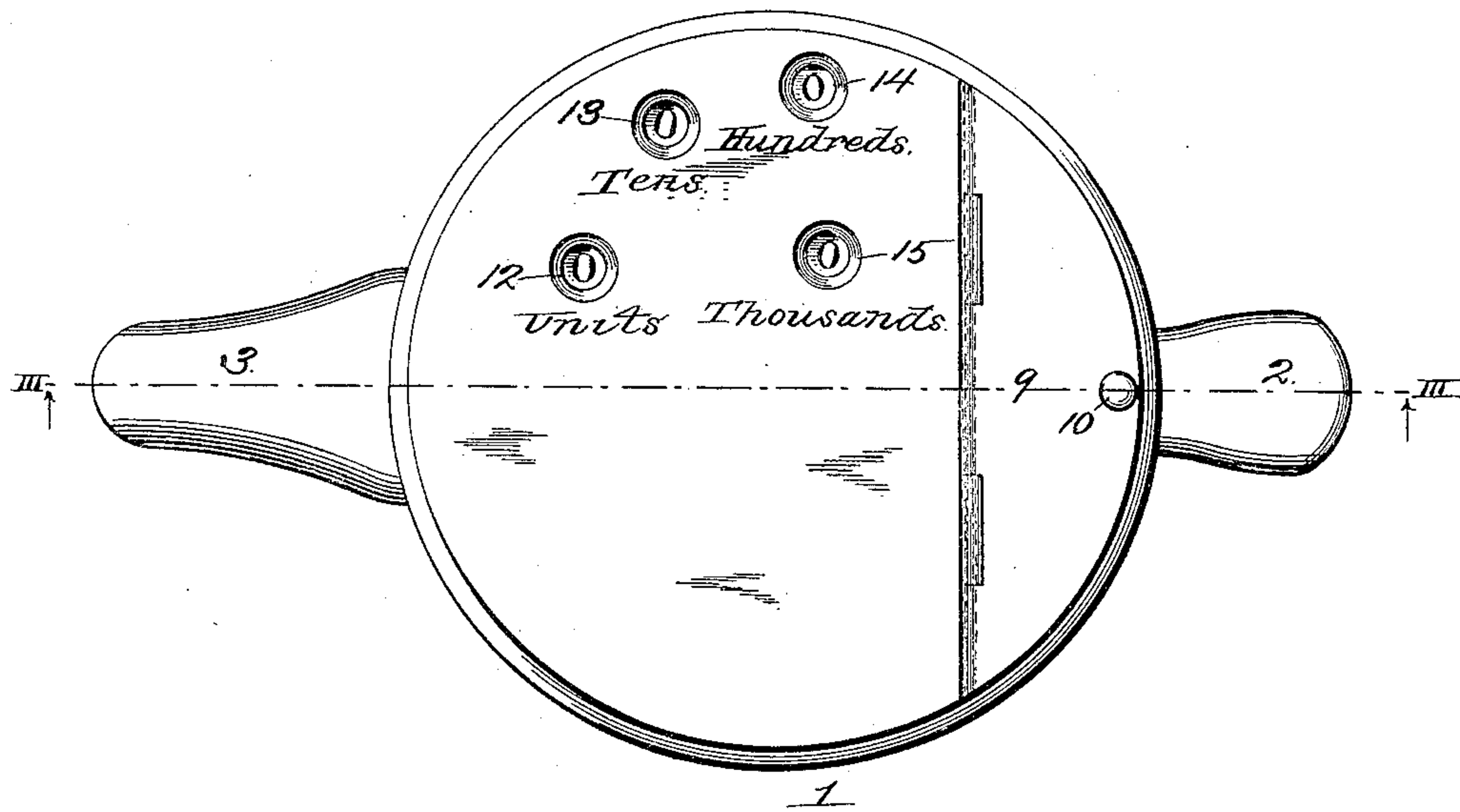


Fig. 4.

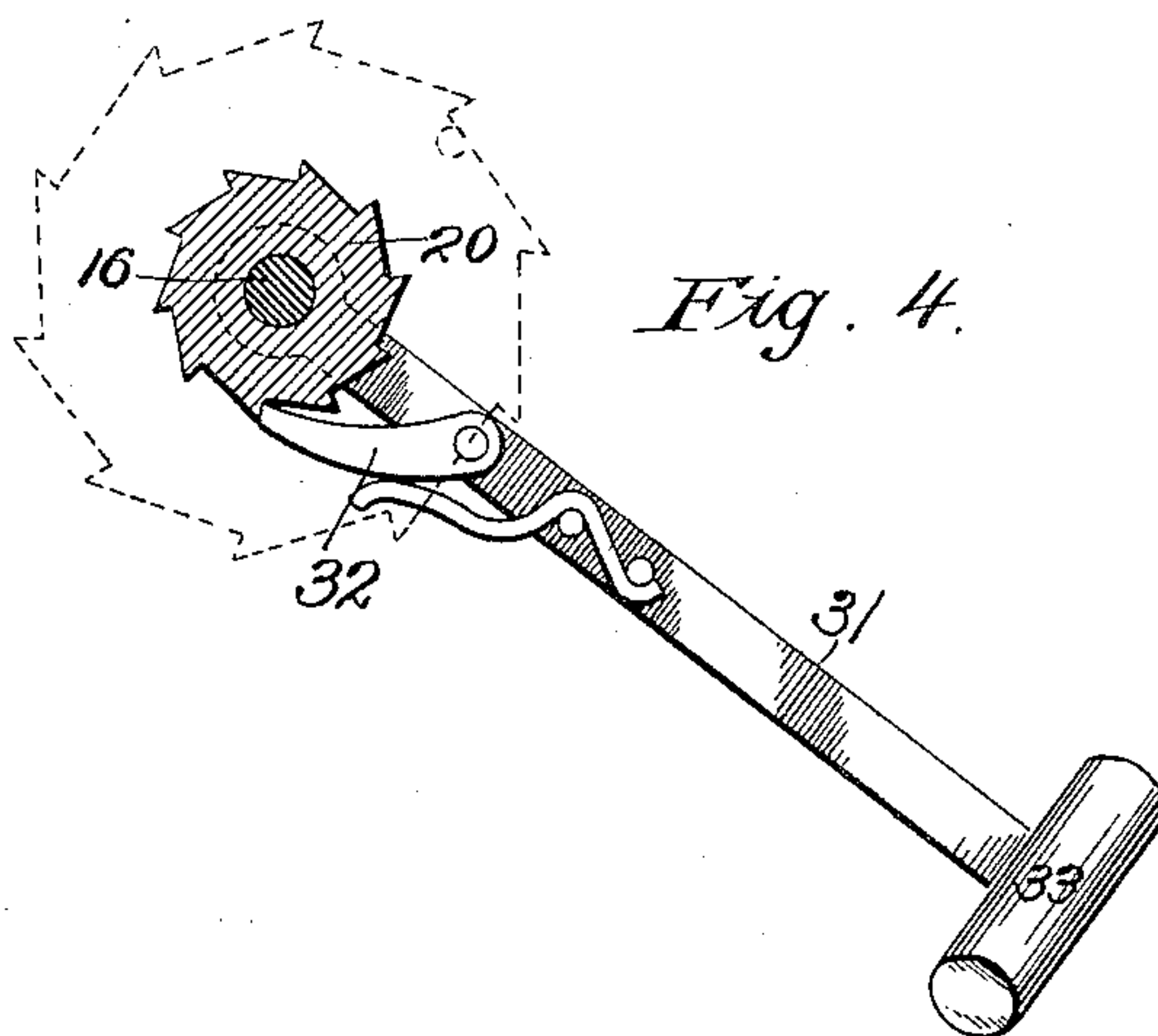


Fig. 5.

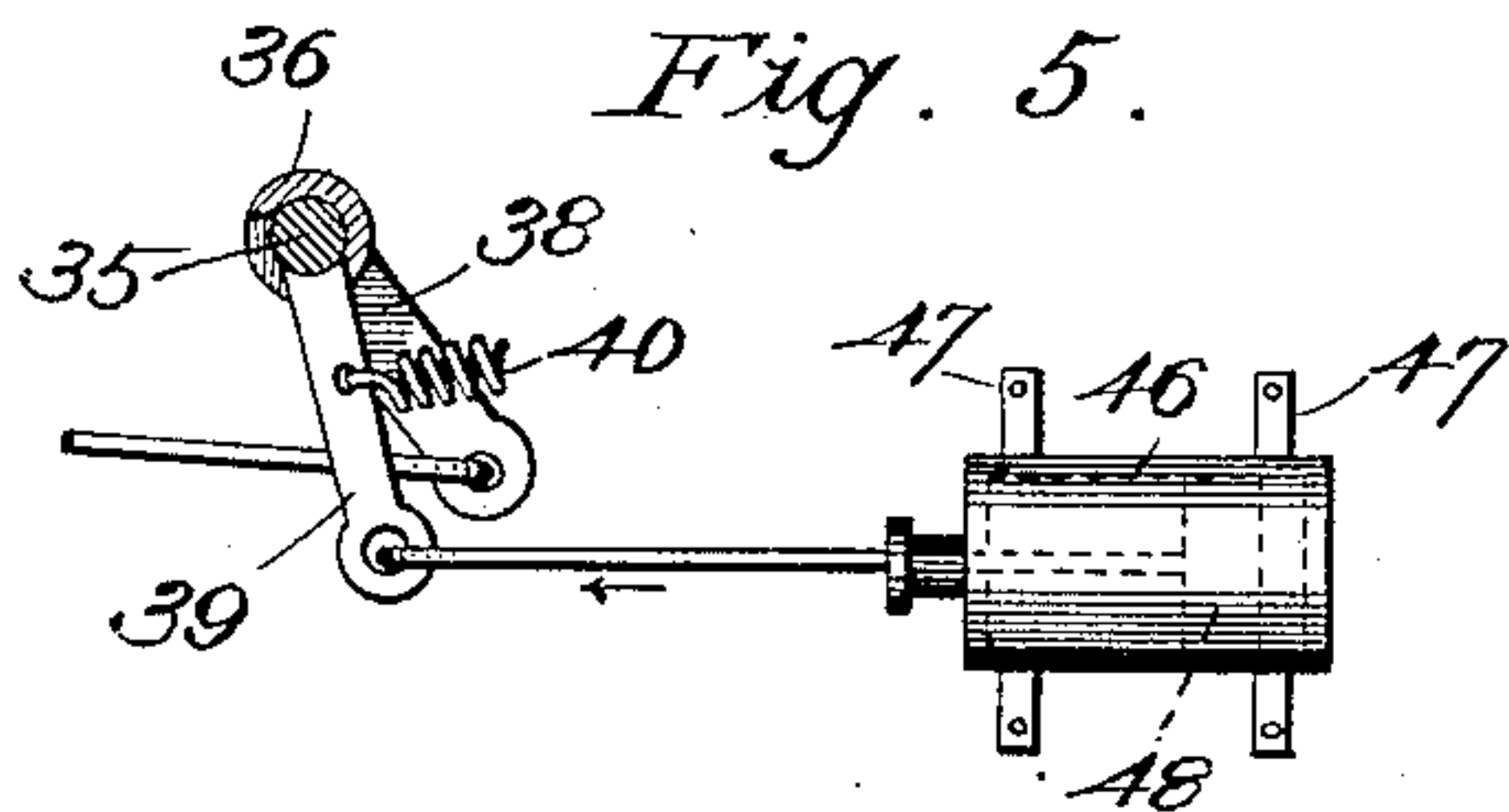
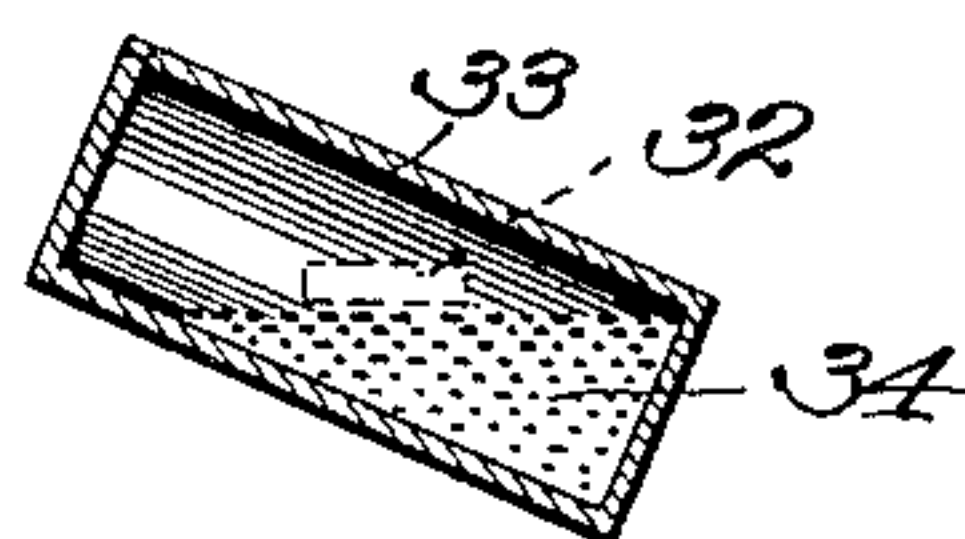


Fig. 6.



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2 Sheets—Sheet 2.

Fig. 2

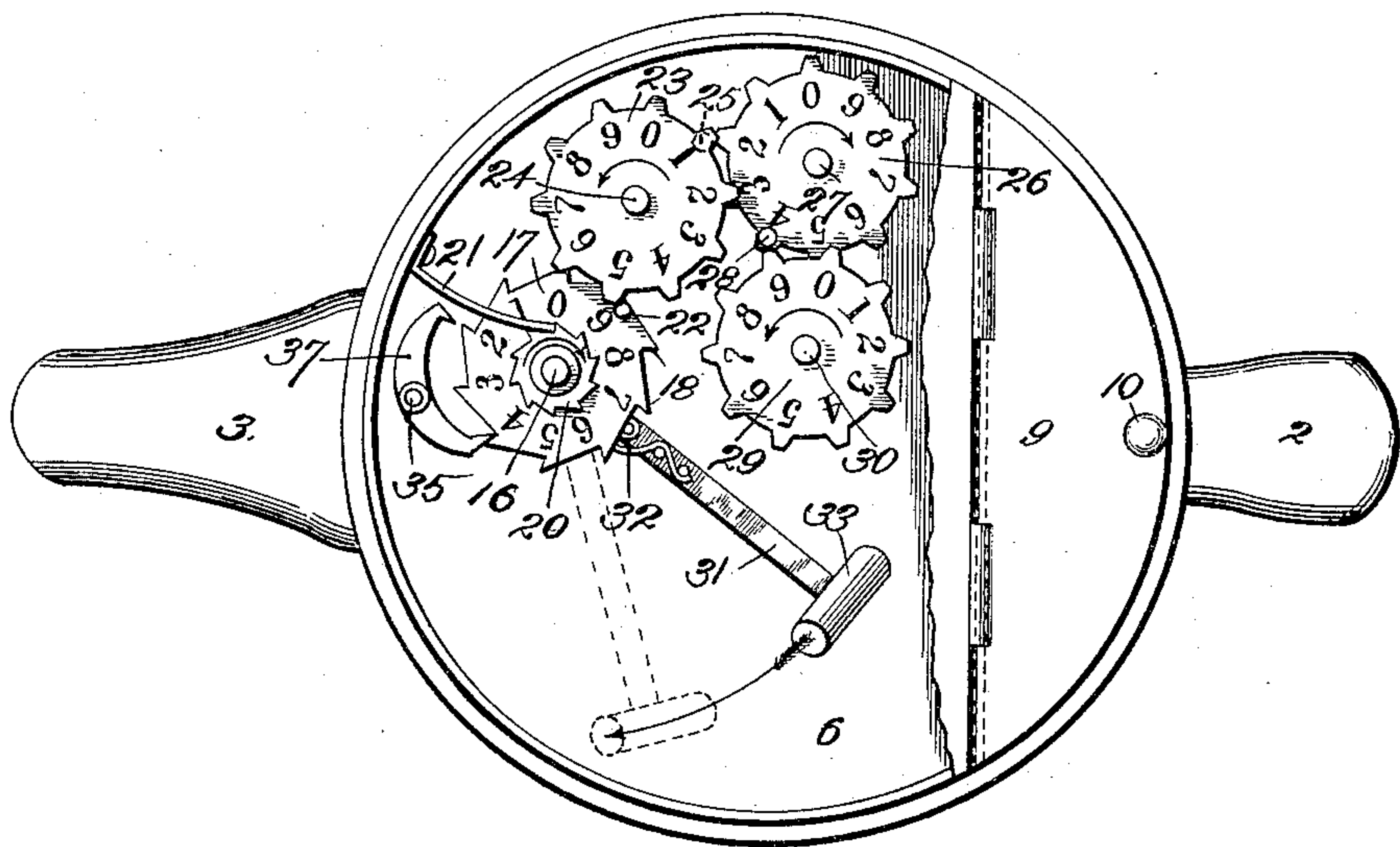
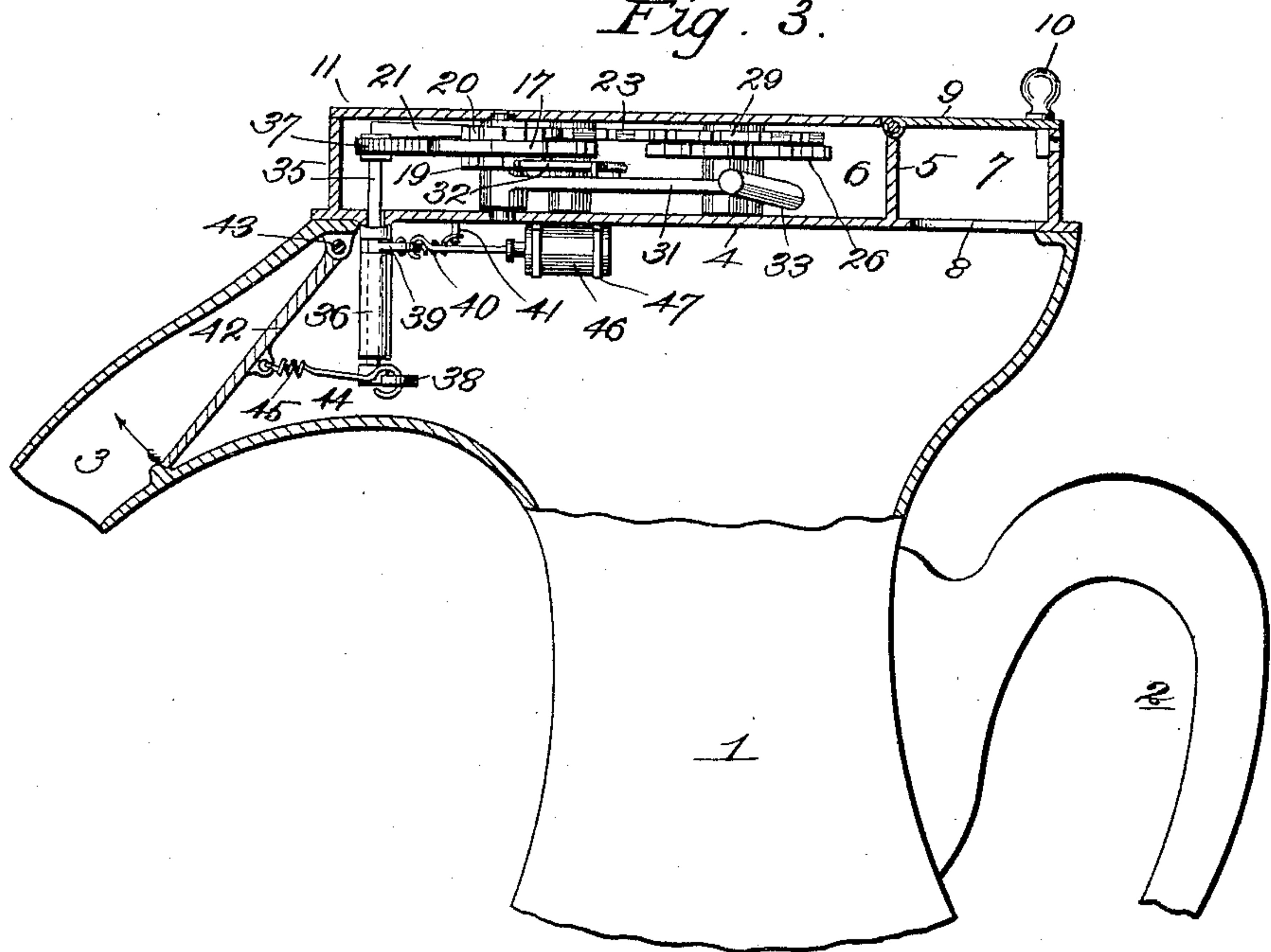


Fig. 3.



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UNITED STATES PATENT OFFICE.

EMERSON HOWE SMITH, OF MARCELINE, MISSOURI.

DRINK-REGISTER.

SPECIFICATION forming part of Letters Patent No. 607,092, dated July 12, 1898.

Application filed June 26, 1897. Serial No. 642,362. (No model.)

To all whom it may concern:

Be it known that I, EMERSON HOWE SMITH, of Marcelline, Linn county, Missouri, have invented certain new and useful Improvements in Drink-Registers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to drink-registers; and it consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed.

The object of the invention is to produce a device of this character whereby each drink poured from a vessel provided with the register will be automatically and reliably counted, so that the proprietor at any time, by simply glancing at the register, may ascertain the number of drinks that have been poured therefrom, and, rating them at so much per drink, quickly and reliably estimate the revenue derived therefrom, and also, knowing the cost, will be able to compute his profit or loss, and consequently know whether his bartender is "knocking down" or not.

Other objects of the invention will hereinafter appear.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 represents a top plan view of a vessel or decanter provided with a drink-register embodying my invention. Fig. 2 is a similar view with the top plate broken away. Fig. 3 is a vertical section taken on the line III III of Fig. 1. Fig. 4 represents in detail a plan view of the lever for actuating the counting mechanism, a sectional view of the shaft upon which it is mounted, and a ratchet-wheel through the medium of which it operates the counting mechanism. Figs. 5 and 6 are detail views of parts hereinafter described.

In the said drawings, 1 designates a decanter provided with a handle 2 and a spout 3.

4 designates a circular box or casing secured in any suitable manner upon and closing the top of the decanter, and said box or casing is provided with a partition 5, which divides it into a large chamber 6 and a small

chamber 7, the latter communicating with the decanter by way of the opening 8, formed in the bottom of the box or casing.

The chamber 7 is closed by means of a hinged lid 9, provided with a handle 10 and adapted to be locked if necessary or desirable. When it is desired to fill the decanter with whisky, wine, or any other liquor, said lid is raised and the liquor poured into the decanter by way of the opening 8.

Located in the chamber 6 is the counting mechanism, and said chamber is preferably closed by a top plate 11, riveted to the top of the casing or otherwise secured reliably and provided with, say, four windows 12, 13, 14, and 15, which are adapted to disclose numbers representing, respectively, units, tens, hundreds, and thousands, as will be hereinafter explained.

16 designates a vertical arbor or stationary shaft, which is arranged within the chamber 6 adjacent to the window 12, and mounted loosely thereon, adjacent to the top plate 11, is a wheel 17, provided with peripheral teeth 18 and with small ratchet-wheels 19 and 20 at its lower and upper sides, respectively, these ratchet-wheels being secured rigidly to or cast integral with the said wheel or disk 17 and with their teeth disposed in the same direction. The upper face of said wheel or disk is numbered from "0" to "9," inclusive, and its peripheral teeth in number correspond therewith. The numbers upon the wheel bear such relation to the opening 12 that one of them may always be read through said opening. The wheel is rotated by means to be presently described and is prevented from backward movement by the spring-pawl 21, secured to the casing and continuously engaging the upper ratchet-wheel 20. Projecting upwardly, by preference, from said wheel near its periphery is a pin 22, and said pin once in each complete revolution of the wheel 17 is adapted to engage one of the ten teeth of the adjacent wheel 23, which wheel is also numbered upon its upper face from "0" to "9," inclusive, and is journaled upon a stationary vertical shaft 24 in the casing and arranged with such relation to the opening 13 that one of its numbers will always appear opposite the same. Said wheel 23 is provided

near its periphery with a pin 25, which preferably depends therefrom and is adapted once in each revolution to engage one of the ten teeth of a third wheel 26, said wheel being also numbered at its upper face from "0" to "9," inclusive, and journaled upon a stationary shaft 27 within the casing, this wheel being arranged with such relation to the window 14 that one of its numbers may always be observed therethrough.

The wheel 26 near its periphery is provided with a pin 28, projecting upwardly, by preference, and adapted to engage once in each revolution one of the ten teeth of a fourth wheel 29, numbered like the others at its upper face from "0" to "9," inclusive, and journaled upon a similar shaft 30.

Referring now to the means for operating the counting mechanism, 31 designates a lever which is journaled loosely upon the arbor or shaft 16 below the wheel 17, preferably, and 32 a spring-actuated pawl carried thereby and engaging the ratchet-wheel 19. Said lever is provided with or carries at its outer end a weight 33, which preferably is in the form of an inclined hollow cylinder containing mercury 34, the inclination being such that the advance end of the cylinder shall occupy the highest plane, and consequently insure that the sliding weight—viz., the mercury—will always occupy the rear or depressed end of said cylinder when the decanter occupies its upright or normal position, but which when the decanter is tilted forwardly, and thereby brings the elevated end of the cylinder to a lower plane than its rear end, will slide forwardly to such depressed end, and consequently make positive and reliable the forward or swinging movement of the lever to the position indicated by dotted lines, Fig. 2, and through the medium of the pawl-and-ratchet mechanism compel the "units-wheel" 17 to move one step and dispose its numeral "1" opposite the window 12, signifying that one drink has been withdrawn from the decanter. Ten such movements of the lever cause the wheel 17 to complete one revolution and bring the "0" again below the window, but at the time the tenth step is taken the pin 22 engages and operates the wheel 23 one step and thereby disposes the numeral "1" of said wheel opposite its window 13. This signifies that ten drinks have been taken from the decanter. Ten revolutions of the wheel 23 cause the wheel 26 to move one step and dispose its numeral "1" below the window 14, signifying that one hundred drinks have been withdrawn, and ten revolutions of said wheel 26 move the wheel 29 one step and dispose its numeral "1" opposite the window 15, signifying that one thousand drinks have been withdrawn. Ten revolutions of said wheel 29 signify that nine thousand nine hundred and ninety-nine drinks have been withdrawn, and when the nine thousand nine hundred and ninety-ninth drink has been withdrawn

the ciphers of the various wheels appear through the windows and the machine is ready to begin to count anew.

Of course by adding an additional wheel the machine may be caused to register ninety-nine thousand nine hundred and ninety-nine drinks, two additional wheels nine hundred and ninety-nine thousand nine hundred and ninety-nine drinks, and so on, before it is ready to begin to count anew.

To prevent the weighted lever from swinging forward and operating the counting mechanism in case the decanter is tilted or handled carelessly while empty and also to control the operation of the counting mechanism by the flow of the liquid alone, I provide the following mechanism:

35 designates a vertical shaft, which is journaled in the base-plate of the casing, and in the sleeve 36, depending from the same into the decanter at its junction with the spout, preferably, and mounted rigidly upon the upper end of said shaft is an escapement 37, which engages the peripheral teeth of the wheel 17, and thereby controls the operation of the same as to time. It also insures that its rotatable movement shall never exceed in any one step the distance between two of these teeth. Secured rigidly upon the lower end of the shaft 35 is a crank-arm 38 and a suitable distance above the same a crank-arm 39, the latter being connected by a weak spring 40 to a pin 41, depending from the casing.

42 designates a tongue or float which is pivoted at its upper end, as at 43, within the spout of the decanter, so as to swing in a vertical plane. When in its normal position, it forms a complete partition for the spout, as shown in Fig. 3, and connecting the same with the arm 38 is a link 44, provided, preferably, with a spring-section 45, for a purpose which will be hereinafter explained.

To withdraw a drink, the decanter is tilted in the customary manner, and as this is done it will be noticed that the tongue begins to rise and operates the escapement so as to permit the weighted lever to rotate the wheel 17 one step and therefore register one drink. As the rotatable operation of the escapement is so slight, it is desirable that the tongue 42 shall continue open after the escapement checks and has been checked by the contact of its other end with said wheel 17, and to accomplish this I provide the spring 45, which does not yield or expand until the movement of the escapement ceases, and then yielding permits the tongue to continue its opening movement until limited only by the opposing wall of the spout itself. When the decanter is tilted back to its upright position, the tendency of the tongue is to swing back to its closed position, and this tendency is made positive and reliable by the springs 40 and 45, the chief function of the former, however, being to make positive and reliable the return of the escapement, after the flow of liquid

ceases, to its original position, that it may be ready when the decanter is again tilted in pouring out a drink to respond to the action of the tongue and permit the lever to turn the counter an additional step. As the decanter is righted the weighted lever swings back to its original position by gravity, and this movement is made absolutely positive and reliable by means of the sliding weight, which, before the lever feels the changed position of the decanter, slides swiftly to the opposite or rear end of the cylinder 23 and gives the lever an impetus which insures its return, as will be readily understood.

If the decanter, empty, be tilted as though liquor were to be poured therefrom, it is obvious that the tendency of the tongue 42 would be to swing forwardly, so as to open the spout. It is also obvious that if this action took place the escapement would be operated and would release the wheel 17, and thereby permit the weighted lever to swing from the position shown in full to that shown in dotted lines, Fig. 2. As a result one drink would be counted when none had been withdrawn. The spring 40, which is sufficiently strong to overcome the gravitative tendency of the tongue 42, prevents the action described, and consequently is a protection to the bartender, who cannot be charged up with drinks which were never withdrawn. In case, however, there is any liquor in the decanter when it is tilted its weight will be sufficient to positively and reliably overcome the resistance to the light spring 40 and raise the tongue or float 42, as explained.

All the succeeding operations are precisely like those described.

To prevent any possibility of the counter repeating while a single drink is being removed, because of hesitation or nervousness on the part of the person pouring out the drink, I have provided means whereby the escapement shall prevent the counter from working a predetermined time—say three seconds—even though the weighted lever swings back to its original position. This means is a small air-pump 46, which is secured to the base-plate of the casing by straps 47 or in any other suitable manner, and has its piston 48 linked to the crank-arm 39 of the shaft 35. By this arrangement it is obvious that each time the tongue swings open the piston is moved within the cylinder in the direction indicated by the arrow, Fig. 5, and that as the decanter is righted said piston moves slowly back toward its original position and thereby prevents the escapement repeating too rapidly. This intervening time gives a nervous person time to pour a drink from the decanter, and yet is insufficient to permit a person, after pouring a drink and righting the decanter, to pass it, that another may take a drink without a second counting operation taking place. This air-cushion, of course, may be adjusted as circumstances require.

From the above description it will be apparent that I have produced a drink-register which embodies the features of advantage enumerated in the statement of invention and which is comparatively simple, durable, and inexpensive of manufacture. It will also be clear that I have produced a drink-register which cannot be tampered with, as the operative parts are so located and confined that they cannot be disturbed, and it is to be understood that various changes in the form, proportion, detail construction, and arrangement may be made without departing from the spirit and scope or sacrificing any of the advantages of the invention.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A drink-register, comprising a pivoted tongue partitioning the spout of a decanter, a toothed counter-wheel rotatably mounted, a rotatable shaft, an escapement mounted thereon and engaging said wheel, connections between the shaft and the tongue, that the latter may impart movement to the escapement, and means to rotate the counter each time the tongue is raised, substantially as described.

2. A drink-register, comprising a windowed casing secured upon a decanter, a toothed wheel journaled therein and provided with numbers which successively appear through said windowed casing, an escapement controlling the time and amount of movement of said wheel, a tongue partitioning the spout of the decanter and adapted to open and permit of the escape of its contents when tilted sufficiently, and to simultaneously trip the escapement, and means to rotate said wheel, as the escapement is tripped, a predetermined distance, substantially as described.

3. A drink-register comprising a windowed casing secured upon a decanter, a toothed wheel journaled therein and provided with numbers which successively appear through said windowed casing, an escapement controlling the time and amount of movement of said wheel, a tongue partitioning the spout of the decanter and adapted to open and permit the escape of the contents of the decanter when the latter is tilted sufficiently, and to simultaneously trip the escapement and the weighted lever set in operation by tilting the decanter, and adapted in such operation to rotate said wheel as the escapement is tripped, substantially as described.

4. A drink-register, comprising a windowed casing secured upon a decanter, a toothed wheel journaled therein and provided with numbers which successively appear through said windowed casing, an escapement controlling the time and movement of said wheel, a tongue partitioning the spout of the decanter and adapted to open and permit of the escape of its contents when tilted sufficiently, and to simultaneously trip the escapement, and a lever to operate said wheel as the es-

capement is tripped, and provided at its outer end with a sliding weight, substantially as described.

5 5. A drink-register, comprising a windowed casing secured upon a decanter, a toothed wheel journaled therein and provided with numbers which successively appear through said windowed casing, an escapement controlling the time and amount of movement of
10 said wheel, a tongue partitioning the spout of the decanter and adapted to open and permit of the escape of its contents when tilted sufficiently, and to simultaneously trip the escapement, and a lever for operating the said
15 wheel as the escapement is tripped, comprising a shank or stem, a tubular and inclined head at right angles thereto, and a sliding weight within said head, substantially as described.

20 6. A drink-register, comprising a windowed casing secured upon a decanter, a toothed wheel journaled therein and provided with numbers which successively appear through said windowed casing, an escapement controlling the time and amount of movement of
25 said wheel, a tongue partitioning the spout of the decanter and adapted to open and permit of the escape of its contents when tilted sufficiently, and to simultaneously trip the escapement, and a lever for operating said wheel,
30 comprising a shank or stem, a tubular inclined head at its outer end, and mercury within said head and adapted to slide from one end to the other, substantially as described.

35 7. A drink-register, comprising a casing surmounting a decanter, a toothed wheel journaled therein and numbered, and provided with ratchet-wheels, a swinging lever provided with a spring-actuated pawl engaging
40 one of said ratchet-wheels, a spring-pawl engaging the other, an escapement engaging said wheel, and means actuated by the pouring of the liquid from the decanter, to trip said escapement and permit said lever to rotate the counting-wheel, substantially as described.
45

50 8. A drink-register, comprising a casing surmounting a decanter, a toothed wheel journaled therein and numbered, and provided with ratchet-wheels, a swinging lever provided with a spring-actuated pawl engaging one of said ratchet-wheels, a spring-pawl engaging the other, an escapement engaging said wheel, means actuated by the pouring of
55 liquid from the decanter to trip said escapement and permit said lever to rotate the counting-wheel, and means to insure the positive

return of the escapement and lever to their original positions when the decanter is righted, substantially as described. 60

9. A drink-register, comprising a casing surmounting a decanter, a numbered and toothed wheel journaled therein, an escapement engaging said wheel and adapted to limit its movement, a pivoted tongue in the
65 spout of the decanter, connections between the same and the escapement, whereby the pouring of liquor from the decanter opens the tongue and trips the escapement, and means for retarding the return movement of the escapement, substantially as described. 70

10. A drink-register, comprising a casing surmounting a decanter, a numbered and toothed wheel journaled therein, an escapement engaging said wheel and adapted to limit its movement, a pivoted tongue in the
75 spout of the decanter, connections between the same and the escapement, whereby the pouring of liquor from the decanter opens the tongue and trips the escapement, and means for retarding the return movement of the escapement comprising an air-pump operatively connected, substantially as described. 80

11. A drink-register, comprising a windowed casing surmounting a decanter, divided
85 into two chambers, one of them having an opening in its bottom and closed by a lid or cover, a set of stationary shafts in the other chamber, toothed and numbered wheels journaled thereon, and arranged relatively to the windows of the casing as described, representing units, tens, hundreds, and thousands, pins projecting from the "units," "tens" and
90 "hundreds" wheels, and adapted to operate, respectively, the said "tens," "hundreds" and "thousands" wheels, a double-toothed escapement engaging the tooth of the "units-wheel," a tongue partitioning the spout of a decanter and operated by the flow of liquor
95 therethrough, connections between the tongue and the escapement whereby the movement of the former is imparted to the latter, so as to trip it from the path of one tooth of the "units-wheel" and dispose it in the path of another, means to rotate said wheel one step
100 during the operation of the escapement, and means for preventing back movement of said wheels, substantially as described. 105

In testimony whereof I affix my signature in the presence of two witnesses.

EMERSON HOWE SMITH.

Witnesses:

M. R. REMLEY,
G. Y. THORPE.