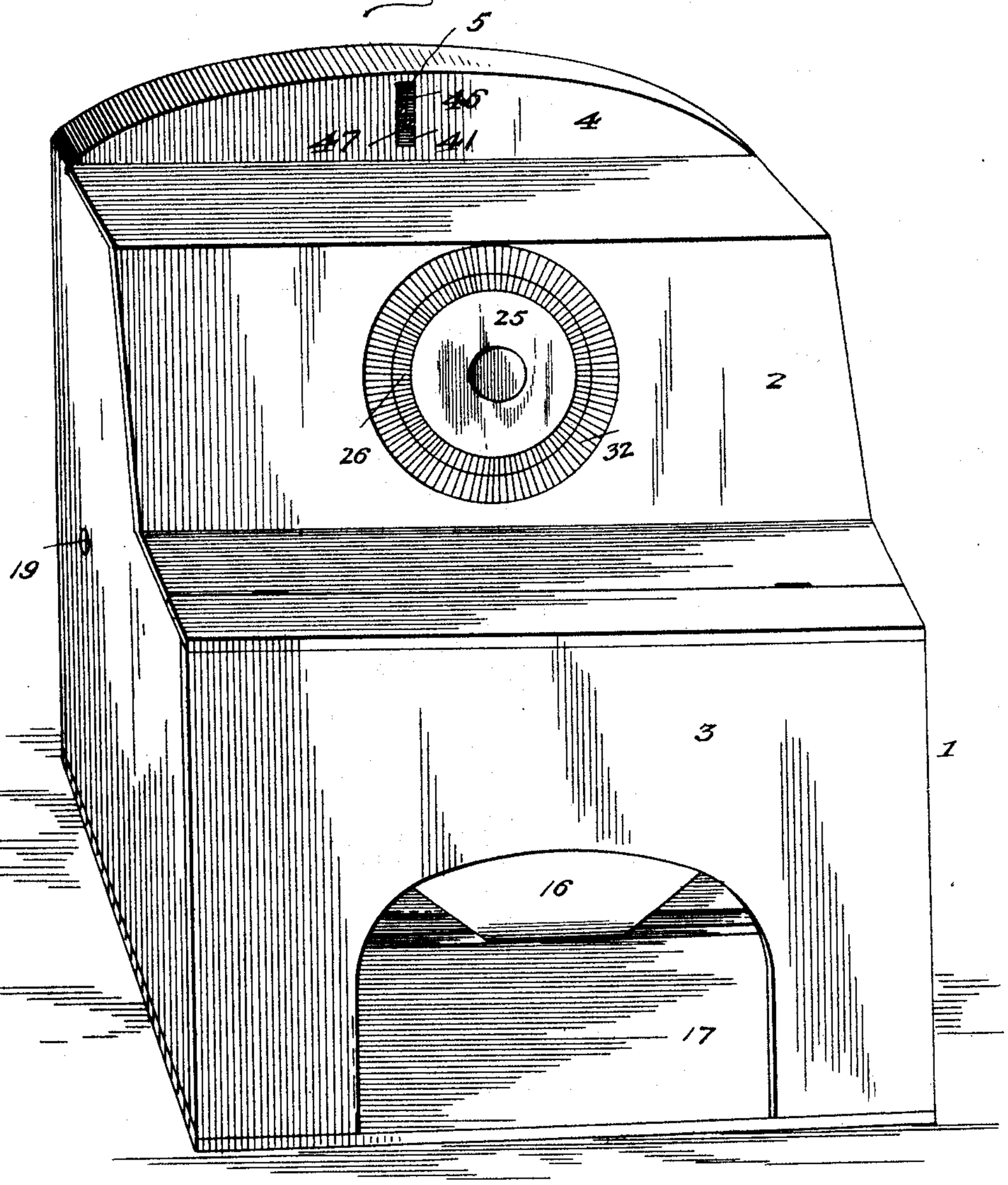
(No Model.) 9 Sheets—Sheet 1.

S. M. WHIPKEY.

MONEY CHANGING MACHINE.

No. 587,250. Patented July 27, 1897.

Fig. 1.



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(No Model.) 9 Sheets—Sheet 2.

S. M. WHIPKEY.

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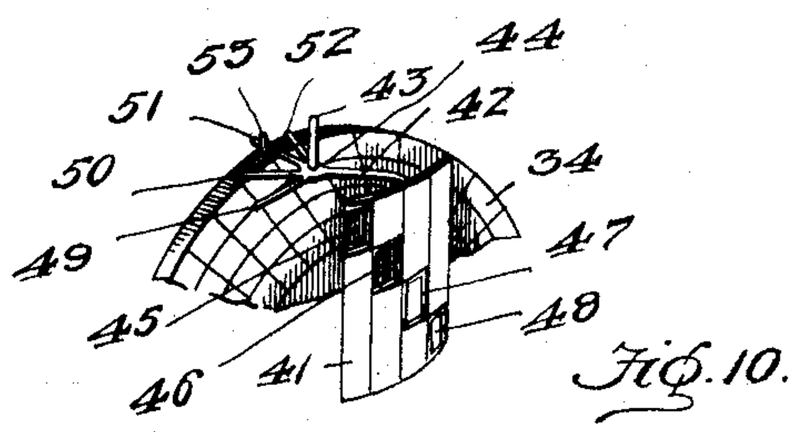

Fig. 10.

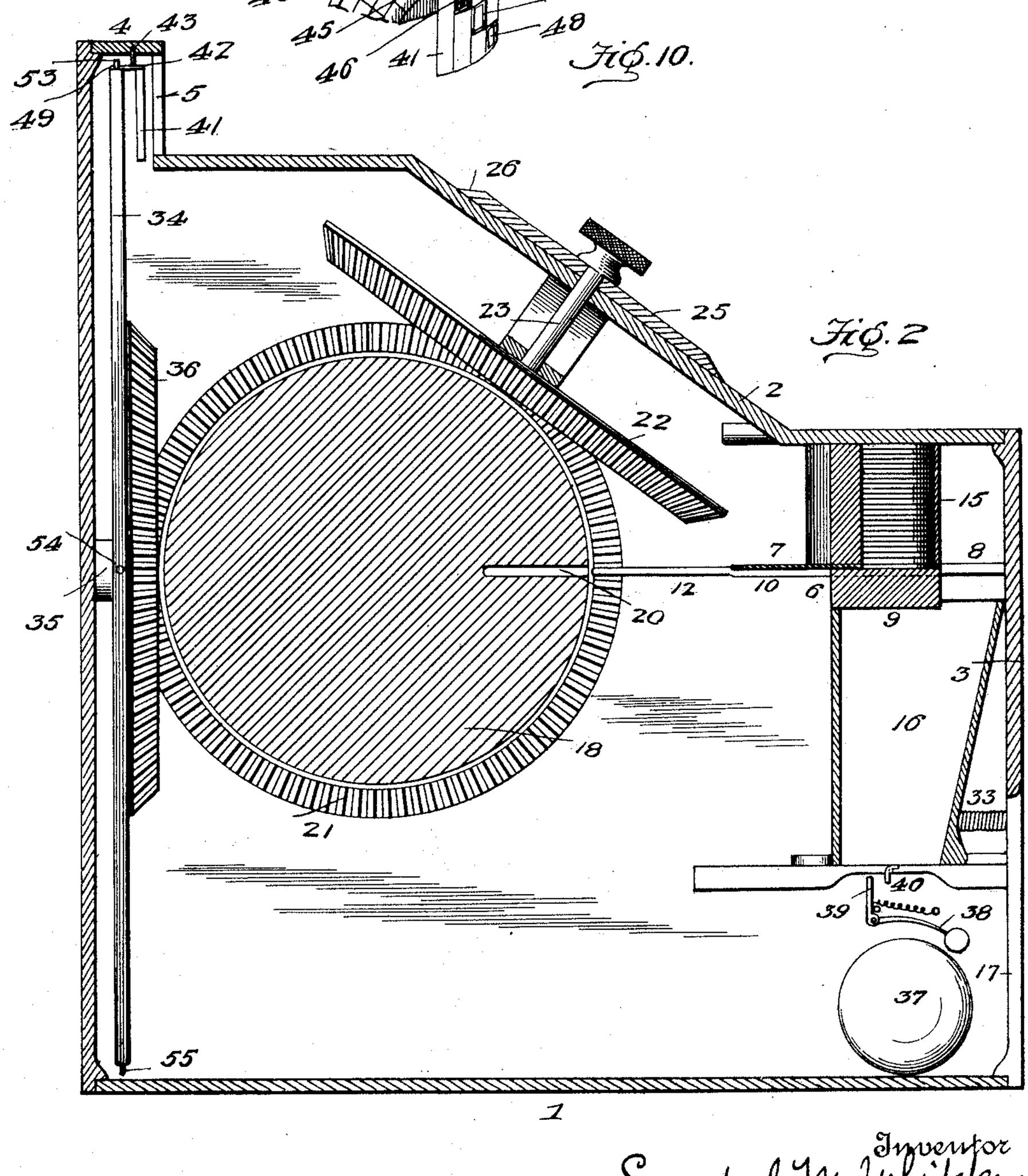

Fig. 2

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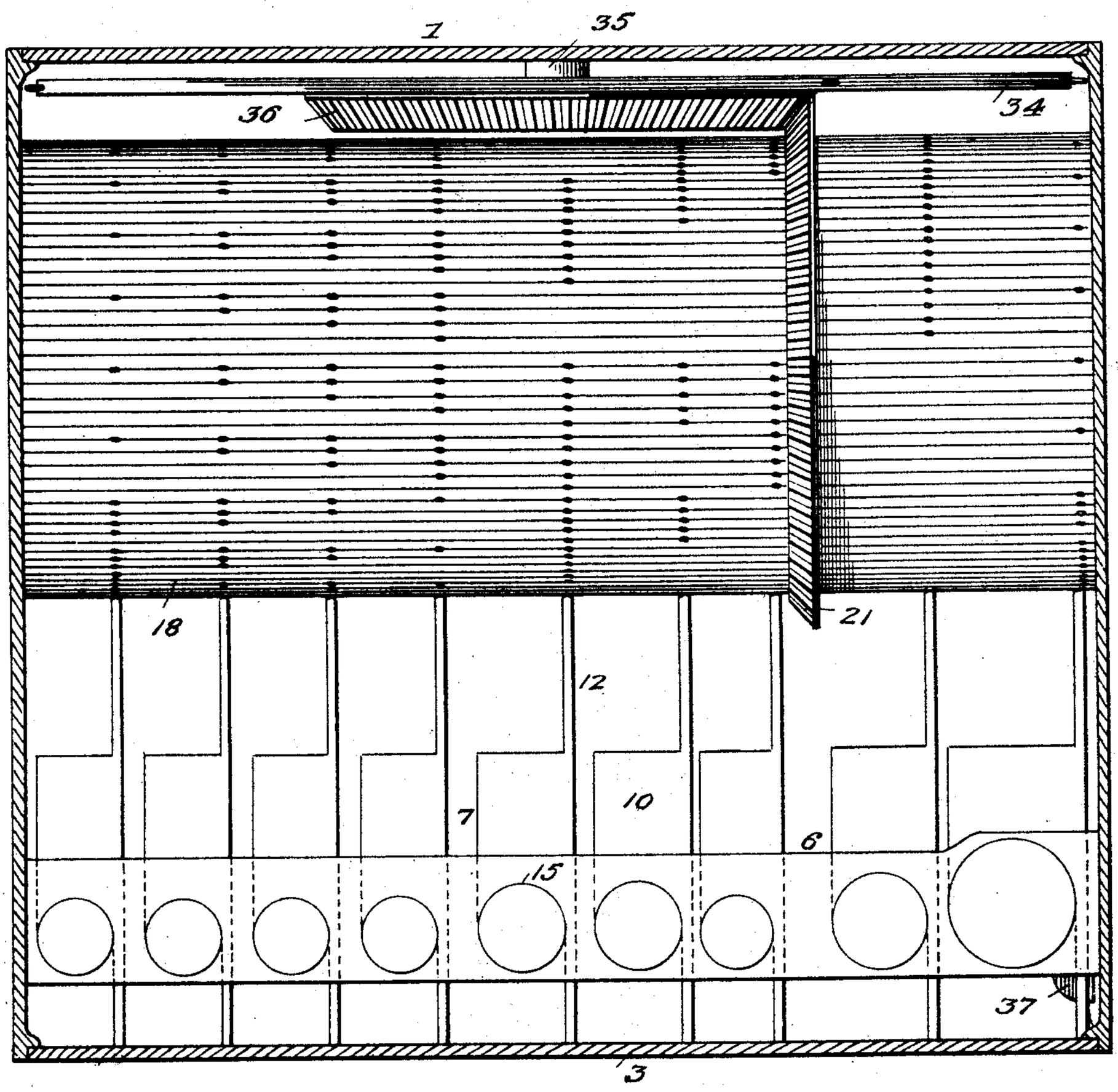
(No Model.) 9 Sheets—Sheet 3.

S. M. WHIPKEY.

MONEY CHANGING MACHINE.

No. 587,250. Patented July 27, 1897

Fig. 3.



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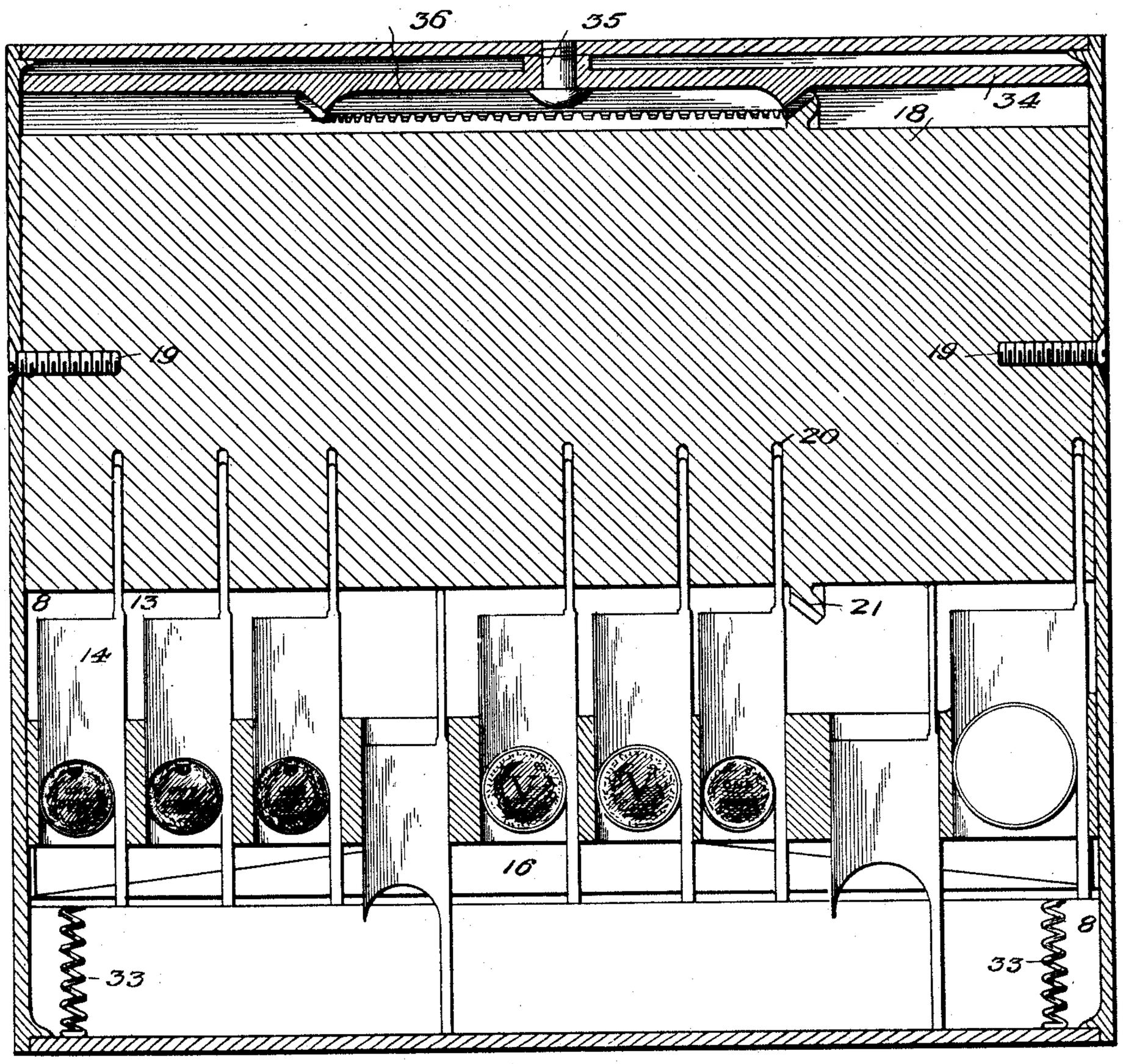
(No Model.) 9 Sheets—Sheet 4.

S. M. WHIPKEY.

MONEY CHANGING MACHINE.

No. 587,250. Patented July 27, 1897.

Fig. 4.



Witnesses
[illegible]
[illegible]

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(No Model.) 9 Sheets—Sheet 5.

S. M. WHIPKEY.

MONEY CHANGING MACHINE.

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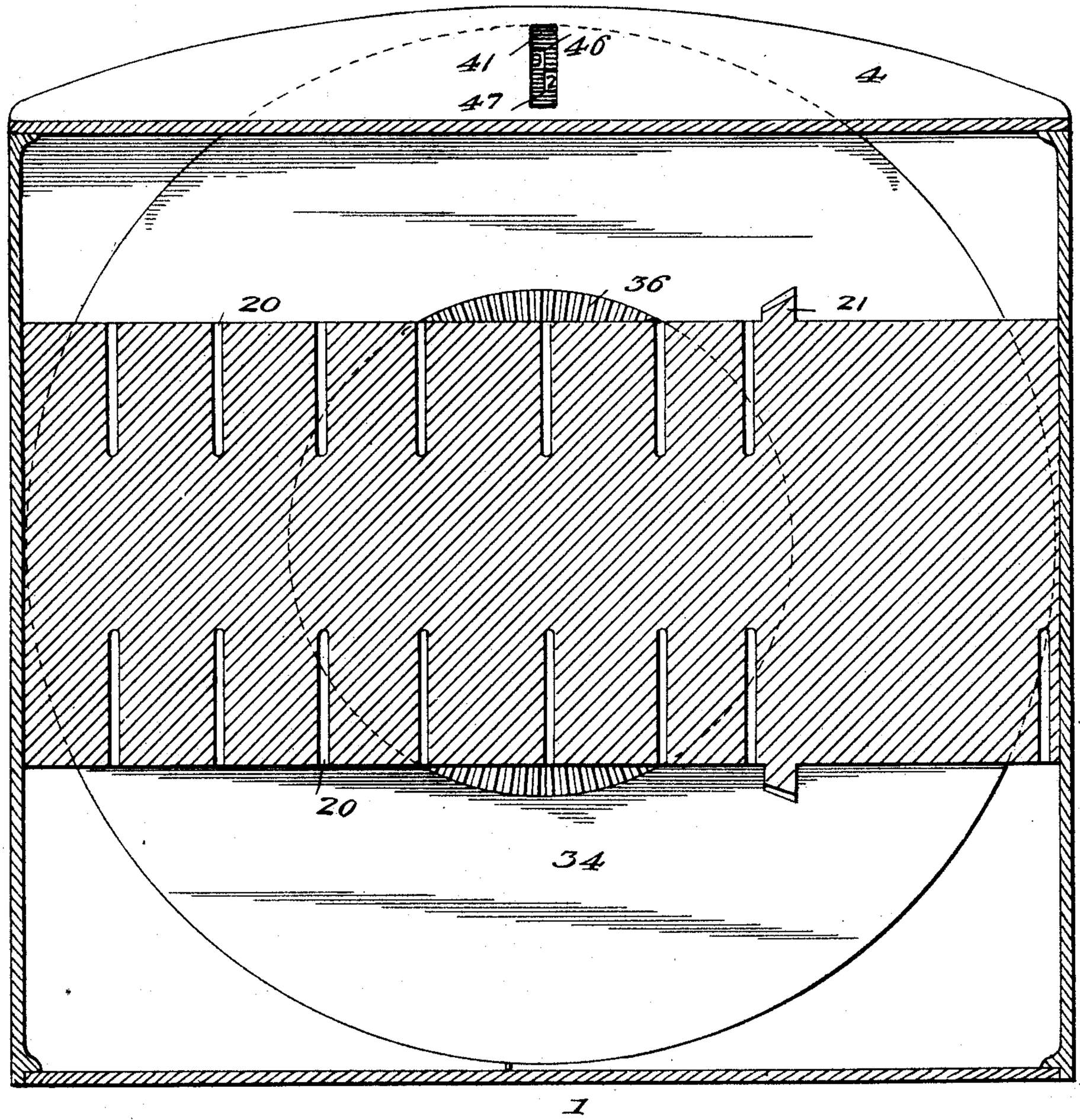
Fig. 5.



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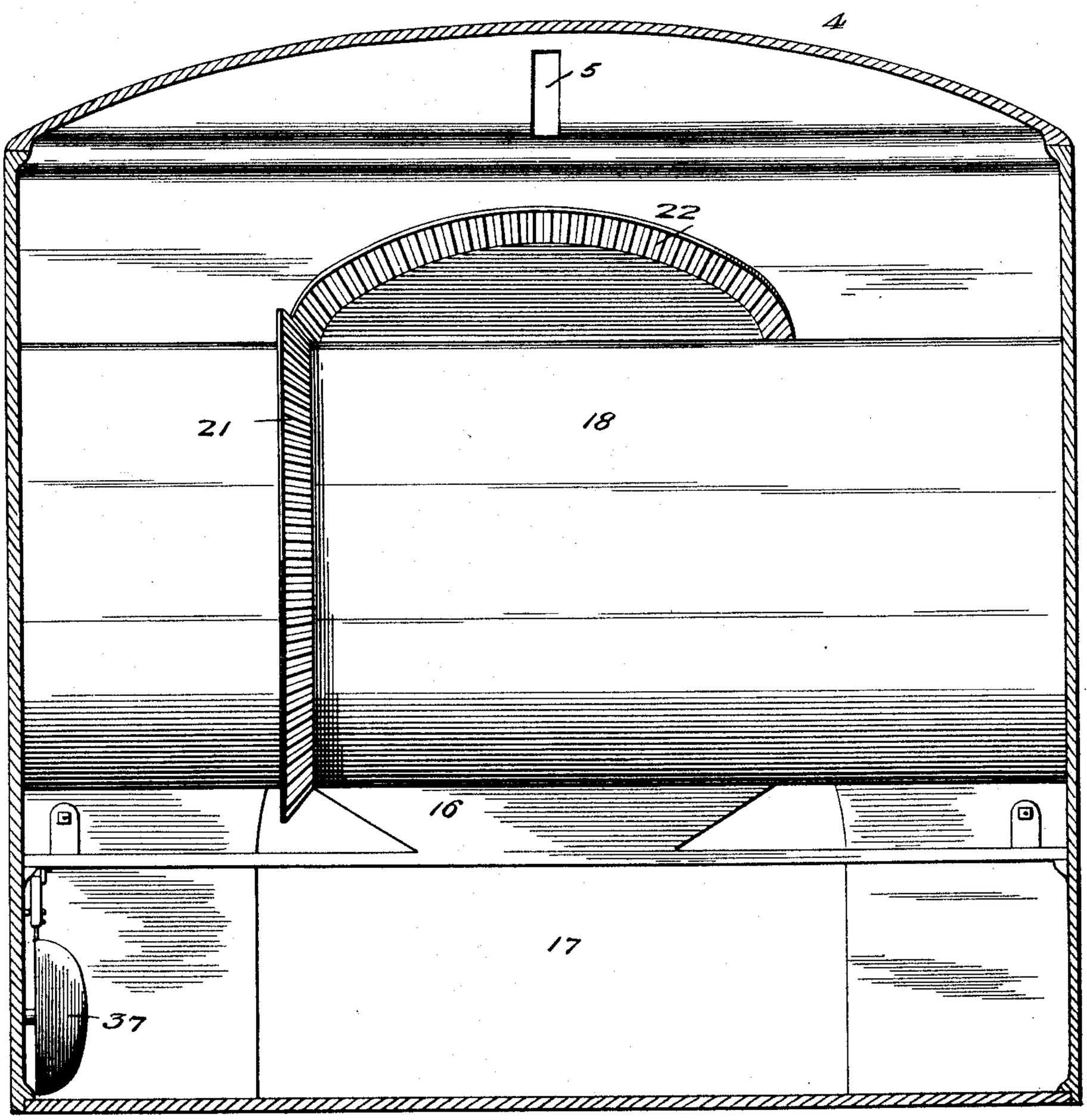
(No Model.) 9 Sheets—Sheet 6.

S. M. WHIPKEY.

MONEY CHANGING MACHINE.

No. 587,250. Patented July 27, 1897.

Fig. 6.



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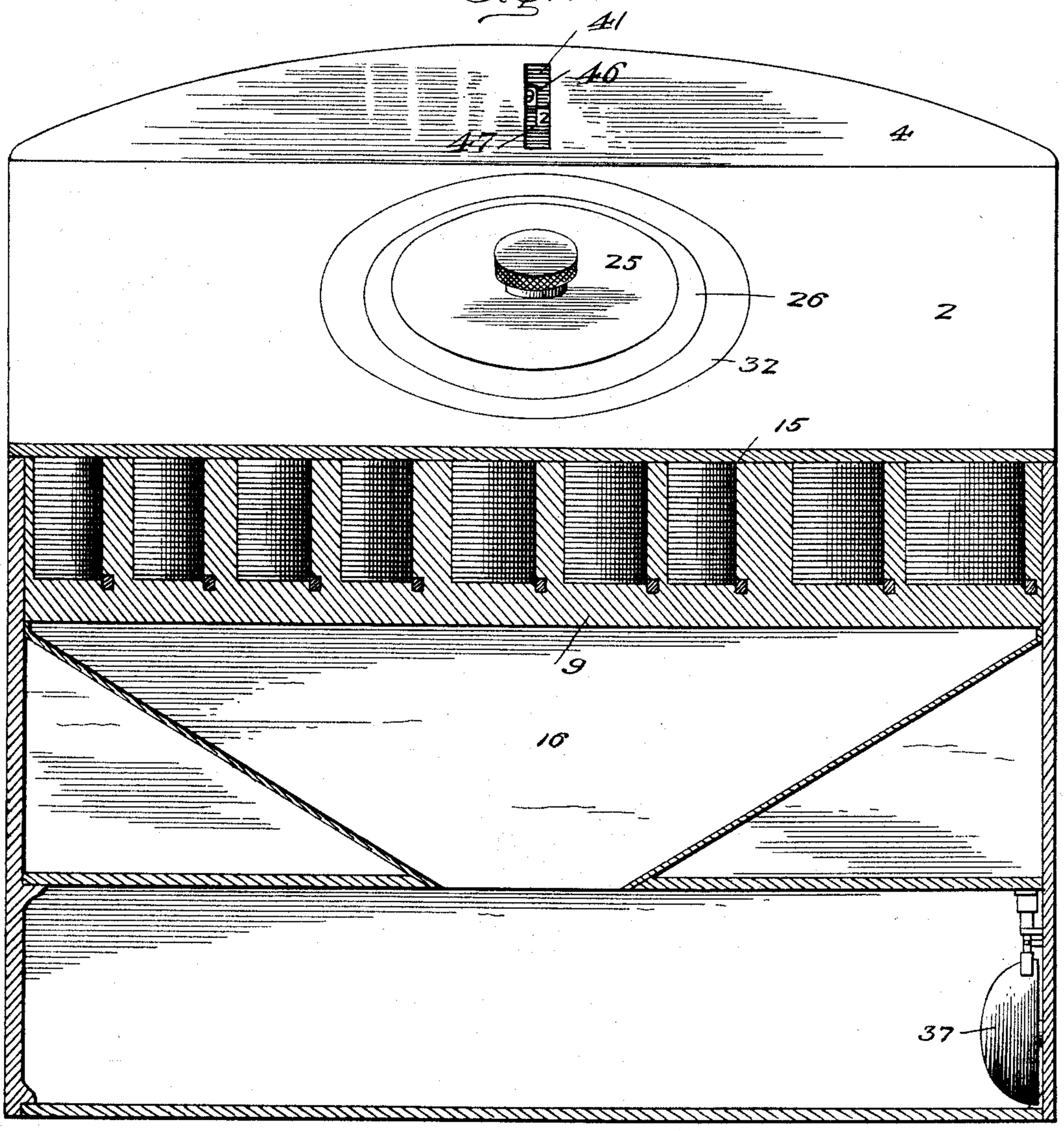
9 Sheets—Sheet 7.

S. M. WHIPKEY.

MONEY CHANGING MACHINE.

No. 587,250. Patented July 27, 1897.

Fig. 7.



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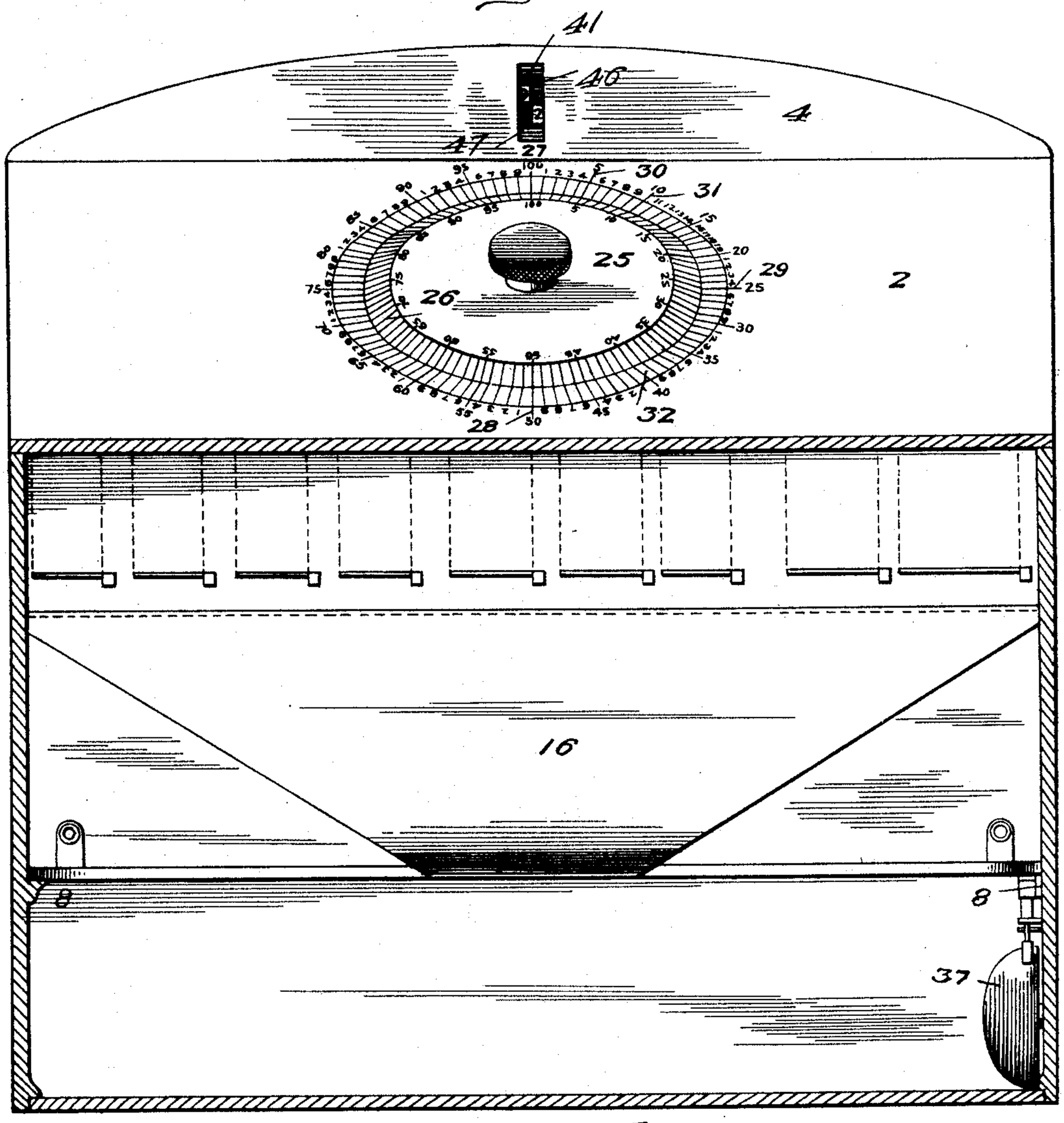
(No Model.) 9 Sheets—Sheet 8.

S. M. WHIPKEY.

MONEY CHANGING MACHINE.

No. 587,250. Patented July 27, 1897.

Fig. 8.



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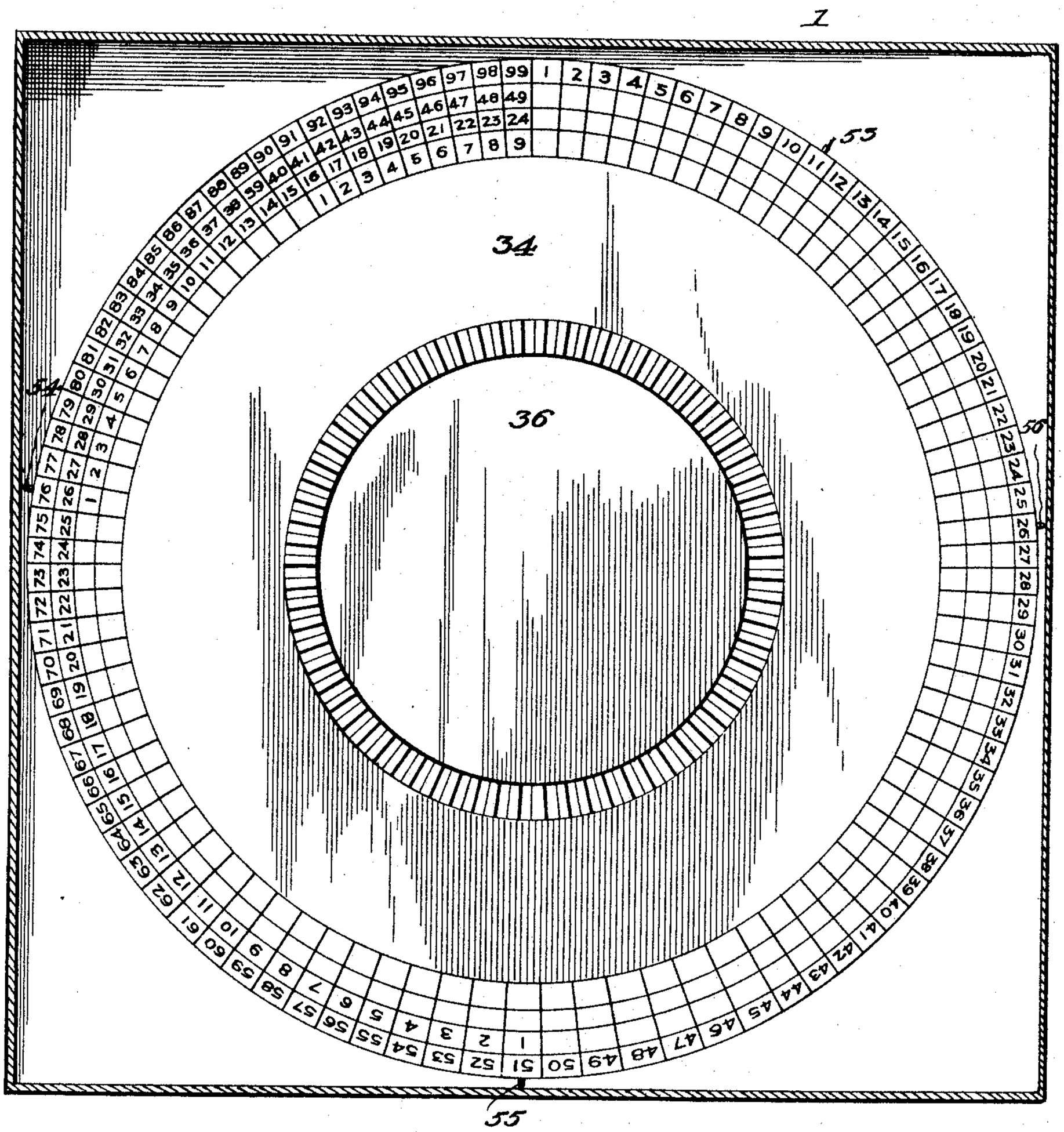
9 Sheets—Sheet 9.

S. M. WHIPKEY.

MONEY CHANGING MACHINE.

No. 587,250. Patented July 27, 1897.

Fig. 9.



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UNITED STATES PATENT OFFICE.

SANFORD M. WHIPKEY, OF BARRONVALE, PENNSYLVANIA.

MONEY-CHANGING MACHINE.

SPECIFICATION forming part of Letters Patent No. 587,250, dated July 27, 1897.

Application filed February 19, 1897. Serial No. 624,210. (No model.)

To all whom it may concern:

Be it known that I, SANFORD M. WHIPKEY, a citizen of the United States, residing at Barronvale, in the county of Somerset and State of Pennsylvania, have invented certain new and useful Improvements in Money-Changing Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to improvements in machines for making change in sums of one dollar and under; and the object is to provide a device for the use of merchants and others whereby change can be made with rapidity and accuracy.

To this end the novelty consists in the construction, combination, and arrangement of the same, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same figures of reference indicate the same parts of the invention.

Figure 1 is a perspective view of my improved money-changing machine. Fig. 2 is a central transverse section of the same. Fig. 3 is a horizontal section on the line of the top of the change-drawer. Fig. 4 is a similar view on the line of the change-slides, the drawer being thrown back and the roller set to throw out twenty-six cents for change. Fig. 5 is a vertical longitudinal section through the roller, looking to the rear. Fig. 6 is a rear elevation with the back and indicator-disk removed. Fig. 7 is a longitudinal section through the center of the coin-pockets. Fig. 8 is a similar view between the change-drawer and the front of the machine. Fig. 9 is a plan of the indicator-disk, and Fig. 10 is a detail view of the disk and shutter and connecting mechanism.

1 represents the case or cabinet, having an inclined top portion 2, a vertical front 3, and an ornamental top piece 4, having a visual orifice 5.

6 represents the change receptacle or drawer, the outer ends 7 7 of which slide snugly in the side rails 8 8.

9 represents the bottom of the change-drawer, and it is formed with a series of rectangular guide-slots 10, each one of which communicates with a flat horizontal slide-recess 12.

13 represents rectangular bars, one of which is located so as to slide snugly in each of the guide-slots 10, and each bar is provided with a horizontal plate 14, which has a reciprocating movement in the adjoining recess 12.

Immediately above each of the sliding plates 14 is a vertical cylindrical pocket 15, into which the coin is placed. The bottom piece of each column of coin rests on the plate, and as the plate is pushed backward by its bar the lowermost coin rests on the top of the bottom 9, and if the bar be then pushed forward it of course carries its plate with it, and the front edge of the plate, which is of just the same thickness as the coin, pushes the coin out through the recess 12, and it falls into the hopper 16 through the opening 17 into the hand placed there to receive it. As shown in Fig. 3, there are nine of these coin-pockets, the one on the right containing half-dollars, the next quarter-dollars, then one for dimes, two for nickels, and four for pennies, so that when any coin from a nickel to a dollar is tendered in payment for a sale the exact amount of change can be rendered by the proper manipulation of the appropriate slides. For instance, should a dollar be tendered for a twenty-five-cent purchase it is only necessary to operate the half and quarter dollar slides simultaneously to discharge seventy-five cents in the hopper. Should a half-dollar be tendered for a ten-cent sale, by operating quarter-dollar, dime, and one of the nickel slides the proper change would be returned, and so on.

I will now describe how any amount of change may be made automatically. These slide-bars 13 are all of uniform length, and when the change-drawer is pulled forward the front end of all the bars rests against the inside of the front 3, and immediately in the rear of the drawer is mounted a cylinder 18, its journals 19 19 having a bearing in the side rails 8 8 and in the same horizontal plane as the series of slide-bars 13. Assuming that the cylinder is solid, if the change-drawer were pushed back it would carry all the bars with it until their rear ends came in contact with the periphery of the cylinder. This

would hold all the bars stationary, while the farther backward movement of the drawer would cause all the bars and their attached slides to each discharge a coin in the hopper. In fact, this would be the result if a dollar were tendered for a penny purchase. In pushing back the drawer a total of ninety-nine cents would be discharged in the hopper. If, however, the purchase amount to twenty-five cents, the cylinder 18 would be turned so that it would present a solid periphery to the half and quarter dollar slide-bars, while the dime, nickel, and penny slide-bars would project into radial recesses 20, appropriately arranged in the cylinder in line with the respective ends of said slide-bars, thereby allowing them to slide with the drawer and not independently of it, as is the case when their movement is arrested by the solid portion of the cylinder.

In order to discharge any given amount from one penny up to one dollar, it is only necessary to divide the periphery of the cylinder 18 into one hundred longitudinal sections and form radial recesses similar to the recess 20 for the ends of the slide-bars, corresponding to the sum of the change required. This cylinder 18 is provided with a bevel gear-wheel 21, which meshes with a similar bevel gear-wheel 22, rigidly mounted on an inclined shaft 23, journaled in the top 2 of the machine, and the outer end of said shaft carries a dial 25, having a beveled edge 26. This dial is divided by a series of radial lines, one of which, 27, is marked with the "$1." The diametrically opposite line 28 has the fifty-cent character affixed, and intersecting these two lines at a right angle on the right-hand side is a third line 29, having the twenty-five-cent character affixed. The space between the line 27 and the line 29 is divided into five equal divisions, to the first one, 30, of which is affixed the five-cent characters, and to the second one, 31, is affixed the ten-cent characters, the third and fourth divisions remaining blank.

32 represents a fixed circular scale arranged on the inclined top 2 concentric with the dial 25, and it is divided into one hundred equal divisions. Beginning at the top vertical mark, which is "100," each division to the right represents one cent, and for greater convenience the scale is marked in multiples of five, the twenty-five, fifty, and seventy-five cent divisions being conspicuously displayed, while the intermediate divisions are such as to be readily distinguished.

As above stated, the dial 25 rotates the cylinder 18 simultaneously with it, and if a quarter of a dollar be received for a twenty-cent purchase the dial will be set with the twenty-five-cent division-line opposite the twenty-cent mark on the scale. This would also be the position of the dial if a dime were tendered for a five-cent purchase, a half-dollar for a forty-five-cent purchase, or a dollar for a ninety-five-cent purchase. This position of the dial rotates the cylinder 18 so that one of its recesses 20 would be in line with all of the slide-bars 13 except one of the two located in the bottom of the nickel-pockets, so that if the drawer be pushed back all of the slide-bars except the one mentioned will extend into the corresponding recess 20 in the cylinder, while the end of the bar mentioned will be arrested in its movement by abutting against the solid portion of the cylinder and will consequently be operated to discharge a nickel in the hopper. A corresponding result will be attained at any position the dial may be set, it being only necessary to set the mark on the dial corresponding to the coin received in line with the mark on the scale corresponding to the amount of the purchase. This will revolve the cylinder 18 so that the appropriate recesses and solid portions thereof will be presented to the slide-bars, so that when the drawer is pushed back the slide-bars will be operated to discharge the proper amount of change.

33 33 represent two spiral springs, one of which is located on each side of the drawer, which serve to return the drawer to its normal position, and as the drawer is returned by said springs the slide-bars present an irregular appearance, those that have been in play projecting in front of the drawer beyond those not then in use, and as the drawer moves forward the projecting ends of those out of line with the rest will strike against the front 3, causing them to remain stationary while the drawer slides forward on them to the forward limit of its movement, at which point all of the slide-bars will be in line and ready for the next operation.

34 represents a vertical disk mounted on a shaft 35, journaled in the frame, and 36 is a bevel gear-wheel secured to said disk, which meshes with the bevel-gear 21 on the cylinder 18, and the face of this disk 34 in line with the visual orifice 5 is divided into four concentric circles, each divided into ninety-nine sections, the outer circle being supplied with the numerals from "1" to "99" in regular order, the next circle with numerals from "1" to "49," beginning at the section in line with "51" on the other circle, the third inner circle having its last twenty-four sections numbered in regular order from "1" to "24," and the fourth or last inner circle has its last nine sections numbered from "1" to "9," as shown.

41 represents a curved shutter mounted on the forward end of a horizontal arm 42, fixed on a vertical shaft 43, journaled in brackets 44 44, secured to the frame or case behind the visual orifice 5. This shutter, with a diagonal series of rectangular openings 45 46 and 47 48, corresponds to the circles on the disk 34.

The rear end of the arm 42 is formed with a series of radial fingers 49 50 and 51 52, which project into the path of a series of projecting pins 53 54 55 56, extending radially from the disk 34 and which come in contact with the

fingers to move the shutter and present the appropriate opening in line with the proper circle and show the amount of the purchase at the visual orifice 5.

37 represents an alarm-gong fixed to the frame or case and provided with a spring-hammer 38, having a projecting toe 39, located in the path of a pivoted arm 40 on the change-drawer, and as the change-drawer is pushed back the arm 40 slides under the toe 39 of the hammer, raises it, and allows it to fly back and strike the gong, giving an alarm every time the drawer is operated, and when the drawer is returned the pivoted arm 40 rides over the toe 39 without operating it.

The operation of the device is as follows: Should a dollar be tendered for a twenty-five-cent purchase, the dial 25 will be turned until the "$1.00" division-line is opposite the twenty-five-cent mark on the scale 32. This presents the solid portion of the cylinder 18 to the ends of the slides in the fifty-cent and twenty-five-cent pockets. Consequently when the change-drawer 6 is pushed in the slides in the bottom of the above-mentioned pockets remain stationary and thereby discharge a half-dollar and a quarter-dollar into the hopper 16, whence it falls into the hand, which is placed in position to receive it, while at the same time engaged in operating the drawer.

Although I have specifically described the construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. In a money-changing machine, a reciprocating drawer provided with vertical pockets, a slide-bar and slide located in said drawer beneath each pocket, in combination with a cylinder having its axis in the same plane with the slide-bars in the drawer, and having its periphery formed with a series of radial recesses arbitrarily arranged to receive the said slide-bars, when said drawer is reciprocated, substantially as and for the purpose set forth.

2. A money-changing machine, comprising a reciprocating drawer provided with a series of vertical coin-pockets, a slide-bar and slide located in said drawer beneath each coin-pocket, in combination with a cylinder having its axis in the same plane with the slide-bars in the drawer, its periphery formed with a series of radial recesses as described, a dial rotating within a fixed scale, and means substantially as set forth for rotating said dial and cylinder in unison, as and for the purpose set forth.

3. A money-changing machine, comprising a reciprocating drawer provided with a series of vertical coin-pockets, a slide-bar and slide located in said drawer beneath each pocket, in combination with a cylinder having its axis in the same plane with the slide-bars in the drawer, and its periphery formed with a series of radial recesses as described, a dial rotating within a fixed scale, an indicator-disk, and means substantially as described for rotating said dial, cylinder and indicator-disk simultaneously, as set forth.

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

SANFORD M. WHIPKEY.

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MILTON J. BERG.