No. 817,927. PATENTED APR. 17, 1906.

J. W. MEAKER.

COIN HOLDING AND DELIVERING MACHINE.

APPLICATION FILED JULY 21, 1904.

4 SHEETS—SHEET 1.

Fig. 1

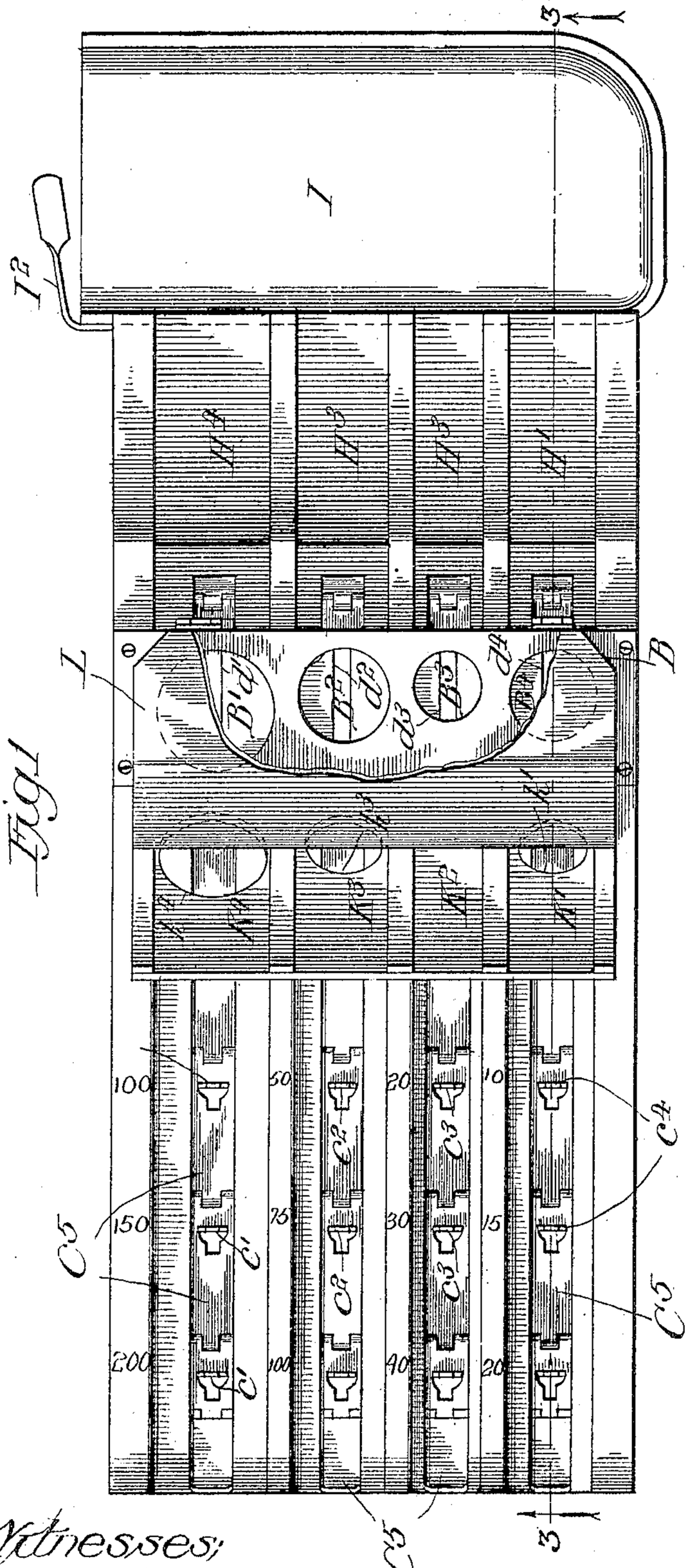
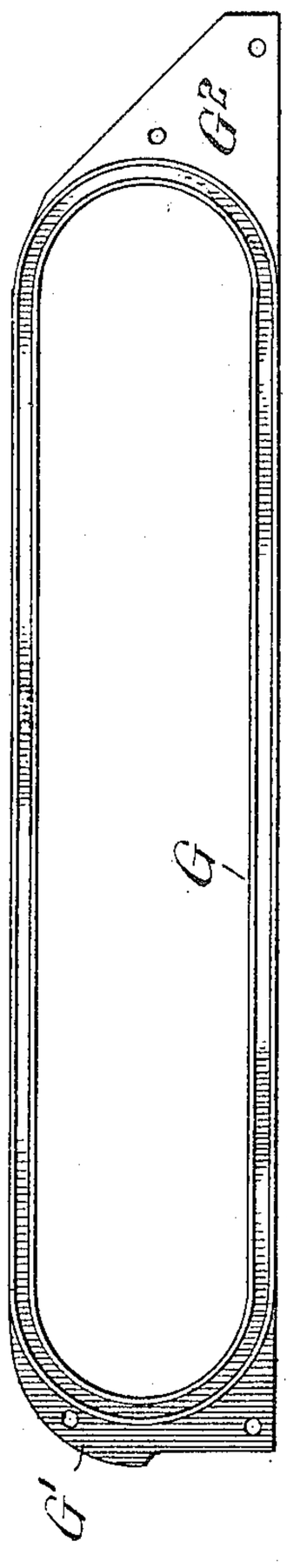


Fig. 10



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4 SHEETS—SHEET 2.

Fig. 2

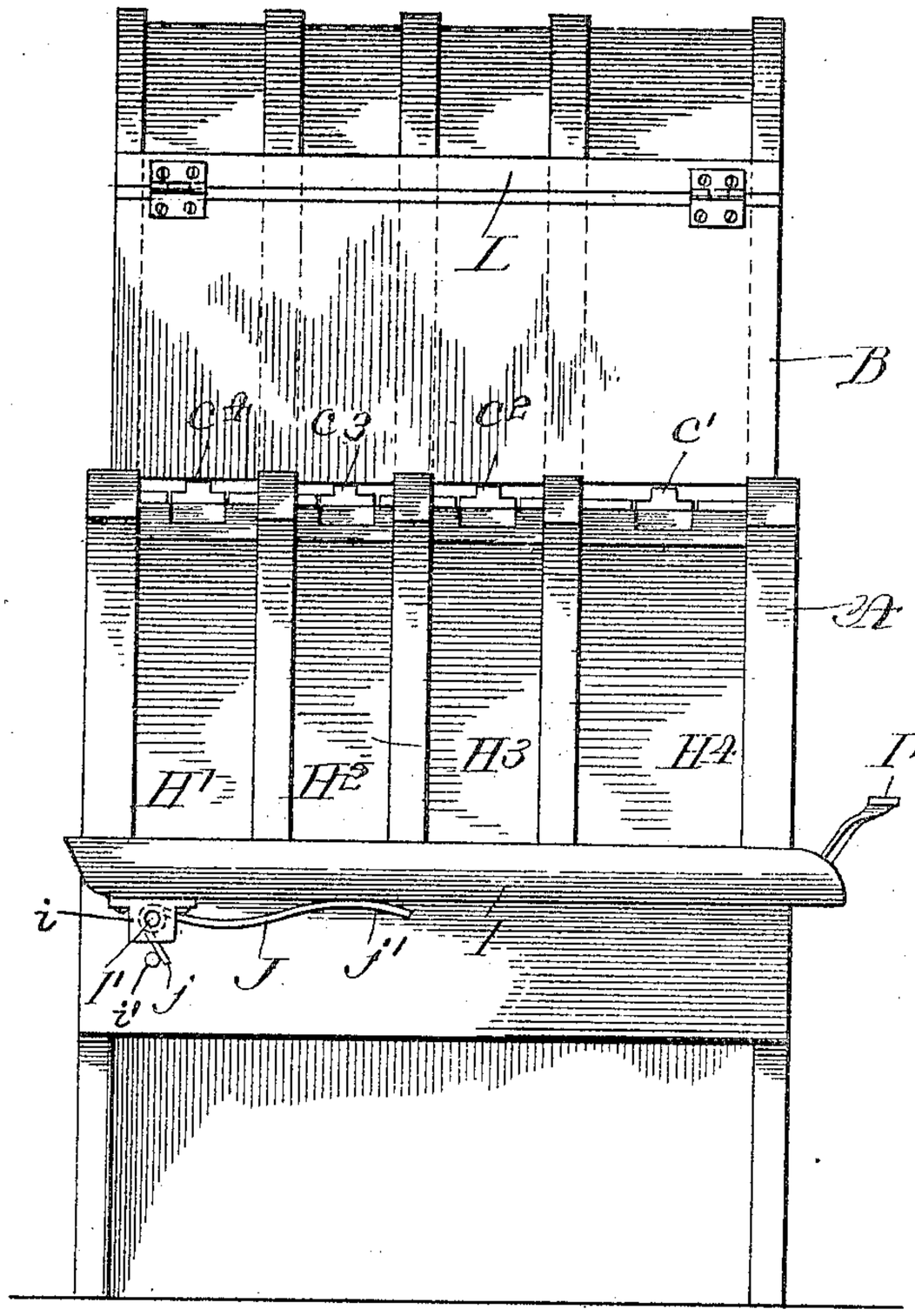
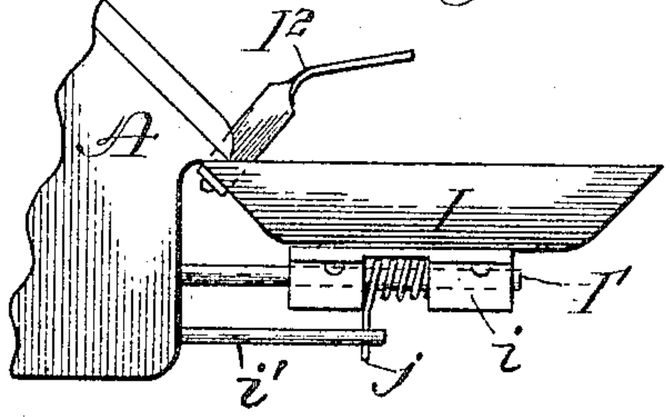


Fig. 9.



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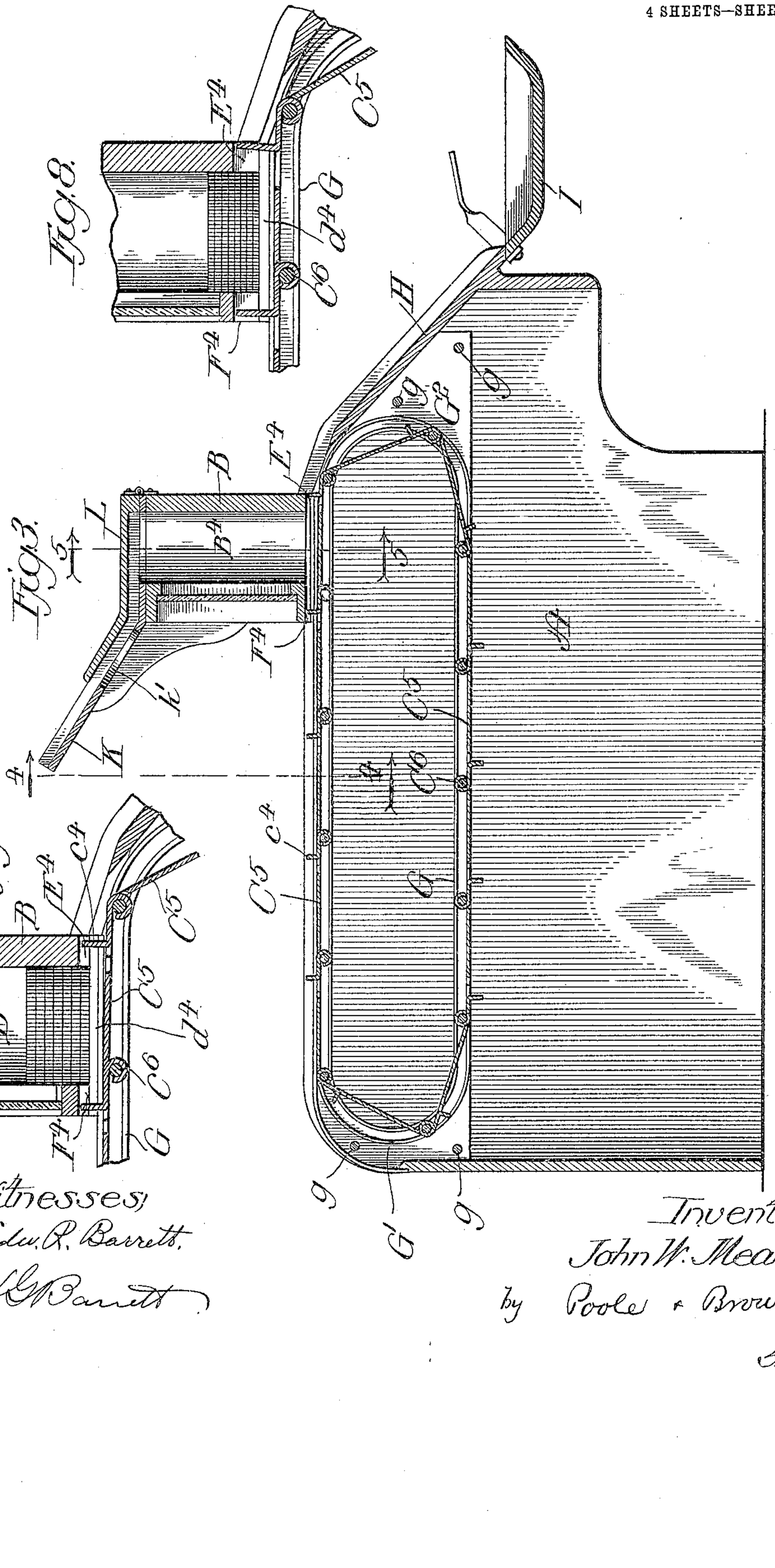
4 SHEETS—SHEET 3.



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4 SHEETS—SHEET 4.

Fig. 4

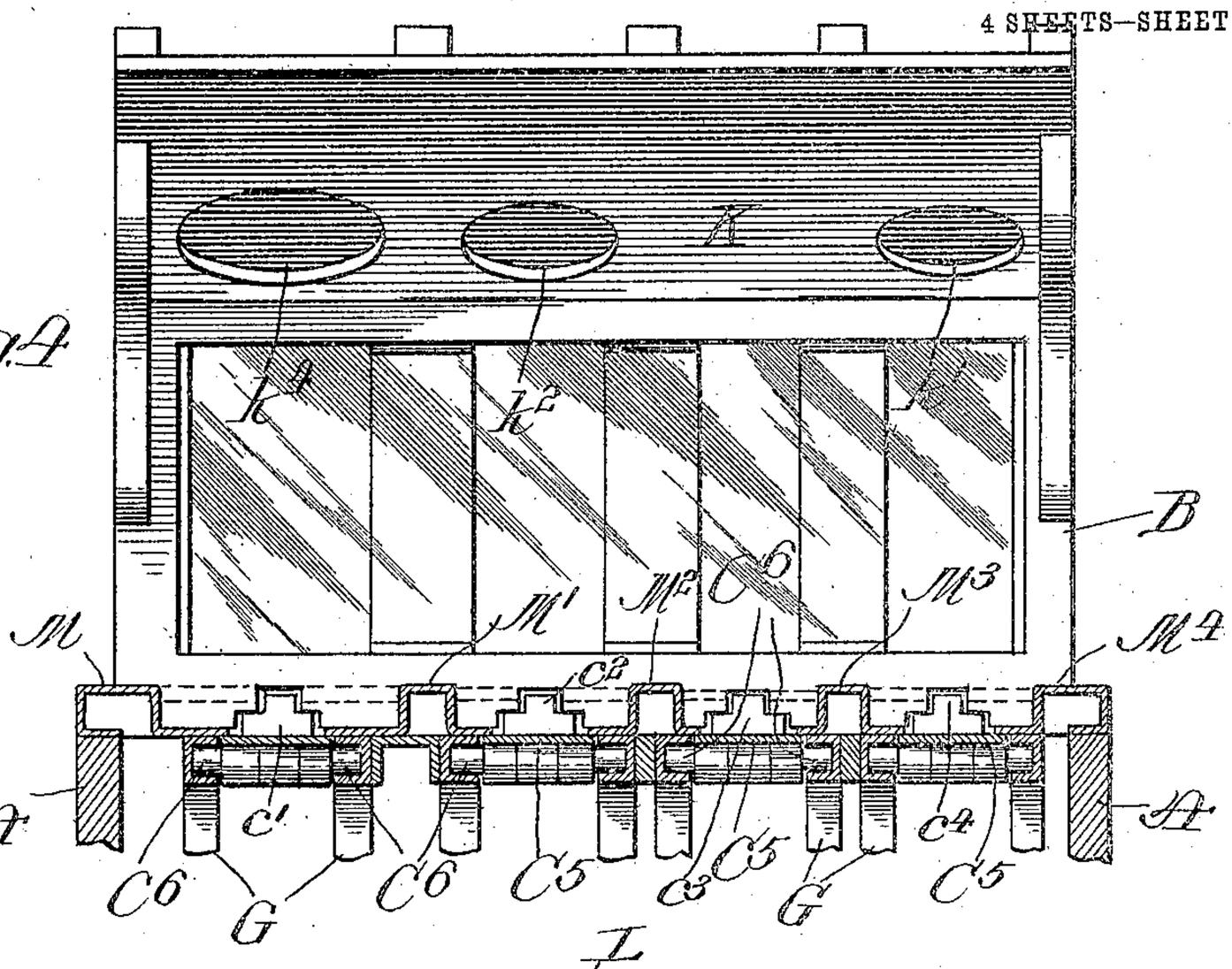


Fig. 5

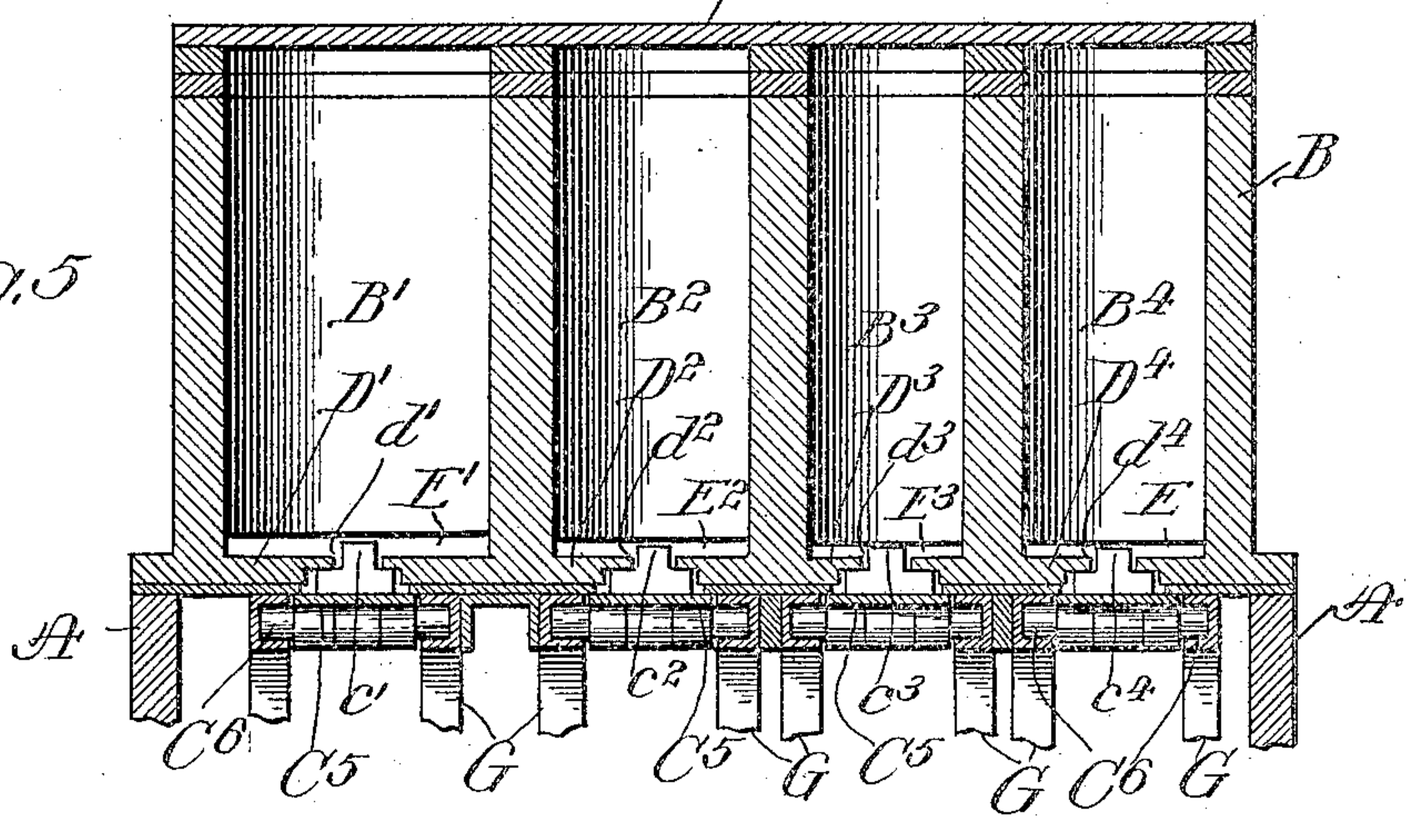
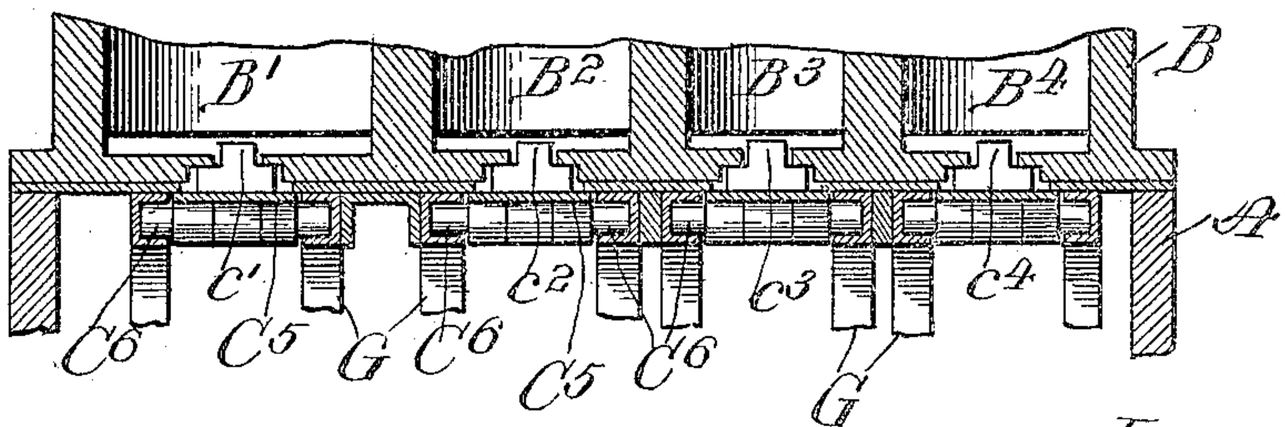


Fig. 6.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN W. MEAKER, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO MEAKER SALES COMPANY, A CORPORATION OF MICHIGAN.

COIN HOLDING AND DELIVERING MACHINE.

No. 817,927. Specification of Letters Patent. Patented April 17, 1906.

Application filed July 21, 1904. Serial No. 217,512.

To all whom it may concern:

Be it known that I, JOHN W. MEAKER, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coin Holding and Delivering Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to coin holding and delivering or change-making machines of that kind having a plurality of coin-receiving receptacles adapted to hold stacks or piles of coins together, with means for ejecting or removing the coins severally from the lower ends of the receptacles.

The invention consists in the matters hereinafter described, and pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a plan view of a machine embodying my invention. Fig. 2 is a front view thereof. Fig. 3 is a view thereof in central longitudinal section taken upon line 3 3 of Fig. 1. Fig. 4 is a sectional elevation taken upon line 4 4 of Fig. 3. Fig. 5 is a detail sectional view through the coin-receiving receptacles, taken upon line 5 5 of Fig. 3. Fig. 6 is a detail section of the lower parts of said receptacles, showing a form of construction therein slightly different from that shown in Fig. 5. Fig. 7 is a detail view of one of the side guide-plates for the endless belt or carrier by which the coins are removed from the receptacles. Fig. 8 is an enlarged detail section of the parts adjacent to the lower end of one of the coin-receptacles corresponding with Fig. 3, but showing the same on an enlarged scale. Fig. 9 is a sectional view like Fig. 7, showing a modified construction in the parts adapted for discharging more than one coin at a time from the receptacle. Fig. 10 is a detail end view of the movable tray into which the coins are discharged at the front end of the machine.

As shown in the said drawings, A indicates a main frame or casing of the machine, over the forward part of which and extending from side to side thereof is a secondary casing B, containing a plurality of coin-holding receptacles, four of which are shown in the accompanying drawings, marked B′ B^2 B^3 B^4. Said coin-receptacles are shown as arranged side by side in a vertical position. The coin-receptacles B′ B^2 B^3 B^4 are designed for holding coins of different denominations, those illustrated in the drawings being respectively adapted to receive half-dollars, quarter-dollars, dimes, and five-cent pieces or nickels.

Mounted in the main frame A severally beneath the coin-receptacles B′ B^2 B^3 B^4 and extending longitudinally of said main frame are a series of endless traveling belts or carriers C′ C^2 C^3 C^4, which move in parallel planes and are mounted in suitable guide or supporting devices on the main frame. Said endless belts or carriers are provided at intervals with upwardly-projecting coin-ejecting fingers c' c^2 c^3 c^4, which are adapted to project upwardly into said coin-receptacles through slots d' d^2 d^3 d^4, formed in the bottom walls D′ D^2 D^3 D^4 of said receptacles, and to pass through said slots in the forward movement of the upper laps of the belts or carriers. In the front walls of said receptacles B′ B^2 B^3 B^4 are formed exit-slots for the passage of the coin laterally and forwardly from said receptacles, said slots having their lower surfaces flush with the top surfaces of the bottom walls of the receptacles, so that the lowermost coin in any receptacle may be pushed or slid along said bottom wall and outwardly through the slot in its forward wall. Said exit-slots are indicated in the drawings by E′ E^2 E^3 E^4. In the rear walls of the receptacles are formed upwardly-extending notches located above the slots d' d^2 d^3 d^4, the same being marked F′ F^2 F^3 F^4. Said notches provide for the passage of the ejecting-fingers c' c^2 c^3 c^4 as said ejecting-fingers move toward and into the coin-receptacles.

The endless belts or carriers described are so arranged that parts thereof are exposed to permit or located in position situated for the application of the finger of the operator thereto for moving or shifting the said belts or carriers in the direction required for ejecting coins from the receptacle. In the particular construction illustrated the upper laps of the belts or carriers are so exposed for application of the finger and for convenience are arranged horizontally. Moreover, the parts of the belts or carriers so exposed for the appli-

cation of the finger are equal in length at least to a plurality of the spaces between the coin-ejecting fingers thereon, the effect of this construction being that either belt may be moved by the finger a distance equal to a single space between adjacent fingers, with the result of ejecting a single coin, or may be moved by a single advance movement of the finger a distance equal to two or three or more of the spaces between the fingers, with the result of ejecting at once two, three, or more coins from the same receptacle. In connection with the parts of the endless belts or carriers so exposed or located in position to be actuated by the finger I provide scales marked to correspond with the distance apart of the ejecting-fingers and which enable the operator to move the belt or carrier a distance required for ejecting one, two, three, or more coins without more attention than is required to place the finger on the belt or carrier opposite the appropriate scale-mark before moving the said belt or carrier. I also provide a stationary finger-stop for limiting the movement of the finger with the belt or carrier, enabling the same to be always stopped with the finger nearest the coin-receptacle in about the same position with respect thereto. Such finger-stop is shown as formed by the rear face of the casing B, toward which the finger moves in advancing the upper lap of the belt or carrier The endless belts or carriers C′ C² C³ C⁴ are shown in the drawings as consisting of links C⁵, joined by pivot-rods C⁶, which extend beyond the side margins of the belts and engage guide-grooves formed in guide-strips G G, made of U shape or flanged to constitute the guide-grooves. Said guide-strips, as shown in the drawings, are shaped to form upper and lower parallel parts joined by curved end portions, by which curved end portions the ends of the pivot-rods C⁶ are guided in their passage from the upper to the lower and from the lower to the upper straight parts of said guide-strips.

In the operation of the machine the upper parts of the belts or carriers are moved by the fingers of the operator so as to carry the coin-ejecting fingers into and through the lower parts of the coin-receptacles. As shown in the drawings, the guide-strips G G are formed upon or integral with vertically-arranged parallel plates G′ G², which extend from the ends of the guide-strips, and the several guide-strips are supported in place within the frame of the machine by means of cross-rods *g g*, passing through said plates G′ G² and secured at their ends in the side walls of the main casing A.

On the forward part of the main frame or casing A, which extends forwardly from the auxiliary casing B, containing the coin-receptacles, is a forwardly and downwardly inclined wall H, provided on its upper surface with four guide-grooves H′ H² H³ H⁴, adapted to severally receive coins pushed or carried by the coin-ejecting fingers from the lower ends of the several receptacles and which are delivered to the upper ends of said guide-grooves. On the forward end of the said casing A, adjacent to and below the lower ends of the guide-grooves H′, H², H³, and H⁴, is located a receiving-tray I, adapted to receive coin from any or all of said grooves. Said tray is so arranged that coins delivered thereto may be readily removed therefrom by the operator or the customer to whom the change is to be delivered. To facilitate the removal of the coin from said tray I, the same is shown as open at one end and pivotally mounted on the casing by means of a horizontal pivot I′, secured in the end wall of the main casing in extending forwardly beneath the said tray. A bearing *i*, attached to the bottom of the tray, engages said pivot-rod I′, and a spring J is applied in such manner as to hold the tray normally in horizontal position, said spring J being shown as coiled about the pivot-rod I′ and as having an arm *j*, which engages a stud *i′* on the casing A, and another arm *j′*, which extends beneath and bears upwardly against the said tray. A stop is provided for limiting the upward movement of the free end of the tray when the same is in a horizontal position, and said tray is provided with a finger-piece or key I², which extends upwardly and forwardly from its open or movable end and upon which the thumb may be placed to depress the tray when the palm of the hand is placed beneath the open end of the tray in position to receive the coins which slide therefrom when said open end of the tray is depressed and the tray inclined sufficiently to effect the discharge of the coin therefrom by gravity.

The several coin-receptacles are shown as provided with openings or slots at their rear sides through which the coin therein may be viewed by the operator. Said openings or slots are shown as covered by glass plates F′ F² F³ F⁴. To facilitate the introduction of coin within said receptacles, the casing B, containing said receptacles, is shown as provided at its upper end with an upwardly and rearwardly extending shelf or plate K, provided with four guide-grooves K′ K² K³ K⁴, leading to the upper ends of the several receptacles. In the bottoms of said guide-grooves are formed openings *k′ k² k³ k⁴*, each of which is made of less diameter than the width of the guide-grooves in which it is located, and therefore somewhat smaller than the coins which are to be placed within the receptacles with which the guide-grooves are connected, so that if a mistake be made and a coin smaller than that for which the guide-groove is designed to receive is placed in one of said guide-grooves the coin will fall through the opening, thus indicating to the operator that such mistake has been made.

The said casing B, containing the coin-receptacles, is shown as provided with a hinged cover L, which extends over the tops of the receptacles and the forward or lower parts of the guide-grooves K′ K² K³ K⁴.

In the operation of the machine constructed as described it is manifest that one or any required number of coins may be ejected or delivered from either one of the coin-receiving receptacles by shifting or moving the belt or carrier belonging to that receptacle in such manner as to carry its top part or lap and the ejecting-fingers thereon far enough forward to effect the movement of one or more of the ejecting-fingers through or past the lower end of the receptacles in accordance with the number of coins it is desired to deliver at one time. Such shifting of the belts is effected by placing the finger on the upper lap of the belt and pushing the same forward, so as to carry one or more of the ejecting-fingers through or past the receptacle.

By the use of the machine described it is possible to deliver the desired amount of change in coins of any denomination that may be preferred—as, for instance, the sum of twenty cents may be delivered by shifting forward the proper belt to eject two dimes from the dime-receptacle or four nickels from the nickel-receptacle, or by moving one belt to eject a dime and another belt to eject two nickels. Similarly, the sum of sixty cents may be obtained or delivered by moving the proper belts to eject a half-dollar and a dime, or two quarters and a dime, or a half-dollar and two nickels, or two quarters and two nickels, or six dimes, or a quarter-dollar, three dimes, and a nickel. Moreover, in the construction described, inasmuch as a number of coins of the same denomination may be delivered from the machine by one movement of the hand or finger, change to the desired amount may be obtained or delivered by a less number of movements of the hand than the number of coins to be delivered—as, for instance, if thirty cents in change is to be delivered this amount may be obtained from the dime-receptacle by one movement of the belt associated with that receptacle instead of making two movements of the hand, as would be required if a quarter and a nickel were delivered.

To facilitate the delivery of a desired number of coins at once from any one receptacle, I provide between the several belts C′ C² C³ C⁴ parallel dividing-strips M M′ M² M³ M⁴, which are marked with transverse scale or division lines corresponding in distance apart with the spaces between the ejecting-fingers and to which numbers may be applied indicating the number of coins that will be delivered by the movement of the belt, said marked strips constituting the scales hereinbefore mentioned. As, for instance, as shown in the drawings, the strip M², which is adjacent to the belt C³, designed for delivering dimes, is marked from the front toward the rear of the machine with division-marks and the numbers "10," "20," "30," and "40," these numbers indicating that if the finger be applied to the ejecting-finger which stands opposite the number expressing the amount needed and such finger be moved forward until the finger reaches the rear face of the casing B, which constitutes a finger-stop, as hereinbefore described, a number of coins corresponding with the amount indicated by that particular mark will be delivered from the corresponding receptacle.

As illustrated in Fig. 5, the bottoms of the several coin-receiving receptacles D′ D² D³ D⁴ are located on the same level and the several traveling belts below said receptacle are also located at the same level, while the coin-ejecting fingers *c′ c² c³ c⁴* are made of varying lengths, so that they extend varying distances above the bottoms of the receptacles to provide for varying thicknesses of the different coins which the receptacles are adapted to receive. In the construction shown in Fig. 6, however, the upper laps of the belts in their parts beneath the receptacles are arranged on the same level, and the bottoms of said receptacles are located at varying heights above said belts, according to the thicknesses of the several coins, while the coin-ejecting fingers *c′ c² c³ c⁴* are made all of the same height or length, so that they extend a greater or less distance above the bottoms of the several receptacles in accordance with the thicknesses of the coins in said receptacles in the same manner as in the construction shown in Fig. 5.

In Fig. 8 I have shown a modified construction in the lower end of one of the coin-receptacles, in which the parts are so modified as to effect the discharge of a number of coins at one time from the receptacle. In the instance illustrated in said Fig. 8 this result is effected by elongating the coin-ejecting finger *c* to cover the desired number of coins and making the exit-slot at the forward side of the receptacle deep enough to permit the same number of coins to pass therethrough at once. In said Fig. 8 the parts are shown as arranged for the delivery of four coins at one time.

A construction, such as is shown in Fig. 8, adapted for discharging a number of coins at one time would be useful in a machine provided with a receptacle for pennies adapted to discharge single pennies and an additional receptacle for pennies adapted to discharge four pennies at once, so that in making change requiring four pennies this could be quickly done by a short movement of the appropriate delivery-belt. While in the machine shown the several coin-receptacles are shown as arranged in an upright or vertical position and as substantially tubular in

form, yet such coin-receptacles may be arranged otherwse than in an upright position and of any form or structure that would permit the downward gravitation of the piles of coin within the receptacles and the discharge of the lowermost coins from the lower ends of the receptacles.

It is to be understood that a machine embracing the general features of construction above described may be variously modified with respect to its structural features and details of arrangement, and I do not desire to be limited to the particular details of construction illustrated and described, except so far as the same may in the appended claims be pointed out as part of my invention. As, for instance, a broad feature of my invention embraces a construction embracing a coin-holding receptacle adapted for the discharge of coins from the lower end thereof, together with an endless traveling belt or carrier provided with a plurality of coin-ejecting fingers which are adapted to act upon the lowermost coin in the receptacles and a part of which is exposed for the application of the finger thereto for moving or shifting the same, and a machine embracing these features is included in my invention without restriction to the particular details of construction employed in the receptacle or in the endless traveling belt or carrier.

I claim as my invention—

1. A change-making machine comprising a coin-holding receptacle adapted for the discharge of coins from the lower end thereof, and a manually-operable endless traveling belt or carrier provided with coin-ejecting fingers, a part of which is located beneath the bottom wall of said receptacle and moves in a direction parallel therewith, and another part of which is adapted for the application thereto of the finger of the operator for the actuation of said belt or carrier.

2. A change-making machine comprising a plurality of coin-holding receptacles adapted for the discharge of coins from the lower ends thereof, said coin-holding receptacles being arranged side by side and a plurality of manually-operable endless traveling belts or carriers provided with coin-ejecting fingers, parts of the upper laps of said belts or carriers being located below and adapted to move in paths parallel with the bottom walls of the coin-receptacles and other parts thereof being arranged in the same plane and adapted for the application thereto of the fingers of the operator for the actuation of said belts or carriers.

3. A change-making machine comprising a plurality of coin-holding receptacles arranged side by side and adapted for the discharge of coins from the lower ends thereof and a plurality of manually-operable endless traveling belts or carriers provided with coin-ejecting fingers, the said endless belts or carriers being arranged in parallel planes and parts of the upper laps thereof being located beneath the coin-receptacles and adapted to move in planes parallel with the bottom walls of said receptacles and other parts of said upper laps being adapted for the application thereto of the fingers of the operator for the actuation of the said belts or carriers.

4. A coin-holding and delivering machine comprising a coin-holding receptacle adapted for the discharge of coins from the lower end thereof, and an endless traveling belt or carrier provided with coin-ejecting fingers; said belt or carrier having a part exposed for the application of the finger thereto equal at least in length to a plurality of the spaces between the coin-ejecting fingers thereon, to provide for the ejection of one or a plurality of coins by a single advance movement of the belt or carrier.

5. A coin holding and delivering machine comprising a coin-holding receptacle adapted for the discharge of coins from the lower end thereof, and an endless traveling belt or carrier provided with coin-ejecting fingers, said belt or carrier having a part exposed for the application of the finger thereto equal at least in length to a plurality of the spaces between the coin-ejecting fingers thereon, and a finger-stop for limiting the movement of the finger in advancing the belt or carrier.

6. A coin holding and delivering machine comprising a coin-holding receptacle adapted for the discharge of coins from the lower end thereof and an endless traveling belt or carrier provided with coin-ejecting fingers; said endless belt or carrier having a part exposed for the application of the finger thereto equal at least in length to a plurality of the spaces between the coin-ejecting fingers thereon, a finger-stop, and a scale provided with marks spaced to correspond with the distance apart of said fingers.

7. A coin holding and delivering machine comprising a plurality of coin-holding receptacles arranged side by side and adapted for the discharge of coins from the lower ends thereof, a plurality of endless traveling belts or carriers arranged side by side in parallel planes with their upper laps in the same planes, said traveling belts or carriers being provided with coin-ejecting fingers, and scale-strips located between the said belts and provided with marks spaced to correspond with the distance apart of the said coin-ejecting fingers on the belts or carriers.

8. A machine for holding and delivering coins comprising a coin-holding receptacle adapted for the discharge of coins from the lower end thereof, an endless traveling belt or carrier consisting of a plurality of pivotally-connected links, each provided with a coin-ejecting finger and guides for the chain

located in position to sustain the upper lap of the same beneath the coin-holding receptacle with the coin-ejecting fingers in position to engage the lowermost coin in said receptacle.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 16th day of July, A. D. 1904.

JOHN W. MEAKER.

Witnesses:
C. CLARENCE POOLE,
GERTRUDE BRYCE.