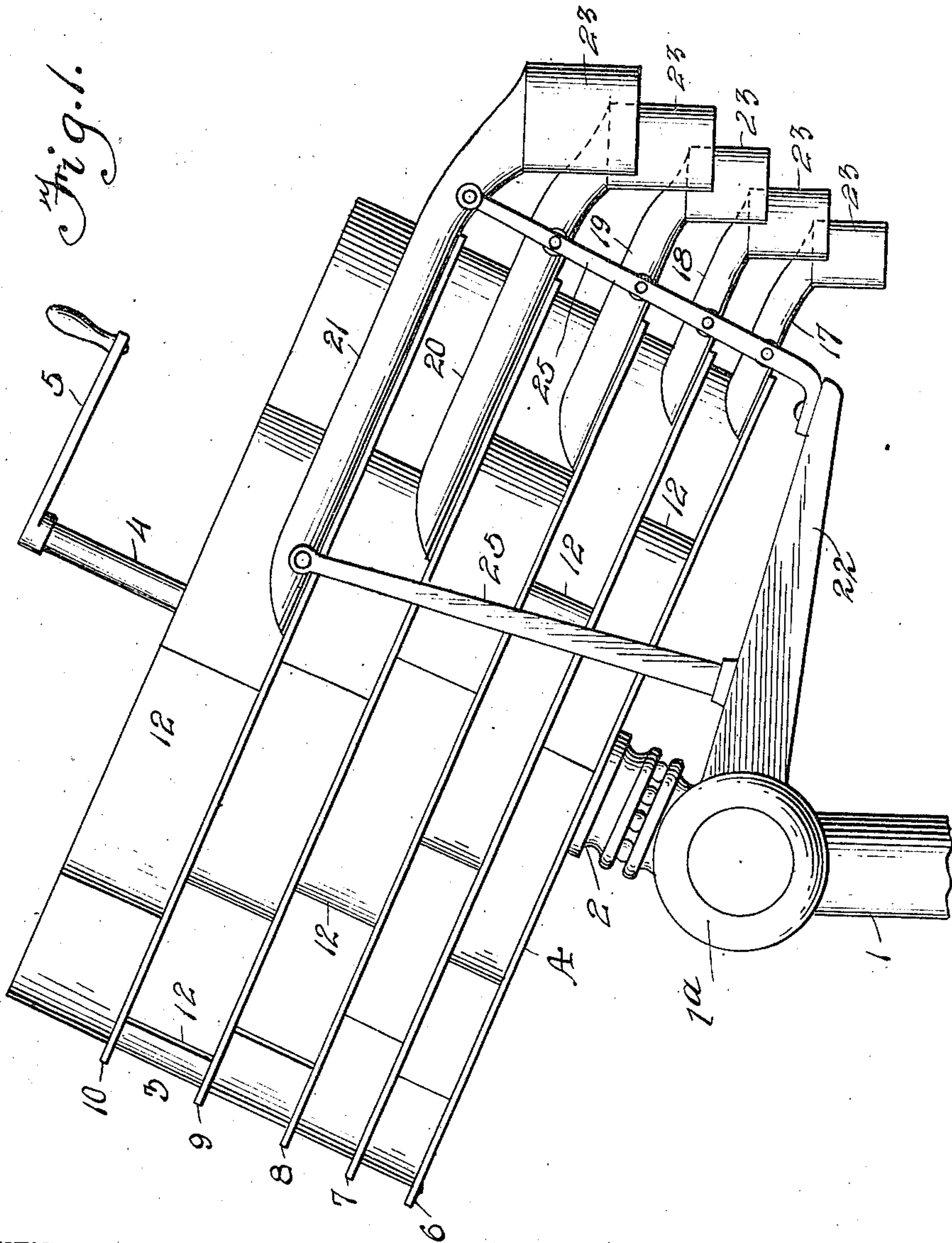


989,522.

D. DRAWBAUGH.
COIN ASSORTER.
APPLICATION FILED OCT. 17, 1910.

Patented Apr. 11, 1911.
4 SHEETS—SHEET 1.



WITNESSES
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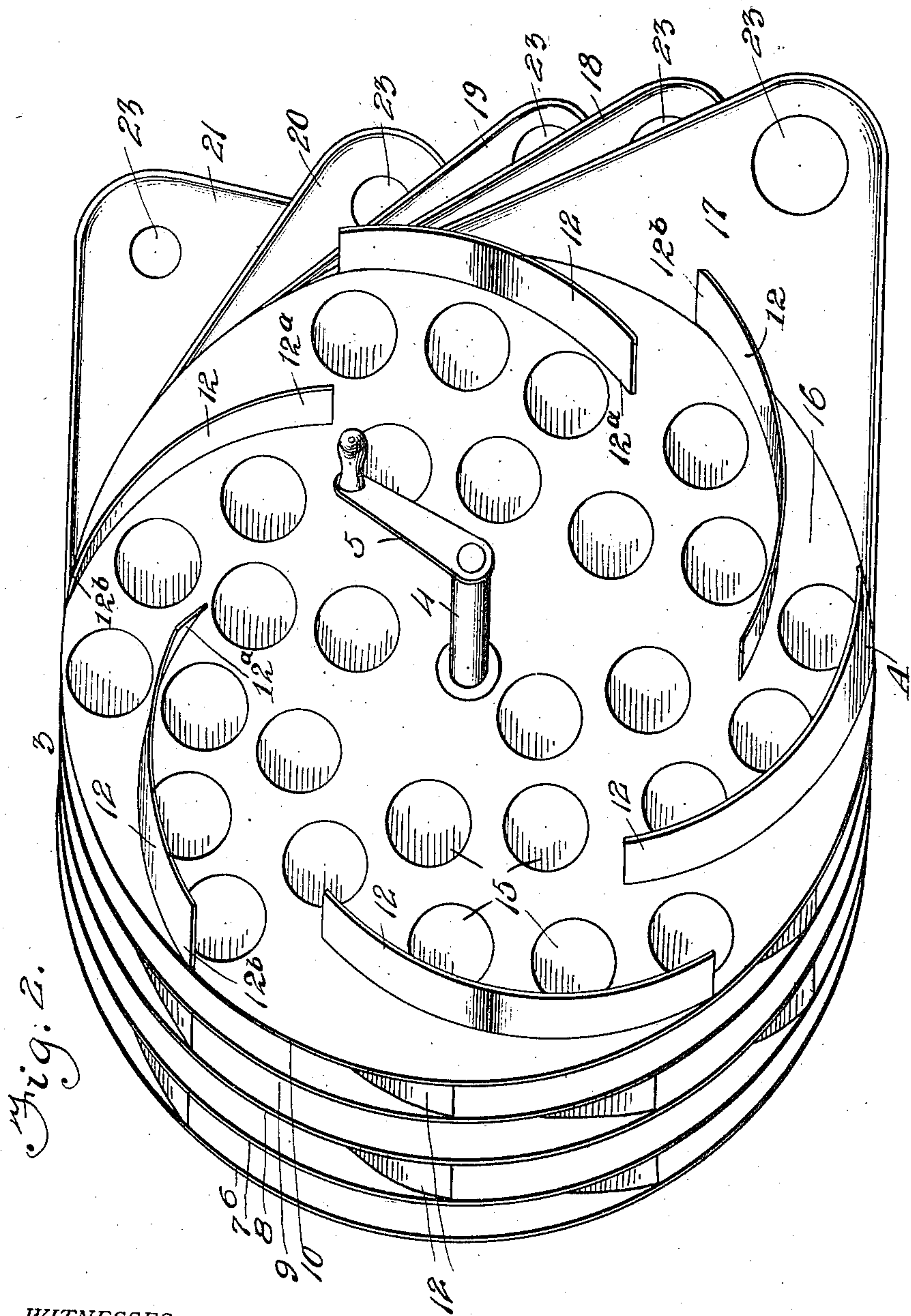
INVENTOR
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4 SHEETS—SHEET 2.

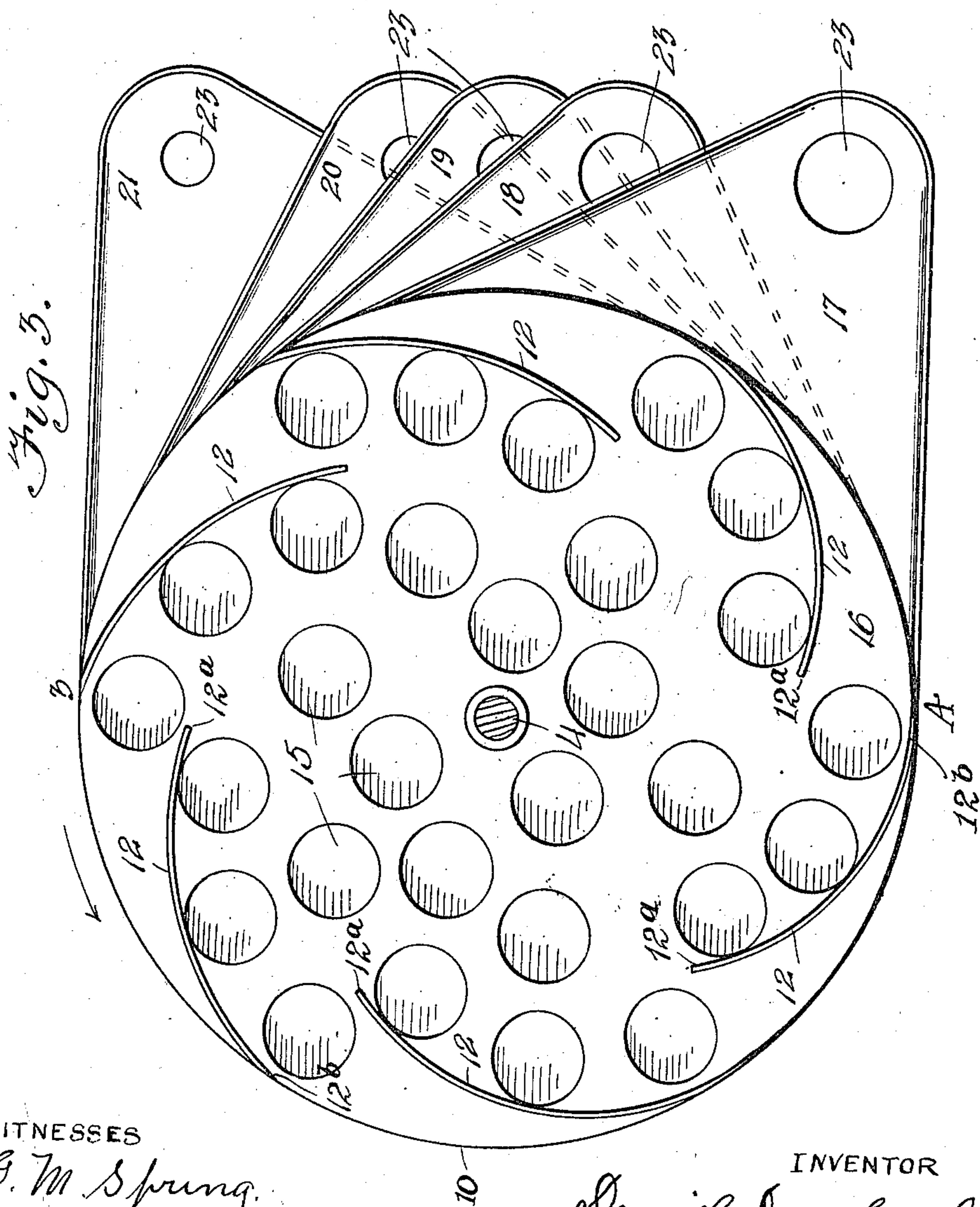


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APPLICATION FILED OCT. 17, 1910.

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4 SHEETS—SHEET 3.



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4 SHEETS-SHEET 4.

Fig. 5.

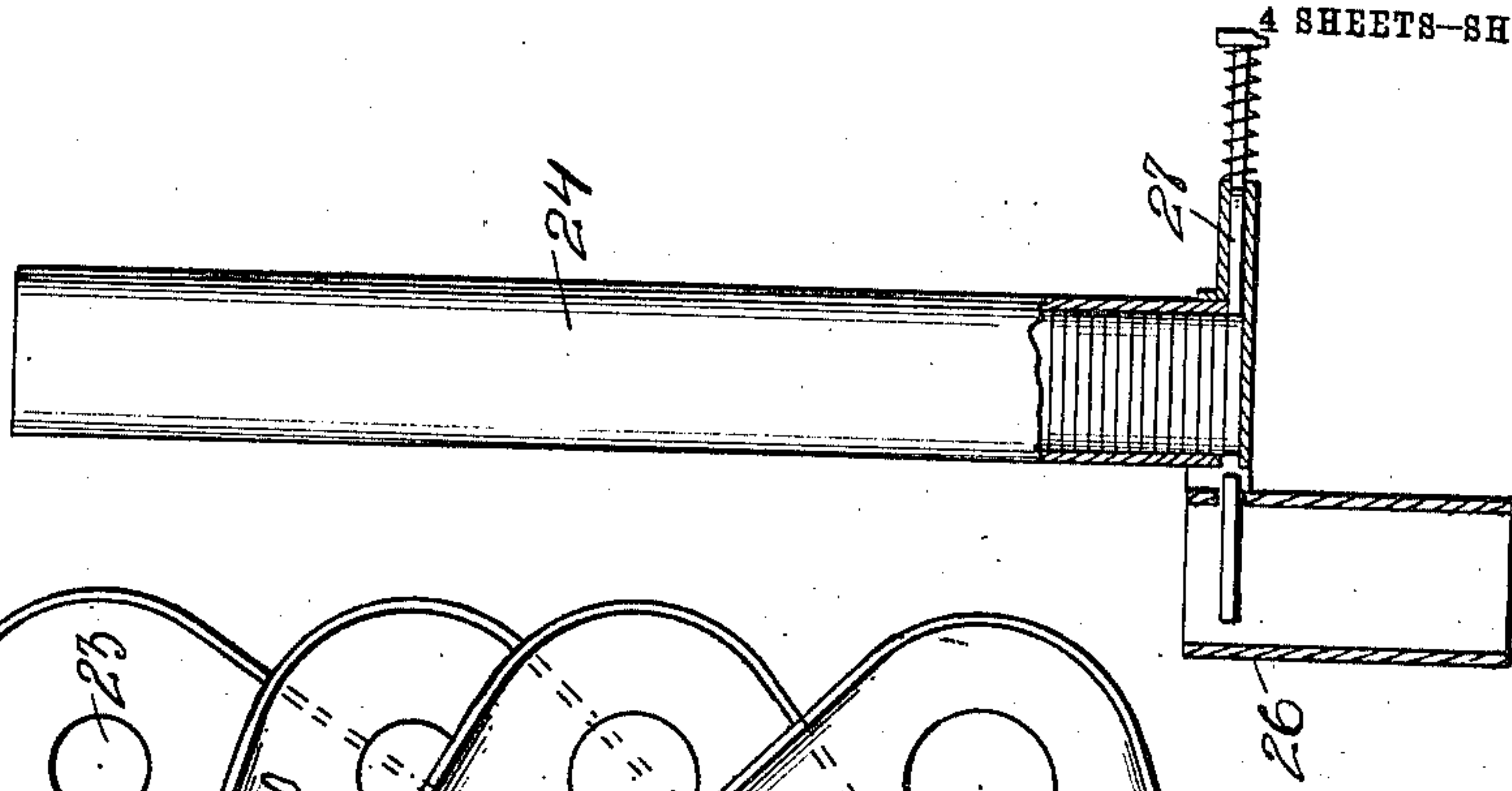
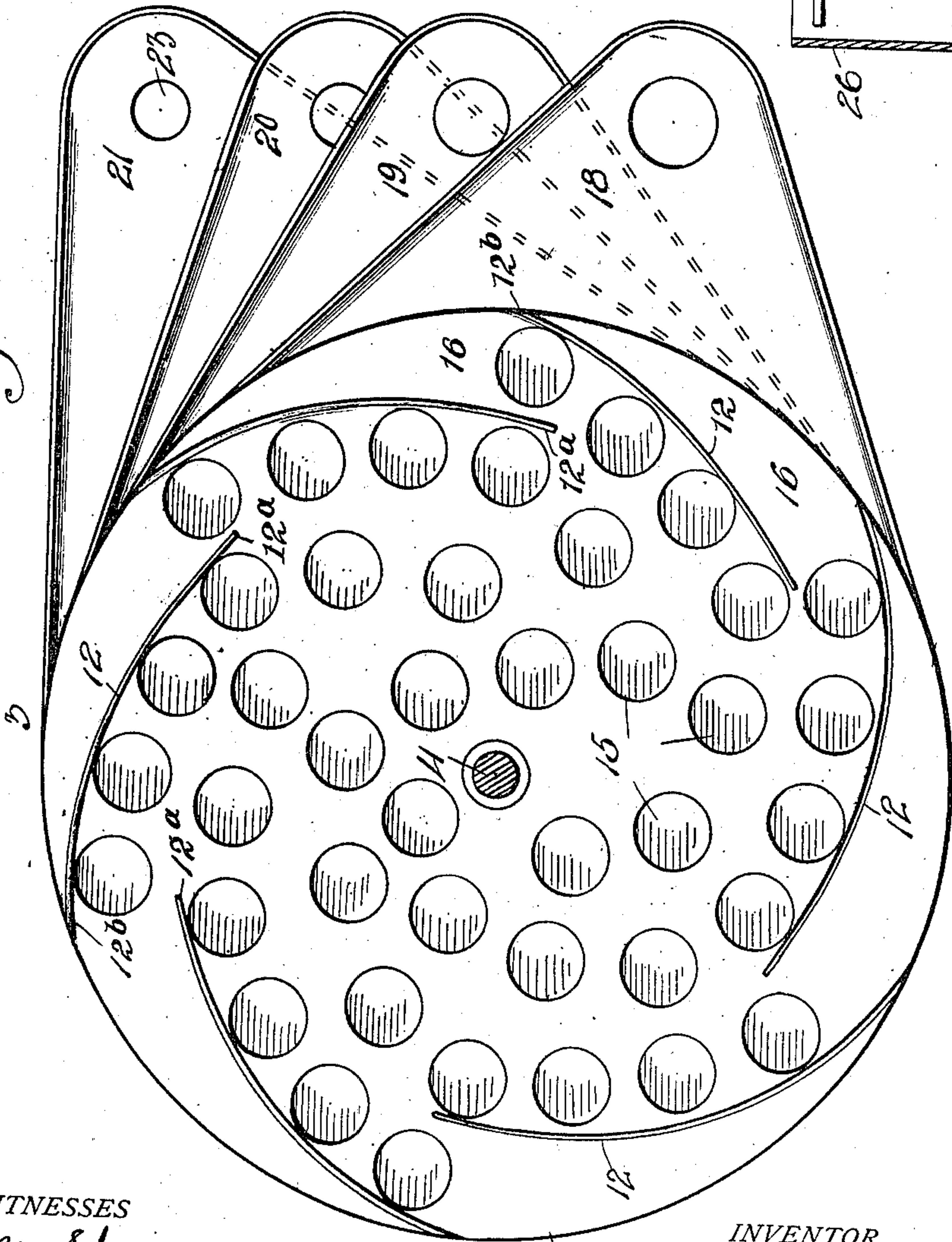


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

DANIEL DRAWBAUGH, OF CAMP HILL, PENNSYLVANIA, ASSIGNOR TO HIMSELF, AND
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COIN-ASSORTER.

989,522.

Specification of Letters Patent.

Patented Apr. 11, 1911.

Application filed October 17, 1910. Serial No. 587,643.

To all whom it may concern:

Be it known that I, DANIEL DRAWBAUGH, a citizen of the United States, residing at Camp Hill, in the county of Cumberland and State of Pennsylvania, have invented certain new and useful Improvements in Coin-Assorters, of which the following is a specification, reference being had therein to the accompanying drawing.

10 The purpose of my invention is to provide means for quickly assorting coins according to their diameters and for stacking the assorted coins in tubes.

In carrying out my invention I provide a
15 coin receiver comprising a series of diaphragms arranged one above the other and rotatable together, in their own planes, about an inclined axis, each diaphragm, except the lowermost, having a plurality of
20 openings of uniform size adapted to permit coins under a given diameter to drop through the diaphragm and the openings in the successive perforated diaphragms, from the top of the receiver downward,
25 being successively smaller, so that coins of the largest diameter will be retained upon the uppermost diaphragm and coins of the smallest diameter may fall through onto the lowermost diaphragm, while coins of inter-
30 mediate sizes will be retained upon intermediate diaphragms. The lowermost diaphragm may be imperforate. The receiver is rotatable in order to agitate the coins and cause them to sift down through the open-
35 ings onto their appropriate diaphragms and the diaphragms are provided with retaining walls arranged so as to prevent coins from sliding off of the diaphragms while the re-
40 ceiver is being turned in one direction and adapted to permit the coins to slide off of the diaphragms while the receiver is being turned in the opposite direction, and adjacent to the inclined diaphragms are chutes for conducting the coins to tubes into which
45 the separated coins fall and become stacked, said tubes being bodily removable so that the filled tubes may be removed and replaced by empty tubes, if desired, and said tubes being also provided with plungers for ejecting the
50 coins from the lower ends of the tubes.

In the accompanying drawing which illustrates my invention, Figure 1 is a side elevation of the coin assorter, the stacking tubes being removed; Fig. 2 is a top plan view of
55 the same; Fig. 3 is a top plan view looking

in the direction of the axis about which the diaphragms turn, the shaft being shown in section; Fig. 4 is a similar view, the uppermost plate and slide being removed; and Fig. 5 is a side view, partly in section, showing one of the coin receiving tubes and the ejector.

In the accompanying drawing, A indicates the assorter, as a whole, which is mounted upon a stationary support 1, provided with a head 1^a adjustable about a transverse axis. A cylindrical receptacle 3, having a central shaft 4 and a handle 5, is connected to the head 1^a by a ball bearing connection 2, so that by turning the handle
65 the receptacle may be rotated in either direction about the axis of the shaft 4.

The receptacle 3 comprises a plurality of diaphragms 6, 7, 8, 9 and 10 secured to the shaft 4 and rotatable therewith in their own
75 planes. Upon the upper surface of each diaphragm is secured a retaining wall composed of a series of sections 12, each section being preferably of arcuate form, and extending from the periphery of the dia-
80 phragm inwardly in a spiral manner. Preferably also the sections are of such length that the inner ends 12^a of the several sections will overlap the outer ends 12^b of the succeeding sections. The sections, at their
85 adjacent ends, are separated far enough to provide openings 16 in the wall for the escape of coins, as hereinafter explained. The wall may be provided with only one
90 such opening or with any desired number. In the machine shown in the drawing, there are six sections in the retaining wall and hence six openings in the wall. Each of the diaphragms, except the lowermost one, 6,
95 has a plurality of openings or perforations 15, the openings in each diaphragm being of uniform size and the openings in the successive diaphragms, from top to bottom, being of successively smaller diameter. In
100 the machine shown in the drawing, for instance, having five diaphragms, and adapted to assort, half dollars, quarters, five, one and ten cent pieces, the perforations in the uppermost diaphragm are of less diameter than the half dollar and of greater diameter
105 than the coins of less value, so that the latter will fall through the openings while the half dollars will be retained upon the diaphragm 10. The next diaphragm 9 has openings of smaller diameter than the quarter and of
110

larger diameter than the coins of less value so that the latter will fall through while the quarters will remain upon the diaphragm 9. Similarly the perforations in the diaphragm 5, 8 will retain five-cent pieces, allowing the dimes and pennies to fall through; the diaphragm 7 will retain pennies allowing the dimes to fall through and the diaphragm 6, which is preferably imperforate, retains the 10 dimes. If it is desired to separate dollars, an additional diaphragm will be arranged above the diaphragm 10 and provided with openings or perforations of larger diameter than the half dollar and of smaller diameter 15 than the dollar.

Triangular slides or chutes 17, 18, 19, 20 and 21, having upright walls, are supported adjacent to the several diaphragms by arms 25 projecting from a bracket 22, which is connected to the adjustable head 1^a. At the 20 lower ends of the several slides are tubular connections 23 adapted to receive coins passing over the slides and to direct the coins into coin tubes 24 or cartons which may be 25 connected to or placed in line with the tubular fittings 23.

In operation the shaft is inclined at an angle to the vertical, as shown in Figs. 1 and 2 so that the disks and adjacent slides 30 will incline at a sufficient angle to permit the coins to slide by gravity thereover. When a mixed quantity of coins is thrown on the uppermost disk some of the coins will fall through onto the lower disks and they will 35 all, of course, slide to the lower edges of the disks. The receptacle 3 is then given one or two turns in the direction of the arrow; Fig. 3, and the coins are agitated by the movement of the inwardly turned wings or 40 sections 12 which, as they move past the coins, tend to move the latter inwardly and so cause the smaller coins to drop through the openings in the diaphragms. In this way the coins of the different sizes quickly 45 find their places on the appropriate diaphragms. During this movement the coins will not pass through the openings 16 in the retaining wall as the arrangement of the sections or wings 12 is such as to move and 50 direct the coins inwardly on the diaphragms. The receptacle 3 is now given one or more turns in the direction opposite to the arrow in Fig. 3, and it will be seen that during this latter movement the coins on the lower sides 55 of the disks rest against the curved sections 13 and are guided thereby through the openings 16 onto the slides, from whence the coins will pass through the tubular connections 23 and into the coin tubes, cartons or other receptacles which may be fitted to 60 the connections 23. Coin tubes, such as the tube 24, Fig. 5, may be detachably connected to the fittings 23 so that the coins will stack in the tubes. The tubes are provided with 65 plungers 27 at the bottom for ejecting the

coins and for filling cartons and other packages. A tubular spout or fitting 26 may be arranged as shown in Fig. 5, to receive the coins ejected from the coin tube 24. If desired, the coin tubes 24 may be removed 70 bodily from the assorter, when filled, and empty tubes may be substituted.

What I claim is:—

1. In a coin assorter, a diaphragm mounted to revolve in either direction in its own 75 plane and perforated to permit coins under a given size to pass through it, and means adapted to prevent coins from moving laterally off the diaphragm when the diaphragm is turned in one direction and for permitting 80 the coins to move off when turned in the opposite direction.

2. In a coin assorter, a diaphragm mounted to revolve in its own plane in either direction about an inclined axis and perforated 85 to permit coins under a given size to pass through it, and means adapted to prevent coins from moving laterally off the diaphragm when the diaphragm is turned in one direction and for permitting the coins 90 to move off when turned in the opposite direction.

3. In a coin assorter, a diaphragm mounted to revolve in either direction in its own plane and perforated to permit coins, under 95 a given size, to pass through it, and a retaining wall on said diaphragm arranged to prevent coins from moving laterally off of the diaphragm when the latter is turned in one direction and to permit the coins to 100 move off when turned in the opposite direction.

4. In a coin assorter, a diaphragm mounted to revolve in either direction in its own plane and perforated to permit coins under 105 a given size to pass through it, and a sectional retaining wall on said diaphragm arranged to prevent coins from moving laterally off of the diaphragm when the latter is turned in one direction, said wall having 110 openings between the sections adapted to permit the coins to move off when turned in the opposite direction.

5. In a coin assorter, a revolvably mounted diaphragm, perforated to permit coins under 115 a given size to pass through it, and a retaining wall on said diaphragm comprising a part inclined inwardly from the periphery of the diaphragm to provide an opening in 120 the wall.

6. In a coin assorter, a diaphragm mounted to revolve in either direction in its own plane and perforated to permit coins under a given size to pass through it, and a retaining wall on said diaphragm comprising a 125 plurality of sections inclined inwardly from the periphery of the diaphragm to provide openings in the wall.

7. In a coin assorter, a diaphragm mounted to revolve in either direction in its own 130

plane and perforated to permit coins under a given size to pass through it, and a retaining wall on said diaphragm comprising a plurality of sections inclined inwardly from the periphery of the diaphragm to provide openings in the wall, the inner end of each section extending beyond the outer end of the succeeding section and separated therefrom to provide openings for the escape of coins.

8. In a coin assorter, a diaphragm mounted to revolve in either direction in its own plane and perforated to permit coins under a given size to pass through it, and a retaining wall on said diaphragm comprising a plurality of arcuate sections inclined inwardly from the periphery of the diaphragm to provide openings in the wall.

9. In a coin assorter, a plurality of diaphragms arranged one above the other and mounted to rotate in their own planes in either direction, each diaphragm except the lowermost being perforated to permit coins under a given size to pass through it, and each diaphragm having a retaining wall adapted to prevent coins from sliding off the diaphragm when the latter is turned in one direction, said wall having one or more openings arranged to permit the coins to slide off the diaphragm when the latter is moved in the opposite direction.

10. In a coin assorter, a plurality of diaphragms arranged one above the other and mounted to rotate in their own planes in either direction about an inclined axis, each diaphragm except the lowermost being perforated to permit coins under a given size to pass through it, and each diaphragm having a retaining wall adapted to prevent coins from sliding off the diaphragm when the latter is turned in one direction, said wall having one or more openings arranged to permit the coins to slide off the diaphragm when the latter is moved in the opposite direction.

11. In a coin assorter, a plurality of diaphragms arranged one above the other and mounted to rotate in their own planes in either direction about an inclined axis, each diaphragm having a retaining wall comprising a part inclined inwardly from the periphery of the diaphragm to provide an opening in the wall.

12. In a coin assorter, a plurality of diaphragms arranged one above the other and mounted to rotate in their own planes in either direction about an inclined axis, each diaphragm having a retaining wall comprising a plurality of sections inclined inwardly from the periphery of the diaphragm to provide openings in the wall.

13. In a coin assorter, a plurality of diaphragms arranged one above the other and mounted to rotate in their own planes in either direction about an inclined axis, each diaphragm having a retaining wall comprising

ing a plurality of sections inclined inwardly from the periphery of the diaphragm to provide openings in the wall, the inner end of each section extending beyond the outer end of the succeeding section and separated therefrom to provide openings for the escape of coins.

14. In a coin assorter, a plurality of perforated diaphragms arranged one above the other and mounted to rotate in their own planes in either direction about an inclined axis, each diaphragm having a retaining wall comprising a plurality of arcuate sections inclined inwardly from the periphery of the diaphragm to provide openings in the wall.

15. In a coin assorter, the combination with a revolubly mounted diaphragm, perforated to permit coins under a given size to pass through it, and a retaining wall on said diaphragm adapted to prevent coins from sliding off the diaphragm when the latter is turned in one direction, said wall having one or more openings arranged to permit the coins to slide off the diaphragm when the latter is moved in the opposite direction, of an inclined slide arranged at the periphery of the diaphragm to receive the coins passing through said openings.

16. In a coin assorter, the combination with a revolubly mounted diaphragm, perforated to permit coins under a given size to pass through it, and a retaining wall on said diaphragm adapted to prevent coins from sliding off the diaphragm when the latter is turned in one direction, said wall having one or more openings arranged to permit the coins to slide off the diaphragm when the latter is moved in the opposite direction, of an inclined slide arranged at the periphery of the diaphragm to receive the coins passing through said openings, and a tubular fitting or connection for receiving the coins, at the lower end of the slide.

17. In a coin assorter a plurality of diaphragms arranged one above the other and mounted to revolve together in their own planes in either direction about an inclined axis, each diaphragm having a retaining wall comprising a part inclined inwardly from the periphery of the diaphragm to provide an opening in the wall, and inclined slides, one for each diaphragm, arranged at the peripheries of the diaphragms and adapted to receive the coins passing through said openings.

18. In a coin assorter, a plurality of diaphragms arranged one above the other and mounted to revolve together in their own planes in either direction about an inclined axis, each diaphragm having a retaining wall comprising a part inclined inwardly from the periphery of the diaphragm to provide an opening in the wall, and inclined slides, one for each diaphragm, arranged at

the peripheries of the diaphragms and adapted to receive the coins passing through said openings.

19. In a coin assorter, a plurality of diaphragms arranged one above the other and mounted to revolve together in their own planes in either direction about an inclined axis, each diaphragm having a retaining wall comprising a plurality of sections inclined inwardly from the peripheries of the diaphragms to provide openings in the walls, and inclined slides, one for each diaphragm, arranged at the peripheries of the diaphragms and adapted to receive the coins passing through said openings.

20. In a coin assorter, the combination with a plurality of perforated diaphragms mounted to revolve together in their own planes in either direction about an inclined axis, and means arranged to retain the coins on the diaphragms while the latter are turning in one direction and for permitting them to slide off of the diaphragms while the latter

are turning in the opposite direction, of inclined slides arranged at the edges of the diaphragms and tubes for receiving the coins from the slides.

21. In a coin assorter, the combination with a plurality of perforated diaphragms mounted to revolve together in their own planes in either direction about an inclined axis and means arranged to retain the coins on the diaphragms while the latter are turning in one direction and for permitting them to slide off of the diaphragms while the latter are turning in the opposite direction, of inclined slides arranged at the edges of the diaphragms, tubes for receiving the coins from the slides and spring-pressed plungers for ejecting the coins from the tubes.

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

DANIEL DRAWBAUGH.

Witnesses:

JNO. W. BOWMAN,
WALTER L. DIETZ.