Sept. 4, 1928.

1,683,360

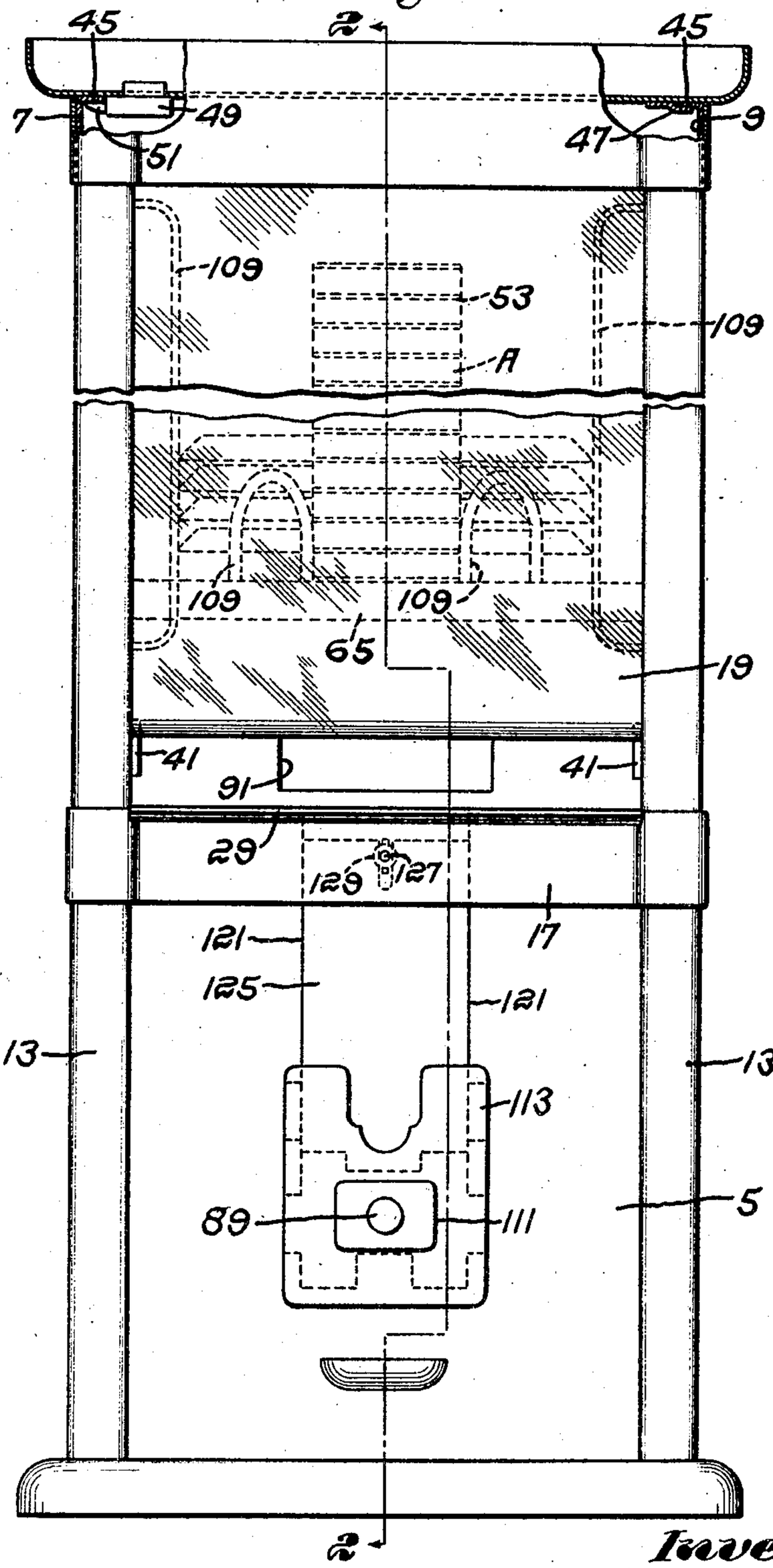
C. LEA

VENDING MACHINE

Filed July 15, 1926

3 Sheets-Sheet 1

Fig. 1.



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3 Sheets-Sheet 2

Fig. 2.

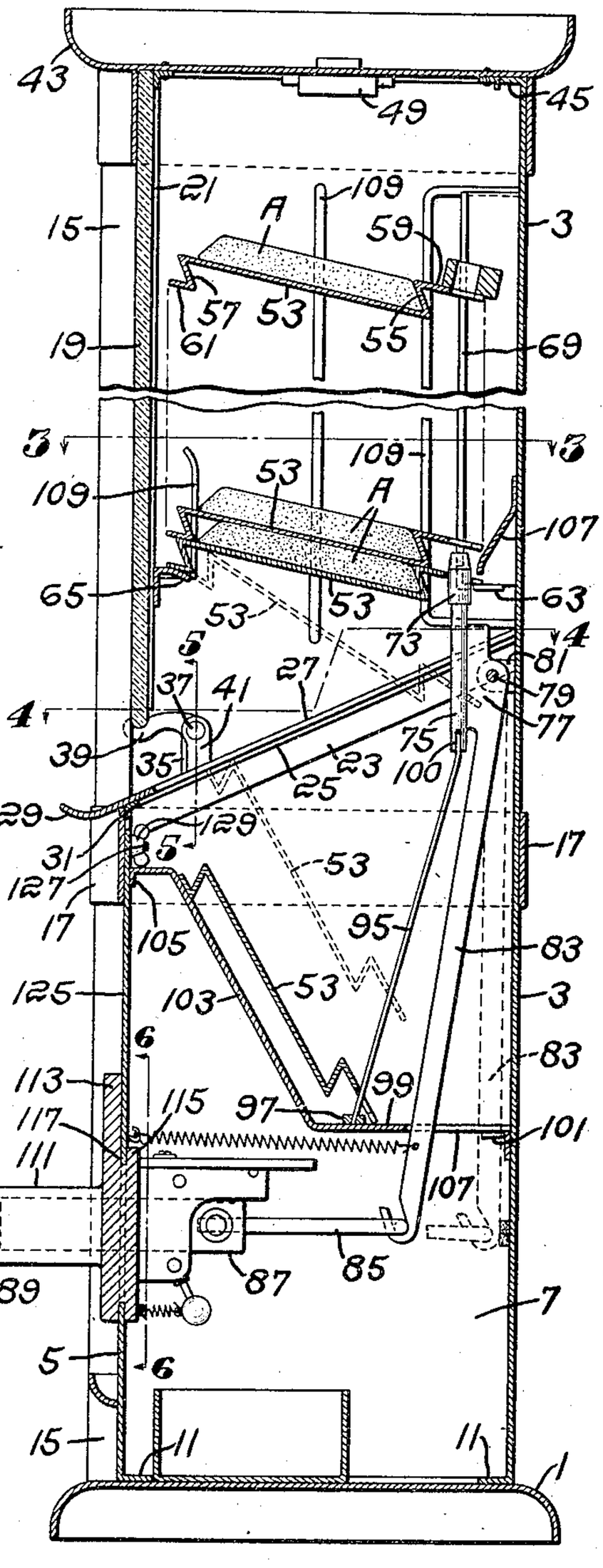


Fig. 3.

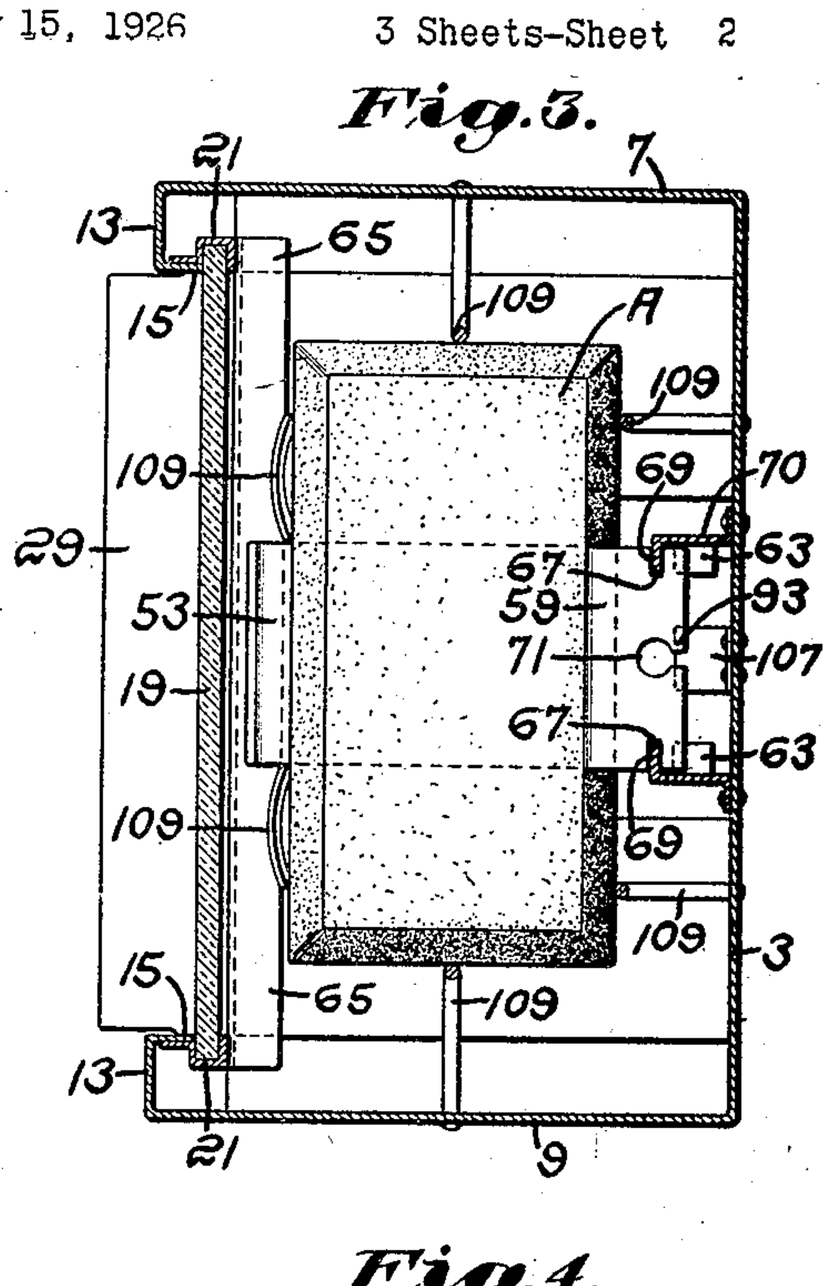
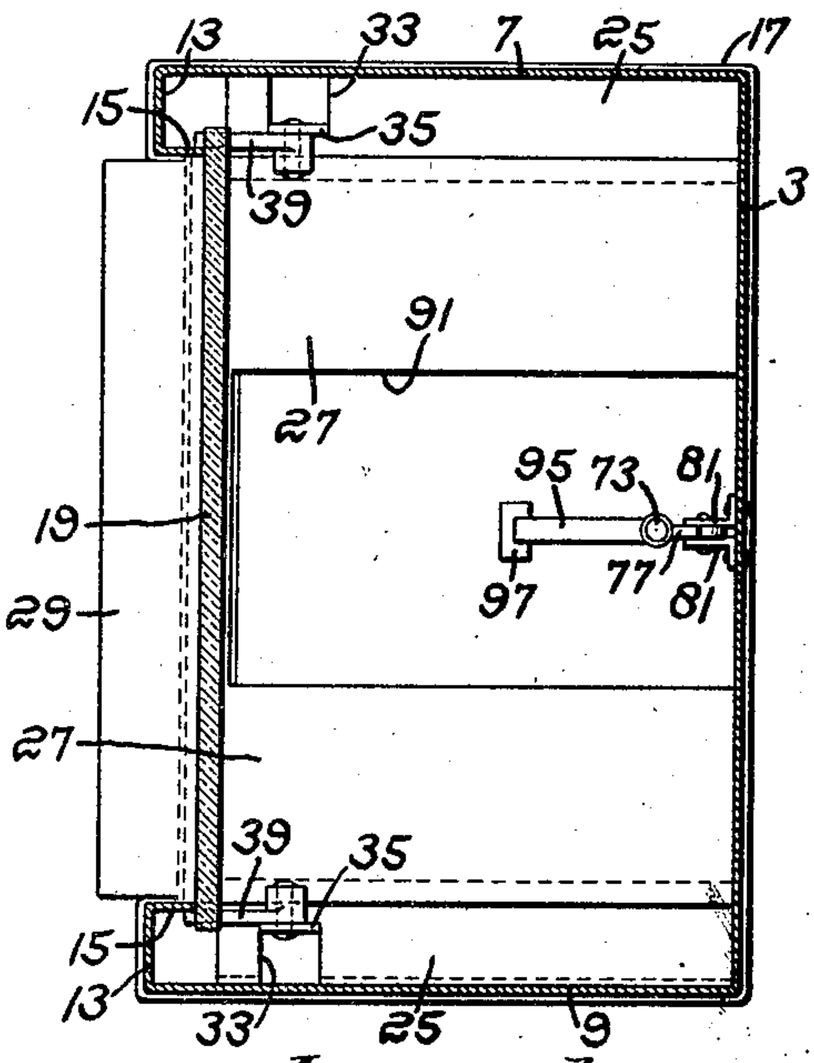


Fig. 4.



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Filed July 15, 1926 3 Sheets-Sheet 3

Fig. 5.

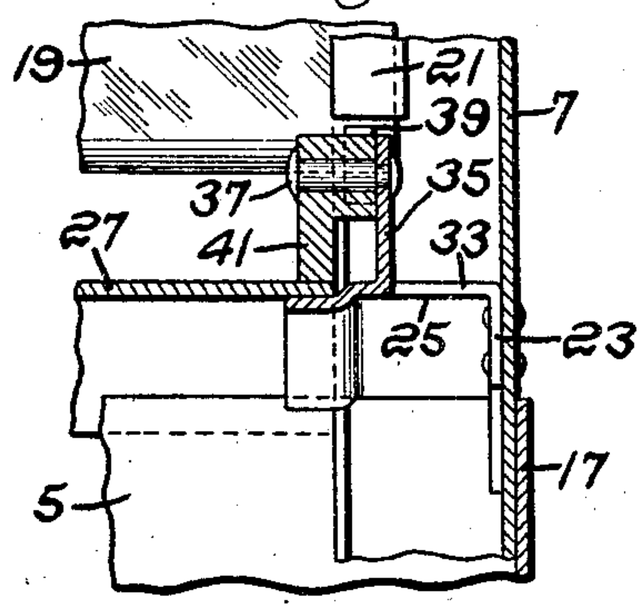


Fig. 6.

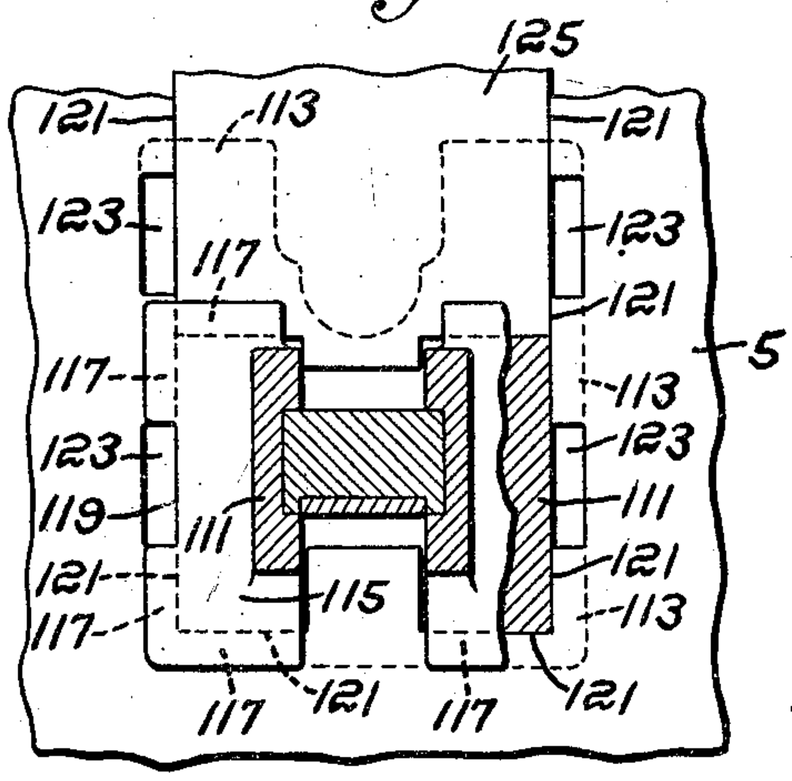
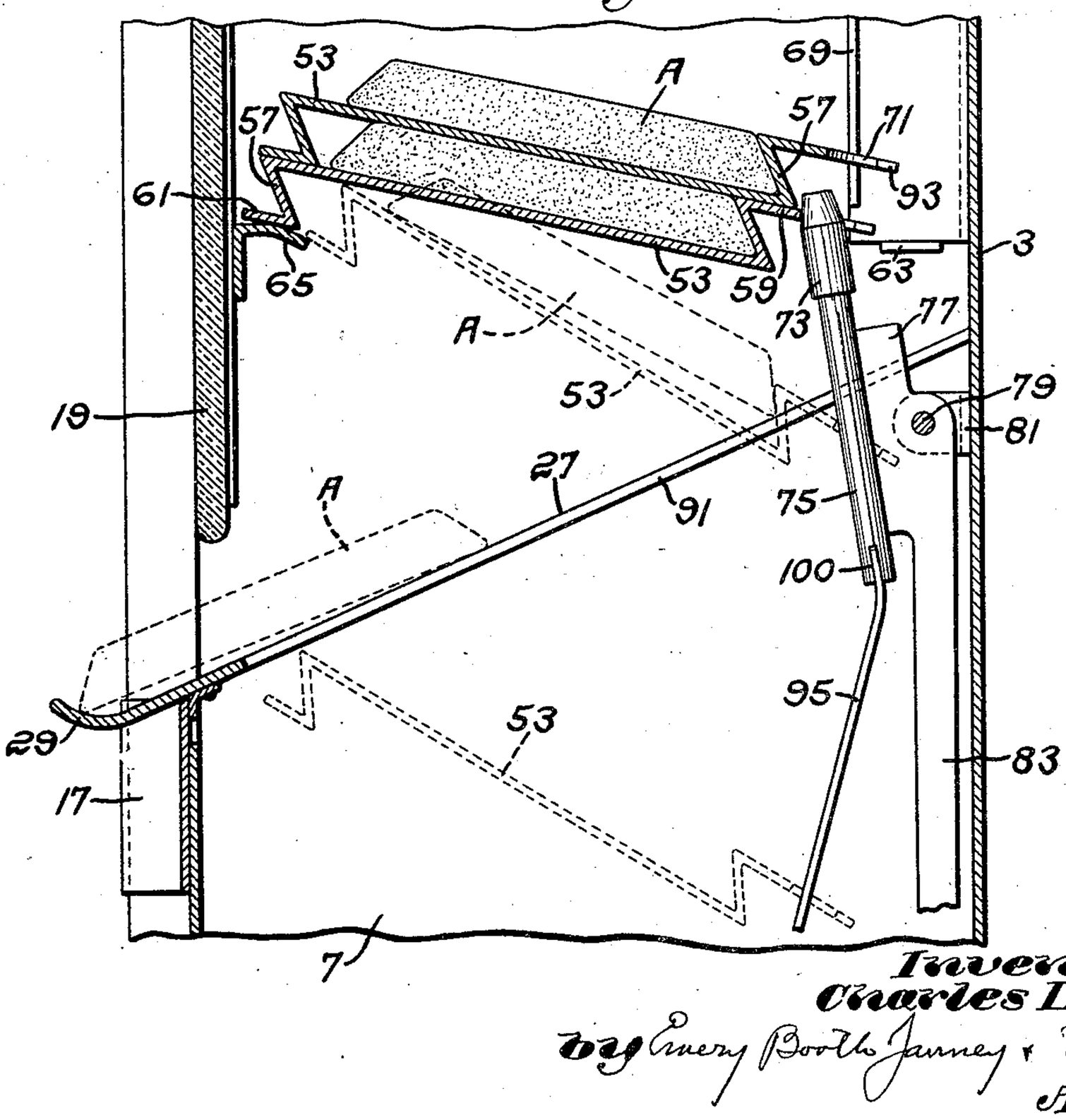


Fig. 7.



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Patented Sept. 4, 1928. 1,683,360

UNITED STATES PATENT OFFICE.

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VENDING MACHINE.

Application filed July 15, 1926. Serial No. 122,623.

The invention relates to vending machines and will be best understood from the following description when read in the light of the accompanying drawings of an example of the invention, the scope of the invention being more particularly pointed out in the appended claims.

In the drawings:—

Fig. 1 is a front elevation with parts in section of a vending machine constructed according to the invention;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Figs. 3, 4, 5 and 6 respectively are sections on the lines 3—3, 4—4, 5—5 and 6—6 of Fig. 2; and

Fig. 7 is an enlarged view of a fragment of Fig. 2 showing the parts in a different position.

The drawings show a cabinet having a base 1 supporting a back wall 3, a front wall 5, and side walls 7 and 9, these parts preferably being made of sheet metal, the base being secured as by welding to the flanges 11 formed integrally with the lower edges of the walls.

As shown the walls 3, 7 and 9 are formed integrally, the front edges of the walls 7 and 9 being provided with the flange portions 13 at the front of the cabinet, which portions are bent toward the interior of the cabinet to provide flanges 15. The front wall 5 is inserted between the flanges 15 and secured thereto as by welding, the front wall terminating at its upper end at a band 17 which encircles the cabinet, said band preferably being welded to the walls 3, 5, 7 and 9. Above the band 17 the front of the cabinet is shown as closed by a glass plate 19 the edges of which are slidably supported in the grooves formed by the guide members 21 which preferably are welded to the flanges 15.

Adjacent the band 17 the side walls 7 of the cabinet are provided with inclined angle members 23, the vertical webs of which are welded to the side walls, while the other webs 25 support a plate 27 which extends past the front wall of the cabinet and terminates in an upwardly curved portion 29. Sliding of the plate 27 on the webs 25 is prevented by stop members 31 welded to the bottom of the plate and engaging the band 31. As shown the webs 25 are cut as indicated at 33, the material at this portion being bent upward to provide a lug 35 to which is pivoted at 37 the bell crank lever having the arms 39 and 41. As indicated in the drawings the glass plate 19 rests upon the arm 39 of the bell crank lever, while the arm 41 rests upon the plate 27, and in this manner the latter is held in position by the plate 19. Unauthorized removal of the plate 19 is prevented by means of the cover 43 supported at the top of the walls 3, 7 and 9. As shown the upper edges of the walls 7 and 9 are bent inward to form flanges 45, the cover having secured thereto a lug 47 which hooks over the flange 45 carried by the wall 9, the cover further having a key-lock 49 the bolt 51 of which is adapted to project under the flange 45 carried by the wall 7. In this manner unauthorized removal of the cover is prevented, and the cover secures the plates 19 and 27 in assembled relation.

The articles to be vended are indicated at A, these articles individually resting upon articles supporting members 53 piled one above the other to form a stack. Preferably, but not necessarily, each member 53 supports the corresponding member above it so as to take the weight off the articles. As shown the members 53 are in the form of sheet metal plates which adjacent their ends are bent upward and downward to form the respective flanges 55 and 57, the flanges 55 and 57 respectively carrying the end portions 59 and 61 of the plates. As clearly indicated in Figs. 2 and 7 the members so constructed support the members immediately above them.

As illustrated the stack of articles is supported by flange members 63 and 65 upon which respectively rest the end portions 59 and 61 of the lowermost of the members 53, the flange member 65 being in the form of an angle-iron extending across the front of the cabinet and secured at its ends to the guide members 21 for the plate 19. As illustrated (see Fig. 3) the sides of the end portions 59 of the members 53 are slotted at 67 to receive vertically extending guide bars 69 formed as part of brackets 70 carried by the back wall 3, these guide bars terminating above the flanges 63 which are formed integrally with the ends of the brackets 70. By this construction the lowermost member 53 is free to slide on said flanges.

For releasing the members 53 from the flanges 63 and 65 means are herein provided for sliding the lowermost member on said flanges to move said member out of engagement with said flanges. For this purpose I have shown the end portions 59 of the members 53 perforated at 71 to receive the head 73 of a rod like part 75 which is supported by the laterally projecting plate like member 77 the thickness of which is less than the diameter of the rod. The plate 77 is pivoted at 79 to a bracket 81 carried by the back wall 3 of the cabinet, and attached to the plate is a rod 83 connected at its lower end by a link 85 to the push rod 87 the front end 89 of which extends from the front of the cabinet. This push rod forms part of the coin controlled mechanism claimed in my copending application Serial No. 122,624, filed herewith.

When the push rod 87 is forced inward the head 73 of the rod is swung toward the front of the cabinet to the position shown by Fig. 7, which moves the lowermost member 53 relative to the other members of the stack and slides the rear edge of the portion 59 off the flange 63, which permits the lowermost member to fall as indicated by its dotted line positions in Figs. 2 and 7. The plate 27 is cut away as indicated at 91 to permit the member 53 to pass through it, the width of the opening 91 being less than the corresponding dimension of the article A, so that the article is caught on the plate and permitted to slide through the opening in the front of the cabinet between this plate and the bottom edge of the glass plate 19. Herein the perforations 71 of the members 53 are connected to the adjacent edges of said members by slots 93 which permit the members to pass the plates 77. Connected to the lower end of the rod 75 is a wire 95 of spring material, the lower end of which fits in a socket 97 carried by a plate 99 positioned above the coin controlled mechanism, and the upper end of which fits in a slot 100 in the lower end of the rod 75. The plate 99 rests loosely upon a bracket 101 carried by the back wall 3 of the cabinet, the forward portion of the plate being inclined upward as indicated at 103 and having a flange 105 resting loosely against the front wall of the cabinet, the plate being slotted at 107 to permit passage therethrough of the rod 83. The inclined portion 103 of the plate 99 stacks the released members 53 guided by the wire 95 in inclined position, in which position they take up the minimum space in a vertical direction. Upon removal of the top cover, the plate 19, and plate 27 the spring wire 95 may be snapped out of the slot 100 and the discharged members 53 removed from the cabinet for recharging.

As shown the back wall of the cabinet carries a spring pawl 107 which prevents the members 57 being lifted out of engagement with the head 73 by insertion of an implement through the article discharging slot in the front wall of the cabinet.

For guiding the articles I have shown the guide members 109 secured to the walls of the cabinet and contacting the edges of the articles.

Herein the casing 111 for the coin controlled mechanism comprises a front flange 113 and a back flange 115 separated by a groove 117 of width corresponding to the thickness of the plate 5 forming the lower part of the front wall of the casing. As shown by Fig. 6 the back flange is notched at 119, while the front plate at its central portion from the band 17 downward is cut away as indicated by the lines 121 in Fig. 6, the sides of this cut away portion being notched at opposite sides as shown at 123. It will be observed that if the casing 111 is slid upward from its position in Fig. 6 to bring those portions of the flange 115 above and below the notches 119 of said flange into registry respectively with the upper and lower notches 123 of the plate 5, said casing may be removed from engagement with said plate. For holding the casing 111 in its normal position a plate 125 is fitted into the above mentioned cut away portion of the plate 5, the lower end of the plate 125 fitting into the upper horizontal portion of the groove 117, while its upper end is secured to the band 17 by the stud 127 carried by said band and nut 129 screwed on said stud.

It is to be understood that I am not limited to the example of the invention illustrated and described and that within the scope of the invention wide deviations may be made therefrom without departing from the spirit of the invention.

Claims:

1. A vending machine having, in combination, means for maintaining a stack of articles comprising a plurality of superimposed article-supporting-members, means engaging the lowermost member for supporting the stack, and means for successively releasing said members comprising a movable part for moving the lowermost member out of engagement with said means for supporting the stack, said part acting to guide the released member after said member is moved out of engagement with said means for supporting the stack.

2. A vending machine having, in combination, means for maintaining a stack of articles comprising a plurality of superimposed article-supporting-members guided for movement vertically, means engaging the lowermost member for supporting the stack, and means for successively releasing said members comprising a movable part for moving the lowermost member out of engagement with said means for supporting

the stack, said part acting to guide the released member after said member is moved out of engagement with said means for supporting the stack.

3. A vending machine having, in combination, means for maintaining a stack of articles comprising a plurality of superimposed article-supporting-members, means providing a support upon which the lowermost member of the stack is slidably mounted, and means for successively releasing said members comprising a movable guiding part for said members for effecting sliding of said lowermost member relative to said support.

4. A vending machine having, in combination, means for maintaining a stack of articles comprising a plurality of superimposed article-supporting-members, means providing a stationary support engaging the lowermost member of the stack at opposite portions thereof, and means for successively releasing said members comprising a laterally moving part for sliding said lowermost member relative to said supporting means for causing said member to move from engagement therewith.

5. A vending machine having, in combination, means for maintaining a stack of articles comprising a plurality of superimposed article-supporting-members, means providing a support engaging the lowermost member of the stack at opposite portions thereof, means for successively releasing said members comprising a laterally moving part for engaging and sliding said lowermost member relative to said supporting means for causing it to move from engagement therewith, said members and part formed for guiding said members after the latter are released.

6. A vending machine having, in combination, means for maintaining a stack of articles comprising a plurality of superimposed article-supporting-members, means providing a support engaging the lowermost member of the stack at opposite portions thereof, and means for successively releasing said members comprising a laterally moving rod for effecting relative movement between said support and said lowermost member for disengaging one of said portions from said support to permit said member to fall.

7. A vending machine having, in combination, means for maintaining a plurality of articles in a stack comprising a plurality of article-supporting-members formed to cause each to support the member above it, and means for successively releasing said members comprising a laterally moving rod, said rod adapted to move and release the lowermost member of the stack.

8. A vending machine having, in combination, means for maintaining a plurality of articles in a stack comprising a plurality of article-supporting-members, said members comprising plates of sheet material bent to provide each with oppositely projecting portions, one of which portions for individual plates engages the member immediately above it and the other portion the member immediately below it, and means for successively releasing said members comprising means for releasing the lowermost member of the stack.

9. A vending machine having, in combination, means for maintaining a plurality of articles in a stack comprising a plurality of article-supporting-members each formed with oppositely projecting parts respectively for engaging with the members immediately above and below it to cause each member slidingly to support the member above it, means forming a support engaging the lowermost member of the stack, and means for successively releasing said members comprising means for sliding said lowermost member relative to said support.

10. A vending machine having, in combination, means for maintaining a stack of articles comprising a plurality of superimposed article-supporting-members, means providing a stationary support upon which the lowermost member rests, means for guiding said members in a vertical path, said guiding means engaging all but said lowermost member, and means for releasing said members successively comprising means for moving said lowermost member relative to said support.

11. A vending machine having, in combination, means for maintaining a stack of articles comprising a plurality of superimposed article-supporting-members, means providing a support upon which the lowermost member rests, means for guiding said members in a vertical path, said guiding means engaging all but said lowermost member, and means for releasing said members successively comprising a movable rod engaging a perforation in said lowermost member for moving the latter relative to said support.

12. A vending machine having, in combination, means for maintaining a stack of articles comprising a plurality of superimposed article-supporting-members, means providing a support upon which the lowermost member rests, means for guiding said members in a vertical path, said guiding means engaging all but said lowermost member, and means for releasing said members successively comprising a finger moved by a part projecting laterally therefrom, said finger for engaging a perforation formed in said lowermost member, said member also formed with a slot intersecting said perforation to permit said member to move past said part when released from said support by movement of said finger.

13. A vending machine comprising a cabi-

net with a removable cover, a glass panel or the like slidably carried by said cabinet, said cover retaining said panel against removal, a chute for discharging articles from said cabinet, said chute supported by the walls of said cabinet and retained against removal by said panel.

14. A vending machine having, in combination, means for maintaining a stack of articles comprising a plurality of superimposed article-supporting-members, means providing a stationary support engaging the lowermost member, and movable means independent of said support for moving said lowermost member off said support for permitting it to fall by gravity, said movable means constituting a guide for said member while falling.

15. A vending machine having, in combination, means for maintaining a stack of articles comprising a plurality of superimposed article-supporting-members, means providing a stationary support engaging the lowermost member, said members being provided with perforations, a laterally movable, elongated part positioned to be received by the perforation of the lowermost member of said stack, and means for moving said part to move said lowermost member off said support to permit said member to fall, said part engaging said perforation of said member while the latter is falling.

16. A vending machine having, in combination, a cabinet having means therein for maintaining a stack of articles, said means comprising a plurality of superimposed article-supporting members, said cabinet having an article-discharge-orifice in a wall thereof adjacent the bottom of said stack, means engaging the lowermost of said members for supporting said stack, and a movable finger for engaging the lowermost member at the end thereof opposite said orifice for moving said member out of engagement with said means for supporting the stack.

In testimony whereof I have signed my name to this specification.

CHARLES LEA.