

Jan. 14, 1936.

E. P. HIRST

2,027,432

VENDING DEVICE

Filed Sept. 26, 1930

2 Sheets-Sheet 1

FIG. 1

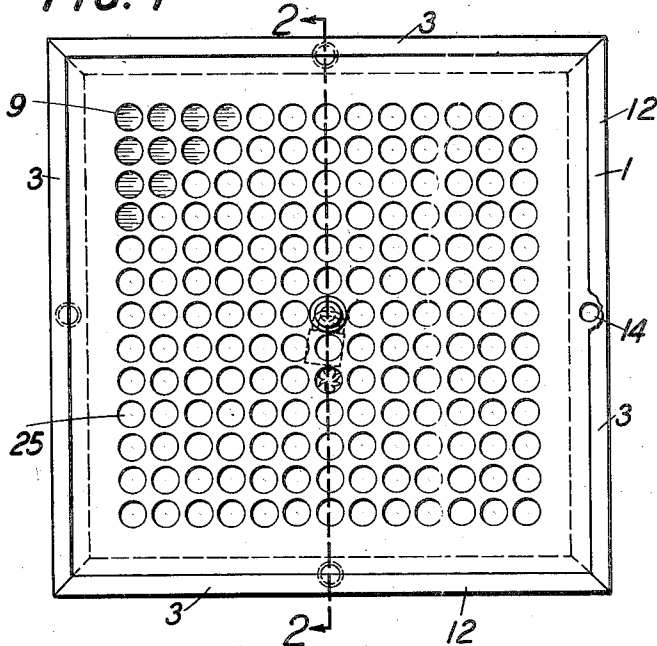


FIG. 2

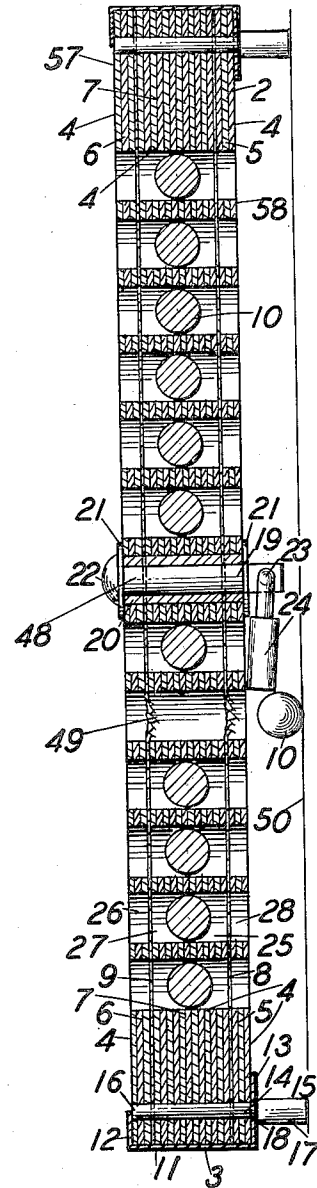
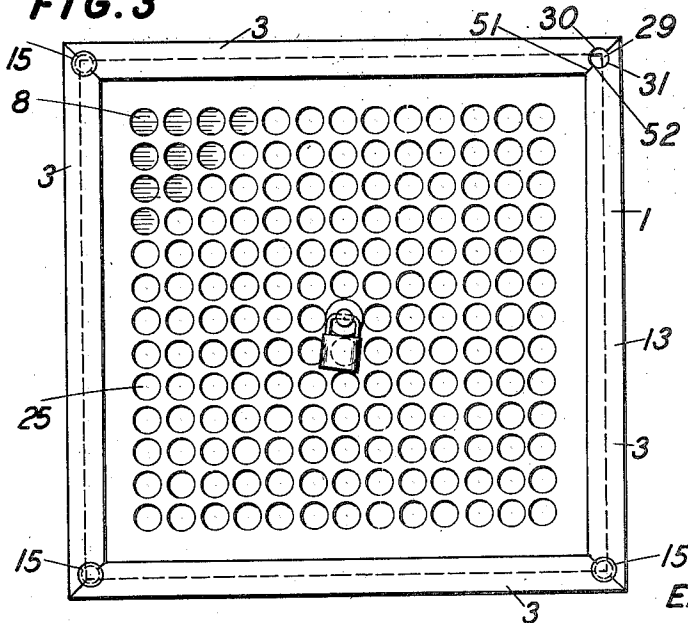


FIG. 3



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2 Sheets-Sheet 2

FIG. 4

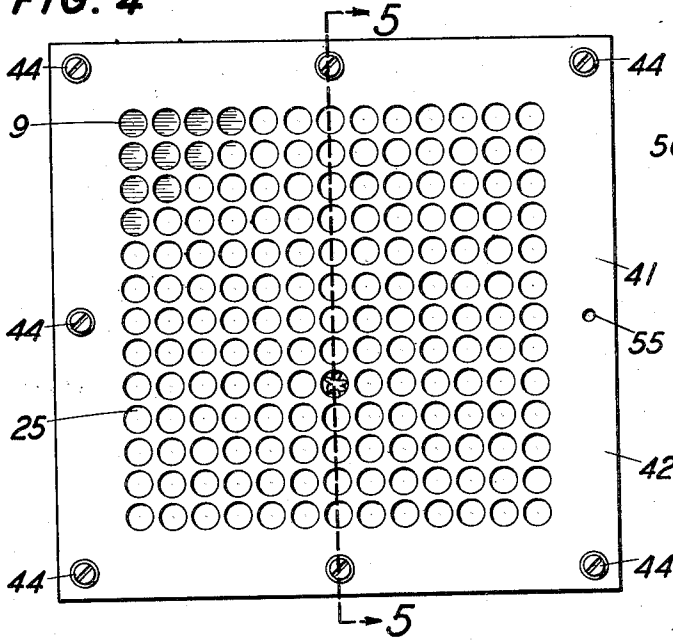


FIG. 5

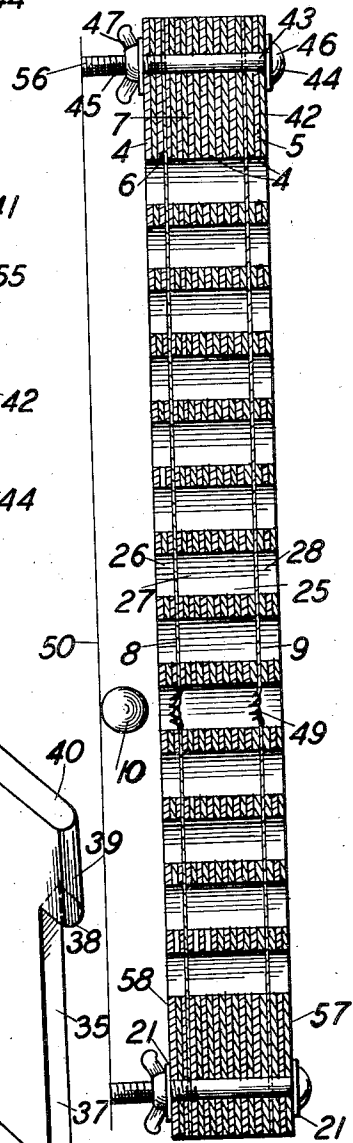


FIG. 6

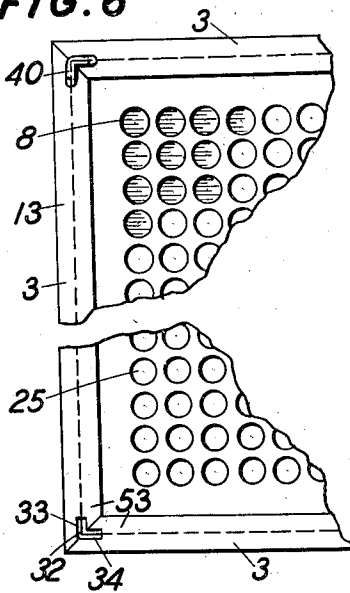
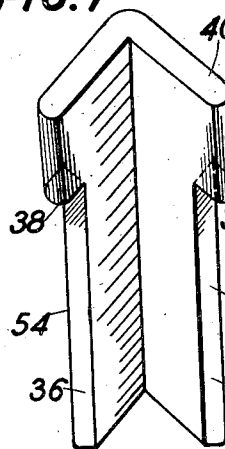


FIG. 7



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2,027,432

VENDING DEVICE

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Application September 26, 1930, Serial No. 484,574

5 Claims. (Cl. 312—35)

This invention relates to vending devices and has for its general object the production of an improved vending device.

More particularly stated one of the objects of this invention is the production of a vending device of the punch-board type where the board per se will deliver the article purchased.

Another object of this invention is the production of a vending device of the punch-board type which will be easy to manufacture and assemble and which will be cheap to produce.

Another object of this invention is the production of a vending device of the punch-board type which will be easy to refill with the articles being sold after the same have been exhausted.

These as well as other objects of this invention and the advantages arising therefrom will become more evident from the following description and the drawings which form a part thereof.

In the drawings Figure 1 is a top view of the preferred embodiment of this invention.

Figure 2 is a section taken along the line 2—2 of Figure 1.

Figure 3 is a bottom view of a modification.

Figure 4 is a top view of still another modification.

Figure 5 is a section along the line 5—5 of Figure 4.

Figure 6 is a bottom view of a fragment of still another modification.

Figure 7 is an enlarged perspective view of the combined leg and dowel or binding element used in the modification shown in Figure 6.

Referring more particularly to the drawings wherein similar reference numerals denote similar parts, reference numeral 1 denotes the vending punch-board as a unit. The board 1 is composed of a body member 2, binding strips 3 and supporting and binding legs 15.

The body member 2 is composed of a plurality of superimposed members 4 separated by the lower dividing strip 8 and the upper dividing strip 9 into the portions 5, 6 and 7 respectively. Each of the members 4 has formed therein a plurality of apertures. The apertures of the superimposed groups of members 4 register with one another and combine to form the main apertures 25. Each aperture 25 is separated by the upper dividing strip 9 and the lower dividing strip 8 into a guiding aperture 26, a cell 27 and a guiding aperture 28 respectively. The members 4 may be of cardboard as shown, or any other substance having the necessary qualities. The dividing strips 8 and 9 may be of paper as shown, or any other frangible substance. The material used in sub-

stitution for the cardboard should have stiffness when combined into a group of superimposed layers and should be very cheap. The material used in substitution for paper should have strength sufficient to hold the article being vended, combined with a frangibility such that it can be broken by pressure of a finger or a perforating dowel held in the hand. It should also be very cheap.

The binding strips 3 are channel shaped in cross-section and are composed of an upper member 12, a side member 11 and a bottom member 13. As shown the bottom member 13 is wider than the top member 12. This structure gives a greater bearing surface to the bottom member and also permits the formation of the apertures 18 in the bottom member where the bearing surface and apertures are needed. It is to be understood, of course, that if desired both bottom and top members 13 and 12 could be made of equal width. The binding members 3 snugly fit and bind together the elements of the body member 2.

The binding legs 15 are composed of a dowel member 16 and a leg member 17. The dowel member 16 extends through an aperture 18 in the bottom member 13 of the binding strip 3 and through the aperture 14 formed in the component portions 5, 8, 7, 9, 6 of the body member 2, thus firmly uniting the portions 5, 8, 7, 9, 6 to the binding strips 3 and holding the said binding strips 3 against lateral displacement relative to the component members.

To firmly lock the unit and prevent tampering there is provided a lock member 24 extending through a suitable aperture 23 in the pin member 19. The pin member 19 has a head 22 formed on the upper end thereof and extends through a suitable aperture 48 in the portions 5, 8, 7, 9, 6 of the body member 2. As shown the aperture 48 is made of the same size as the apertures 25 and is provided with a bushing 20 which serves to take up any slack space between the pin 19 and the walls of the aperture 25. Washers 21 are interposed between the head 22 and the lock end of the pin 19 and upper and lower faces 57 and 58 respectively of the body member 2. The hole for the locking pin is made the same size as the apertures 25 merely for the sake of uniformity. It is obvious that the hole for the pin may be made of such a diameter so as to give the pin 19 merely sufficient clearance to extend therethrough. This can be done by making the necessary change in the die that punches the apertures 25. The use of a hole of such a diameter small enough to merely permit the pin 19 to ex-

tend therethrough will, of course, result in the elimination of the bushing member 20. The aperture for the pin 19 would then be of smaller diameter than the aperture 25 but otherwise exactly similar to it.

Although the assembly and operation of the above device is believed to be clear from the foregoing disclosure yet to obviate any possible misunderstanding on this subject the following detailed description is here given.

One starts with cardboard sheets 4 and paper sheets 8 and 9. These cardboard sheets 4 are perforated so as to provide apertures which become apertures 25, 14 and the aperture 48 for the pin 19. The paper sheets 8 and 9 may be provided with apertures which are to align with and become part of the apertures 14. A sufficient number of layers 4 are then superimposed upon each other to make the lower member 5. The dividing strip 8 is then placed upon the lower member 5. Then another group of cardboard sheets 4 sufficient to constitute the member 7 are placed upon the dividing strip 8. The articles to be dispensed 10 are now placed in the cells 27 which have been formed by the walls of the apertures 25 and the dividing strip 8. The upper dividing or closing strip 9 is now placed upon the member 7. Then another group of cardboard sheets 4 sufficient to form the member 6 is placed upon the dividing strip 9. The binding strips 3 are now placed around the edges of the group 5, 8, 7, 9, 6. The portion 16 of the binding legs 15 are now inserted through the apertures 18 and 14 in the binding strips 3 and the members 5, 8, 7, 9, 6 respectively. If apertures similarly placed to apertures 14 have not been punched in the members 8 and 9 the member 16 will perforate the members 8 and 9 and thus form the necessary apertures. The pin 19 and its bushing plus the washers 21 are now inserted in the proper aperture, the lock 24 put in place and the assembly is complete. The assembly is now ready for shipment as a unit, or, if desired, the legs 15 may be removed to make a more compact shipping package. If the legs are removed the storekeeper can readily insert the same when the unit reaches its destination.

In use the board is placed upon a counter 50 with the body member 2 being held in raised position above the counter by the binding legs 15. The portion 17 of the binding legs 15 is of sufficient length to fully permit the article being dispensed to fall upon the counter. (See Figure 2.) If desired, the portion 17 may be made high enough for the insertion of a hand beneath the board for the purpose of removing the article dispensed. The purchaser selects an aperture unit 25 as at 49 and breaks the cell 27 by exerting a downward pressure with his finger or a dowel punch on the upper dividing strip 9 which is in turn communicated to the article 10 being dispensed and the lower dividing strip 8. The article being dispensed 10 falls on the counter and may be removed by inserting the hand under the board or by lifting the board, or in any manner desired.

After every cell on the board has been punched or as soon before that time as the store-keeper thinks desirable the board may be renewed for use by merely removing the lock, the locking pin, the binding legs and binding strips, by removing the portions 6 and 7, removing the perforated dividing strips 8 and 9 and reassembling the device as hereinabove outlined using fresh dividing

strips 8 and 9 and a new supply of the article being dispensed.

As herein illustrated the device dispenses candy balls 10. However, any type of article desired may be dispensed by this type of board merely by making the cells of such shape as to hold the articles desired.

Such a device, in addition to its other advantages, possesses the advantage of keeping the article being dispensed fresh and unsoiled until the time of actual purchase.

As shown in the modification disclosed in Figures 1 and 2 the aperture 18 extends through the binding strip 3 at a point approximately midway between its ends. It is obvious that any outward thrust or pull exerted on either end of the strip 3 would result in a radial movement of the strip around the binding leg 15 as a pivot point. The other end of the member 11 of the strip 3 will, however, press inwardly against the sides of the assembly 5, 7, 6, 8 and 9. Motion of the strip 3 at this point is therefore prevented. The strip 3 is therefore held at two points against withdrawal from the remainder of the body member 2. Any other force tending to move any strip 3 relative to the remainder of the body portion 2 in a direction parallel to that particular edge with which the said strip contacts is opposed by the binding leg 15. Any force tending to move the strips 3 in a vertical direction relative to the plane of the main or punching surface of the board 1 is opposed by the flanges 12 and 13 of the member 3.

Instead of forming the apertures 18 at a point intermediate the ends of the member 13 of the binding strip 3 as shown in Figures 1 and 2 the apertures can be made at the ends of the members 13 as shown in Figures 3 and 6.

The disclosure of Figure 3 differs from that of Figures 1 and 2 only in the fact that instead of apertures 18 intermediate the ends of the members 13 there is provided apertures 29 at the ends of the said member. The aperture 29 is circular in cross section and is made up of two semicircular portions one in each of the ends 31 of two members 13 at their point or line of junction 51. An examination of Figure 3 discloses that any force tending to move any strip 3 outwardly with respect to the bounding edge of the board 2 with which it contacts would be opposed by the reaction resulting between the inner bounding wall 52 of the aperture 29 and the portion 16 of the binding leg 15. Any force tending to move or displace the strip 3 relatively to the board 2 in a direction parallel to the edge of the board 2 with which the said strip contacts will be opposed by the portion 16 of the binding leg 15.

The disclosure of Figure 6 differs from that of Figure 3 in that instead of a circular aperture 29 there is provided an aperture 32 L shaped in cross section. This aperture is composed of two slots 33 and 34 substantially at right angles to each other made at a point 53 at the respective ends of each of the said members 13. When this type of aperture is used the binding leg 35 is substituted for the leg 15. This leg is L shaped in cross section and is composed of two wall members 36 and 37 substantially at right angles to each other. The shoulders 38 divide the leg 35 into an upper or dowel portion 54, which enters the aperture 32 in the member 13 and a similar aperture which is, of course, formed in the portions 5, 8, 7, 9, 6 of the body member 2, and a lower or leg portion 39. The end 40 of the leg portion 39 rests upon

the counter or other surface on which the board is supported.

It is to be understood that the binding leg of the type shown in Figure 7 need not be L shaped but may be crescent shaped, V shaped, or any shape between an L shape and a crescent. The cooperating aperture 32 would vary accordingly. It is to be further understood that the binding leg shown in Figures 1, 2 and 3 need not be circular in cross-section but may be square, triangular, elliptical, or half of an ellipse, or hemispherical or any geometric shape falling intermediate the said cross-sections.

The modification shown in Figures 4 and 5 differs from that shown in Figures 1, 2, 3 and 6 in that the binding strips 3 are eliminated. The board 41 is composed of members 5, 8, 7, 9, 6 forming the body member 42. The component portions of the body member 42 are held together by binding legs 44 which extend through suitable apertures formed in the body member 2. The legs 44 are composed of a head 46, a body 43 terminating in a threaded portion 45. The portion 45 has threadably mounted thereon the nut 47 which serves to bind together the component portions 5, 8, 7, 9, 6 of the body member 2. The end 56 of the legs 44 contact with the surface of a counter 50 or its equivalent. Washers 21 are inserted between the top member 46, the nut 47 and the top and bottom surfaces 57, 58 respectively of the board 42. The portion 45 of the leg member 46 extends beyond the bottom surface 58 of the board 42 a sufficient distance to permit the article being dispensed 10 to drop upon the counter entirely free of the board 42 or in addition a distance sufficient to permit the insertion of a hand under the bottom surface 57 of the board 42 to permit the removal of the article being dispensed.

The device shown in Figures 4 and 5 is assembled in a manner similar to that outlined in connection with the disclosure of Figures 1 and 2 with such differences as the difference in structure demands and which are obvious from the structure disclosed.

The above disclosure is to be understood as being by the way of illustration only and not by the way of limitation since many changes may be made in the structure herein disclosed without departing from the spirit of my invention. These changes may include the use of different materials as well as a change in size or shape of the device, of the apertures and cells: Or the changes may include the omission of certain parts such as the lock or the washers or one binding strip, or some other part which may result in a device not quite as desirable as those herein disclosed but still usable for the purpose disclosed. It is my desire, therefore, that the claims which are hereunto appended for the purpose of defining my invention be limited only by the prior art.

Having described my invention what I claim as new and useful is:—

1. As an article of manufacture a dispensing device of the punch board type consisting of a body portion having a plurality of apertures formed therein; two spaced apart dividing strips of frangible material extending through the said body portion and dividing the said body portion into an upper portion having guiding apertures formed therein, a lower portion having guiding apertures formed therein, and a plurality of article receiving cells formed by the walls of the said apertures enclosed between the said dividing members and the surfaces of the said dividing members; a plurality of channel shaped binding

strips having cut out portions formed therein bounding and enclosing the free edges of the said body member to form a single unitary structure; a plurality of pin apertures formed in the body member and registering with the cut out portions formed in the said strips; and a plurality of pin members, each of said pin members extending through one of the said cut out portions in the said binding strips and the said pin apertures in the said body member, the said pin members serving to bind the entire structure together.

2. As an article of manufacture a dispensing device of the punch board type consisting of a main laminated body portion having a plurality of apertures formed therein; two spaced apart dividing strips of frangible material extending through the said body portion and dividing the said body portion into an upper portion having guiding apertures formed therein, a lower portion having guiding apertures formed therein, and a plurality of article receiving cells formed by the walls of the said apertures enclosed between the said dividing members and the surfaces of the said dividing members; a plurality of channel shaped binding strips having cut out portions formed therein bounding and enclosing the free edges of the said body member to form a single unitary structure; a plurality of pin apertures formed in the body member and registering with the cut out portions formed in the said strips; and a plurality of pin members, each of said pin members extending through one of the said cut out portions in the said binding strips, the said pin members serving to bind the entire structure together and as legs for the said body member.

3. As an article of manufacture a dispensing device of the punch board type consisting of a main laminated body portion having a plurality of apertures formed therein; two spaced apart dividing strips of frangible material extending through the said body portion and dividing the said body portion into an upper portion having guiding apertures formed therein, a lower portion having guiding apertures formed therein and a plurality of article receiving cells formed by the walls of the said apertures enclosed between the said dividing members and the surfaces of the said dividing members; a plurality of channel shaped binding strips, having cooperating cut out portions formed in the ends of each of said strips the cut outs of any two adjoining strips combining to form an angle shaped cut out, bounding and enclosing the said body member to form a single unitary structure; a plurality of angle shaped pin apertures formed in the said body member, one of the said angle shaped cut out apertures registering with one of the angle shaped cut outs formed in the ends of each pair of cooperating strips; and an angle shaped pin member extending through each of the said angle shaped cut outs in the said binding strips and in the said body member, the said pin members serving to bind the entire structure together.

4. As an article of manufacture a dispensing device of the punch board type consisting of a main laminated body portion having a plurality of apertures formed therein; two spaced apart dividing strips of frangible material extending through the said body portion and dividing the said body portion into an upper portion having guiding apertures formed therein, a lower portion having guiding apertures formed therein and a plurality of article receiving cells formed by the

walls of the said apertures enclosed between the said dividing members and the surfaces of the said dividing members; a plurality of channel shaped binding strips, having cooperating cut out portions formed in the ends of each of the said strips the cut outs of any two adjoining strips combining to form an angle shaped cut out, bounding and enclosing the said body member to form a single unitary structure; a plurality of angle shaped pin apertures formed in the said body member, one of the said angle shaped cut out apertures registering with one of the angle shaped cut outs formed in the ends of each pair of cooperating strips; and an angle shaped pin member having a shoulder formed thereon extending through each of the said angle shaped cut outs in the said binding strips and in the said body member with the shoulder portion abutting the lower face of the said binding strips whereby the entire structure is bound together, and with the portion of the pin beyond the said shoulder extending outwardly from the lower face of the said binding strips and serving to form supporting legs for the said structure.

5. As an article of manufacture a dispensing device of the punch board type consisting of a

laminated body portion having a plurality of apertures formed therein; two spaced apart strips of frangible material dividing the said body portion into an upper portion having a plurality of guiding apertures formed therein, a lower portion having a plurality of guiding apertures formed therein, and a central portion having a plurality of article receiving cells formed therein by the walls of the said apertures enclosed between the said dividing members and the surfaces of the said dividing members; a plurality of channel shaped binding strips having one of the channel arms of greater width than the other and having apertures formed in the wider channel arm binding and enclosing the free edges of the said body member to form a unitary structure, the said channel arm apertures registering with pin apertures formed in the said main body member; and a plurality of pins, a portion of each extending into one of the said channel arm and pin apertures with one end abutting against the said narrow channel arm whereby one portion of the said pin serves to bind the said body portion to the binding strips and the other portion serves as a leg for the said unit.

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