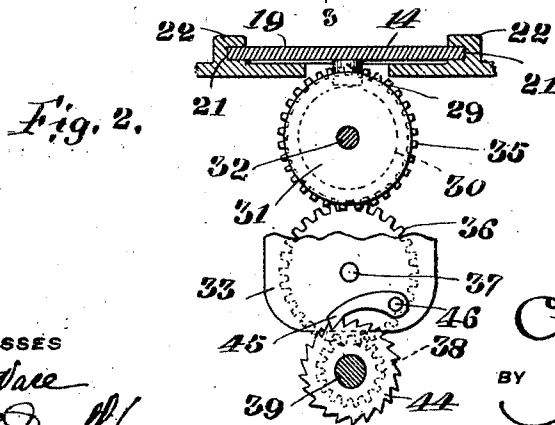
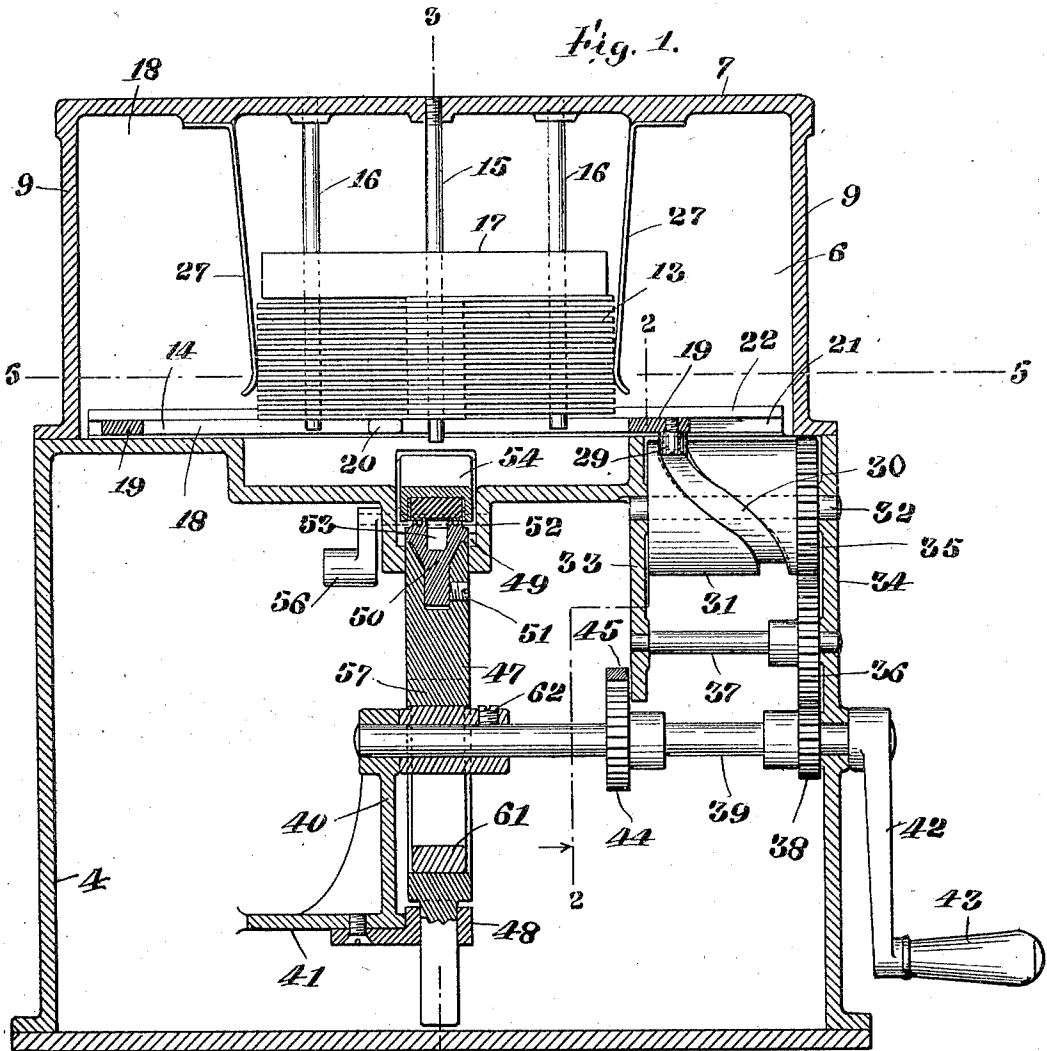


C. A. ALDEN.
DISPENSING AND PRINTING MACHINE.
APPLICATION FILED NOV. 5, 1909.

950,789.

Patented Mar. 1, 1910.

3 SHEETS—SHEET 1.



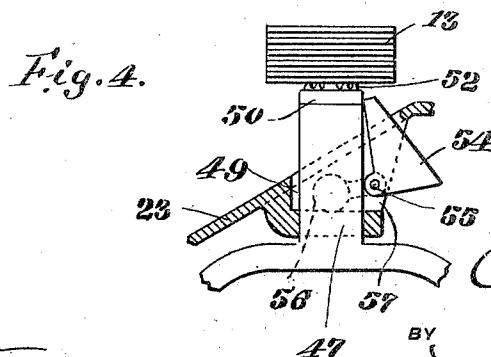
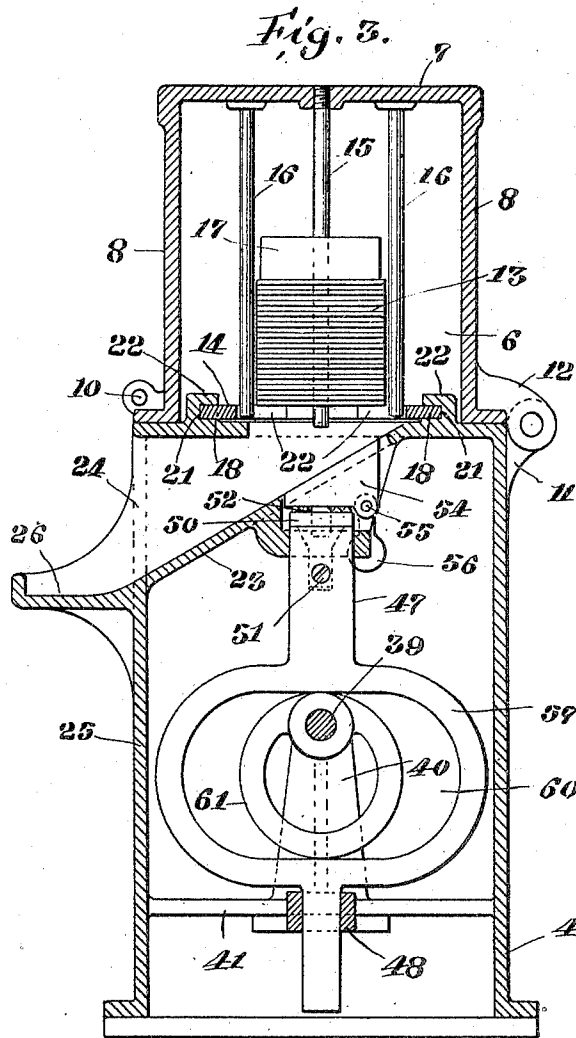
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3 SHEETS—SHEET 3.

Fig. 5.

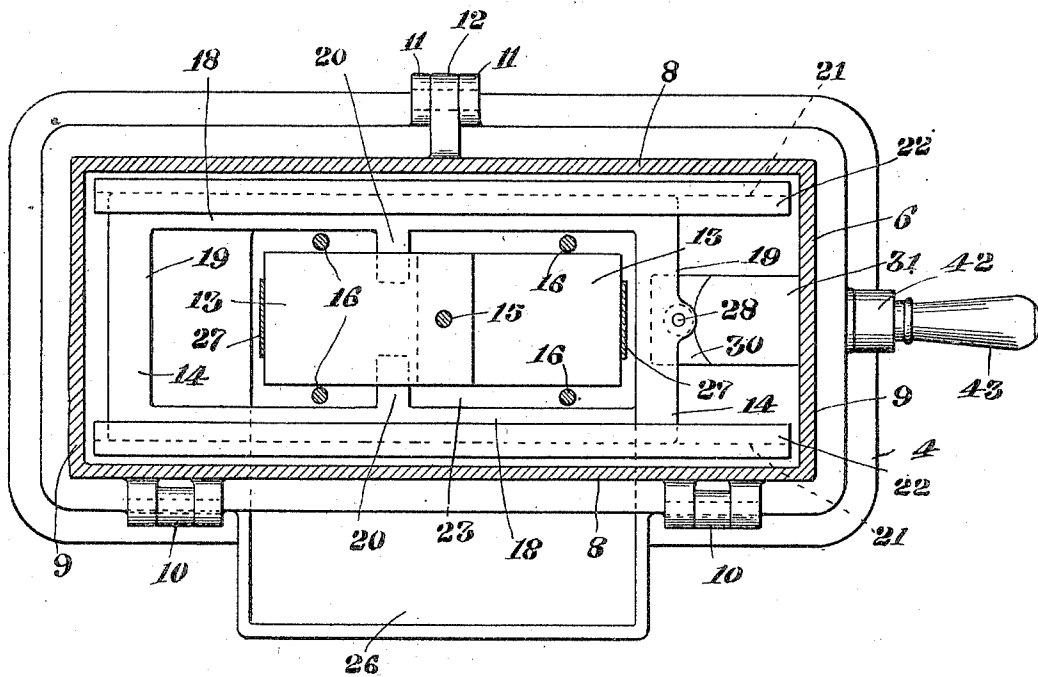


Fig. 6.

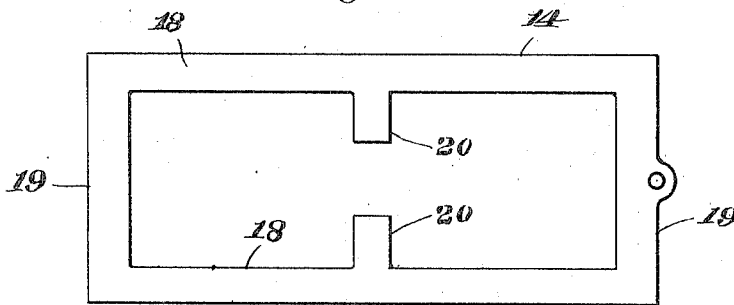
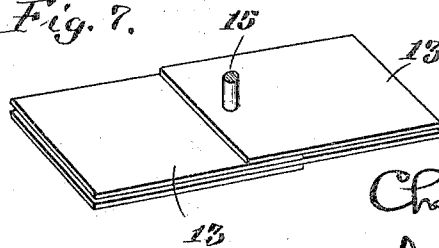


Fig. 7.



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UNITED STATES PATENT OFFICE.

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DISPENSING AND PRINTING MACHINE.

950,789.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed November 5, 1909. Serial No. 526,368.

To all whom it may concern:

Be it known that I, CHARLES A. ALDEN, citizen of the United States, residing at Steelton, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Dispensing and Printing Machines, of which the following is a specification.

The object of my invention is to provide a novel, simple and efficient machine for printing and dispensing tickets or other articles.

The invention consists in the novel construction and combination of parts which will be hereinafter fully described and claimed.

In the drawings:—Figure 1 is a longitudinal vertical section through my improved dispensing and printing machine. Fig. 2 is a transverse vertical section on line 2—2 of Fig. 1. Fig. 3 is a transverse vertical section on line 3—3 of Fig. 1. Fig. 4 is a detail, showing parts of the printing mechanism shown in Fig. 3, in a different position. Fig. 5 is a horizontal section on line 5—5 of Fig. 1. Fig. 6 is a plan view of the discharging member, removed. Fig. 7 is a perspective view of several of the tickets and rod extending therethrough.

4 designates a lower casing or base adapted to rest upon any suitable support, and 6 designates an upper casing or magazine. The upper casing or magazine 6 comprises a top wall 7, side walls 8, 8, and end walls 9, 9, the bottom of the magazine being open. The magazine 6 is hinged, as at 10, to the lower casing 4, whereby the magazine may be swung upwardly on its hinge to afford access to the interior thereof; and the magazine may be locked down upon the support 4 by passing a pin or other suitable locking means through aligned perforations in lugs 11, 11 on the lower casing 4 and a lug 12 on the upper casing 6.

The magazine 6 is adapted to contain the articles to be successively dispensed or discharged from the machine. In the drawings, tickets 13 are shown as the articles to be dispensed. These tickets 13 are arranged in vertical series and supported one upon the other, the tickets overlapping each other in the central portion of the magazine and ex-

tending from their overlapping portions in alternate succession in opposite directions, as shown.

The vertical series of tickets 13 is supported within the magazine 6 by a member 14 engaging the bottom of the lowermost ticket 13; and extending through centrally-arranged, vertically-alined openings in the overlapping portions of the tickets 13 is a rod 15. The upper end of the rod 15 is screwed into the top 7 of the magazine 6, and the lower free end of the rod extends below the lowermost ticket 13.

The member 14 not only supports the series of tickets 13, but, as will be hereinafter described, it is designed to be operated to successively discharge the tickets from the magazine, the series of tickets resting upon the member 14 after each ticket has been discharged. It will thus be seen that as the tickets are successively discharged from the magazine, the entire series of tickets moves downwardly therethrough. Therefore, in order to guide the tickets 13 during their downward movement, and prevent their lateral displacement about the axis of the rod 15, I provide laterally disposed guide rods 16 which are screwed into the top 7 of the magazine 6 and extend downwardly therefrom adjacent the sides of the tickets 13.

The tickets are adapted to feed downwardly by their own weight, and the proper downward feed of the tickets is insured by a weight 17 which rests upon the uppermost ticket and is provided with a centrally-arranged hole through which the rod 15 extends.

The discharging member 14 comprises side bars 18, 18, connected by end bars 19, 19, the side bars having inwardly-projecting, oppositely-disposed parts 20, 20, which extend beneath the lowermost ticket 13 adjacent and beyond the overlapping portion thereof, to support the series of tickets within the magazine 6. The side bars 18, 18 of the member 14 are arranged outwardly of the tickets 13 and guide rods 16, and are slidably fitted to horizontal grooves 21 in guides 22 formed on the support 4, in a manner to permit the member 14 to be moved back and forth in the grooves 21 to

move the parts 20, 20 from the position shown on one side of the central rod 15 beyond the overlapping portions of the tickets 13 to the other side of the rod beyond the overlapping portions of the tickets; the space between the opposite edges of the ticket-supporting parts 20, 20 being sufficient to permit them to pass the central rod 17.

From the foregoing description it will be seen that when the member 14 occupies the position shown in the drawings in which the parts 20, 20 extend beneath and support the lowermost ticket 13 to the left of the overlapping portion thereof, the member 14 may be moved to the right to move the parts 20, 20 beneath said overlapping portion to a position out of engagement with the lowermost ticket and beneath the next adjacent ticket to the right of its overlapping portion; thereby releasing the lowermost ticket and permitting it to fall from the magazine 6. And when the member 14 is moved back to its previous position on the left of the overlapping portions, another ticket will be discharged from the magazine. It will thus be seen that as the member 14 is moved from side to side of the overlapping portions of the tickets, the tickets will be successively discharged from the magazine.

As the tickets are discharged from the magazine they fall upon an inclined wall or chute 23 formed in the top of the support 4 and leading to an opening 24 in a wall 25 of the support. The lower end of the chute terminates in a shelf 26 onto which the falling tickets are received and from which they may be removed by hand.

It will be observed that the series of tickets 13 is supported only beneath the central portion thereof. Therefore, in order to prevent undue sagging of the ends of the tickets I provide flat springs 27, 27, the upper ends of which are secured to the top 7 of the magazine and the lower ends of which engage the ends of the tickets near the bottom of the series, as shown.

The back and forth movement of the member 14 to discharge the tickets is effected by the following means: One of the end bars 19 of the member 14 is provided with a centrally-arranged pin 28 the lower end of which carries a roller 29 engaging the walls of an endless groove 30 in the periphery of a cam 31 fixed to a horizontal shaft 32 rotatably mounted in walls 33 and 34 of the support 4. The contour of the groove 30 is such that when the cam 31 is turned a half revolution the roller 29 will travel in the groove 30 to the opposite end of the cam 31, thereby moving the discharging member 14 beneath the overlapping portions of the tickets 13 to the opposite side thereof, to discharge the lowermost ticket as previously explained;

and when the cam 31 is turned to complete its revolution, the roller 29 will travel in the groove around the cam 31 to its previous position, thereby moving the member 14 back to discharge another ticket from the magazine. The shaft 32 is provided with a fixed gear wheel 35 in mesh with an idler 36 secured to a shaft 37 rotatably mounted in the walls 33 and 34 of the support. The idler 36 is in mesh with a gear wheel 38 fixed to a shaft 39 which is rotatably mounted in the wall 34 and in a bracket 40 rising from a wall 41 extending between the walls of the support 4. The shaft 39 extends through and beyond the wall 34 and has fixed thereto a crank 42 provided with a suitable handle 43 by means of which the shaft 39 may be turned. The turning of the gear wheels 35 and 38 is such that during each complete revolution of the shaft 39 the cam 31, through its connections with the shaft 39, will be turned a half revolution. It will thus be seen that each time the handle is turned forwardly a complete revolution, a ticket will be discharged from the machine, as previously explained.

In order to prevent backward movement of the main shaft 39 and its connections, I provide said shaft with a ratchet wheel 44, the teeth of which are adapted to be engaged by a pawl 45 pivoted, as at 46, to the wall 33 of the support 4.

During the discharging operation just described and prior to the ejection of each ticket 13 from the magazine 6, the ticket is provided with suitable printed matter—such, for example, as a number, a date, etc.—which is printed upon the lower face of the ticket by the following means.

Arranged below the series of tickets 13 is a member 47, the lower end of which is slidably fitted to an opening in a guide bracket 48 secured to the wall 41 and the upper end of which is slidably fitted to an opening in the floor of a depression 49 formed in the floor of the chute 23, in a manner to permit the member 47 to be moved vertically in its guides toward and from the overlapping portions of the tickets 13.

The upper end of the member 47 carries a suitable printing device or block 50, which is provided with a downwardly extending shank secured by a set screw 51 within an opening in the upper end of the member 47. The upper face of the block 50 is provided with the usual raised type 52 of the desired characters to be printed upon the tickets. The upper face of the block 50 is also provided with a centrally-arranged hole 53 therein for the reception of the lower projecting end of the rod 15 when the member 47 is raised to bring the type 52 into engagement with the overlapping portion of the lowermost ticket 13.

The type 52 is supplied with ink by means of a suitable inking pad 54 which is secured to a pin 55 extending into openings in the side walls of the depression 49. The lower face of the pad 54 is provided with ink and rests normally upon the type 52, being held in that position by its own weight and by a weight 56 fixed to and depending from the pivot pin 55.

During the raising of the printing device 50 into engagement with the ticket 13, the inking pad 54 is swung back on its pivot 55 through an opening 57 in a wall of the depression 49, out of the path of movement of the printing device, from the position shown in Figs. 1 and 3 to the position shown in Fig. 4. And during the lowering of the printing device 50 from engagement with the ticket 16, the action of the weight 56 causes the inking pad 54 to swing downwardly upon its pivot into engagement with the type 52. The type is thus automatically supplied with ink between each printing operation.

It will be observed that the inking pad 54 is made triangular in cross section and is so arranged that when the pad is in normal position, resting upon the type 51, the inclined top of the pad 54 will be in alinement with the inclined floor of the chute 23, substantially filling the opening of the depression 49 therein and forming in effect a part of said floor to receive tickets falling from the magazine 6.

The inking and printing operations just described are effected by the rotation of the main shaft 39 of the machine.

The central portion of the member 47 is expanded, as at 59, and said expanded portion is provided with an elliptical opening 60 therein. Arranged within said opening and engaged with the upper and lower walls thereof is an eccentric 61 mounted on the shaft 39 to which it is secured by a set screw 62. It will thus be seen that when the shaft 39 is turned, the rotation of the eccentric 61 will raise and lower the member 50 to operate the inking and printing devices as hereinafter described. It will also be seen that the timing of the operation of the eccentric 61 by the shaft 39 with respect to the operation of the cam 31 also operated from the shaft 39 is such that the printing device 50 will be raised and lowered during each half revolution of the cam roller 31, the space between the ticket-supporting parts 20, 20 permitting the engagement of the type 52 with the overlapping portion of the lowermost ticket 13 during the passage of the parts 20, 20 beneath said overlapping portion.

From the foregoing description it will be seen that each time the operating handle is turned a complete revolution, a ticket will

be printed and discharged from the magazine 6 and will be received upon the shelf 26.

Although I have herein shown and described my invention in a desirable and practicable form, the same may be greatly modified without departing from the invention.

I claim:—

1. The combination of a magazine provided with vertical guiding walls and a discharge opening in the lower portion thereof, a series of articles supported one upon the other within said magazine and movable toward said opening, said articles overlapping each other and extending from their overlapping portions in alternate succession in different directions and each article having an opening therein alined vertically with openings in adjacent articles, a vertically arranged member projecting into the alined openings in said articles, and a discharging member having a part supporting said series and movable in two directions from a position beneath the overlapping portions of said articles to positions beneath the parts of said articles extending from their overlapping portions.

2. The combination of a magazine provided with vertical guiding walls and a discharge opening in the lower portion thereof, a series of articles supported one upon the other within said magazine and movable toward said opening, said articles overlapping each other and extending from their overlapping portions in alternate succession in different directions and each article having a perforation therein alined vertically with perforations in adjacent articles, a vertically arranged rod supported at its upper end and projecting through said perforations and having a lower free end, and a discharging member having a part supporting said series and movable in two directions from a position beneath the overlapping portions of said articles to positions beneath the parts of said articles extending from their overlapping portions.

3. The combination of a magazine provided with vertical guiding walls and a discharge opening in the lower portion thereof, a series of articles supported one upon the other within said magazine and movable toward said opening, said articles overlapping each other and extending from their overlapping portions in alternate succession in different directions and each article having a perforation therein alined vertically with perforations in adjacent articles, a vertically arranged rod supported at its upper end and projecting through said perforations and having a lower free end, and a discharging member including side bars having parts extending beneath and supporting said series, said parts having a clearance space

therebetween for said rod and said member being movable in two directions to bring said parts from a position beneath the overlapping portions of said articles to positions beneath the parts of said articles extending from their overlapping portions.

4. The combination of a magazine including vertically arranged guiding rods and a discharge opening in the lower portion thereof, a series of articles supported one upon the other within said magazine and guided by said rods to move toward said opening, said articles overlapping each other and extending from their overlapping portions in alternate succession in different directions and each article having an opening therein alined vertically with openings in adjacent articles, a vertically arranged member projecting into the alined openings in said articles, and a discharging member having a part supporting said series and movable in two directions from a position beneath the overlapping portions of said articles to positions beneath the parts of said articles extending from their overlapping portions.

5. The combination of a magazine including vertically arranged guiding rods and a discharge opening in the lower portion thereof, a series of articles supported one upon the other within said magazine and guided by said rods to move toward said opening, said articles overlapping each other and extending from their overlapping portions in alternate succession in different directions and each article having a perforation therein alined vertically with perforations in adjacent articles, a vertically arranged rod supported at its upper end and projecting through said perforations and having a lower free end, and a discharging member having a part supporting said series and movable in two directions from a position beneath the overlapping portions of said articles to positions beneath the parts of said articles extending from their overlapping portions.

6. The combination of a magazine provided with vertical guiding walls and a discharge opening in the lower portion thereof, a series of articles supported one upon the other within said magazine and movable toward said opening, said articles overlapping each other and extending from their overlapping portions in alternate succession in different directions and each article having an opening therein alined vertically with openings in adjacent articles, a vertically arranged member projecting into the alined openings in said articles, and a discharging member having a part supporting said series and movable in two directions from a position beneath the overlapping portions of said articles to positions beneath

the parts of said articles extending from their overlapping portions, and hand operated mechanism arranged to operate said member.

7. The combination of a magazine provided with vertical guiding walls and a discharge opening in the lower portion thereof, a series of articles supported one upon the other within said magazine and movable toward said opening, said articles overlapping each other and extending from their overlapping portions in alternate succession in different directions and each article having an opening therein alined vertically with openings in adjacent articles, a vertically arranged member projecting into the alined openings in said articles, a discharging member having a part supporting said series and movable in two directions from a position beneath the overlapping portions of said articles to positions beneath the parts of said articles extending from their overlapping portions, a rotatable shaft, and means operated by turning said shaft in one direction for moving said member in its two directions.

8. The combination of a magazine provided with vertical guiding walls and a discharge opening in the lower portion thereof, a series of articles supported one upon the other within said magazine and movable toward said opening, said articles overlapping each other and extending from their overlapping portions in alternate succession in different directions and each article having an opening therein alined vertically with openings in adjacent articles, a vertically arranged member projecting into the alined openings in said articles, a discharging member having a part supporting said series and movable in two directions from a position beneath the overlapping portions of said articles to positions beneath the parts of said articles extending from their overlapping portions, a rotatable cam engaged with said member and having parts arranged to move said member in its two directions when said cam is turned in one direction, and means operative to turn said cam.

9. The combination of a magazine provided with vertical guiding walls and a discharge opening in the lower portion thereof, a series of articles supported one upon the other within said magazine and movable toward said opening, said articles overlapping each other and extending from their overlapping portions in alternate succession in different directions and each article having an opening therein alined vertically with openings in adjacent articles, a vertically arranged member projecting into the alined openings in said articles, a discharging member having a part supporting said

series and movable in two directions from a position beneath the overlapping portions of said articles to positions beneath the parts of said articles extending from their
5 overlapping portions, a rotatable cam engaged with said member and having parts arranged to move said member in its two directions when said cam is turned in one

direction, a rotatable shaft, and gearing between said shaft and said cam.

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

CHARLES A. ALDEN.

Witnesses:

ALLEN W. ELLENBERGER,

ELI B. BETUR.