

N. R. STILES.
 DEVICE FOR AUTOMATICALLY DELIVERING ARTICLES.
 APPLICATION FILED MAY 29, 1909.

958,559.

Patented May 17, 1910.

3 SHEETS—SHEET 1.

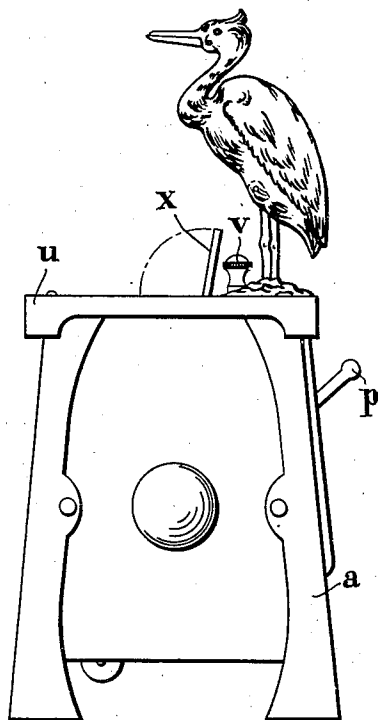


Fig. 1.

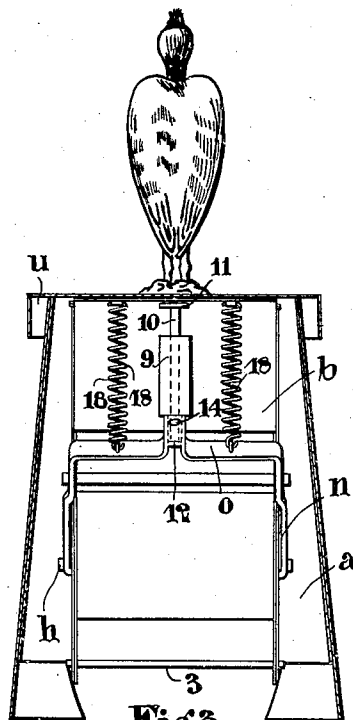


Fig. 3.

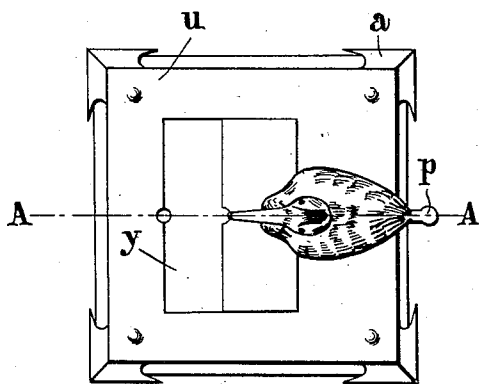


Fig. 2.

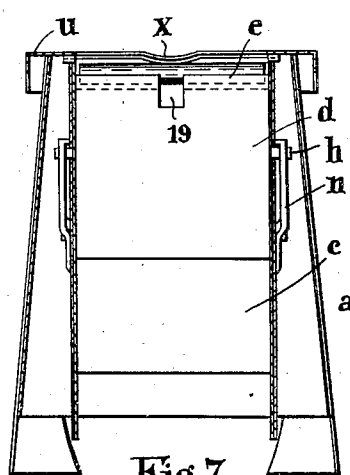


Fig. 7.

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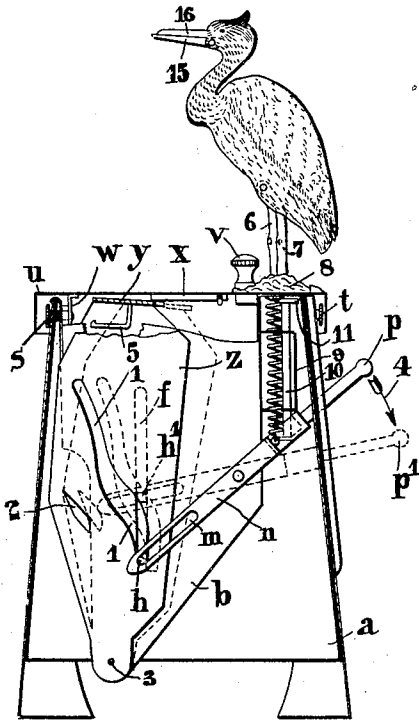


Fig. 4.

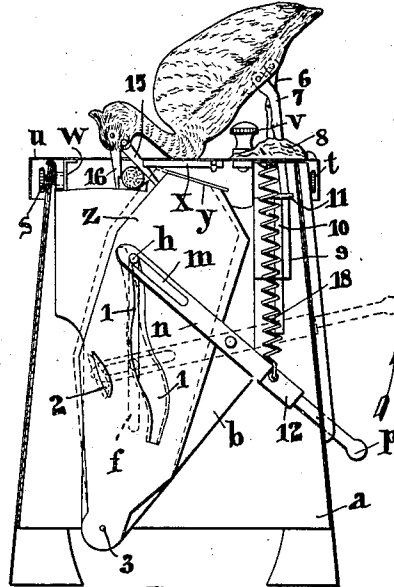


Fig. 5.

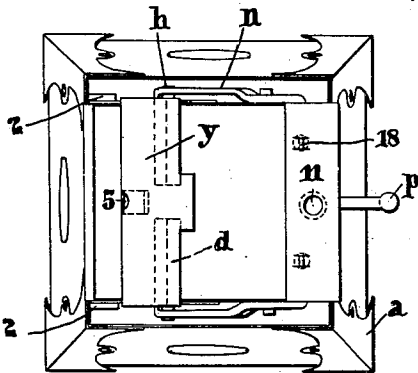


Fig. 8.

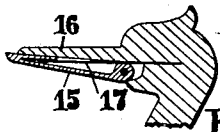


Fig. 9.

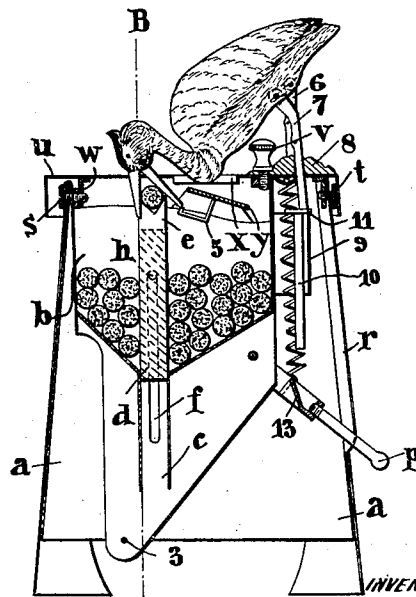


Fig. 6.

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3 SHEETS—SHEET 3.

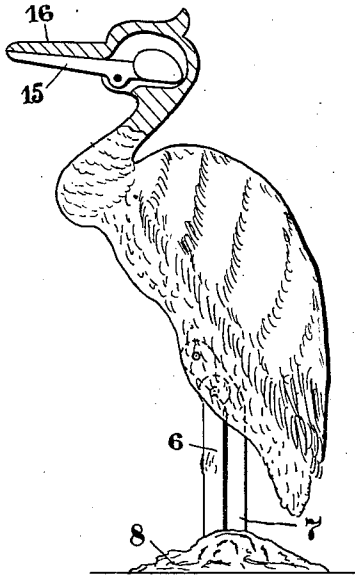


Fig. 10.

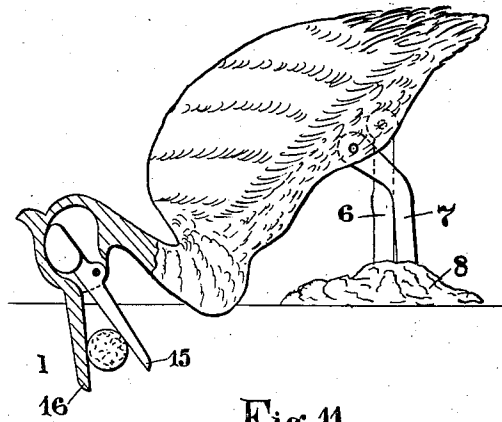


Fig. 11.

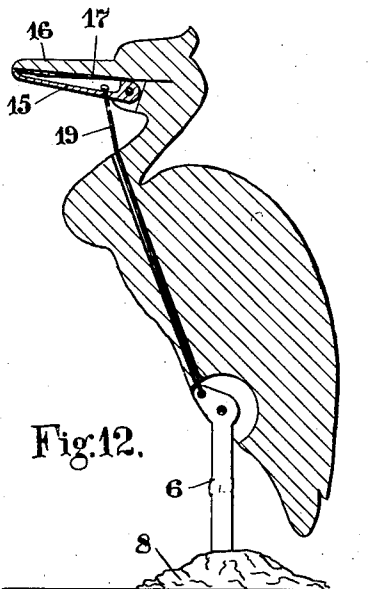


Fig. 12.

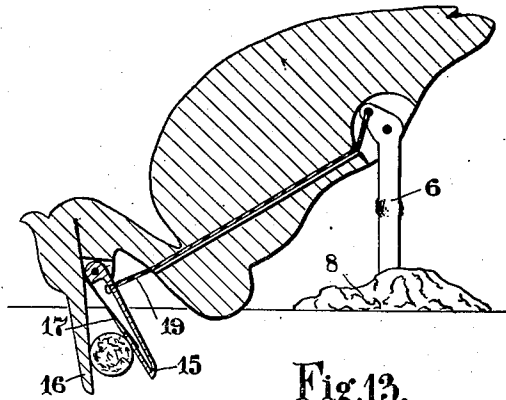


Fig. 13.

Attest:

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 L. B. Middleton

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By

Atty.

UNITED STATES PATENT OFFICE.

NOEL RAY STILES, OF LONDON, ENGLAND.

DEVICE FOR AUTOMATICALLY DELIVERING ARTICLES.

958,559.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed May 29, 1909. Serial No. 499,162.

To all whom it may concern:

Be it known that I, NOEL RAY STILES, a citizen of the United States of America, and residing at 34 Leadenhall street, London, E. C., England, have invented certain new and useful Improvements Relating to Devices for Automatically Delivering Articles, of which the following is a specification.

This invention relates to improvements in devices for delivering articles automatically from a container and is specially applicable for the delivery of cigarettes and the like from a cigarette container. Devices of this character as hitherto proposed have been unreliable in practice usually on account of the faulty feeding means to the element which selects the articles to be presented.

The object of the present invention is to provide an improved device of the above mentioned character in which the selection and presentation of the articles is effected with great reliability.

The invention consists in an automatic presenting device comprising an article container, a cradle and means for raising the cradle up through the container so as to select and lift an article into position for engagement by a receiving element.

The invention consists in an automatic presenting device having an article container with a bottom sloping toward a slot in which a cradle is slidable vertically and is adapted to be raised a suitable distance up through the container, said device supporting a body having a pair of receiving prongs which move toward the article and having means for opening the prongs to receive said article from the cradle and means for raising the body to a suitable position to present the article.

The invention further consists in the improved device hereinafter described for presenting cigarettes or the like.

Referring now to the accompanying drawings; Figure 1 is a side elevation of the device as applied to a cigarette presenting device. Fig. 2 is a plan view of the same. Fig. 3 is an elevation of the device with the back of the chest removed. Figs. 4 and 5 are elevations of the device with the side of the chest removed showing the delivery mechanism in various positions. Fig. 6 is a section on the line A—A of Fig. 2 when the mechanism is in the position shown in Fig. 5. Fig. 7 is a section on the line B—B of

Fig. 6. Fig. 8 is a similar view to that shown in Fig. 2 but with the cover plate removed. Fig. 9 is a detail sectional view of the head of the stork. Fig. 10 shows another form of the invention in which the lower portion of the stork's bill is operated by the automatic action of a weight within the stork's head; Fig. 11 shows the same mechanism as Fig. 10, but in a different position; Fig. 12 shows still another form in which the lower portion of the stork's bill is operated by the tension of a cord; Fig. 13 shows the same mechanism as Fig. 12, but in a different position.

In carrying this invention into effect according to one construction as applied to a cigarette presenting device as illustrated in the drawings, I provide a stamped metal chest, *a*, in which is inserted a metal cigarette container, *b*, the bottom of which is formed in two parts sloping from two opposite sides downward to a slot, *c*, at about the center of the container, *b*, the sides of the slot being formed by the two parts of the bottom of the container, *b*, being continued as shown in Fig. 6. In the opposite side walls of the container, *b*, vertical slots, *f*, are formed which guide a cradle, *d*, by means of pins, *h*, which project from the cradle engaging therewith. The cradle, *d*, may be made in one or more pieces and is V-shaped at its upper end, the cigarette to be presented resting in the end as shown at *e*, in Figs. 6 and 7. These pins, *h*, engage with long slots, *m*, formed in a pair of pivoted levers, *n*, which are connected at their ends by a cross piece, *o*, to which is fixed a handle, *p*, which projects through a vertical slot, *r*, in the outer wall of the chest, *a*, so that by raising or lowering this handle, *p*, which acts as a lever the cradle, *d*, is raised or lowered in the container, *b*. The cigarette container, *b*, is secured in position in the metal chest, *a*, by any suitable means, those shown in the drawings comprising screws, *s* and *t*, passing through the metal chest and screwing into the container, *b*. Over the metal chest, *a*, and cigarette container, *b*, is placed a cover plate, *u*, secured in position by a screw, *v*, screwing into a part of the container, *b*, and by a piece, *w*, having a hole into which the end of the screw, *s*, screws or simply enters.

The cover plate, *u*, is formed with a large opening, part of which is closed by a hinged flap, *x*, while the other part is closed by a

plate, *y*, the operation of which is herein-after described. By lifting up the flap, *a*, the cigarettes can be placed in the container, *b*, as required to refill the same.

5 The plate, *y*, is carried on the end of two segmental levers, *z*, which are pivoted at their other ends on a wire, *3*, passing through the side walls of the container, *b*, as shown in Figs. 3, 4, 5 and 6. These levers, *z*, are also provided with cam slots, *1*, in which the pins, *h*, projecting from the cradle, *d*, engage. The cam slots, *1*, as shown are formed so that during the first 10 part of the upward movement of the cradle, *d*, the plate, *y*, does not move. During the farther upward movement of the cradle, *d*, the plate, *y*, is moved so as to uncover the opening in the cover plate, *u*, so that by the time the cradle, *d*, has reached its highest 15 position the plate, *y*, will have completely uncovered the opening in said cover plate, *u*. On the downward movement of the cradle, *d*, the plate, *y*, is held back until the cradle, *d*, has performed a definite portion 20 of its movement—say about one half—and when the cradle, *d*, has returned to its initial position the plate, *y*, then completely closes the opening in the cover plate, *u*. Any other relative movement between the cradle, 30 *d*, and the plate, *y*, can be obtained as desired by varying the shape of the cam slots, *1*. As the sides of the slot are not parallel throughout a cam piece, *2*, is fixed on one or both of the segmental levers, *z*, and the end 35 of one or both of the levers, *n*, are intumed to engage therewith so as to insure that the pins, *h*, shall engage with the sides of the slots, *1*, in the desired manner.

Various positions of the delivery mechanism as obtained with the shape of cam slots, 40 *1*, are indicated by full and dotted lines in Figs. 4 and 5. The initial position in which the plate, *y*, closes the opening in the cover plate, *u*, and the cigarette cradle, *d*, is at 45 its lowest position is indicated by the full lines in Fig. 4. If now the lever handle, *p*, is moved into the position, *p'*, shown in dotted lines in the same figure, the cigarette cradle is raised so that the pins, *h*, projecting therefrom are in the position indicated 50 at *h'*. During this movement the pins, *h*, engage with the right hand side (as seen in the drawings) of the cam slots, *1*, thus moving the segmental levers, *z*, and the 55 plate, *y*, so that the opening in the cover plate, *u*, is uncovered. It will be noticed that in this position the intumed end of each of the levers, *n*, engages with the right hand side (as seen from the drawings) of the cam, 60 *2*, thus insuring that the pin, *h*, shall keep in engagement with the right hand side of the slot, *1*. On the continued movement of the lever handle, *p*, downward as indicated by the arrow, *4*, in Fig. 4, we reach the extreme 65 position indicated in full lines in

Fig. 5. The cigarette cradle, *d*, is now in its uppermost position and the cigarette, *e*, is inserted in the receiving element, which as shown is formed as the beak of a stork, the beak being opened ready in a manner 70 explained hereinafter.

The position indicated by the dotted lines in Fig. 5 is as far as the handle lever, *p*, and levers, *n*, are concerned similar to that shown in dotted lines in Fig. 4, but the pin, 75 *h*, in engaging with the different contour of the left hand side (as seen in drawings) of the cam slot, *1*, has not moved the segmental levers, *z*, and the plate, *y*, to the same position and it will be seen that the intumed end of the levers, *n*, now passes down on the 80 left hand side of the cam, *2*, thus should the levers, *z*, tend to move so as to cause the plate, *y*, to close the opening in the cover plate, *u*, sooner than is desired, they are 85 prevented from so doing by the cam, *2*, coming up against the intumed end of the levers, *n*.

Attached to the underside of the plate, *y*, is a bent piece of metal, *5*, shaped as shown 90 in Figs. 4 and 6, the upturned edge of which engages with the beak of the bird to open it as hereinafter described.

Carried by the cover plate, *u*, is a body, for example a figure representing a stork 95 or the like, which is mounted pivotally upon two legs, one, *6*, of which is fixed to a base, *8*, secured by the screw, *y*, to the cover plate, *u*, while the other, *7*, extends through the cover plate, *u*, and is adapted to be operated 100 by means hereinafter indicated so as to cause the stork to droop forward to bring the beak of the bird into position for receiving the cigarette from the cradle, *d*.

Attached to the back of the cigarette container, *b*, is a bracket, *9*, through which 105 passes a rod, *10*, the upper end of which is provided with a small flat piece of metal, *11*, forming a table on which the leg, *7*, of the stork rests. The cross piece, *o*, which 110 connects the lever, *n*, is formed with a crank like portion, *12*, at or about a point midway between its ends. Between the parallel sides of this crank portion is secured in any suitable manner a plate, *13*, as shown in 115 Fig. 6, and the other end of the rod, *10*, rests on this plate; the plate, *13*, may be made in one with the cross piece, *o*, if desired. In the back of the crank like portion, *12*, is a hole, *14*, (see Fig. 3) into which 120 the lever handle, *p*, screws.

When the handle, *p*, is in its normal position as indicated in full lines in Fig. 4, the stork is held in an upright position by means of the pressure on the leg, *7*, through 125 the rod, *10*. As however, the handle, *p*, is moved downward this pressure is removed and the stork falls forward into the position shown in Figs. 5 and 6 which is that corresponding to the lowest position of the han- 130

dle, *p*, and the highest position of the cradle, *d*. As the bird is falling forward however, the plate, *y*, is being moved so as to uncover the opening in the cover plate, *u*, and these two movements are so arranged that the beak of the bird enters the opening before the plate, *y*, has fully uncovered it and the upturned edge of the piece of metal, 5, engages with the under part, 15, of the beak of the bird as shown in Fig. 6 and thereby opens it. A detail view of the head of the bird is shown in Fig. 9, and it will be seen that the under part, 15, of the beak which is hinged to the head is made longer than the upper part, 16, to enable the upturned edge of the piece, 5, to engage therewith. A spring, 17, is inserted in a groove in the head and in a pocket in under part, 15, as shown so as to keep the beak normally closed. While the beak is being held open, the cigarette, *c*, is inserted by the cradle, *d*, as shown in Fig. 6. With the shape of the cam slot, 1, shown in the drawings, the cigarette is thrust between the two parts of the beak against the resistance of the spring 17.

When the handle, *p*, moves upward, which movement may take place either by hand, gravity or by spring means such as the springs, 18, as shown, the bird is raised to its original upright position with the cigarette in its beak. The cradle, *d*, then returns to its lowest position which is slightly below the level of the sloping sides of the bottom of the container, *b*. By a slight alteration of the cam slots, 1, it can be arranged if desired, that the under part, 15, of the beak of the bird is disengaged from the edge of the piece of metal, 5, and is allowed to close upon the cigarette, *c*, by the action of the spring, 17. A slot, 19, is preferably provided in the cradle, *d*, for the beak of the bird as shown so that the beak shall be clear of the cradle.

In Figs. 10 and 11 the under part 15 of the stork's beak is provided with a weight located within the stork's head and is movable for the purpose of opening the beak when the stork is inclined, as indicated in Fig. 11, the action of the weight within the stork's head rendering the opening and closing of the beak to some extent automatic. In the form indicated in Figs. 12 and 13, the portion 15 of the beak is drawn so as to open the beak by action of a cord 19. When the stork bends over, as indicated in Fig. 13, the tension upon the cord 19 increases and the beak opens so as to grasp the cigarette. By this arrangement of vertically rising cradle the selection and lifting of a cigarette is always assured whether there be many or only a few cigarettes in the container. Instead of employing an outside lever for operating this device a push button may be used connected to a lever attached to the cradle device.

In a modified form of this invention the spring controlled beak of the bird may be operated by a wire or rod 19 passing through the neck into the interior of the bird so that as the bird droops forward the wire by engagement with a portion of the leg also projecting into the interior is caused to open positively as shown in Figs. 12 and 13. In this case the grooved sliding plate may be dispensed with. In a further modification shown in Figs. 10 and 11 the under part of the beak may be provided with a balance weight working in the head of the bird, which is made hollow to receive it. The weight is so arranged that as the bird falls forward to receive the cigarette the beak shall be opened by gravity.

The movements of the bird and cigarette cradle may take place simultaneously or one after the other or one may start its movement when the other has completed more or less of its movement as desired.

It will be understood that although the apparatus has been described as arranged for presenting cigarettes, it may be adapted for other articles such as cigars, matches, sweetmeats, etc.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:—

1. An automatic presenting device having in combination an article container, a cradle and a receiving body, lever means, operable from the exterior of said device, acting to move the cradle vertically through said container and simultaneously therewith allowing the receiving body to move under gravity till it meets the cradle and receives the article directly therefrom, said lever means on its return raising the receiving body into a position suitable for presenting the article, and lowering the cradle within the container into a position in which it becomes loaded with another article.

2. An automatic presenting device having in combination a chest, an article container, a slot in the bottom of said container, said bottom sloping toward the slot, a cradle in said slot, means to guide said cradle vertically within said container, a body mounted on said presenting device, a pair of receiving prongs attached to body, lever means operable from without said chest, acting to move the cradle within said vertical guides and simultaneously allowing the receiving body to move under gravity until it moves the cradle and receives the article directly into the prongs of the body, said lever means on its return raising the receiving body into a position suitable for presenting the article, and lowering the cradle within the container into a position in which it becomes loaded with another article.

3. An automatic presenting device hav-

ing in combination a chest, an article container in said chest, a cradle and a receiving element, lever means acting to raise said cradle up through the container, an opening in the top of said chest for the passage of the receiving element into the article container and of the article out therefrom, cammed segmental lever means controlling said opening, said cammed segmental lever means co-acting with said cradle lever means.

4. An automatic presenting device having in combination a chest, an article container in said chest, a cradle and a receiving element, lever means acting to raise said cradle up through the container, an opening in the top of said chest for the passage of the receiving element into the article container and of the article out therefrom, cammed segmental lever means controlling said opening, said cammed segmental lever means co-acting with said cradle lever means, means attached to said cammed segmental lever means acting to open a part of said receiving element to receive the article from said cradle.

5. An automatic presenting device having in combination a chest, an article container in said chest, a slot in the bottom of said container, said bottom sloping toward said slot, a cradle in said slot, pins projecting from said cradle and extending through slots in the opposite side walls of the container, levers pivoted to said container, long slots in one end of said levers engaging with the pins projecting from said cradle, a cross piece connecting said levers, a handle attached to said cross piece whereby said levers can be operated, segmental levers pivoted at one end to said container, a cam slot in said levers engaging with said pins extending from said cradle, a plate connecting the other ends of said segmental levers, an opening in the top of said chest controlled by said plate, a body mounted on said chest, a pair of receiving prongs on said body, means operated from said cradle raising means for controlling the movements of said body, the various movements of said cradle and of the plate controlling the opening in the chest and the body mounted on said chest being arranged so that the receiving prongs attached to said body can enter through said opening to receive the article from the cradle when the latter is raised to its highest position and means acting to open said receiving prongs to receive said article.

6. An automatic presenting device having in combination a chest, an article container in said chest, a slot in the bottom of said container, said bottom sloping toward said slot, a cradle in said slot, pins projecting from said cradle and extending through slots in the opposite side walls of the con-

tainer, levers pivoted to said container, long slots in one end of said levers engaging with the pins projecting from said cradle, a cross piece connecting said levers, a handle attached to said cross piece whereby said levers can be operated, segmental levers pivoted at one end to said container, a cam slot in said levers engaging with said pins extending from said cradle, a plate connecting the other ends of said segmental levers, an opening in the top of said chest controlled by said plate, a body representing a stork mounted on said chest, a leg to said body by means of which said body is supported on said chest, a second leg to said body passing through a hole in said chest, a bracket on said container, a rod passing through said bracket, said second leg resting on one end of said rod, the other end of said rod resting on a part of said cross piece to which the handle is attached, whereby the movements of said stork are controlled from the movements of said handle.

7. An automatic presenting device having in combination a chest, an article container in said chest, a slot in the bottom of said container, said bottom sloping toward said slot, a cradle in said slot, pins projecting from said cradle and extending through slots in the opposite side walls of the container, levers pivoted to said container, long slots in one end of said levers engaging with the pins projecting from said cradle, a cross piece connecting said levers, a handle attached to said cross piece whereby said levers can be operated, segmental levers pivoted at one end to said container, a cam slot in said levers engaging with said pins extending from said cradle, a plate connecting the other ends of said segmental levers, an opening in the top of said chest controlled by said plate, a body mounted on said chest, a pair of receiving prongs on said body, means operated from said cradle raising means for controlling the movements of said body, the various movements of said cradle and of the plate controlling the opening in the chest and the body mounted on said chest being arranged so that the receiving prongs attached to said body can enter through said opening to receive the article from the cradle when the latter is raised to its highest position, means attached to the plate controlling the opening in said chest acting to open said receiving prongs, spring means acting to normally close said receiving prongs, the article being thrust by the cradle between said prongs against the resistance of said spring means.

8. An automatic presenting device having in combination a chest, an article container in said chest, a slot in the bottom of said container, said bottom sloping toward said slot, a cradle in said slot, pins projecting from said cradle and extending through

slots in the opposite side walls of the container, levers pivoted to said container, long slots in one end of said levers engaging with the pins projecting from said cradle, a cross
5 piece connecting said levers, a handle attached to said cross piece whereby said levers can be operated, segmental levers pivoted at one end to said container, a cam slot in said levers engaging with said pins extending
10 from said cradle, a plate connecting the other ends of said segmental levers, an opening in the top of said chest controlled by said plate, a body mounted on said chest, a pair of receiving prongs on said body, means
15 operated from said cradle raising means for controlling the movements of said body, the various movements of said cradle and of the

plate controlling the opening in the chest and the body mounted on said chest being arranged so that the receiving prongs at-
20 tached to said body can enter through said opening to receive the article from the cradle when the latter is raised to its highest position, said prong opening means being adapted to allow said spring means to close said
25 prongs on the article after said article is inserted between them by said cradle.

In testimony whereof I have hereunto signed my name to this specification in the presence of the two subscribing witnesses.

NOEL RAY STILES.

Witnesses:

W. G. BISHOP DOWLING,
H. D. JAMESON.