

No. 661,484

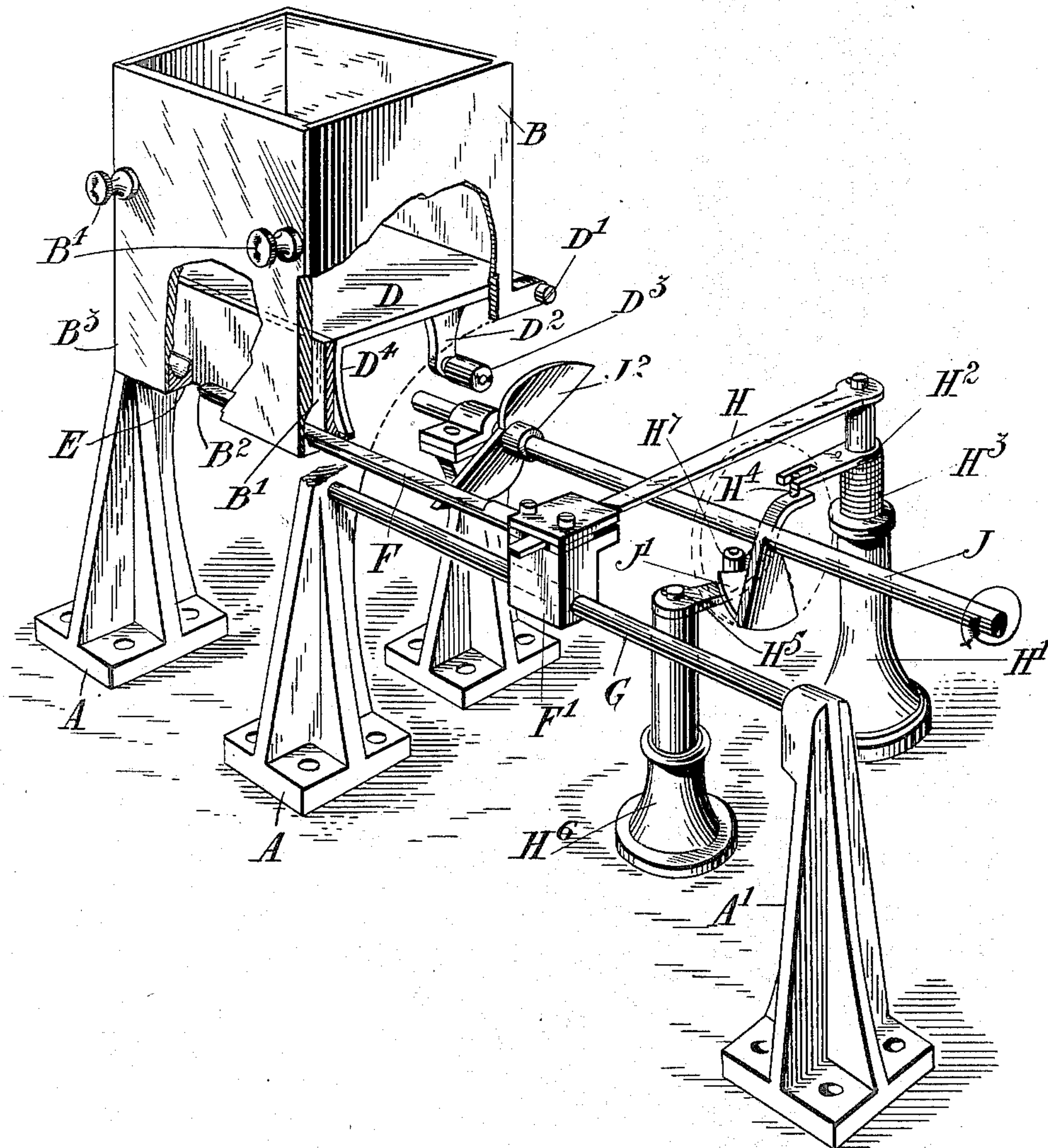
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J. S. BEEMAN.

AUTOMATIC DELIVERY APPARATUS.

(Application filed Feb. 12, 1900.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

JOSEPH SAMUEL BEEMAN, OF LONDON, ENGLAND.

## AUTOMATIC DELIVERY APPARATUS.

SPECIFICATION forming part of Letters Patent No. 661,484, dated November 13, 1900.

Application filed February 12, 1900. Serial No. 4,986. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH SAMUEL BEEMAN, a subject of the Queen of England, residing at London, England, (whose post-office address is No. 182 Earls Court road, London,) have invented certain new and useful Improvements in or Relating to Automatic Delivery Apparatus, of which the following is a specification.

10 This invention relates to improvements in automatic delivery apparatus, its primary object being the provision of improved means whereby the delivery of the articles is rendered more certain and regular than is the  
15 case with machines at present in use for a like purpose.

Another object of the invention is to provide a single machine with fittings or appurtenances which make it susceptible of easy  
20 alteration to adapt it to the "gage" of the article supplied to it.

According to this invention the articles are placed in a chamber the width of which is preferably slightly greater than any multiple  
25 of the diameter of the article to be placed in it, the length of this chamber being slightly greater than the length of one of the articles to be so placed.

In one part of this chamber is a movable  
30 reciprocatory agitator, preferably in the form of a hinged bottom, and this agitator is moved in such a manner that the articles in the chamber above it are also moved, and are thereby prevented from jamming. Another  
35 portion of the chamber, of a width just sufficient to permit the passage of one article at a time, forms a conduit through which the articles pass to a receiver, from which they are delivered in any convenient way. The width  
40 of this conduit is capable of alteration, a convenient mode of effecting this alteration being to make one side of the chamber, which also constitutes one side of the conduit, adjustable or possibly removable and replace-  
45 able by a substitute. By adjusting such side the width of the conduit may be lessened or increased, a like variation being thus simultaneously produced in the chamber to meet a variation made in the gage of the article to  
50 be delivered. A similar alteration in width can be produced by changing the chamber-wall or a portion thereof for another wall or

portion which projects or is recessed, as the case may be, in comparison with what may be termed a "normal" wall. The articles  
55 may conveniently pass to the slide or drawer, and the movement of the slide may be arranged to operate a reciprocatory agitator.

In the accompanying drawing the figure is a perspective view showing one construction  
60 of apparatus according to this invention and means for operating the same.

With reference to the figure, A represents standards supporting a chamber B, in which the articles to be delivered—in this case cigarettes or similar objects—are placed. The  
65 agitator D is in the form of a hinged plate forming a portion of the bottom of the chamber B. It is hinged, as at D', and is provided with a projection D<sup>2</sup>, carrying a friction-  
70 roller D<sup>3</sup>. A plate D<sup>4</sup>, having a curved face, extends downward from the edge of the agitator D remote from the hinge. At the bottom of the chamber B adjacent to the plate D<sup>4</sup> is a conduit B', which leads to a receiver,  
75 which in this instance is in the shape of a trough E. The conduit B' is the space between a vertical plate B<sup>2</sup>, which extends upward from the inner side of the trough E, and  
80 a removable side or wall B<sup>3</sup> of the chamber B. The removable wall B<sup>3</sup> is attached to the chamber by screws B<sup>4</sup>. The width of the conduit B' may be varied by substituting for the wall B<sup>3</sup> another wall whose side shall project  
85 inward more or less than that of the wall B<sup>3</sup>. The articles pass from the chamber B through the conduit B' to the receiver E, and from thence are ejected by a plunger F. This  
90 plunger is preferably flattened or cut away on top in order to allow for the inwardly-projecting side of the removable wall B<sup>3</sup>. The plunger F is attached to a slide F', which is  
95 free to move along a guide G, carried between one of the standards A and another standard A'. Loosely held in the slide F' is a lever H, the other end of which is pivoted to a standard H'. Upon this standard H' and attached  
100 to the pivoted end of the lever H is a forked piece H<sup>2</sup>, controlled by a spring H<sup>3</sup>. Engaging with the forked piece H<sup>2</sup> is a pin H<sup>4</sup>, carried upon an arm H<sup>5</sup>, which is pivoted upon a standard H<sup>6</sup>. The arm H<sup>5</sup> carries a friction-roller H<sup>7</sup>.

J is a shaft driven in the direction indi-



cated by the arrow in the figure by any suitable means and carrying two cams J' and J<sup>2</sup>, which operate upon the friction-rollers H<sup>7</sup> and D<sup>3</sup>, respectively.

5 The action of the apparatus is as follows: When the shaft J is rotated, the cam J<sup>2</sup> operates upon the friction-roller D<sup>3</sup> and causes the agitator D to rise, and after the cam has passed the agitator returns through the ac-  
10 tion of gravity. The rise and fall of the agitator D prevents the articles from bridging or jamming in the chamber, and thus they pass easily and regularly through the conduit B' to the receiver E. As the shaft J  
15 rotates, the cam J', acting upon the friction-roller H<sup>7</sup>, causes the arm H<sup>5</sup> to turn and carry with it the forked arm H<sup>2</sup>. Consequently the lever H turns about its pivot against the action of the spring H<sup>3</sup> and the plunger F  
20 moves forward and ejects an article from the trough E. The return of the plunger is brought about by the action of the spring H<sup>3</sup>, and as soon as this has taken place another article drops into the trough E.

25 The apparatus illustrated herein is merely given by way of example, and variations may be made in details without departing from the spirit of the invention.

30 The apparatus herein described may be used to deliver cigarettes to other machines forming no part of the present invention, in which they are treated in any desired way—for instance, they may be waxed or tipped, or again the apparatus may simply be used

to present a cigarette, so that it can be re- 35 moved by hand.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In automatic delivery apparatus, the combination of a chamber for the articles to 40 be delivered, a hinged agitator the top surface of which forms the bottom of the chamber and supports the articles and which is provided with a curved face, a trough to re- 45 ceive the articles, a conduit between the chamber and the trough parallel and adjacent to the curved face of the agitator, and means for operating the agitator, substantially as set forth.

2. In automatic delivery apparatus, the 50 combination of a chamber for the articles to be delivered, a hinged agitator the top surface of which forms the bottom of the chamber and supports the articles and which is provided with a curved face, a trough to re- 55 ceive the articles, a conduit between the chamber and the trough parallel and adjacent to the curved face of the agitator, a plunger for ejecting the articles from the trough, and means for operating the agitator, substan- 60 tially as set forth.

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

JOSEPH SAMUEL BEEMAN.

Witnesses:

HAROLD WADE,  
HARRY B. BRIDGE.