

No. 686,210.

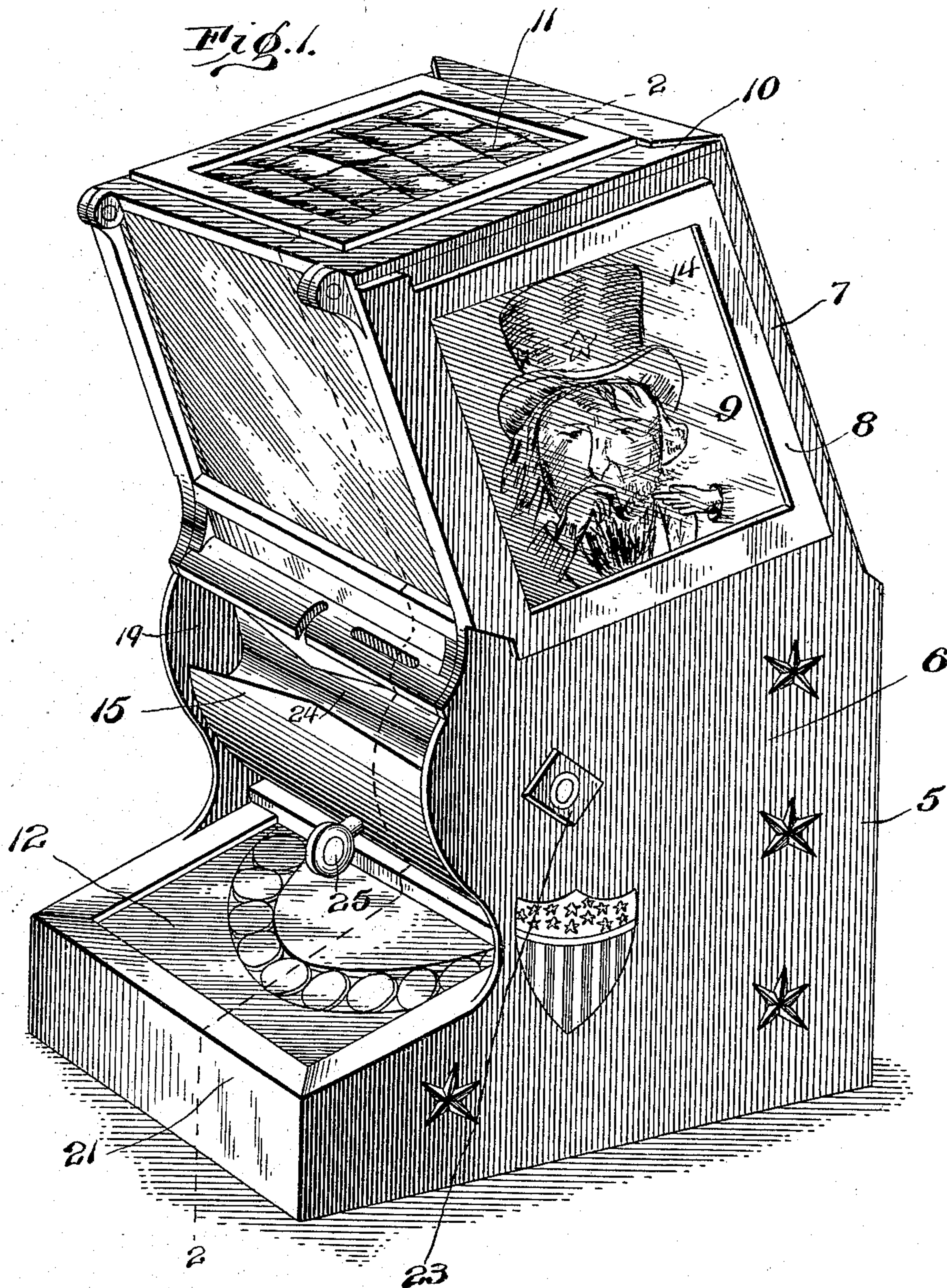
Patented Nov. 5, 1901.

W. D. DOREMUS.  
CIGAR VENDING MACHINE.

(Application filed May 2, 1900.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses

E. W. Hart.

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Inventor  
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his Attorney



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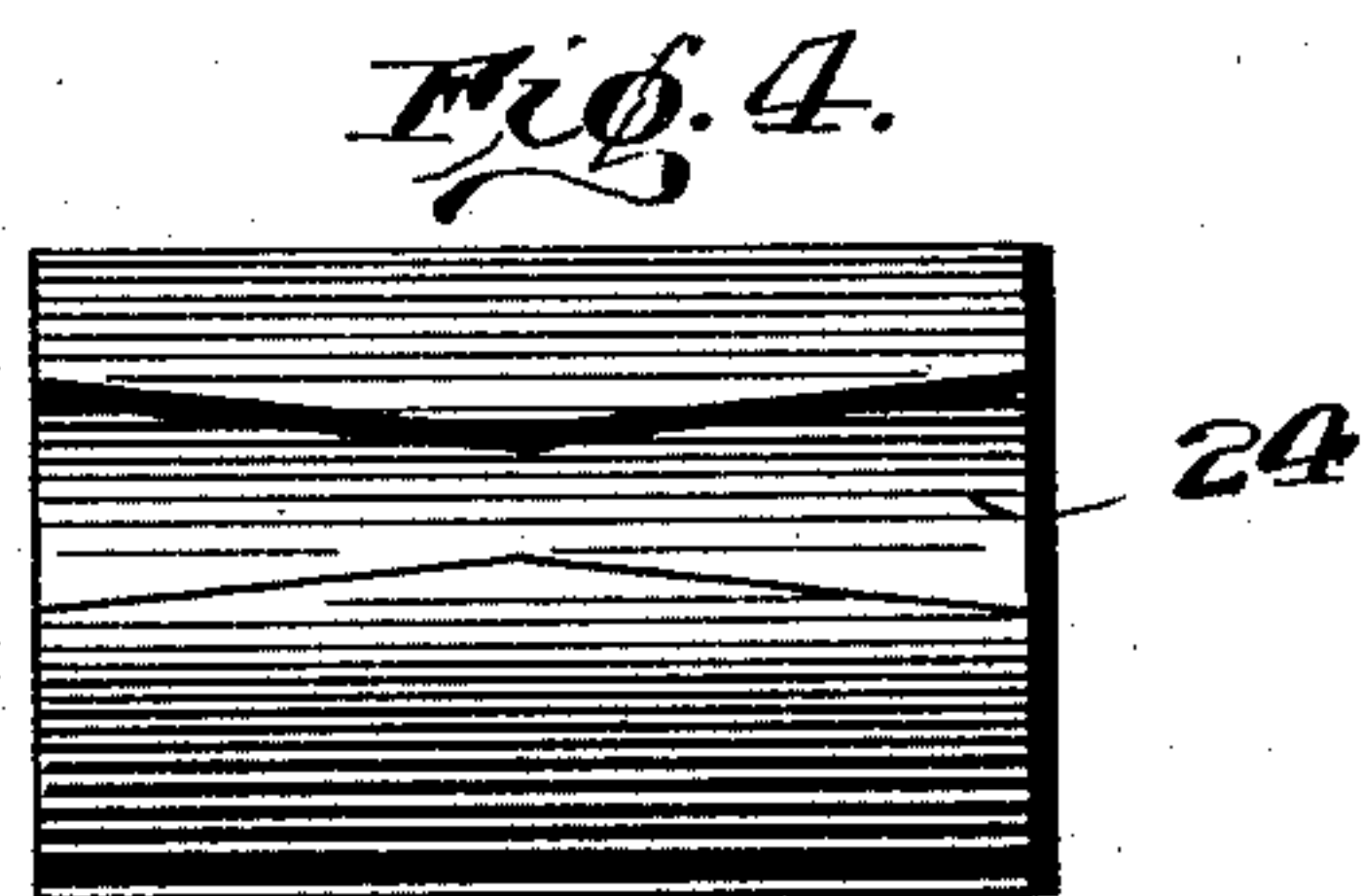
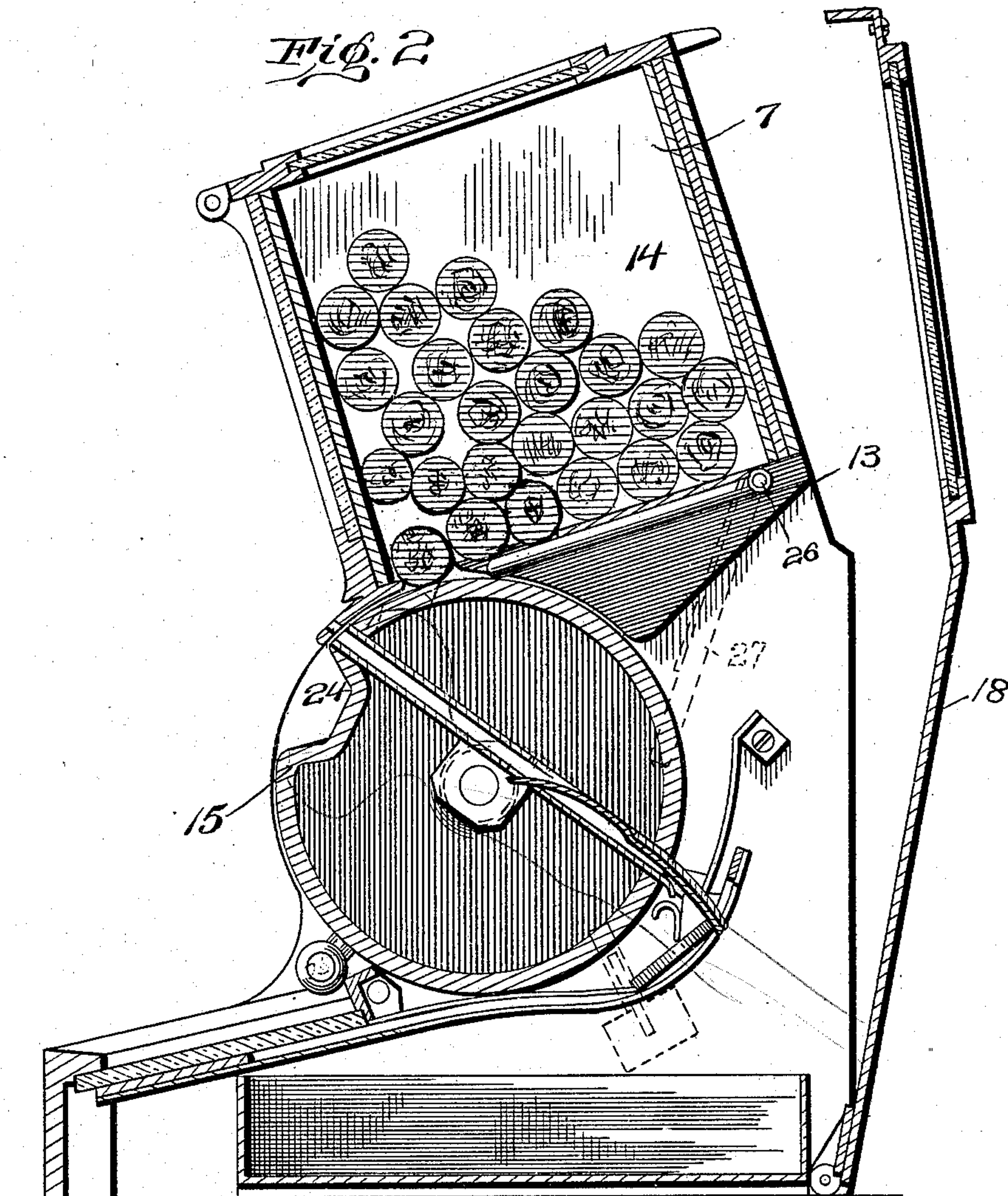
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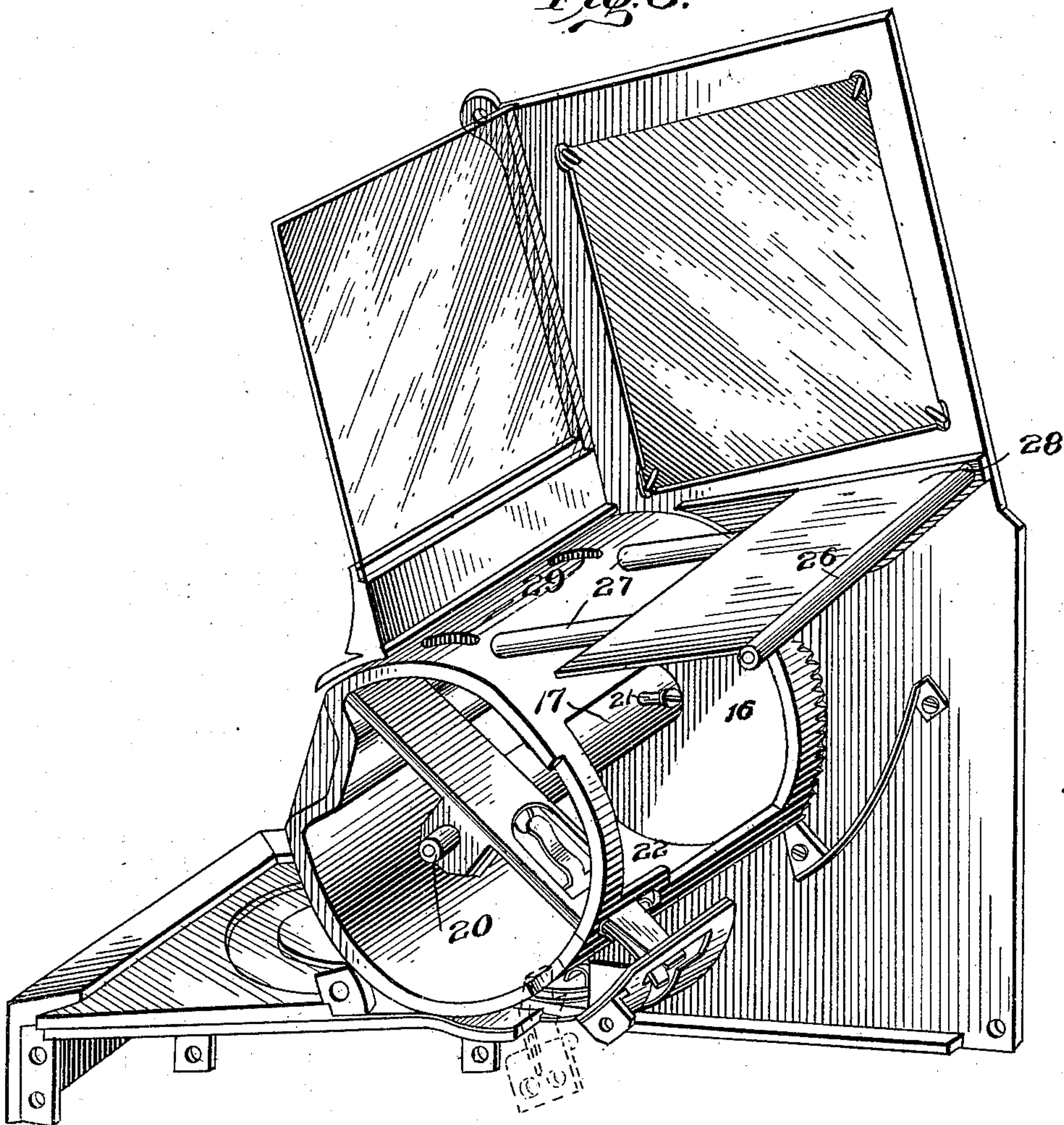
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3 Sheets—Sheet 3.

*Fig. 3.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

WILLARD DELMONT DOREMUS, OF WASHINGTON, DISTRICT OF COLUMBIA,  
ASSIGNOR TO THE REX CIGAR VENDING COMPANY, OF WASHINGTON,  
DISTRICT OF COLUMBIA, A CORPORATION OF VIRGINIA.

## CIGAR-VENDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 686,210, dated November 5, 1901.

Application filed May 2, 1900. Serial No. 15,199. (No model.)

*To all whom it may concern:*

Be it known that I, WILLARD DELMONT DOREMUS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Cigar-Vending Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to produce improvements in vending-machines by which articles may be withdrawn and delivered one by one from a receptacle containing a stock of articles to be vended.

My machine, although not exclusively adapted for vending cigars, is especially designed to overcome the practical difficulties experienced in vending from a machine articles of the light and fragile nature of cigars. Chief among those practical difficulties is to withdraw and to deliver a cigar without breaking the extremely fragile wrapper of any of them and also to withdraw with certainty, as required, all of the cigars from the receptacle. With respect to the latter difficulty mentioned there is in cigars packed in a receptacle constantly present a tendency of the cigars to bridge or arch between the sides of the receptacle. This bridging or arching may occur in any stratum or layer of cigars contained in a receptacle, and it may therefore happen in many types of machines that the cigars of a lower layer or layers may be withdrawn, while those of a superior layer may remain arched or supported between the side walls of the receptacle in a position out of reach of the delivery mechanism of the machine. By my invention I not only produce delivery mechanism, which may be depended upon to perform its function with certainty, but in combination therewith produce mechanism to prevent bridging or arching in any part of the receptacle, and thereby insure delivery of its entire contents.

It is obvious that in a practical vending-machine its operation must be made dependent upon coin-controlled mechanism; but mechanism of that description, although illus-

trated in the drawings, is not claimed in this application as a part of my present invention, being made the subject-matter of an application, Serial No. 734,517, filed by me October 23, 1899.

In the accompanying drawings, Figure 1 is a perspective view of a preferred form of my machine, showing a box of cigars confined within the receptacle thereof. Fig. 2 is a vertical section of the subject-matter of Fig. 1 on the line 2 2 thereof, the door being partly open. Fig. 3 is a perspective view of my machine with one side wall and other portions removed for the better display of its interior mechanism. Fig. 4 is a front elevation of the delivery member of my machine, showing the preferred form of pocket or recess therein.

Referring to the numerals on the drawings, 5 indicates the case of the machine, which is preferably made of light castings, so constructed and assembled as to provide a body portion 6, which incloses the operating mechanism, and above the same an inclined receptacle 7. The receptacle is designed to contain a box of cigars or "original package" from which the cigars are vended, and in order to properly expose the same for inspection the case preferably includes sash-frames 8, provided with panes of glass 9 and a lid 10, having also a panel of glass 11.

12 indicates the front glazed wall of the receptacle.

13 indicates ledges, which may be cast on the inner wall of the machine and, defining the plane of division between the receptacle and the body portion 6, constitute supports for the cigar-box 14, which is the box above referred to containing cigars to be vended and exposed to inspection through the glazed panels of the receptacle. A door 18 is preferably employed to close the rear of case 5 and the receptacle 7. The forward inclination of the receptacle 7 tends to precipitate, by gravity, the cigars contained within it toward the lowermost corner of the receptacle.

The bottom of the receptacle, which is otherwise open and unobstructed, is closed by a delivery member 15 and an oscillatory tilting shelf coöperating therewith. The delivery member 15 is preferably constructed in the



form of a hollow cylinder, having a solid end wall 16 and a central stem or hub 17 extending from one side of the wall 16 coaxially through the cylinder, although it is not essential that it should extend the entire distance. The delivery member 15 when of the cylindrical shape illustrated is of such a size that when properly assembled or mounted in the case of the machine it completely but movably fills the longitudinally-disposed opening 19 in the middle front portion of the case. The delivery member or roll 15 is designed to oscillate within the case, so as to present a pocket or recess 24, formed in the periphery thereof, to the interior of the receptacle in order that it may receive a cigar from the stock of cigars contained within the receptacle and by the reverse movement of the roll withdraw it therefrom for delivery. I prefer to mount the roll 15 upon an oscillatory shaft 20, journaled at its opposite ends, as indicated at 23 in the drawings, in the side walls of the case, and to this end a set-screw 21 in the hub 17 may be employed for securing the roll 15 to the shaft 20. Access to the set-screw 21 through the wall of the roll 15 may be had through the large opening 22 in said roll. The location of the roll 15 in the case is such as when the receptacle and body portion are properly closed and secured to prevent access to the interior of the receptacle in any other manner than that prescribed by the manipulation of the roll. The roll is provided with a handle 25, by which it may be oscillated, so as to cause the pocket 24 to enter the receptacle and receive a cigar or reversed for the delivery of the cigar in the pocket. The weight of the roll is by its construction distributed so as to give it a tendency to occupy the position shown in Fig. 1 of the drawings. The handle 25 affords incidentally means for limiting the movement of the roll in opposite directions; but other means may be employed for that purpose. The pocket 24 is of peculiar shape. It has a constricted central portion which defines in the pocket different longitudinal axes with respect to its ends. By reason of this shape not only is the admission into it of a cigar from the receptacle facilitated, but after a cigar enters the slot it may move therein so as to lie along the line of one or another of the longitudinal axes of the slot, and by such movement yield and accommodate itself to any resistance which may oppose its movement during the withdrawal operation, or, in other words, during the time when by the oscillatory movement of the roll 15 the pocket is being withdrawn from underneath the receptacle 7. By this means a cigar in the slot may readily assume a position oblique to the wall of the receptacle or to the cigars within the receptacle under which the pocket is caused to pass in the performance of its delivery function. In the preferred form of pocket illustrated the walls defining it diverge from its center toward both ends, and

the distance between the walls at the center should be slightly greater than the diameter of the cigars which the pocket is designed to deliver.

The oscillating shelf, which coöperates with the roll 15 to close the bottom of the receptacle, has been alluded to; but its construction and function remain to be specified. The shelf preferably comprises an apron 28, secured to parallel fingers 27, that extend radially from a shaft 26, pivotally mounted in the side walls of the case, the axis of the shaft 26 being parallel to that of the shaft 20. The fingers 27 rest upon the periphery of the roll 15, and when the roll is oscillated, so as to bring its pocket 24 underneath the receptacle 7, they enter slots 29, formed in the periphery of the roll, and by their engagement with the walls of those slots the shelf is made to coöperate with the roll. The oscillating shelf constitutes in connection with the means for actuating it a movable bottom to the housing or initial receptacle, and that when the shelf is actuated by its movements first lowers and then raises bodily the whole mass of cigars contained within the receptacle. The movement of the entire mass is accomplished partially by the inward movement of the drum, which drives the articles resting upon it toward a trough formed by the conjunction between the roll 15 and the fingers 27 while the roll is making its inward movement. By this means the entire mass of articles within the receptacle is raised or lowered with each movement of the delivery member, with the result of absolutely preventing the packing or arching of the articles within the receptacle. The mechanism illustrated is therefore presented as a representative embodiment of means for raising and lowering the entire mass of cigars or other articles within the receptacle, the form of which means may be modified in a variety of ways. By raising and lowering the entire mass of articles within the receptacle, as above specified, the mass of articles is with each movement of the roll 15 completely broken up and the positions of the several articles constituting it are readjusted, so that the tendency of the articles to form bridges or arches is effectually eliminated.

The axis of the trough formed by the conjunction between the roll and the shelf is parallel to that wall of the receptacle with which the pocket coöperates for withdrawing a cigar from the receptacle. This mechanism therefore constitutes in one aspect of it a cigar-alining device—that is to say, a device which keeps the cigars in proper parallel relations to the wall of the receptacle, as has above been stated.

The operation of my device is as follows: Assuming the receptacle 7 to be filled with cigars, the case to be properly closed and locked, and all the parts of the machine to be in the position shown in Fig. 1, the operator grasps the handle 25 and raises it to its



upward limit of movement. By this operation the pocket 24 is made to pass into a position underneath the receptacle 7 and to receive one of the cigars contained therein.

5 At the same time the entire mass of cigars within the receptacle is lowered by the formation of the trough between the roll 15 and the fingers 27, the cigars being by that action aligned with the front wall of the receptacle  
10 7, underneath which the pocket 24 works. By the descent of the mass of cigars toward the trough all tendency to bridge or arch in the mass will in most instances be broken down; but if any should catch they will with certainty be disturbed when by the reverse  
15 movement of the roll 15 under manipulation of the handle 25 the fingers 27 are restored to the position shown in Fig. 1, since by that movement the entire mass after having been  
20 bodily lowered is bodily raised. By the reverse movement of the roll referred to the cigar within the pocket 24 is withdrawn from the receptacle and presented on the outside thereof in the pocket 24, as shown in Fig. 1  
25 of the drawings.

What I claim is—

1. A delivery member for a vending-machine, provided with a pocket or recess, the side walls of which diverge from the center  
30 toward both ends.

2. A delivery member for a vending-machine provided with a pocket or recess having a constricted central portion defining different longitudinal axes with respect to its  
35 ends.

3. In a vending-machine the combination with a case provided with a receptacle, of means for bodily raising and lowering the entire mass of articles contained within the receptacle for the purpose of preventing bridging or arching thereof.  
40

4. The combination with a case having a receptacle and a delivery member in operative relations with said receptacle, of means for bodily raising and lowering the entire mass  
45 of articles contained within the receptacle for preventing bridging or arching thereof, said means being operatively connected with the delivery member.

5. The combination with a case having a  
50 receptacle, of a delivery member in operative relation with said receptacle, and an alining device comprising a swinging shelf operatively connected with the delivery member and adapted in its downward swing, to form,  
55 with the delivery member and within the receptacle, a trough having its axis parallel with the wall of the receptacle with which the delivery member coöperates.

6. The combination with a case and a feed  
60 roll or drum revolubly journaled therein and provided with a receiving recess or pocket, of a swinging shelf or article-supporting member, the free end of which is operatively supported by the drum, and means for oscillat-  
65 ing the shelf through the movement of the drum.

7. The combination with a case and a feed  
roll or drum revolubly journaled therein and provided with a receiving recess or pocket,  
70 of a swinging shelf or article-supporting member, the free end of which is adapted to bear against the periphery of the drum, and means for oscillating the shelf through the movement of the drum.  
75

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

WILLARD DELMONT DOREMUS.

Witnesses:

A. G. DU BOIS,  
W. B. RANDALL.