

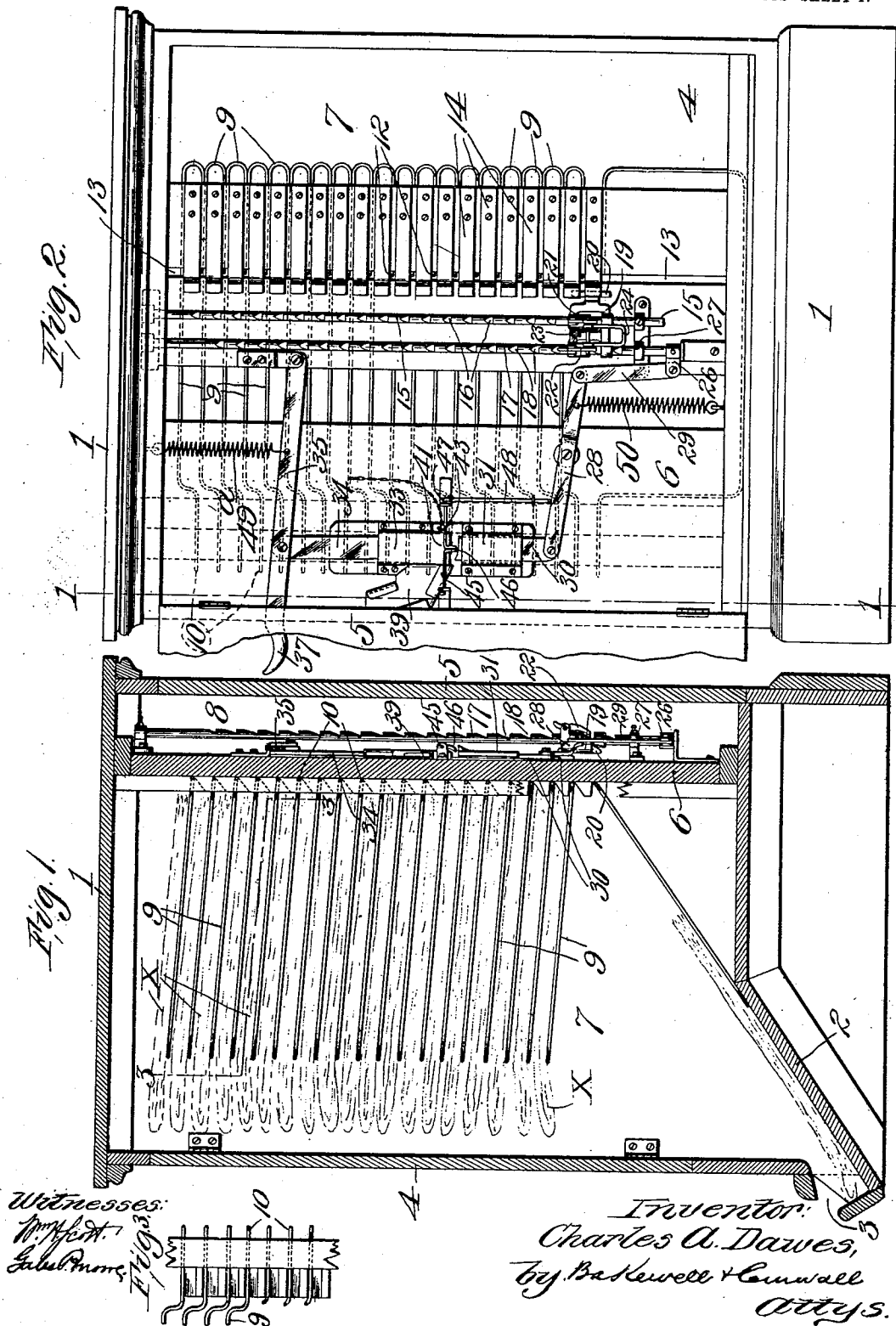
No. 749,535.

PATENTED JAN. 12, 1904.

C. A. DAWES.
VENDING APPARATUS.
APPLICATION FILED APR. 2, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



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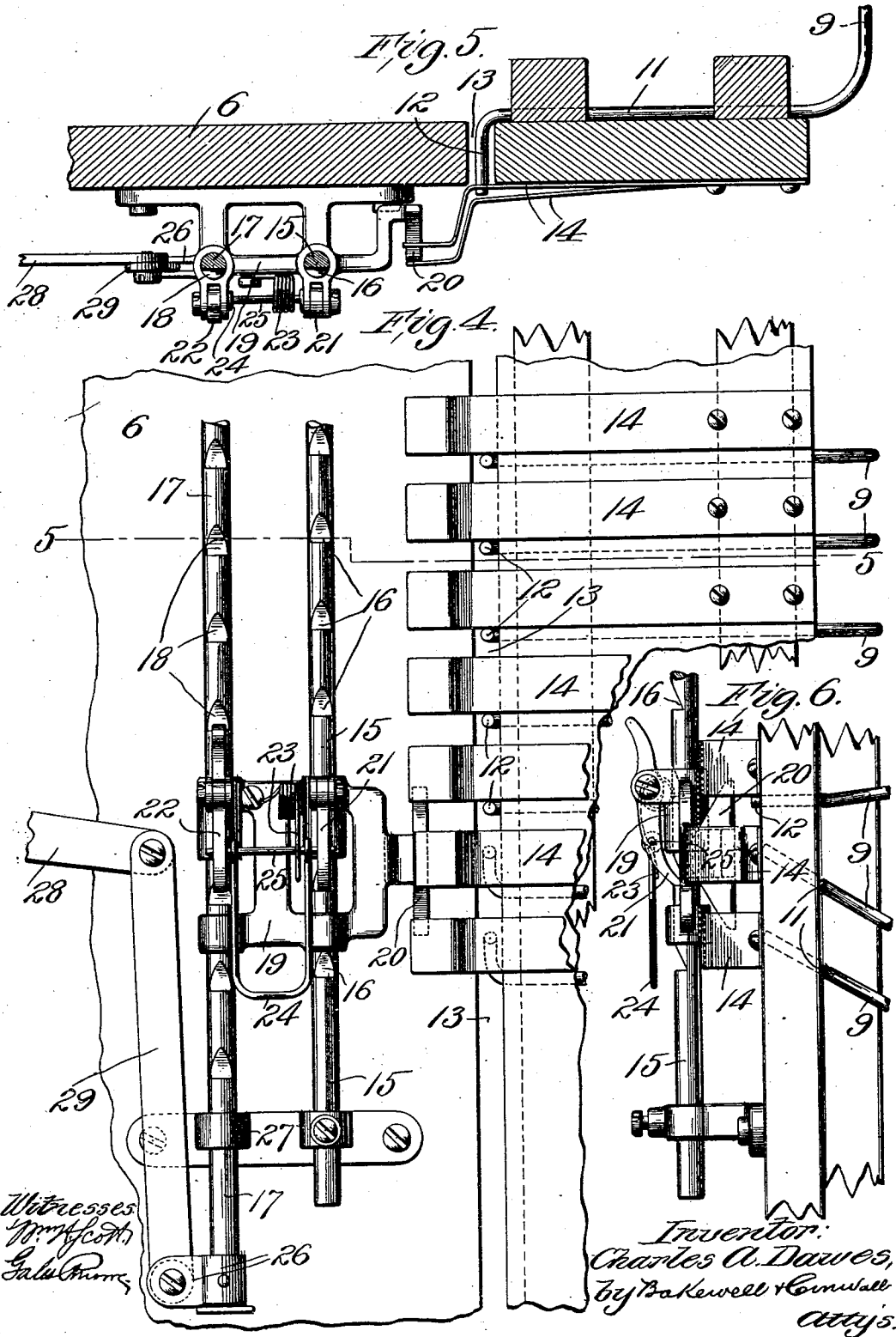
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UNITED STATES PATENT OFFICE.

CHARLES A. DAWES, OF ST. LOUIS, MISSOURI, ASSIGNOR OF THREE-FOURTHS TO PUBLISHERS: GEORGE KNAPP AND CO., OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI, AND JOSEPH F. FARISH, OF ST. LOUIS, MISSOURI.

VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 749,535, dated January 12, 1904.

Application filed April 2, 1903. Serial No. 150,828. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. DAWES, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Vending Apparatus, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a transverse sectional elevation on about the line 1 1 of Fig. 2. Fig. 2 is a rear elevation, the rear door being shown open and partly broken away. Fig. 3 is a fragmentary front elevation on about the line 3 3 of Fig. 1. Fig. 4 is a fragmentary detail view illustrating the releasing mechanism. Fig. 5 is a horizontal sectional view on about the line 5 5 of Fig. 4. Fig. 6 is a fragmentary side elevation of a portion of the mechanism shown in Fig. 4. Fig. 7 is a fragmentary elevation showing the coin mechanism, a coin being shown in deposited position and the plunger being shown in elevated position. Fig. 8 is a detail elevation, partly in section. Fig. 9 is a fragmentary detail view of the operative mechanism shown in Fig. 7, the plunger being shown in depressed position. Fig. 10 is a vertical sectional elevation on about the line 10 10 of Fig. 9; and Fig. 11 is a fragmentary view of the exterior of the casing, showing the coin-slot and the slot in which the operating-lever moves.

This invention relates to vending apparatus, and more particularly to apparatus adapted to vend newspapers and the like.

One object of the invention is to provide a simple and efficient mechanism by means of which newspapers and the like can be vended; and a further object is to provide mechanism including a series of supports, each of which is adapted to support a newspaper or the like, together with means for successively releasing the supports, and thus permitting the supported articles to be successively delivered.

To these ends and also to improve generally

upon devices of the character indicated the invention consists in the various matters hereinafter described and claimed.

The present apparatus is particularly intended for the purpose of vending newspapers, and for convenience it will be herein described in connection with vending such articles; but it will be readily apparent that articles other than newspapers can be vended by the apparatus.

Referring now more particularly to the drawings, 1 represents the casing, which has an inclined bottom 2, leading to a delivery-slot 3 in the front wall of the casing, and 4 and 5 represent doors at the front and back of the casing, respectively, 6 being a vertical partition-wall extending wholly or partly across the casing and serving to separate the article-containing compartment 7 from the compartment 8, which contains the operative mechanism. Suitable supports 9 are pivoted to the said partition-wall 6, and each of these supports is adapted to receive a newspaper or other article X. These supports normally lie in substantially horizontal position or with their outer ends slightly above their inner ends, as shown by all of the supports illustrated in Fig. 1 except the lowermost, so that the newspapers are properly held in the casing. When, however, a support is tripped, it falls into the position illustrated by the lowermost support, (shown in Fig. 1,) and thus permits its supported newspaper to fall down the inclined bottom 2 to the delivery-slot 3. The door 4 provides for access to the article-containing compartment 7, and when this door is open the newspapers can be readily placed upon the supports. The door 5 provides for access to the operating mechanism.

Of course the supports 9 can be constructed in many ways; but I prefer to make each of these supports of stiff wire bent into a substantially U-shaped frame, one end of the frame being bent outwardly to form a pivot-finger 10, which is suitably pivoted at one end of the partition-wall 6, and the other end of the frame being bent inwardly to form a pivot-

finger 11, also pivotally supported upon the said partition-wall, but at the other end of the same, the extremity of the wire being then bent outwardly to form a supporting-finger 12, which extends through a suitable slot 13 in said partition-wall and projects slightly beyond the rear of said wall. Secured upon the rear of said wall 6 are a series of plate-springs 14, whose free ends extend over the before-mentioned slot 13, there being one of these spring-plates for each of the supports or shelves 9, so that each supporting-finger 12 lies below its retaining-spring 14 when its support or shelf is in supporting position, these retaining-springs thus serving to hold the shelves in supporting position. It will be apparent that when the free end of one of the resilient retaining members or springs 14 is forced outwardly—*i. e.*, away from the wall 6—the supporting-finger 12 is freed and its shelf is permitted to fall to deliver the supported article.

Suitably secured upon the wall 6 is a stationary locking-rod 15, which is provided with notches or ratchet-teeth 16, and parallel to said rod 15, and also supported upon the said wall 6, is a vertically-reciprocatory actuating-rod 17, which is also provided with notches or ratchet-teeth 18. Slidable upon both of the said rods is a frame or traveler 19, which carries a releasing-plate 20, cooperating with the free ends of the before-mentioned retaining-springs 14. This releasing-plate is highest intermediate its ends and inclines from this highest point to its ends, so that in its forward movement the releasing-plate can engage the free end of a retaining-spring and force the same outwardly to release the cooperating supporting-finger 12 in a manner which will be readily apparent, while in its reverse movement the said releasing-plate 20 can pass under the free ends of the retaining-springs and return to normal position. The traveling frame 19 carries two pawls 21 and 22, which respectively cooperate with the ratchet-teeth of the rods 15 and 17, these pawls being normally held against the said rods by means of a spring 23 and there being preferably a finger-piece 24, which can be engaged by the attendant in order to move the pawls or locking members out of engagement with the ratchets. For convenience a bar 25 connects the said pawls, and the spring 23 bears against the said bar, the finger-piece 24 being also pivoted upon said bar. It will be assumed that all of the supports 9 are in supporting position and are provided with newspapers and that the traveling frame 19 is in lowermost position, with its pawl 22 resting in the lowermost notch 18 of the operating-rod 17 and the releasing-plate 20 below the lowermost retaining-spring 14. Upon forward movement of the actuating-rod 17 the lowermost ratchet-tooth of said rod engages the pawl 22, and thus the frame 19 is advanced by the continued

movement of the actuating-rod, the extent of movement of the rod being limited in any suitable manner, as by engagement of a collar or other projection 26 upon the rod with the perforated guide-lug 27, in which the lower portion of the actuating-rod is supported, and said extent of movement of the actuating-rod being sufficient to carry the highest point in the releasing-plate 20 under the lowermost retaining-spring 14, whereby such spring is moved into releasing position out of engagement with the supporting-finger 12 of the lowermost shelf 9, and the weight of the newspaper supported upon said shelf causes the same to fall into delivering position, whereupon the newspaper is delivered in a manner which will be well understood. When the actuating-rod 17 and the traveler 19 have completed the movement just described, the locking dog or pawl 21 engages the lowermost notch or ratchet-tooth upon the locking-rod 15, whereby the actuating-rod can return to normal position, and the traveler 19, with its releasing-plate 20, is supported in advanced position. A second movement of the actuating-rod 17 serves to advance the releasing-plate 20 a second step and to thus release the second supporting-frame, the supporting-frames being successively released upon successive movements of the actuating-rod in a manner which will now be readily apparent. After the traveler has reached the end of its whole movement and has thus released all of the supports it can be returned to normal position by merely pulling the finger-piece 24 outwardly and downwardly, the outward movement of the finger-piece serving to carry the pawls away from the ratchet-teeth of the two rods in a manner which will be readily understood.

The coin-controlled mechanism by means of which the rod 17 is actuated is now to be considered. A lever 28 is suitably pivoted upon the back of the wall 6 and has one end connected to the actuating-rod 17, as by means of the link 29, pivoted upon the before-mentioned collar 26, the other end of the lever being pivoted to a slide 30, vertically slidable in a suitable guide-casing 31, whose upper end is preferably flared outwardly to produce the lip 32 and lies slightly below the upper end of the slide-plate 30 when said slide is in uppermost position. Vertically movable in a second guide-casing 33, which is substantially in vertical alinement with the guide-casing 31 and has its lower end spaced from said guide-casing 31 and from the upper end of the slide 30, is a plunger 34, which is pivoted to an operating-lever 35, whose end projects through a suitable slot 36 beyond the side wall of the casing in order to form an operating-handle 37. The coin-slot 38 through the wall of the casing is below the said slot 36 and leads to a suitable coin-raceway 39, which delivers a deposited coin upon the upper end of the slide.

30 and below and in line with the plunger 34, the side wall 40 of the guide-casing 33 stopping at a point sufficiently above the bottom of the raceway to permit the coin to be delivered, as just described, and the front wall 41 of the said guide-casing 33 projecting downwardly beyond the end of the face of the coin, and thus preventing the same from falling laterally from its position upon the slide 30. The opposite side wall 42 of the guide-casing 33 stops at a point above the upper end of the slide 30, so that there is a space between said upper end of said slot and the lower end of said wall 42 which is slightly less than the diameter of the largest coin by which the device is designed to be operated. It is intended that the present apparatus shall under some circumstances be operated by a five-cent piece and under other circumstances be operated by a one-cent piece, so that a five-cent piece can be deposited for a Sunday newspaper and a one-cent piece for newspapers issued on other days of the week. In the present embodiment of the invention, therefore, the distance between the lower end of the wall 42 and the upper end of the slide 30 is slightly less than the diameter of a five-cent piece, so that when a five-cent piece is deposited into the coin-raceway its periphery engages the end of the wall 42, and the coin is thus prevented from rolling off of the slide 30. Should a one-cent piece be deposited, it will simply roll over the top of the slide 30, passing between said slide and the lower end of the wall 42. In order, however, to make it possible to operate the apparatus by a one-cent piece when so desired, a pin 43 can be inserted in a socket 44 and can thus obstruct the passage between the upper end of the slide 30 and the lower end of the wall 42, so that when this pin is in place a one-cent piece will engage the same, just as a five-cent piece engaged the wall 42, and such one-cent piece will thus be supported in position to operate the mechanism. The device being properly set and a coin of the proper denomination being inserted through the coin-slot 38, it will be readily apparent that after said coin comes to rest between the slide 30 and the plunger 34 depression of the operating-handle 37 causes the plunger 34 to move downwardly and through the instrumentality of the coin Z to depress the slide-plate 30, thus rocking the lever 28 and moving the actuating-rod 17 forwardly, whereby one of the supports 9 is permitted to drop and to deliver its newspaper. As in the operation just described the coin passes into the guide-casing 31, it becomes necessary to provide for ejecting the coin from said casing. Suitably journaled above the upper end of the said casing 31 is a rock-shaft 45, which carries an inwardly and downwardly curved deflecting-finger 46, adapted to enter the space between the said guide-casings 31 and 33. Pivoted to a rock-arm 47 upon said rock-shaft

is a vertically-reciprocatory rod 48, whose lower end rests upon one arm of the lever 28 when said lever is in normal position, said rod 48 when thus supported serving to hold the rock-shaft 45 in such position that its cam-shaped deflecting-finger 46 does not obstruct the passage between the casings 33 and 31. When the lever 28 is rocked and its said arm which supports the rod 48 is lowered, said rod falls by reason of its own weight and rocks the shaft 45, the deflecting-finger 46 engaging the face of the coin until the coin has been forced below said deflecting-finger by the plunger 34 and the shaft then rocking further in order to present the deflecting-finger above the edge of the coin, the plunger 34 having a slot 49 in its end to permit the proper movement of the deflecting-finger. When the coin and plunger have been fully depressed, the parts lie in the positions shown in Fig. 9 and by full lines in Fig. 10. After the operator has released the operating-handle 37 the plunger is moved upwardly by the recovering-spring 49^a, connected to the lever 35, and the slide-plate 30 moves upwardly under the influence of the recovering-spring 50, acting upon the lever 28, the deposited coin being forced upwardly by said slide-plate 30. As this coin moves upwardly it engages the cam-shaped deflecting-finger 46 and is deflected thereby, as shown by dotted lines in Fig. 10, the coin being raised above the upper end of the guide-casing 31 by means of said slide-plate 30 and also being positively ejected by the outward rocking of the deflecting-finger 46, which occurs when the lever 28 in returning to normal position engages the rod 48, and thus rocks the rock-shaft into normal position.

A slide-plate 52, connected to the operating-lever 35, slides between the wall of the casing in which the slots 36 and 38 are formed and a stationary plate 51, secured to said casing-wall and provided with slots 53 and 54, which register, respectively, with the before-mentioned slots 36 and 38. When the lever 35 is in normal elevated position, the slide-plate 51 covers the slot 36, and thus prevents wires or the like being inserted into the casing, but lies above the slot 38, and therefore leaves the same unobstructed. When, however, the lever 35 is depressed, the slide-plate 51 moves downwardly with the lever and obstructs the coin-slot 38, thus making it impossible to insert a coin into the apparatus when the operating-lever and its plunger are not in proper position for the insertion of such a coin, the portion of the said plate 51 which is above the operating-lever obstructing the slot 36 when the said lever is in lowermost position.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of the device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In an apparatus of the character indicated, 5 a series of pivoted article-supports, a retaining-spring adapted to engage each of said supports to hold the same in article-supporting position, an operating mechanism, and means whereby upon successive operations of said mechanism 10 said springs are successively thrown from retaining position; substantially as described.

2. In an apparatus of the character indicated, a series of pivoted article-supports, a supporting-finger upon each of said supports, 15 a series of plate-springs whose free ends cooperate with said supporting-fingers to retain said article-supports in supporting position, an operating mechanism, and means whereby upon successive operations of said mechanism 20 the free ends of said springs are successively moved from retaining position; substantially as described.

3. In an apparatus of the character indicated, a series of article-supports, a series of retaining spring-plates whose free ends cooperate 25 with said supports, and a traveling releasing device cooperating with the free ends of said retaining spring-plates; substantially as described.

4. In an apparatus of the character indicated, a series of article-supports, a series of retaining-springs cooperating with said supports, 30 and a traveling releasing device cooperating with said springs and having inclined surfaces upon its forward and rear sides; substantially 35 as described.

5. In an apparatus of the character indicated, a traveling releasing device, a locking member along which said releasing device travels, 40 means whereby said locking member locks said releasing device against backward movement, a reciprocatory actuating member having backward movement independent of said releasing device, and means for causing operative 45 engagement between said releasing device and said actuating member during the forward movement of the latter; substantially as described.

6. In an apparatus of the character indicated, 50 a traveling releasing device, a locking member provided with ratchet-teeth along which

said releasing device travels, a pawl upon said releasing device and cooperating with said ratchet-teeth, a reciprocatory actuating member, and means whereby reciprocations of said 55 actuating member serve to advance said releasing device along said locking member; substantially as described.

7. In an apparatus of the character indicated, a traveling releasing device, a reciprocatory 60 actuating-rod provided with ratchet-teeth, a pawl upon said actuating device cooperating with said ratchet-teeth, and means whereby said actuating device is locked against backward movement; substantially as described. 65

8. In an apparatus of the character indicated, a locking member provided with ratchet-teeth, a reciprocatory actuating-rod also provided with ratchet-teeth, a traveling releasing 70 device movable along said locking member, and pawl connection between said releasing device and both said locking member and said actuating-rod; substantially as described.

9. In an apparatus of the character indicated, a locking member provided with ratchet-teeth, a reciprocatory actuating-rod provided 75 with ratchet-teeth, a traveling releasing device traveling along said locking member, a pawl upon said releasing device cooperating with the teeth of said locking member, and a pawl 80 upon said releasing device cooperating with the teeth upon said actuating-rod; substantially as described.

10. In an apparatus of the character indicated, a series of article-supports, a series of 85 retaining-springs cooperating with said supports, a locking member having ratchet-teeth, a reciprocatory actuating-rod also having ratchet-teeth, a releasing device cooperating with said retaining-springs and traveling 90 along said locking member, and pawl connection between said releasing device and the teeth of both said locking member and said actuating-rod; substantially as described.

In testimony whereof I hereunto affix my 95 signature, in the presence of two witnesses, this 31st day of March, 1903.

CHARLES A. DAWES.

Witnesses:

GEORGE BAKEWELL,
G. A. PENNINGTON.