(No Model.)

G. E. STARR & W. HOLLINGSWORTH.

NEWSPAPER VENDING MACHINE.

No. 454,301. Patented June 16, 1891.

Fig. 1.

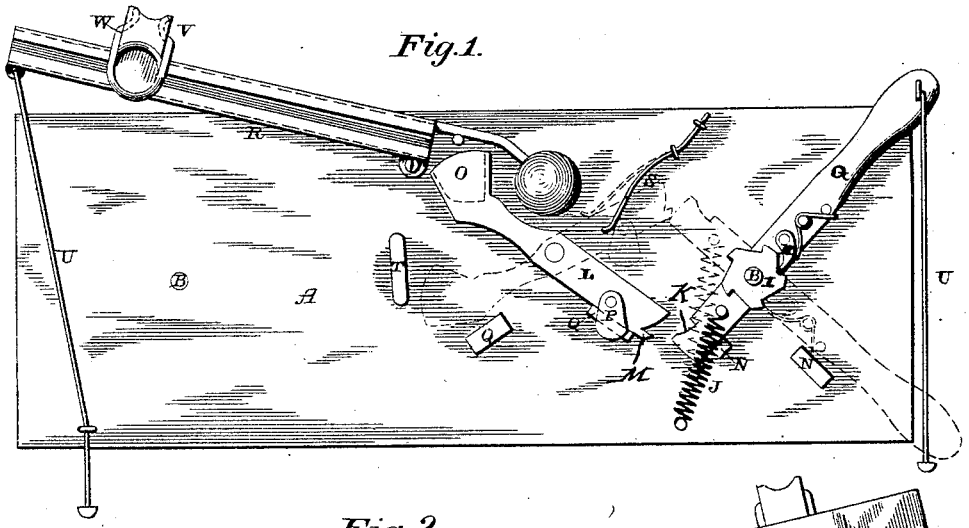


Fig. 2.

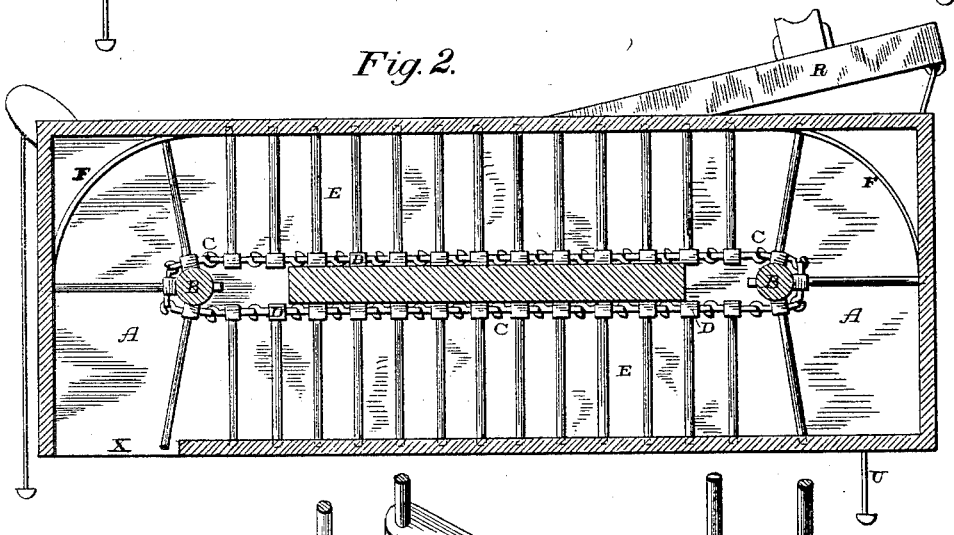
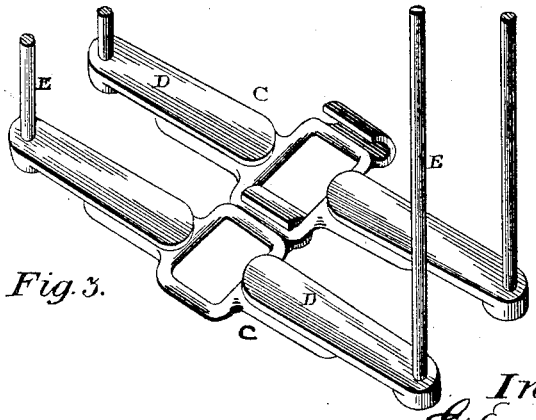


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE ELLSWORTH STARR AND WILLIAM HOLLINGSWORTH, OF BALTIMORE, MARYLAND, ASSIGNORS TO GEO. A. WELCH, OF SAME PLACE.

NEWSPAPER-VENDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 454,301, dated June 16, 1891.

Application filed December 11, 1890. Serial No. 374,333. (No model.)

To all whom it may concern:

Be it known that we, GEORGE ELLSWORTH STARR and WILLIAM HOLLINGSWORTH, of Baltimore, State of Maryland, have invented certain new and useful Improvements in Newspaper-Vending Machines; and we 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improvement in newspaper-vending machines; and it consists in certain novel features of construction, which will be fully described hereinafter.

The object of our invention is to provide a machine which is especially adapted for selling newspapers, but which may be adapted for selling other kinds of articles, and which is adapted either to be used in the upper portion of a car or in a hotel or other place of business, and which upon the purchaser depositing the predetermined price and then moving a lever will deliver to him one of the articles upon sale.

Figure 1 is a side elevation of one of our vending-machines, and showing the operating mechanism. Fig. 2 is a similar view taken from the opposite side of the machine, and showing the endless belt or chain. Fig. 3 is a detached view of a portion of the endless belt or chain.

A represents a suitable box, frame, or inclosing case of any suitable shape or construction that may be preferred and inside of which the articles to be sold are placed. Extending horizontally through this box or frame near opposite ends are the shafts B, which are provided with sprocket-wheels around which the endless belt or chain C is passed. As this chain is here shown, arms D project horizontally from opposite edges of the chain, and from the outer ends of these arms extend the separating-rods E, which are made long enough to have their outer ends catch in slots, grooves, or guides in the frame A and suitable curved guides F, placed at opposite ends of the frame. These rods E serve to separate the papers or other articles placed in the box or frame for sale, and the sprocket-wheels and chain are so constructed that but one article at a time will be delivered to the purchaser. The slots or guides keep the rods E in a vertical position and cause them to always move in a straight line, thereby preventing the chain from becoming displaced. The distance between the arms will be regulated according to the thickness of the article exposed for sale.

Pivoted loosely upon one of the shafts B is the operating-lever G, and pivoted upon this lever G is a spring-actuated dog H, which engages with and operates the ratchet-wheel I, secured to the end of the shaft B. The lever G has secured to its lower and inner end a spring J, which returns the lever instantly to position when left free to move. Each time that the outer lever G is depressed a dog, through the ratchet-wheel I, turns the shaft B just far enough around to deliver one article and no more. In the upper edge of the lower end of this lever G is made a notch or recess K for the purpose of engaging with the inner end of the coin-actuated lever L, which is provided with a corresponding projection M to catch in the recess for the purpose of preventing the lever G from being operated more than once when only a single price has been deposited. Should a purchaser operate the lever G to its full extent, so as to receive one of the articles upon sale, and then attempt to get a second article without paying for it, by only moving the lever part way the projection M, upon the lower end of the lever L, will catch in the recess K and prevent the lever G from being moved far enough to cause the dog H to operate the wheel I. By this construction cheating on the part of the purchasers is prevented. Suitable stops N are secured to the side of the box, so as to limit the distance that the lever G shall move in either direction.

The lever L is pivoted at any suitable point between its two ends, and has a coin-receiver O secured to its upper end and a weight P secured to its lower one. This weight P is graduated according to the weight of the coin which is to pay for the paper or other article for sale. If the article is to cost two cents, the weight will be sufficiently great to prevent the lever being counterbalanced by a single penny, but not heavy enough to pre-

vent the lever from being counterbalanced when two pennies are deposited. If the price of the article is to be a nickel, the weight will be just sufficient to allow the lever to be operated by a coin of that denomination. Suitable stops Q are provided upon the side of the box for limiting the distance that the lever shall move in either direction, and hence when the lever is free to return to position it assumes the inclined position shown, so as to be always ready to receive the coins as they drop from the end of the operating rod, arm, or lever R. When the regulated price is deposited and it falls into the receiver O, the upper end of the lever L sinks downward until the lower end of the spring S, secured to the side of the box, stops the upward movement of the weighted end of the lever, and then the outer end of the coin-receiver O is held just opposite the vertical stop T, which prevents the coins from dropping out of the receiver. While the lever L is in this almost horizontal position, the lower end of the lever G is left free to move, and then by pulling down upon the outer end of the lever until it strikes the outer stop N the lower inner end of the lever G strikes against the under side of the lever L and causes it to move sufficiently far to carry the coin-receiver down below the end of the stop T, when the coins are deposited in the receptacle placed to receive them and the lever L instantly returns to position. The tension of the spring S assists in returning the lever to position more quickly, so that its lower end will be in position to act as a lock to the lever G to prevent the lever G from being moved until another price has been deposited. The lower end of the lever G never rises above the lower end of the lever L, and hence the moment the lever L is left free to move its lower end returns to position to check any movement of the lever G until the lever L has been operated by the coins deposited to pay for one of the articles on sale. After the lower end of the lever L has been raised by the depositing of the price of an article and by the upward movement of the inner end of the lever G, the lever G cannot be moved sufficiently to cause the pawl H to move the wheel I one ratchet or a portion of a ratchet before the projection M on the lower end of the lever L catches in the recess K in the lever G, and thus stops all further movement of the lever G.

As will be seen from the above, the lever L serves to receive the coins deposited, frees the lever G, so that it can be moved, and then again locks it in position until a second price has been paid. The arm or lever R is made hollow, so as to act as a conductor. The coins dropped through a slot or receiver are deposited directly in the receiver O on the upper end of the lever L. This arm or lever R has a counter-weight attached to its inner end, so that after the outer end of the lever R has been drawn down to allow the price to be deposited therein the weight causes the outer end to rise as soon as it is left free to move and then the coin or coins roll down through the arm or lever into the coin-receiver O.

In case the vending-machine is placed in the upper portion of a car or out of the reach of the purchasers a cord, chain, or strap U will be attached to the outer ends of the levers G R, so that they can be drawn downward by the purchasers. When the outer end of the lever R is drawn down, either a slot just suited to the size of the coin to be deposited is exposed to the view of the purchaser or a receiving device of any kind attached to the upper edge from the lever. While a mere slot will answer, if it is desired to prevent coins having strings or wires attached to them from being used for the purpose of defrauding, a coin-receiver V may be used, which will be attached to the upper edge of the lever R, and which has the two curved ends of the wire W extending into the slot in such a manner that when a coin is once pushed in between the bent ends it cannot be withdrawn, and the wires will serve to snap or shoot it inward. The person will not be able to withdraw the coin by means of the thread or wire in the first instance, and in the second place, even if the coin having the string or wire attached to it should be allowed to move inward sufficiently far to operate the lever L, it can never be drawn back into the end of the arm R so as to again drop into the coin-receiver O, as the coin-receiver is placed in such relation to the end of the arm or lever R that it acts as a guard for this purpose.

The vending-machine here shown and described is especially intended to be placed in the tops of street-cars, where they will be entirely out of the way, and where one, two, or more may be placed separately.

If the devices are used in a hotel or other public place, they may be placed one above the other, so as to take up as little room as possible. Each box will of course have a different-priced article placed therein.

We do not limit ourselves to any precise arrangement or combination of parts, for these may be varied slightly without departing from the spirit of our invention. For instance, it will be readily understood that any suitable devices may be secured to the belt for holding and separating the articles to be sold in place of the rods E here shown without departing from the essential features of our invention.

Having thus described our invention, we claim—

1. In a vending apparatus, an endless belt or chain, shafts around which it passes, a lever for operating one of the shafts, and a coin-operated lever which acts as a stop for the shaft-operating lever, substantially as described.

2. The combination of the endless belt or chain provided with devices for receiving the articles to be sold, shafts around which the

belt passes, one of which shafts is provided with a ratchet-wheel, an operating-lever carrying a pawl for operating the ratchet-wheel, and a coin-operated lever which acts as a lock for the operating-lever, substantially as set forth.

3. The combination of the endless band or belt, the partially-revolving shafts around which the band or belt passes, the ratchet-wheel secured to one of the shafts, a dog or pawl for operating the ratchet-wheel, a lever to which the pawl is secured and which is provided with a recess in its lower end, and a coin-actuated lever provided with a projection to catch in the recess, substantially as specified.

4. The combination of the lever L, provided with a receiver at one end and a weight at the other, the operating-lever G, an endless belt or chain, and a mechanism by which it is moved, and the stop T for preventing the discharge of the coins until the lever L is moved by the lever G, substantially as shown.

5. The combination of the pivoted lever L, provided with a receiver at one end and a weight at the other, an operating-lever G, an endless belt or carrier, and a mechanism by which it is operated, with the spring S and the stop T, whereby the downward movement of the upper end of the lever L is checked, substantially as described.

6. The combination of the hollow arm R, provided with a counter-weight at its inner end, the lever L, provided with a receiver at its upper end and a counterweight at its lower one, the stop T, a spring S, the spring-actuated lever G, provided with a pawl, the ratchet-wheel, the partially-revolving shafts, and the endless band or chain provided with devices for holding the articles for sale, substantially as specified.

In testimony whereof we affix our signatures in presence of three witnesses.

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