(No Model.) 2 Sheets—Sheet 1.

J. A. BRYCE.

AUTOMATIC VENDING OR DELIVERING MACHINE.

No. 540,902. Patented June 11, 1895.

Fig. 1

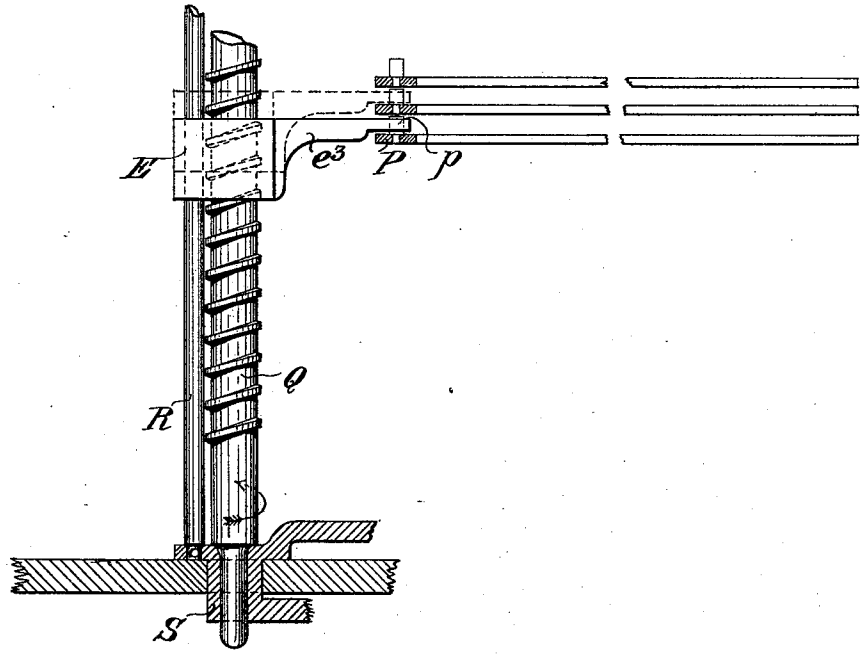
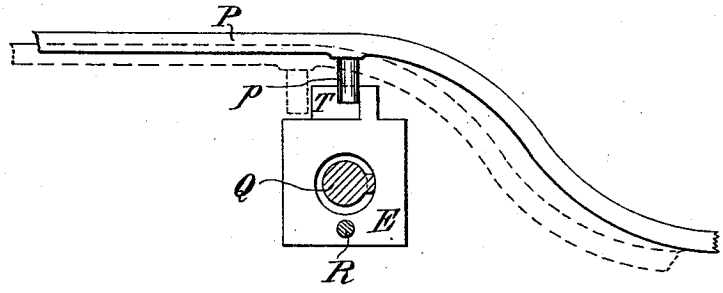


Fig. 3



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(No Model.) 2 Sheets—Sheet 2.

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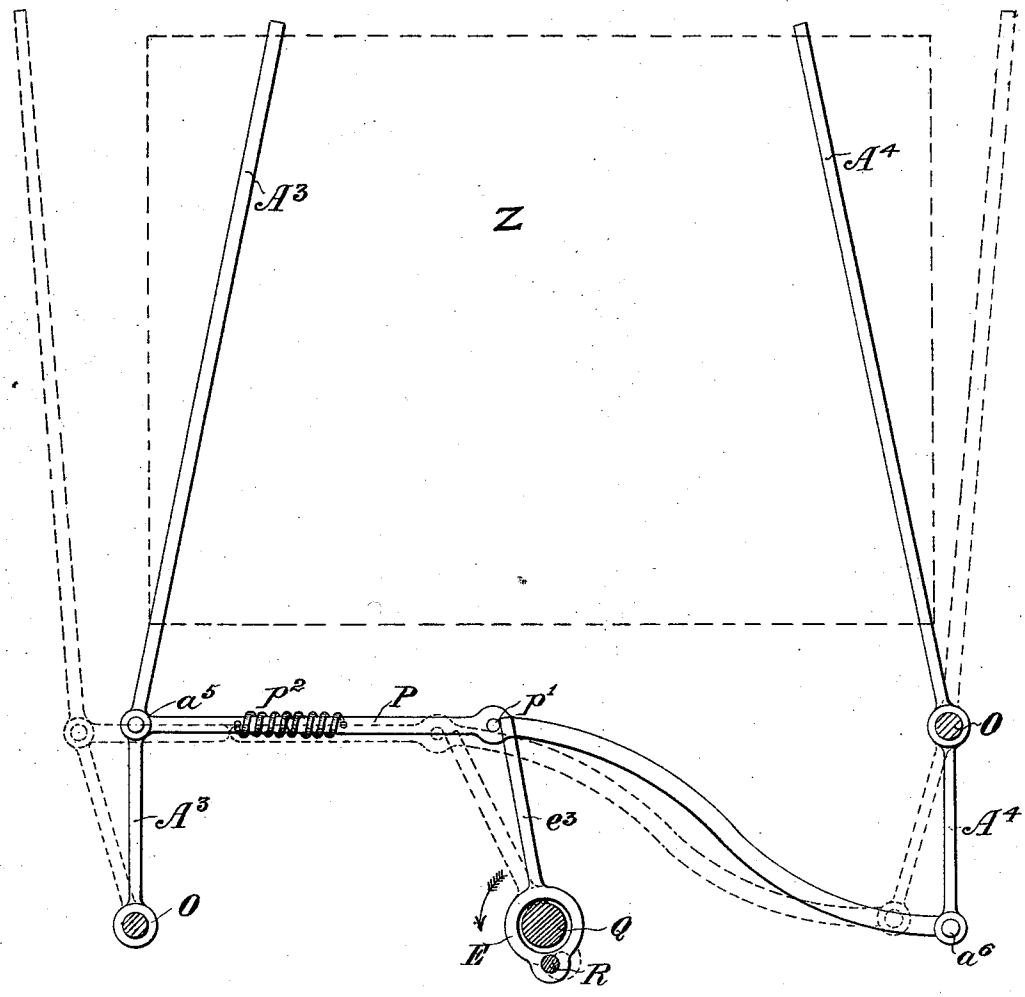
Fig. 2



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UNITED STATES PATENT OFFICE.

JOHN ANNAN BRYCE, OF LONDON, ENGLAND.

AUTOMATIC VENDING OR DELIVERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 540,902, dated June 11, 1895.

Original application filed April 26, 1890, Serial No. 349,590. Divided and this application filed November 27, 1894. Serial No. 530,075. (No model.) Patented in England February 14, 1888, No. 2,202.

To all whom it may concern:

Be it known that I, JOHN ANNAN BRYCE, a subject of the Queen of Great Britain, residing at London, in the county of Middlesex, England, have invented certain new and useful Improvements in Automatic Vending or Delivering Machines, (for which I have obtained a patent in Great Britain, No. 2,202, bearing date February 14, 1888,) of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in automatic vending or delivering machines and has special though not exclusive reference to the delivery of articles possessing rigidity or of indefinite shape or size, and the invention consists in the various novel and peculiar arrangements and combinations of the several parts of the device all as fully hereinafter described and then pointed out in the claims.

This application is a divisional one based upon my application for Letters Patent filed April 26, 1890, Serial No. 349,590.

I have illustrated a type of my invention in the accompanying drawings, wherein—

Figure 1 is a side view of the essential parts of one form of my invention, with a part of the mechanism for moving the traveler shown in section. Fig. 2 is a plan view of the same with an article indicated in broken lines as being placed upon the supporting-lever, the levers, connecting-link, and traveler being also shown in dotted lines in the position which these parts will occupy when the supporting-levers are moved to release an article. Fig. 3 is a plan view of a modified form of the traveler and its operating mechanism.

Referring to the drawings, in which like letters of reference designate like parts throughout, the platform or support for each individual article consists of two levers A^3, A^4, sufficiently rigid to carry the article to be vended and hinged so as to turn on the pivots O, O. These levers are connected by the link P which is articulated to the levers at a^5, a^6. This connecting link has a pin p' rigidly attached to it, which is engaged by the arm e^3 of the releasing device when the machine is operated.

The releasing device consists of a nut E, to which is rigidly attached a projecting arm e^3, revolving and traveling on a fixed screw Q. Through a lug on one side of the nut E, a rod R passes loosely, the rod being rigidly fixed to the sleeve S which revolves freely round the end of the fixed screw Q.

The action of this apparatus is as follows: The levers A^3, A^4, are normally in the position shown in full lines and in this position support the article Z to be vended or delivered. Let us now for the purpose of describing the action of this form of my invention assume that the sleeve S is operated either by being released by the action of a coin (in which case such rotation would be caused by the hand) or actuated by a coin, in which case the sleeve S will be rotated directly through the medium of the coin. The rod R, which is rigidly affixed to the sleeve S, will now revolve round the fixed screw Q, and with it the nut or releasing device E, in the direction of the arrow. The projecting arm e^3 of the nut E will come in contact with the pin p' on the link P so as to move the latter, and with it the levers A^3, A^4, into the position shown by the dotted lines in Fig. 2, when the article Z being no longer supported will drop down into a chute or receptacle or otherwise pass to the exterior of the machine. The nut or releasing device is designed to move through a complete revolution at each operation of the machine and the screw Q being fixed it is obvious that the said nut or releasing device will move up the screw so as to release a different support at each complete revolution, that is to say, at each operation of the machine. Referring to Fig. 1 the dotted lines representing E and e^3 show the position which these parts will occupy when another complete revolution round the screw has been made.

In order to obviate the necessity of accuracy of construction or adjustment in the link P and the levers A^3, A^4, I interpose a strong flexible joint in the link P as shown at p^2 so as to obtain a certain amount of give or play.

When describing the form of my invention illustrated by Figs. 1 and 2 I specified the screw Q as being fixed and the releasing device E and rod R as revolving round it. It will be obvious however that if the rod R

were fixed and the screw Q caused to rotate round its axis (as for example by the means hereinbefore mentioned when referring to the rotation of sleeve S and rod R and in the opposite direction to that indicated by the arrow in Fig. 1) then the releasing device E would travel up the screw Q without rotating round it. In carrying out this last arrangement the releasing device might successively release supports of any character designed to be operated *seriatim* as, for example, after the manner shown in Fig. 1 of my British patent, No. 2,202, of 1888, hereinbefore referred to. When employing this form of releasing device in conjunction with the series of supports herein shown, the releasing device E is provided with a beveled surface T, which as the device moves upward will press the pin p' and the link P to the left into the positions shown by the dotted lines, so as to produce the same effect as is produced in the form of my invention illustrated in Figs. 1 and 2.

The invention herein set forth is specially suited for the automatic delivery of articles having a certain rigidity, such for example as cards or mounted photographs or the like. I have not deemed it necessary to illustrate the mechanism that is directly actuated by the coin for there are many well known forms of mechanism that may be used with my invention.

When one article is to be sold or delivered for each payment made to, and operation of, the machine, one article only is placed upon each pair of lever supports. When more than one article is to be sold or delivered that number of articles is placed upon each support. When the article is to be sold or delivered in bulk then the proper quantity is placed upon each pair of lever supports.

It will be understood that in the case where the machine is constructed to sell or deliver a specific article the supports may be conveniently of such size and shape and distance apart as to suit the said articles. When however the machine is not constructed to sell a specific article then the supports should be constructed of such distance apart and of such shape and strength as to be suitable for the largest and heaviest articles likely to be sold or delivered from the machine.

I desire it to be understood that my invention is not limited to the specific means herein shown and described as the same may be variously modified without making a substantial departure from the spirit of my invention. Although I have shown a series of but three supports arranged one above the other, it will, of course, be understood that any desired number may be employed in the series. The term, a pair of laterally-swinging members includes a pair of such members when either one or both are movable.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a vending machine, the combination of a series of supports each comprising a pair of laterally swinging arms or members constructed to support a superimposed article, and means for moving them apart to release the article or commodity sustained thereby.

2. In a vending machine, the combination of a series of supports each comprising a pair of laterally swinging arms or members constructed to support a superimposed article, and a traveler for successively moving said arms apart for consecutively discharging the articles or commodities sustained thereby.

3. In a vending machine, the combination of a series of supports each comprising a pair of laterally swinging arms or members constructed to support a superimposed article, a traveler for successively moving said arms apart for releasing in succession the articles or commodities sustained thereby, and means for periodically moving the traveler.

4. In a vending machine, the combination of a series of supports each comprising a pair of pivoted arms adapted to move laterally toward and away from each other, means for normally holding said arms toward each other to serve as a support for a superimposed article, and means for moving said arms apart to discharge therefrom the article or commodity supported thereby.

5. In a vending machine, a support comprising a lever pivoted at one end and a second lever pivoted intermediate its ends and an intermediate link provided with a yielding joint for simultaneously moving said levers away from each other to discharge an article or commodity supported thereby.

6. In a vending machine, a support comprising a lever pivoted at one end and a second lever pivoted intermediate its ends, combined with a link pivoted at its respective ends to said levers and acting to simultaneously move them away from each other to discharge an article or commodity supported thereby.

7. In a vending machine, the combination of a series of supports each comprising a pair of pivoted levers adapted to move toward and away from each other and a link pivoted by its respective ends to said levers for simultaneously moving them, and a traveler engaging in succession said links for moving each pair of levers apart in succession and discharging therefrom the articles or commodities supported thereby.

8. In a vending machine, the combination of a series of movable supports, a screw having a nut traveling thereon and adapted to successively operate said supports, and means for moving said nut along the screw.

9. In a vending machine, the combination of a series of movable supports, a screw provided with a nut and means for rotating the nut on the screw to move it along the same said nut being adapted to successively operate said supports.

10. The combination of a series of movable supports, a fixed screw provided with a nut

traveling thereon, a sleeve provided with a fixed rod extending loosely through said nut and adapted to revolve about the screw, and thereby move the nut along the screw for successively operating said supports.

11. In a vending machine, the combination of a series of supports each comprising a pair of pivoted levers adapted to move toward and away from each other, intermediate connections for simultaneously moving the pair of levers apart, a screw provided with a nut, and means for moving the nut along the screw to successively engage said connections for moving the levers apart.

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