

(No Model.)

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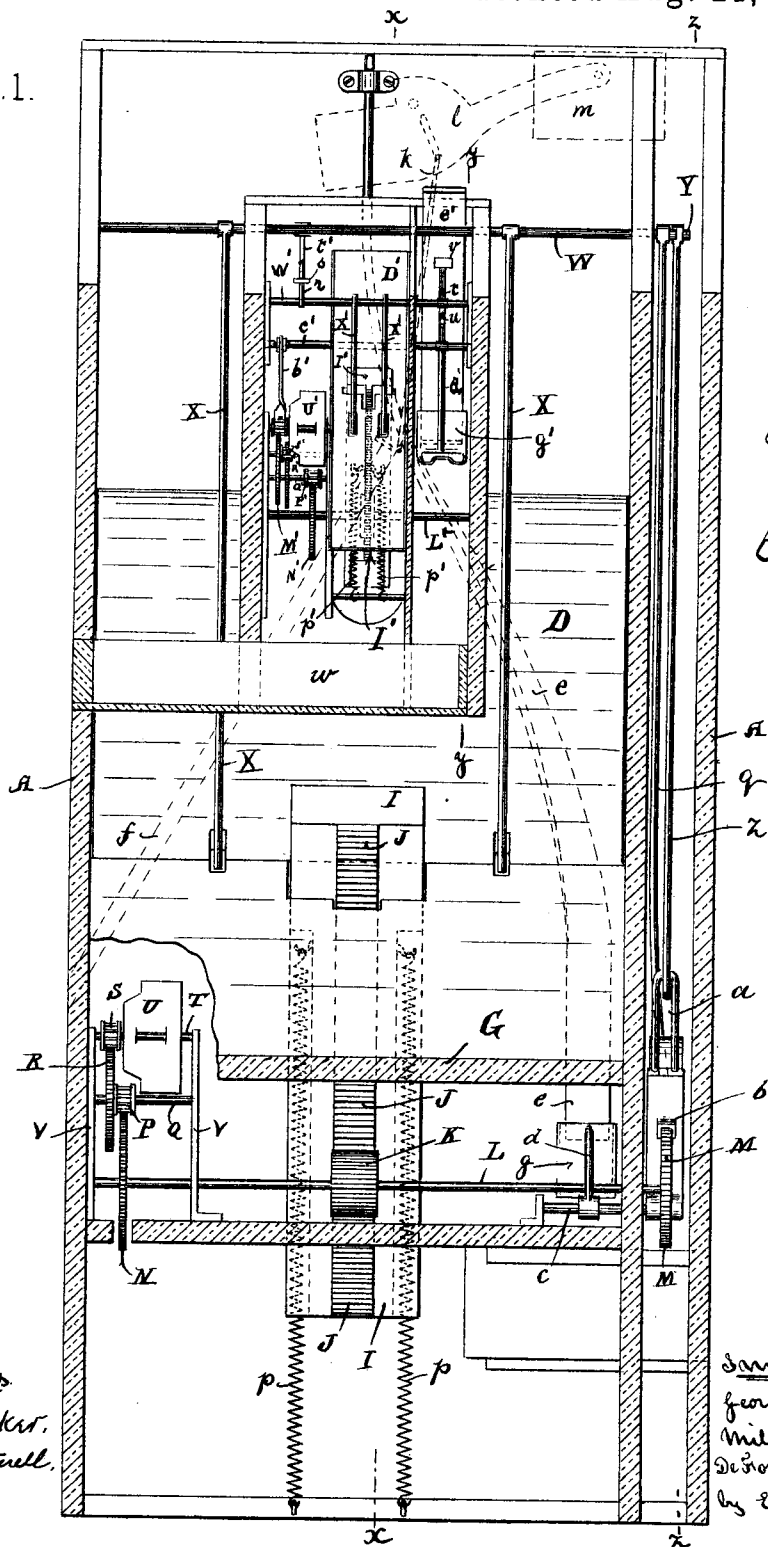
G. D. MORSE, & M. & DE FOREST W. CHASE.

AUTOMATIC SALESMAN AND CHANGE MAKER.

No. 388,369.

Patented Aug. 21, 1888.

Fig. 1.



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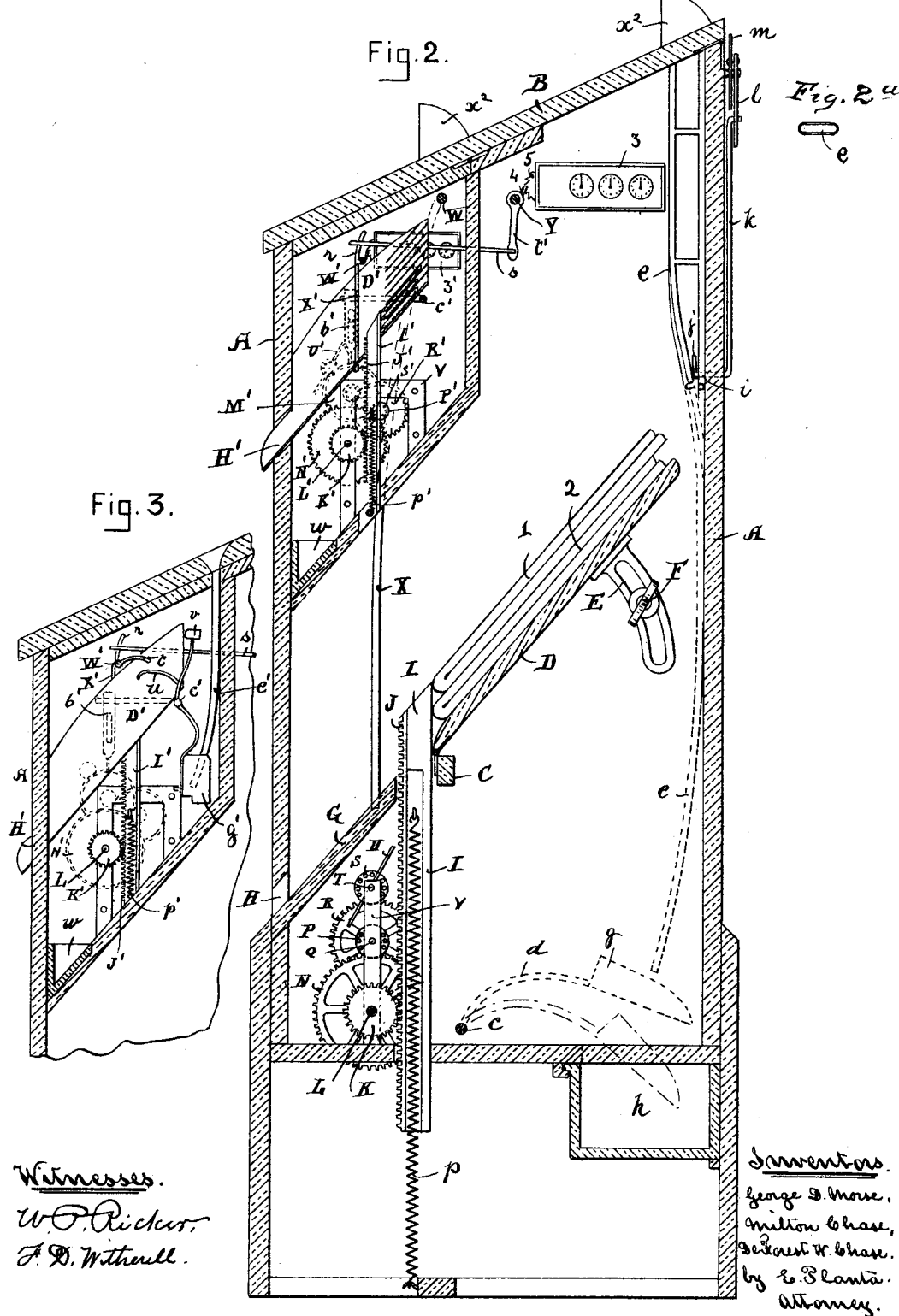
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4 Sheets—Sheet 2.

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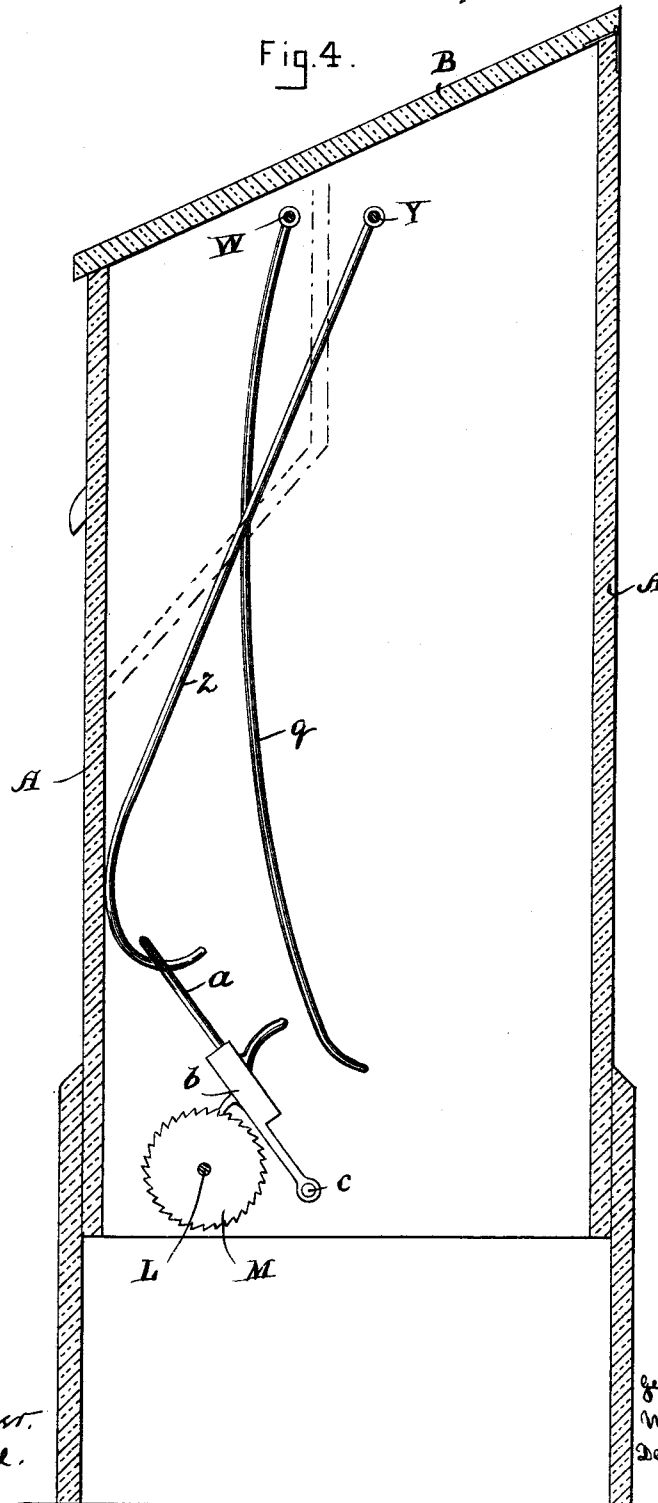
4 Sheets—Sheet 3.

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4 Sheets—Sheet 4.

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Fig. 5.

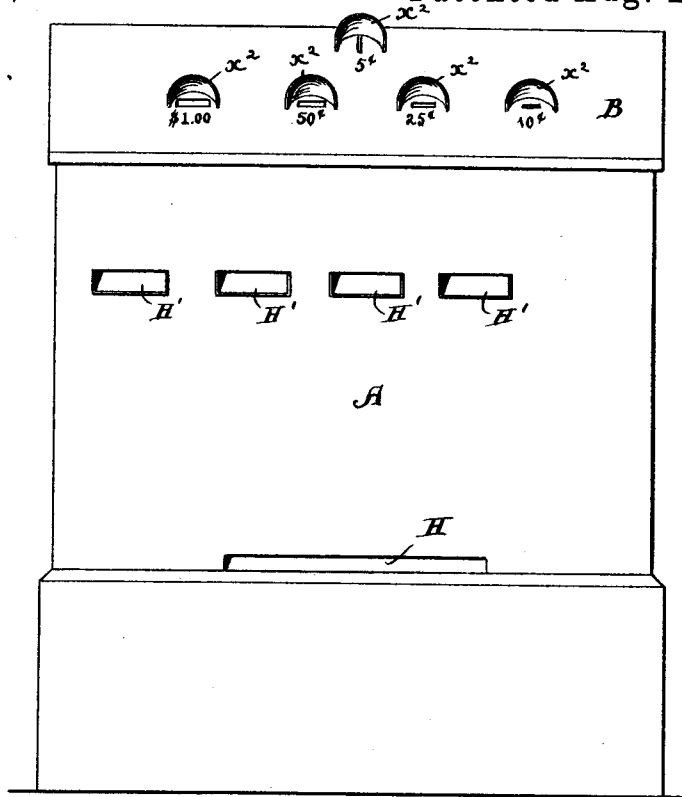


Fig. 8.

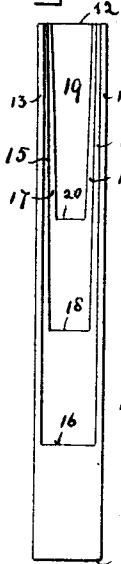


Fig. 9.

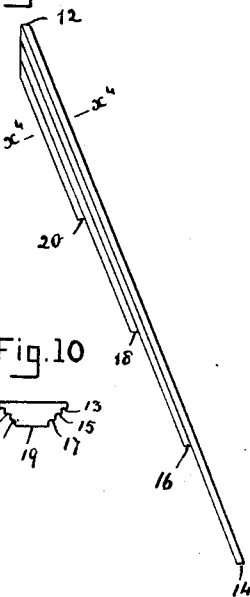


Fig. 10.

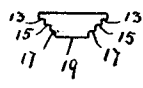


Fig. 6.

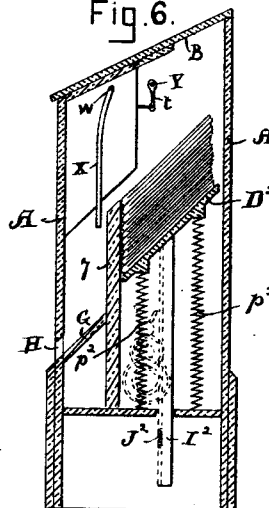
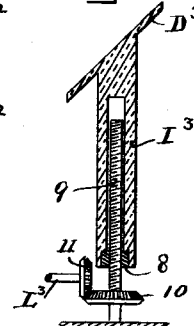


Fig. 7.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC SALESMAN AND CHANGE-MAKER.

SPECIFICATION forming part of Letters Patent No. 388,369, dated August 21 1888.

Application filed March 5, 1888. Serial No. 266,203. (No model.)

To all whom it may concern:

Be it known that we, GEORGE D. MORSE, MILTON CHASE, and DE FOREST W. CHASE, citizens of the United States, residing at Haverhill, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in an Automatic Salesman and Change-Maker, of which the following is a specification.

The object of our invention is to produce an automatic salesman and change-maker whereby newspapers or packages of merchandise will be automatically delivered upon dropping the proper coin into the apparatus, or upon dropping a coin of greater value in the apparatus the proper change, as well as the newspaper or other article of merchandise, will be delivered from the apparatus.

The invention consists of various details of construction, hereinafter fully set forth, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 represents a longitudinal vertical section through an automatic salesman and change-maker embodying our invention, but adapted to make change for only one denomination of coins. Fig. 1^a is a detail view of the junction of the coin-chutes and lever for operating the sign-board. Fig. 2 is a vertical transverse section of the same, taken on line *x x* of Fig. 1. Fig. 2^a is a horizontal cross-section through the coin-chute. Fig. 3 is a vertical transverse section through the change-box, taken on line *yy* of Fig. 1. Fig. 4 is a similar section taken on line *zz* of Fig. 1. Fig. 5 is a front view of an automatic salesman and change-maker embodying our invention, and provided with change-makers for four different denominations of coin. Figs. 6 and 7 show modifications of the means for delivering the papers or other merchandise. Figs. 8, 9, and 10 show, respectively, a front view, side view, and cross-section taken on line *x' x'* of a modification, whereby coins of different denominations may all be dropped into the same opening.

A represents a case or box of wood or other suitable material; B, the lid or cover of the same.

C is a bar that extends from end to end of the box or casing, (see Fig. 2,) and to which

is hinged shelf or support D, the outer or free end of which is secured by means of a slotted bar, E, and thumb-screw F, so that the support D can be adjusted to any required inclination, according to the nature of the merchandise to be delivered. The space from the bar C to the front of the box or casing is covered by a partition, G, set, preferably, on an angle of about forty-five degrees. At the bottom of this partition an opening, H, is cut through the front wall of the box, through which the paper or other article of merchandise passes.

I is a flat bar of wood or metal, provided on its face with a rack, J. The upper end of the bar I is cut off on an angle of about forty-five degrees to correspond with the slope of the partition G. In gear with the rack J is a pinion, K, mounted upon a shaft, L, which at one end is provided with a ratchet-wheel, M, (see Fig. 1,) and near its other end with a cog-wheel, N, that is in gear with a pinion, P, on shaft Q, upon which is also mounted a cog-wheel, R, that is in gear with a pinion, S, on shaft T, which also carries a fan, U. The shafts L Q T are supported in bearing in suitable frames, V V.

p p are springs for drawing the bar I down.

W is a shaft that passes from end to end of the box or case, and is provided with two rods, X X, (one on each side of the change-box,) which rods extend down below the upper surface of the partition G. On one end of the shaft W is also secured a rod, *q*. At or about the same level as the shaft W is mounted another shaft, Y, provided at one end with a rod, Z, the lower end of which is bent and takes into a loop, *a*, formed on the upper end of a weighted pawl, *b*, that is mounted upon a short shaft, *c*, which is also provided with a rod, *d*, the outer end of which carries a pan or cup, *g*, into which the coin drops from the chute *e*, which latter is secured to the back portion of the box A. The chute *e* is made of metal with closed ends and open sides, thus forming a skeleton frame, (see Fig. 2,) and is bent to about the form shown in dotted lines in Fig. 1.

At or about the point where the chute commences to twist another chute or tube, *f*, is secured, so that should small coins be dropped into the chute *e* they will drop through its

open side into the chute or tube *f*, and will not operate the mechanism to deliver a paper or other article of merchandise.

The above mechanism constitutes the salesman without the change-maker, and we will here describe its operation.

The shelf or support *D* is first adjusted to the desired inclination, according to the kind of merchandise to be delivered. The bar *I*, carrying rack *J*, is then drawn up, and is retained in its raised position by the pawl *b* engaging with the ratchet-wheel *M*. The papers 1 2 or other merchandise are then placed upon the shelf or support *D* and the apparatus 15 is ready for use. Suppose the box to be filled with papers the price of which is five cents. A person wishing to buy a paper drops a nickel into the upper end of the chute *e*, through which it passes and falls into the cup 20 or pan *g*, and causes it to fall downward, the coin dropping out of the pan into a draw, *h*. As the pan falls it causes the shaft *c* to be partly rotated, thereby raising the pawl *b* out of contact with the ratchet-wheel *M*. The shaft *L* is 25 then free to rotate the springs *p*, drawing down the bar *I*, the speed being regulated by the gearing *K N P R S* and fan *U*. When the bar *I* has been lowered sufficiently, one paper slips over its upper end and passes out of the opening *II*. As the paper passes out it comes into 30 contact with the rods *X X* upon shaft *W*, and forces them outward, which causes the shaft *W* to be partly rotated, thereby throwing the rod *q* forward, which comes into contact with the weighted pawl *b* and throws it over into contact with the ratchet-wheel *M* and stops its 35 rotation, thereby preventing the bar *I* from descending farther until another nickel is dropped into the chute *e*, when the operation is repeated until the box is emptied of papers. 40

Should a smaller coin, such as a cent, be dropped into the chute *e*, it will pass down a short distance and then fall into the chute or tube *f* and be carried outside the box or case. 45 At the junction of the chutes *e* and *f* (see Sheets 1 and 2) is fixed a short shaft, *i*, fitted with a lever, *j*, on one end and at the rear with a rod or bar, *k*, the upper end of which works in a slot in a lever, *l*, to the outer arm of which is 50 secured a sign, *m*, bearing any suitable inscription, so that when the coin strikes the lever *j* it will cause the sign *m* to be displayed above the top of the box or case *A*.

For making change we employ a separate 55 apparatus for each denomination of coin it is intended to change. In Fig. 5 the apparatus is shown to make change for one dollar, fifty cents, twenty-five cents, or ten cents; but in Figs. 1 and 2 only one change-maker is shown, 60 as they are all alike in construction and operation, which is substantially the same as that described for the salesman. The required change is placed in envelopes, which are placed in the compartment *D'*, that is provided with 65 a series of shelves, (see Fig. 2,) so that each envelope containing the change is in a separate compartment and not in contact with each

other, and they are retained in place by the flat bar *I'*; or, if desired, the coins can be placed loosely in the shelves in the compartment *D'*, in which case the flat bar *I* would 70 have to extend the entire length of the shelves, and instead of two bars, *X'*, a single flat bar, also extending the full length of the shelves, would have to be employed.

When a person wishes to buy a paper and 75 has not the proper coin—in this case a nickel—he drops a coin of greater value into the proper opening, which passes down the chute *c'* into the pan *g'*, which partly rotates the shaft 80 *c'*, thereby raising the pawl *b'* out of contact with the wheel *M'*, and allows the shaft *L'* to be rotated by the spring *p'* drawing down the bar *I'*. When the bar *I'* has been lowered sufficiently, one envelope containing change slips 85 over the bar *I'* and out of the opening *H'*. As the envelope passes out it comes into contact with the rods *X' X'*, secured to shaft *W'*, and forces them outward, thereby causing the shaft 90 *W'* to be partly rotated, and throws the pawl *b* into contact with the wheel *M'*, by reason of the arm *t* on shaft *W'* striking on arm *u* on the shaft *c'*, the latter being provided with a weight, *v*, to counterbalance the weight of the 95 pan *g'*. (See Fig. 3.)

Upon the shaft *W'* is also a short arm, *r*, 95 that is connected by a rod or bar, *s*, to an arm, *t'*, on the shaft *Y*, so that when the shaft *W'* is moved it imparts motion to the shaft *Y*, which, through rod *Z*, raises the pawl *b* out of contact 100 with the ratchet-wheel *M*, when the shaft *L* is free to rotate and the bar *I* lowered to deliver the paper, after which it is stopped by the paper passing out, as before described.

w is a drawer into which the coin falls after 105 it drops out of the pan *g'*.

The opening in the top or cover into which the coins are dropped are each protected from rain or snow by a small cap or cover, *x'*. A 110 registering apparatus, 3, is secured in the box *A* and is operated by a small spring-pawl, 4, secured to shaft *Y*, which turns a ratchet-wheel, 5, each time the shaft is moved, the ratchet-wheel being connected with a train of 115 wheels to operate the hands of the dials in the ordinary manner. We also place a registering apparatus, 3', in each of the change-compartments, as shown in Fig. 2.

In Fig. 6 we have shown a modified arrangement for delivering the papers or other mer- 120 chandise. In this case a bar or partition, 7, is secured in the position occupied by the bar *I* in the arrangement before described, and the shelf or support *D'* is supported by the bar *I'*, provided with a rack, *J'*, on its face, and is 125 forced up to deliver the papers by the springs *p'*. The gearing and other parts of the apparatus are the same as before described.

In Fig. 7 we have shown the shelf or support adapted to be raised or lowered by a 130 screw. *D'* represents the shelf or support, to the under side of which is secured a long square bar, *I'*, in the lower end of which is fitted a nut, 8, that works upon a screw-

threaded rod, 9, provided near its lower end with a bevel-gear, 10, which is in gear with another bevel-wheel, 11, on shaft L³, connected with the clock-work mechanism before described.

The chute shown in Figs. 8, 9, and 10 is intended to be used when it is desired to only have one opening for all denominations of coin. This chute consists, as it were, of a number of chutes secured one below the other, thus forming a ledge for each coin of different size and value to slide upon, and which are each dropped out at a different point in the chute. The coins are all dropped in the opening 12 at the top and fall until in their proper channel, down which they slide and drop out of their respective exits, as will be seen by the drawings, in which dollars would slide down on the ledges 13 and out of the exit 14. Fifty-cent pieces would slide down the ledges 15 and out of the exit 16. Twenty-five-cent pieces would slide down the ledges 17 and out of the exit 18, while ten-cent pieces would fall to the bottom 19 and out of the exit 20.

What we claim as our invention is--

1. In an automatic salesman and change-maker, the combination of the following elements: a box or case, A, provided with a shelf or support, D, set on an angle, a bar, I, chute *e*, shafts W Y, rods X, levers Z *g*, pawl *b*, shaft *c*, rod *d*, pan *g*, ratchet-wheel M, shaft L, and clock-work mechanism, substantially as and for the purposes set forth.

2. A case or box, A, provided with an adjustable shelf or support, D, partition G, and chute *e*, in combination with bar I, rack J, springs *p p*, pinion K, shaft L, provided at one end with clock-work mechanism and at the other end with a pawl-wheel, M, pawl *b*, shaft *c*, rod *d*, and pan *g*, substantially as and for the purposes set forth.

3. The shaft W and rods X X and *g*, in combination with the pawl *b*, ratchet-wheel M, shaft L, pinion K, rack J, bar I, and clock-work mechanism, substantially as and for the purposes set forth.

4. The combination of a case or box, A, having a shelf or support, D, set on an angle for supporting the goods or packages, and a bar, I, for retaining them in place, with change-compartments consisting of a shelf or support set on an angle, bars or rods I', for retaining the change in place, a chute and pan, said pan being arranged below the chute, the rods X', shaft W', arm *r*, bar *s*, arm *t'*, shaft Y, rod *h*, pawl *b*, ratchet-wheel M, shaft L, and clock-work mechanism, whereby one package in passing out of the box stops the mechanism, substantially as shown and described.

5. In an automatic salesman, a chute provided with an opening to receive coins of all sizes and formed with ledges or shelves on each side, forming channels of various widths, the widest being at the upper side and the narrowest at the under side, said channels being of different lengths and each provided at its lower end with an opening, substantially as and for the purposes set forth.

6. In an automatic salesman, the chute *e*, in combination with the lever *j*, shaft *i*, rod or bar *k*, slotted lever *l*, and sign-board *m*, substantially as and for the purposes set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

GEORGE D. MORSE.
MILTON CHASE.
DE FOREST W. CHASE.

Witnesses:

L. W. HOWES,
E. PLANTA.