2 Sheets—Sheet 1.

H. ROMAN.

AUTOMATON BOXES FOR MATCHES, &c.

No. 169,923. Patented Nov. 16, 1875.

Fig: 1.

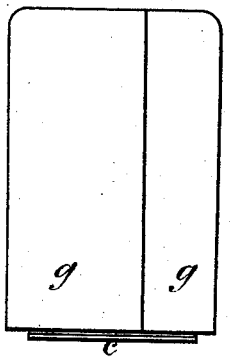


Fig: 2.

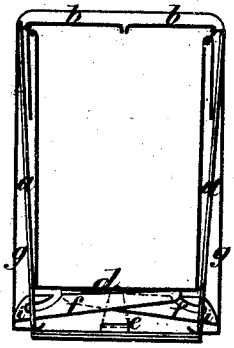


Fig: 3.

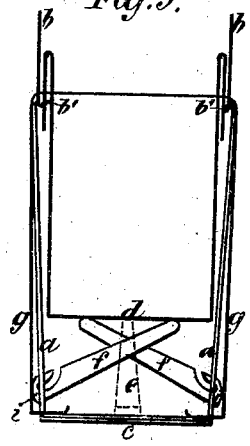
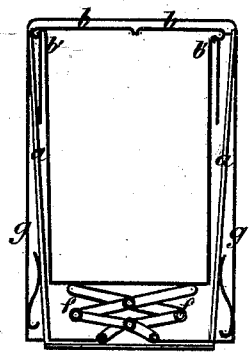


Fig: 4.

Fig: 5.



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2 Sheets—Sheet 2.

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AUTOMATON BOXES FOR MATCHES, &c.

No. 169,923. Patented Nov. 16, 1875

Fig. 6.

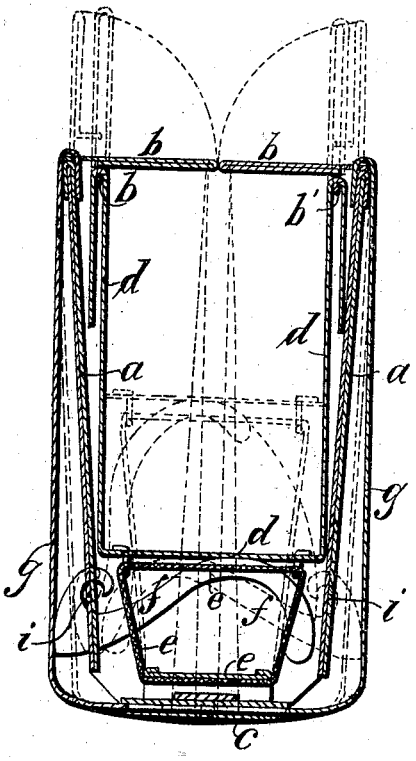
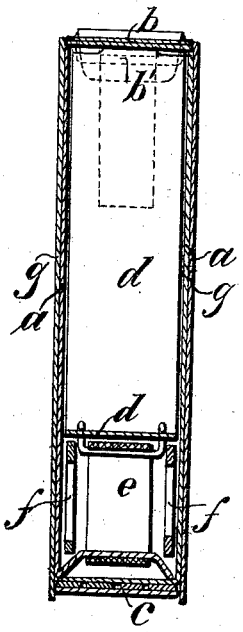


Fig. 7.



WITNESSES

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN AUTOMATON-BOXES FOR MATCHES, &c.

Specification forming part of Letters Patent No. **169,923**, dated November 16, 1875; application filed October 22, 1875.

To all whom it may concern:

Be it known that I, HENRY ROMAN, of Brompton, in the county of Middlesex, England, (a subject of the Emperor of Russia,) have invented or discovered a new and improved construction of automaton box or receptacle for containing domestic amusing and useful articles; and I, the said HENRY ROMAN, do hereby declare the nature of the said invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof—that is to say:

The invention has for its object a new and improved automaton box or receptacle for containing matches or other articles; the object of the invention being particularly to enable the users of such boxes to obtain with ease therefrom any one or more of the articles contained therein.

The framing or body of the box is provided at the top with hinged flaps or lids, and it contains a tray somewhat shorter than itself, which forms a receptacle for containing the articles with which the box is supplied. The tray has projecting sides passing through loops formed in the inner surface of the lids or flaps near to their hinges, and then bent, so as to form hooks. Underneath the bottom of the tray levers are placed. These levers are acted upon by a yielding outer inclosure. The lower inner surfaces of the yielding inclosures, when in their normal state, are kept at their greatest distance apart by a spring or springs; but they yield to the pressure of the hand grasping the box, and thus the levers are operated and caused to raise the tray with its contents, protruding them above the body of the box.

In order that the invention may be well understood and explained in detail, I have hereunto annexed drawings representing, as an example, the application of the invention to an ordinary-sized metallic match-box, similar letters of reference being marked on corresponding parts on all the figures alike.

Figure 1 represents a front elevation of the box as I prefer to construct it. Fig. 2 represents a vertical section of the box, showing the internal arrangement and construction of the various parts in their closed or normal state. Fig. 3 represents a similar section to the last, showing the internal tray supporting the matches raised to its highest elevation, with the lids open. Fig. 4 represents a side view of the box with the side flap unhinged, showing the construction or arrangement of the parts supporting the lower levers. Fig. 5 represents a similar arrangement of box to that previously shown, but which has adapted thereto, as the raising medium, a lazy-tong arrangement of levers in lieu of the levers shown in Figs. 2 and 3. Fig. 6 represents, on an enlarged scale, a longitudinal central section of the box somewhat modified as to details; and Fig. 7, a section of the same at a right angle to Fig. 6.

In these figures the framing or body *a* is composed of one or more pieces of metal, forming permanent sides, the top opening of which is provided with hinged lids *b b*, and the bottom with a permanent inclosure, *c*. The interior of this body *a* contains a tray, which forms a receptacle or support for the articles with which the box is supplied, and is somewhat shorter than the outer body. The bottom of this tray *d* is connected by the elastic *e* with the permanent bottom *c* of the body, and the projecting sides of this tray are so arranged that they pass through loops *b' b'* formed on the lids *b* near to their hinges, and their extremities are bent, so as to form hooks. Underneath the bottom of the tray *d* levers *f f* are placed, the fulcra *i i* of which are supported in the body *a*, near to the lower corners thereof. (Seen more clearly in Figs. 4, 6, and 7.) The opposite curved termination of these levers *f f* are acted upon by a yielding outer inclosure or flaps *g g*, which are connected to the body of the box by hooked hinges, on which are also formed the hooked hinges for the lids *b b*. The lower extremities of these inclosures or flaps, *g g* are acted on internally by the curved ends of the levers *f f*, and which, when in their normal state, are kept at their greatest distance apart, (as seen in Fig. 2, and

in full lines in Fig. 6,) by reason of the contracted elastic *e*. The underlap extremities of the inclosure or flaps *g g* may be bent in, as shown in Fig. 3, so as to form stops, which govern the extent of their movement.

The opening and closing of the box, together with the action of simultaneously raising and presenting the articles contained therein, on reference to the drawings and foregoing lettered description thereof, will be clearly understood.

The side inclosures or flaps *g g* of the box *a*, when held in the hand, are slightly pressed, and, yielding to the gentle force exerted, cause the lower inner surface of such flaps to press against the shorter curved ends of two levers, *f f*, before mentioned. The action thus obtained presses the long arms of the levers against the bottom of the internal tray *d*, which raises it until the articles contained therein are elevated above the level of the box. The hooked terminations of the sides of the tray *d* at this time press with their upward rise against the lids *b b*, and so cause the same to open simultaneously with the rising of the tray *d*, and assume the position shown at Fig. 3, and in dotted lines, Fig. 6, thus enabling part or the whole of the contents which are now raised above the surface of the box to be removed therefrom with the greatest ease and facility. The descent of the internal tray *d*, on the release of the pressure upon the flaps or inclosures *g g*, is due to the contraction of the elastic or spring *e*, and the perfect and secure closing of the lids is effected simultaneously therewith through the medium of the hooked projections of the tray *d d* acting on the inner loops *b' b'* of the lids *b b*.

It will be evident from the examples thus given of the application of the invention that the same may be used in connection with cigar-cases, needle-cases, and numerous other domestic and useful articles with the greatest advantage, as the articles contained in such boxes or receptacles can, with the greatest ease and facility, by a slight pressure of the hand, be presented conveniently for selection.

Again, a further adaptation to such boxes may be a system of internal compound levers, similar in construction to a lazy-tong, which, when the box is opened by the yielding inclosure or flaps, will eject from the box such expanding compound levers, upon which toys may be arranged.

Having now described the nature of my said invention, together with the means of carrying the same into practical effect, I would wish it to be understood, in conclusion, that I do not confine myself to the exact and precise means employed for putting the parts together, as herein set forth, as long as the principal features of the invention are retained; but

What I claim is—

1. The combination of the yielding inclosure or flaps *g*, moving tray *d*, and lid or lids *b*, substantially as described.

2. The combination of the framing or body, the levers fulcrumed therein, the tray resting upon the long ends of the levers, the retracting spring connecting the tray and framing or body, and the hinged lid, these members being constructed and operating substantially as set forth, whereby the tray is moved and the lid opened by pressure upon the short arms of the levers, and the tray returned to its normal position and the lid closed when the pressure is stopped.

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