No. 855,057. PATENTED MAY 28, 1907.

W. H. HOYT.

MECHANICAL CHANGEABLE PICTURE.

APPLICATION FILED MAR. 3, 1906.

2 SHEETS—SHEET 1.

Fig. 2.

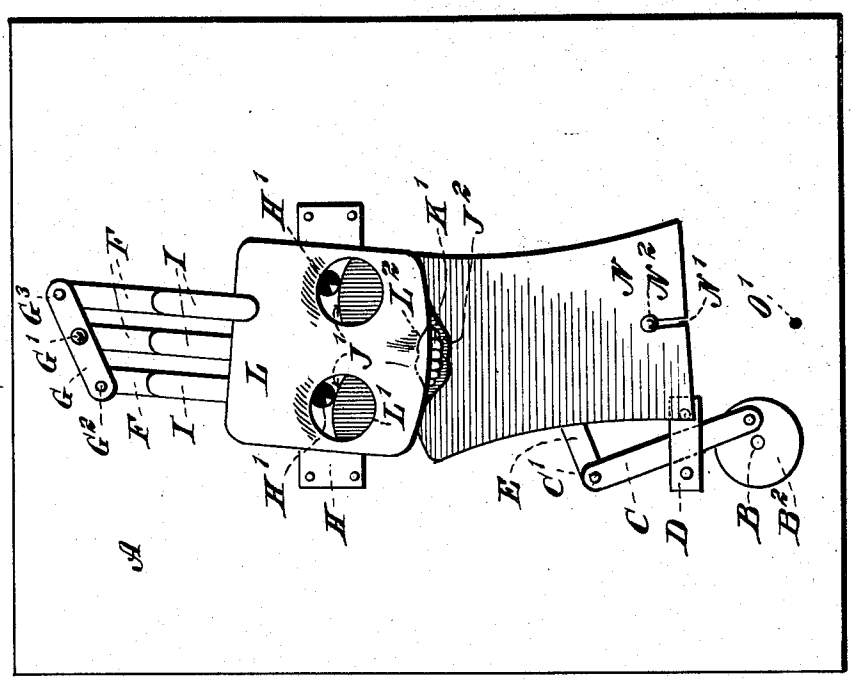
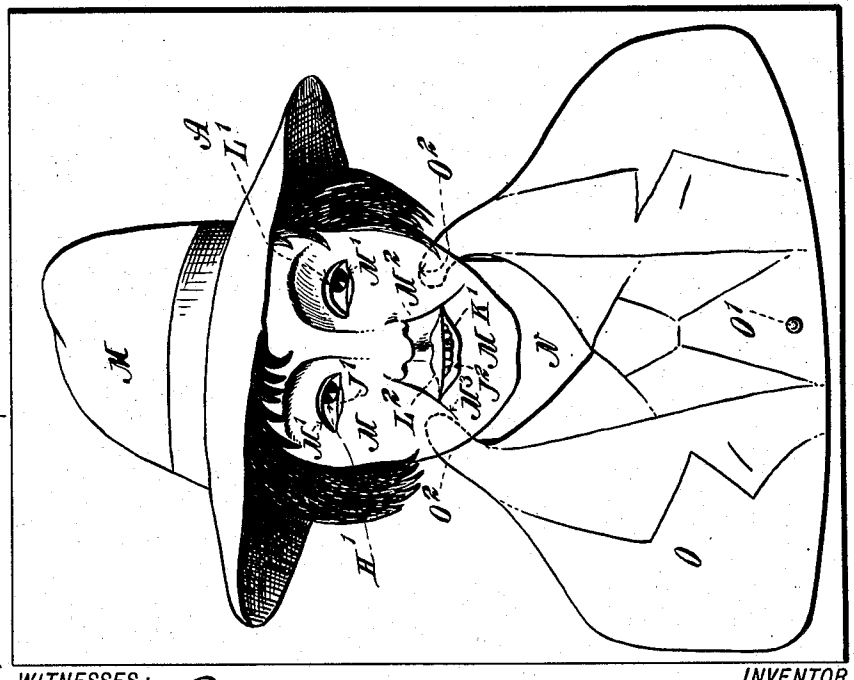


Fig. 1.



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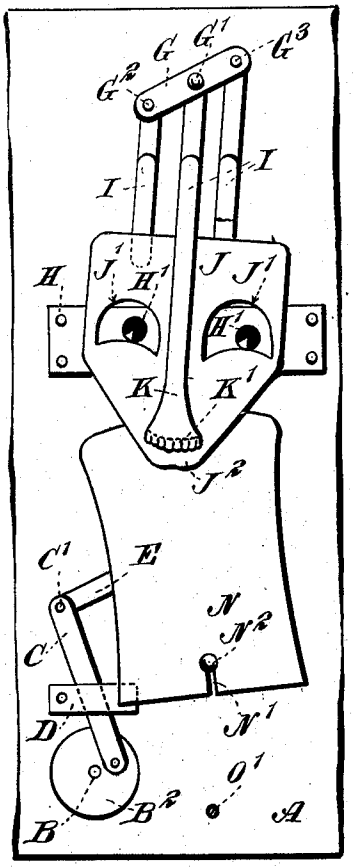


Fig. 3.

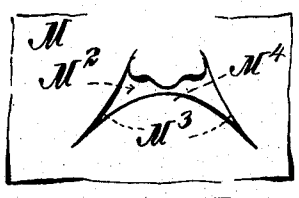


Fig. 6.

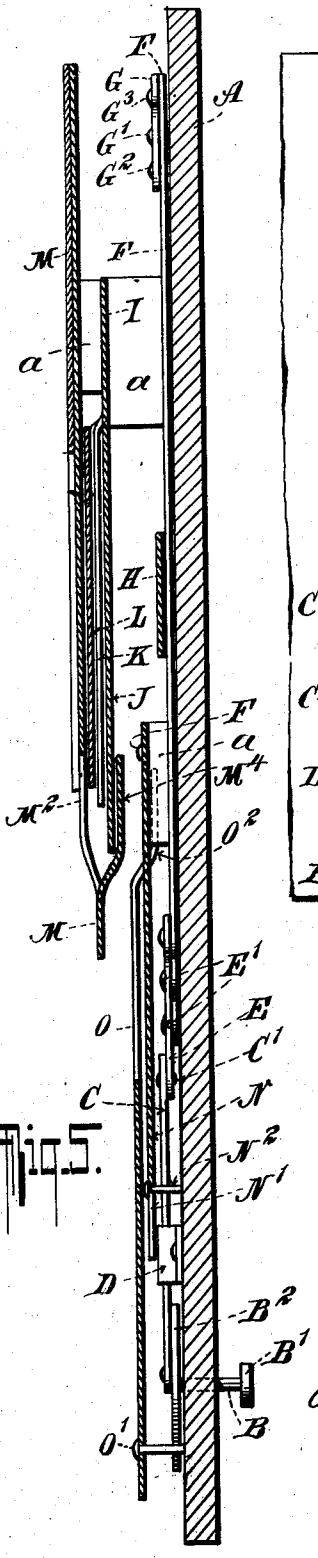


Fig. 5.

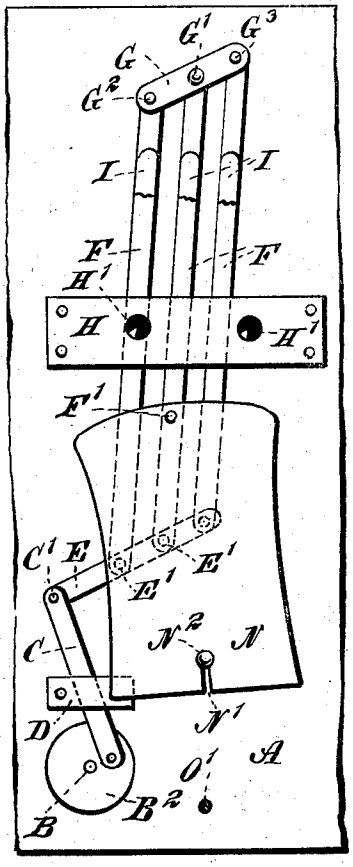


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM HENRY HOYT, OF STAMFORD, CONNECTICUT, ASSIGNOR OF ONE-HALF TO E. I. HORSMAN CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

MECHANICAL CHANGEABLE PICTURE.

No. 855,057. Specification of Letters Patent. Patented May 28, 1907.

Application filed March 3, 1906. Serial No. 303,959.

To all whom it may concern:

Be it known that I, WILLIAM HENRY HOYT, a citizen of the United States, and a resident of Stamford, Fairfield county, Connecticut, have invented certain new and useful Improvements in Mechanical Changeable Pictures, of which the following is a specification.

My invention relates to mechanical changeable pictures such as are used for the purpose of attracting the attention of people so as to advertise stores or merchandise. The device is, of course, capable of other uses as, for instance, for the mere purpose of amusement.

The invention consists of certain means hereinafter more fully described, whereby rather startling effects are obtained by moving certain features of a face relatively to the others, so as to produce changes of expression.

Reference is to be had to the accompanying drawings which illustrate one form of my invention.

Figure 1 is a face view showing the appearance of the picture; Fig. 2 is a plan view with certain parts removed so as to disclose a portion of the mechanism; Figs. 3 and 4 are similar views each showing the device as it would appear after the removal of still further parts, Fig. 5 is a sectional elevation of the device through its central portion with the thicknesses of the parts and the spaces between them considerably exaggerated for the sake of clearness, and Fig. 6 is a detail view of a portion of the face section.

The device is mounted on a suitable foundation A in which is journaled at a suitable point the shaft B which controls the moving parts. This shaft may be operated manually by turning a knob B', but in some cases I might adapt a motor, such as clock work, to the said shaft so as to rotate it permanently. The shaft carries a disk B^2 to which is connected eccentrically a rod C which moves within a suitable guiding strap D. The upper end of the rod C is pivotally connected at C' with a bar E having like connections at E' with a number of parallel bars F. At their upper ends these bars are connected pivotally with a cross bar G which is fulcrumed upon the foundation A at G'. The bars F may be held down and guided by a strap H, although the straps D and H are not absolutely required. However in the construction shown I utilize the strap H as one of the sections of the picture, the eyes, or rather the pupils H' being produced on said strap.

With the three bars F are connected tabs I located partly in different planes and each carrying some portion of the picture. Thus the tab which is nearest to the foundation, and which is secured to the left hand bar F, carries a piece or section J, having two openings J' corresponding to the position of the eyes, and having its lower end adapted to form a part of the lower lip as at J^2. The tab I secured to the central bar F carries a section K adapted to overlie section J, and having a representation of teeth K' thereon. Then follows a section L, the tab of which is secured to the right hand bar F. This section L has eye openings L', and an upper lip portion L^2. To the central bar F, or to the tab I fastened thereto, is also secured the front or face section M of the picture which comprises the outline of a face, with a hat in the particular instance shown, said face portion M having openings M' for the eyes, and also an opening M^2 immediately below the nose, with diverging slits M^3 at the corners of the mouth. The openings M', L' and J' are adapted to register so that the pupils H' may be seen through them at certain times. At other times, however, the section K will move up and the section L will move down to such an extent as to cover the pupils H' entirely so as to produce the impression of closed eyes. The sections L and J have upper and lower eyelid portions respectively adjacent to the opening L', J', as shown in Fig. 1. The three sections J, K and L are adapted to have their lower ends inserted into the opening M^2 so as to overlie the extension M^4 of the face portion M. In the position illustrated in Fig. 1, the lower ends of the sections J, K and L are all three visible in the opening M^2, but in certain other positions the lower end of the section K is entirely covered so as to withdraw the teeth from view, and in a further position even the lower lip on the section J may be entirely or almost entirely covered, so that in that case only the lower end of the upper lip section L appears in the opening M^2. At the same

time a lateral movement is given to the whole face since it is pivoted at its upper end at G′ and the rod C is given an oscillating, and at the same time a reciprocating motion. With the lower portion of the central bar F is pivotally connected at F′ a neck or throat section N, which has a guide slot N′ engaging a pin N^2 secured to the foundation A. Finally a shoulder section O is pivoted at its lower end, as indicated at O′, to the foundation A, and has at its upper end an opening through which the lower end of the throat section N may be inserted, the shoulder section having inwardly bent tongues O^2 at its upper end adapted to fit under or behind the throat section N so as to form an operative connection between said two sections.

When the shaft B is rotated the various sections of the picture will be swung in accordance with the particular manner in which they are supported. The face section M and the nose section K will simply swing about the pivot G′, and the shoulder section O will swing about the pivot O′. The other sections will have a more complicated motion, the pivot F′ of the throat section N moving in the arc of a circle the center of which is at G′, but the sliding connection at N′ and N^2 will give to the throat section a peculiar composite motion. The lower lip section J and the upper lip section L will swing respectively about the pivot connections G^2 and G^3 at the ends of the cross-bar G, but these pivot connections themselves swing in arcs of a circle, the center of which is at G′, and when the connection G^2 moves up that at G^3 moves down and vice versa. The lower lip section J and upper lip section L therefore move up and down relatively to each other, first toward each other and then apart; at the same time there is a slight lateral motion of these sections in relation to each other as the distance between the bars F increases and decreases.

The motions of the several parts herein described produce a very startling effect owing to the constant change of expression which is obtained at the mouth and at the eyes, together with the sidewise movement or rocking of the parts or sections of the picture about the two main pivots G′ and O′. The picture will appear to close and open its eyes, and the expression of the mouth changes from that of mirth or contentment to one of perplexity or grief, so that a picture of this character will be sure to attract the attention of passers-by.

The blocks *a* shown in Fig. 5 have not been referred to in the description given so far, for the reason that in practice these blocks do not exist, the upper ends of the tabs I being secured directly to the bars F; however, if the actual construction were shown in Fig. 5, this view would have lines so crowded as to destroy its clearness.

The various openings such as J′ and L′ form sights through which parts of other sections show, but of course transparent portions could be used as sights instead of openings.

Various modifications may be made without departing from the nature of my invention as defined in the appended claims. Thus I do not desire to restrict myself to placing the pivot G′ of the upper portion of the picture at the upper end of the central bar F, nor even to locating such pivot on such central bar. The mechanism for moving the sections of the picture may be varied.

I claim as my invention:

1. A changeable picture having a face section, and upper and lower lip sections movable relatively to each other and relatively to the face section.

2. A changeable picture having a face section, upper and lower lip sections movable relatively to each other and relatively to the face section, and a tooth section stationary in relation to the face section.

3. A changeable picture having a face section provided with sights at the eye region, upper and lower eyelid sections movable relatively to each other and relatively to the face section, and an eye section having portions adapted to show through said sights and to be covered more or less by said eyelid sections.

4. A changeable picture having a face section, and upper and lower eyelid sections movable relatively to each other and relatively to the face section.

5. A changeable picture having a face section, another section having an upper eyelid portion and an upper lip portion, and a third section having a lower eyelid portion and a lower lip portion, said second and third sections being movable relatively to each other and relatively to the face section.

6. A changeable picture having a face section pivoted at its upper portion, a shoulder section pivoted at its lower portion, and a neck or throat section the upper portion of which has a pivotal connection with the face section, while its lower portion has a pivotal sliding connection with a stationary support, said neck or throat section having a sliding engagement with the shoulder section.

7. A changeable picture having a face section pivoted at its upper portion, a shoulder section pivoted at its lower portion and provided with tongues at its upper portion, and a neck or throat section connecting the face section with the shoulder section and engaged by said tongues.

8. A changeable picture having a foundation, a drive shaft journaled therein, a rod driven by said shaft, a bar connected with said rod, parallel bars extending from said bar, a cross bar fulcrumed on the foundation

and pivotally connected with the other ends of said parallel bars, a face section secured to the central bar, and upper lip and lower lip sections secured to the side bars.

9. A changeable picture having a foundation, a drive shaft journaled therein, a rod driven by said shaft, a bar connected with said rod, parallel bars extending from said bar, a cross bar fulcrumed on the foundation and pivotally connected with the other ends of said parallel bars, a face section secured to the central bar, a section secured to one of the side bars and having an upper eyelid portion and an upper lip portion, and another section secured to the other side bar and having a lower eyelid portion and a lower lip portion.

10. A changeable picture having a foundation, a drive shaft journaled therein, a rod driven by said shaft, a bar connected with said rod, parallel bars extending from said bar, a cross bar fulcrumed on the foundation and pivotally connected with the other ends of said parallel bars, a face section and a tooth section secured to the central bar, said face section having sights at the eye region, a stationary section having eyes adapted to show through said sights, another section secured to one of the side bars and having an upper eyelid portion and an upper lip portion, and a further section secured to the other side bar and having a lower eyelid portion and a lower lip portion.

11. A changeable picture having a foundation, a drive shaft journaled therein, a rod driven by said shaft, a bar connected with said rod, parallel bars extending from said bar, a cross bar fulcrumed on the foundation and pivotally connected with the other ends of said parallel bars, a face section and a tooth section secured to the central bar, said face section having sights at the eye region, a stationary section having eyes adapted to show through said sights, another section secured to one of the side bars and having an upper eyelid portion and an upper lip portion, a further section secured to the other side bar and having a lower eyelid portion and a lower lip portion, a neck or throat section pivotally connected at its upper portion with said central bar and having a slot at its lower portion, a projection extending from the foundation into said slot, and a shoulder section pivoted to the foundation at its lower portion and engaging the said neck or throat section.

12. A changeable picture comprising a face section substantially parallel movable bars, means for moving them, and picture sections connected with said substantially parallel bars and relatively movable with reference to the face section and one another.

13. A changeable picture comprising a face section substantially parallel movable bars, cross-bars connecting them, means for moving said bars and picture sections connected with said substantially parallel bars and relatively movable with reference to the face section and one another.

In testimony whereof, I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM HENRY HOYT.

Witnesses:

JOHN LOTKA,

JOHN A. KEHLENBECK.