

N° 9427



A. D. 1900

Date of Application, 22nd May, 1900—Accepted, 30th June, 1900

COMPLETE SPECIFICATION.

Improvements relating to Mechanical Musical Instruments.

I, FRIEDRICH ADOLPH RICHTER, of 165, Schwarzburgerstrasse, Rudolstadt, Thuringia, in the Empire of Germany, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 My invention relates to improvements in mechanical musical instruments of the type in which by means of suitable driving or actuating mechanisms note-discs are rotated for the purpose of intermittently operating either levers or star-wheels so as to cause the reeds to sound in correspondence with the notes of the said discs; and the main object of my improvements is to produce moving
10 spectacular or scenic effects either by the rotary or by the reciprocating movements of a spectacular or scenic disc, plate or plates, respectively, arranged or located underneath of or within the cover of the musical box or outside thereof and adjacent either to the bottom plate of the cover or to a double or false bottom attached to the cover for the purpose. In order to impart to the said
15 disc, plate or plates the required rotary or reciprocating movement a secondary driving or actuating mechanism may likewise be provided within the cover or in the box or the said disc or plate may be rotated immediately by the vertical playing shaft carrying the note-disc. And in order to bring the spectacular or scenic disc plate or plates into the field of view of the outside beholder in
20 case that said disc or plate is arranged within or underneath of the cover, the bottom plate or the double bottom of the cover may be provided with an opening or with several openings and in case of using a secondary driving mechanism, said secondary mechanism may be of such a construction as to be adapted to transmit the movement of the playing mechanism to the spectacular or scenic
25 disc, plate or plates within the cover when the latter is either in open or in closed position

In order that my invention may be readily understood and carried into effect I will describe the same fully with reference to the accompanying drawings in which

30 Figure 1 is a plan view of a portion of a mechanical musical instrument embodying my invention illustrating the arrangement of the rotary disc disposed or located within the cover, the latter being shown in open or laid out position.

Figure 2 is an elevation of the same partly in section with the cover in elevated position.

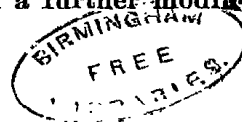
35 Figure 3 is a sectional view of the box with the cover in closed position.

Figures 4 and 5 are a plan view and a sectional view, respectively, of the box showing a modified form of the means for connecting the disc with the playing mechanism.

40 Figures 6 and 7 are a perspective and a sectional view, respectively, of the box showing a modified form of the spectacular arrangement in combination with a secondary driving mechanism.

Figures 8 and 9 are respectively a perspective view and a similar view from behind (with the top plate of the cover partly broken away) of a further modified

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cation of the secondary moving parts and of the figural parts or plates to be moved or oscillated and

Figures 10 and 11 are an elevation partly in section and a plan view of a portion of the box illustrating some of the moving parts and the figural parts to be oscillated corresponding to the latter modification. 5

Similar letters of reference correspond to similar parts throughout the several views.

The case or box A with the cover B hinged thereto may be made in any suitable way or shape and the parts constituting the playing mechanism may likewise be of any usual and well-known construction. By way of example a worm D 10 and wheel C are shown in Figures 1 to 5 as means for rotating the note-disc. Referring to Figures 1 to 3 it will be seen, that in the centre of the plate or bottom D¹ of the cover B a pin or stud E is rigidly connected with the plate D¹ by rivetting or in any other suitable manner. At the lower end of said stud projecting into the interior of the cover a flange is provided upon which rests a 15 socket or cap F loosely connected with the stud in the manner of a ball and socket joint. Said cap F is the carrier of the spectacular disc G and is firmly attached to the latter. When the cover B is closed, see Figure 3, the cap F will tilt over and under the action of the spring M interposed between the cap F and the upper flange of the stud, will hold the elongated head of the vertical shaft H 20 of the playing mechanism so as to rotate therewith, at the same time causing the spectacular disc to also rotate in correspondence with the rotatory movements of the note-disc I detachably connected with the shaft H in the usual and well-known manner. On the inner face of the disc G there are printed, painted or otherwise provided one or more figures or pictures which then will 25 come into the field of view of the beholder each time they pass behind or come in rear of the opening K (or the openings K K as in Figure 4) of the cover plate D¹, thus producing striking spectacular effects to the beholder all the time a tune is being played.

The Figures 4 and 5 illustrate how the spectacular disc G and the elongated 30 head of the shaft H may be connected with each other in a more simple and efficient manner by using a readily exchangeable or removable spectacular disc provided with a sleeve L in its center. A disc of this kind can be readily attached to the shaft by simply placing it with its central sleeve L on the somewhat conical or polygonal head of the shaft. 35

As to the modification of the invention shown in Figures 6 and 7 in the rectangular frame forming the side walls of the cover a false or double bottom M¹ having an opening or several openings *m* is inserted leaving a free space between it and the cover plate or bottom D¹. In the said space the rotary disc G or a 40 movable plate of any other equivalent kind or shape is arranged preferably at the end of a sleeve N rotating on the pin E of the cover plate. To the other end of said sleeve a grooved pulley O is firmly attached in order to transmit to the disc G the rotatory motion of the vertical shaft H of the playing mechanism transmitted to said pulley by means of the wheel or pulley P and the endless 45 rope Q suitably guided by rollers R to the pulley O, the rope Q passing on its way to the pulley through the recesses S and T provided in the walls of the box and of the cover, respectively.

The secondary mechanism for driving or otherwise moving the disc G may be of any desired and suitable kind, it being essential only that such mechanism is adapted to transmit the movements of the playing mechanism to the rotary 50 or otherwise movable spectacular plate so as to impart to said plate a continuous or intermittent rotary motion or to give said plate or plates an oscillating or a to-and-fro movement.

Referring to the modification illustrated in Figures 8 to 11 instead of a rotary 55 spectacular disc a couple of movable spectacular plates are provided on the outer face of the false or double bottom. It is, however, immaterial whether said plates are arranged on the double bottom, as they may if desired be disposed

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as well on the outer face of the bottom or bottom plate of the cover it being evident that in the latter case the arrangement of the secondary or oscillating mechanism must be slightly altered in correspondence with the altered location of the spectacular plate or plates.

5 On the outer face of the false bottom M¹ a picture is painted or printed representing for instance, as shown in the drawing, parts of the upper portions of two figures. Another or the supplementary part of said upper portion say for instance the arm U of the one, and the head V of the other of the said two figures illustrated in the drawing, are made of separate plates of sheet metal
10 or of other suitable material and are pivotally connected with the false bottom M¹. By means of pins *u* and *v* sliding in the slots *u*¹ and *v*¹ of the bottom M¹, respectively, the arm U and the head V are movably or pivotally attached to the links W and X, respectively. The said links are pivotally connected at their lower ends with the arms *a* and *b* of a three-armed-lever, the third arm *c* of
15 which latter, (see Figure 8,) projects through a slot or recess of the false bottom and engages by means of its forked end, with the nose *d* of another lever pivotally mounted on the bottom Y of the box. Owing to the tension of the spring *e* the horizontal arm *f* of this lever is always in engagement with the cam *g* on the vertical shaft H of the playing mechanism so that the rotation of the said
20 shaft will oscillate the lever on its pivot, thereby causing the arms *a* and *b* of the three-armed lever to likewise oscillate and to impart to the arm U and head V of the figures represented on the outer face of the false bottom M¹ an oscillating or up-and-down-movement for spectacular purposes.

It is obvious that I may use instead of the movable arm and head of the figures
25 shown in the drawing a spectacular or scenic picture with one or several movable parts of any other kind without thereby departing from the spirit of my invention and that I may if desired use a secondary mechanism of any other kind for transmitting the movements of the playing mechanism to the movable spectacular disc, plate or plates on the inner or outer face of the bottom or
30 of the false bottom of the cover, the essential feature of my invention consisting in providing one or several movable parts, such as a disc, or plate or plates of any desired shape or contour, within the cover or outside thereof but adjacent thereto and in loose or movable connection therewith, in combination with means for transmitting the movements of the playing mechanism to
35 the said movable disc, plate or plates forming a completion of or a supplement to the spectacular effect produced by a picture or decoration of the outer face of the real bottom or of the double bottom of the cover.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what
40 I claim is:—

1. In a mechanical musical box the combination with a cover hinged to or otherwise pivotally connected with the box of the movable spectacular disc, plate or plates arranged within the cover or adjacent to the outer face of the real or double bottom of the cover and means for transmitting the movement
45 of the playing mechanism^a to the said spectacular disc, plate or plates, substantially as hereinbefore described and illustrated by the accompanying drawings.

2. In a mechanical musical box the combination with a cover hinged to or otherwise pivotally connected with the box and having an opening or several openings for spectacular purposes of a pivotally supported spectacular disc,
50 plate or plates arranged within the cover and means for transmitting the movement of the playing mechanism to the said disc, plate or plates, all substantially as set forth, and for the purpose specified.

3. In a mechanical musical box the combination with a cover hinged to or otherwise pivotally connected with the box and having a false or double bottom
55 with an opening or with several openings for spectacular purposes, of a pivotally supported disc, plate or plates arranged within the cover and means for trans-

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mitting the movement of the playing mechanism to the said disc, plate or plates, all substantially as hereinbefore described and illustrated by the accompanying drawings.

4. In a mechanical musical instrument the combination with a cover hinged to or otherwise pivotally connected with the box and having a false or double bottom, of a movable spectacular plate or plates on the outer face of said bottom and means for transmitting the movement of the playing mechanism to the said plate or plates, substantially as hereinbefore described and illustrated by the accompanying drawings. 5

Dated this 22nd day, of May 1900. 10

HASELTINE, LAKE & Co.,
45, Southampton Buildings, London, W.C., Agents for the Applicant.

Fig. 1

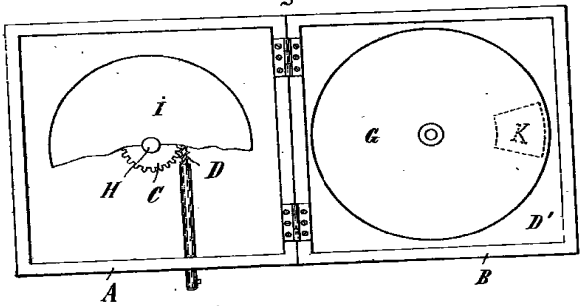


Fig. 2

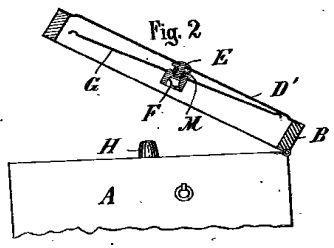


Fig. 3

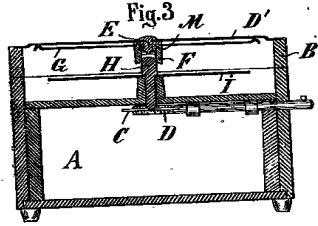


Fig. 4.

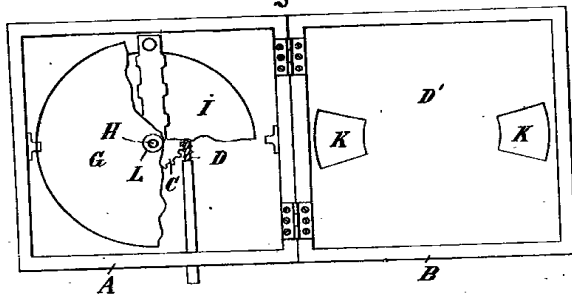
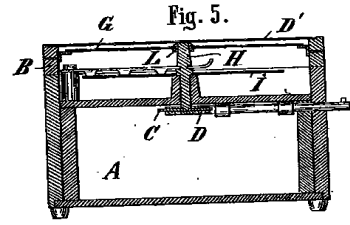


Fig. 5.



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Fig. 1

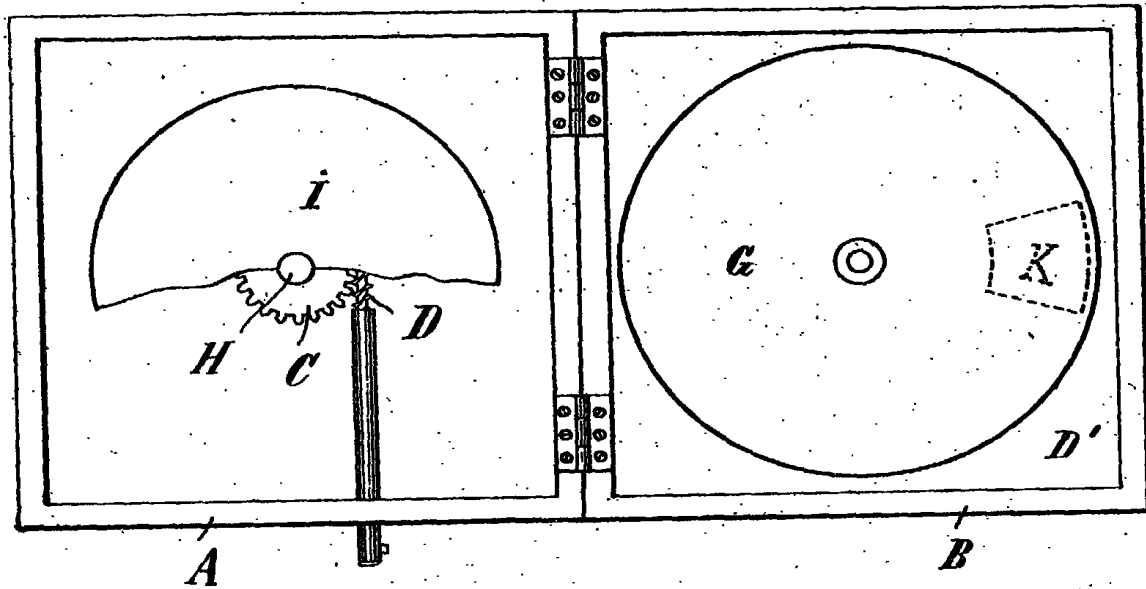


Fig. 2

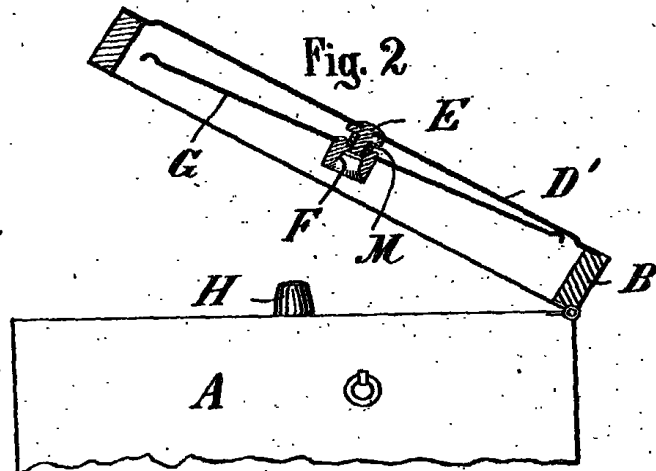


Fig. 3

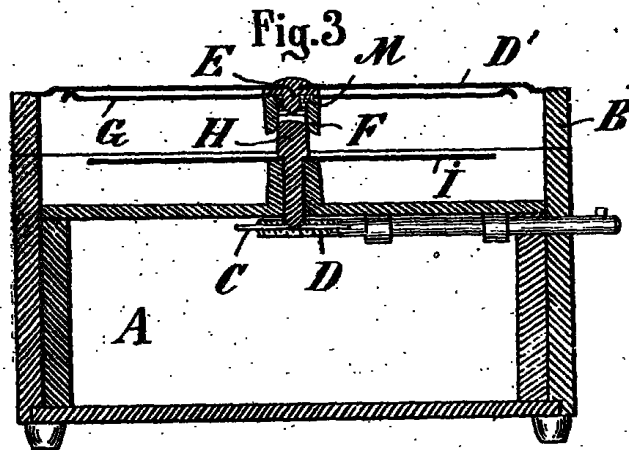


Fig. 4.

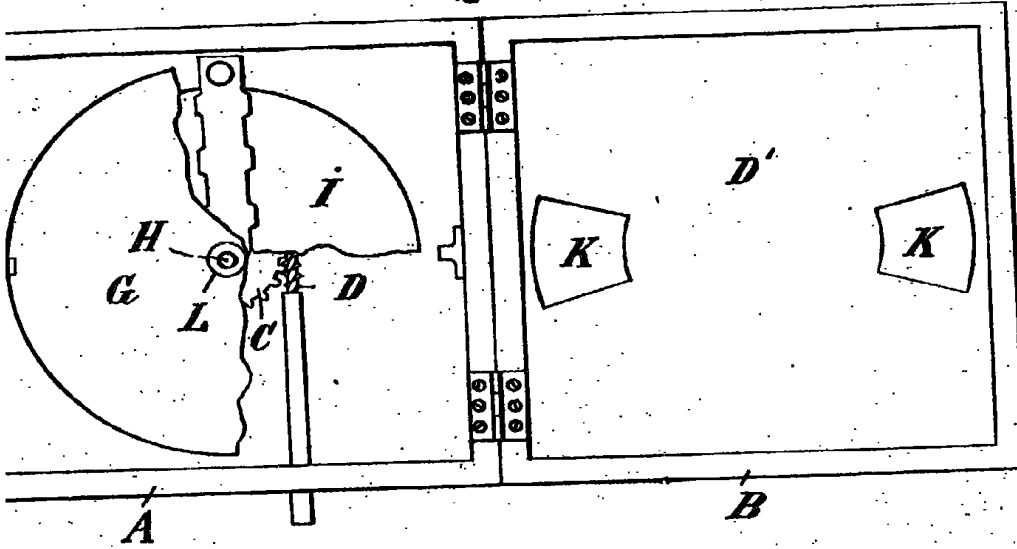
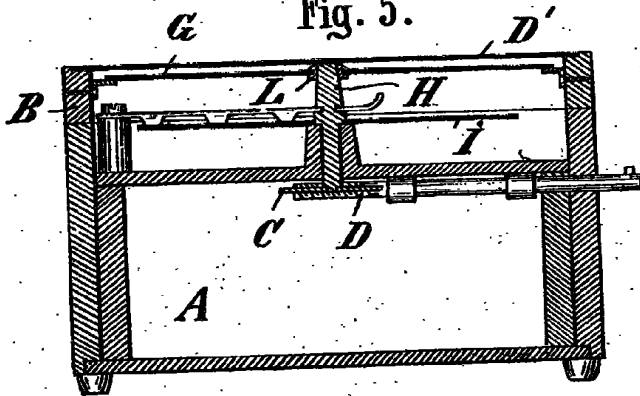


Fig. 5.



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Fig. 6.

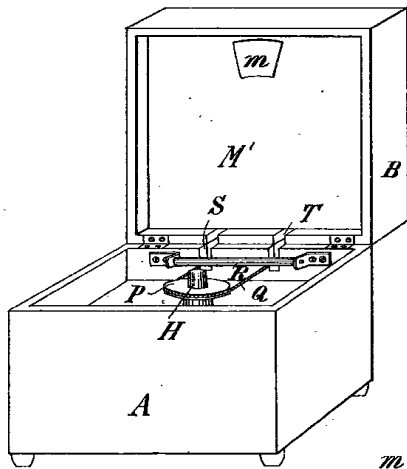


Fig. 7.

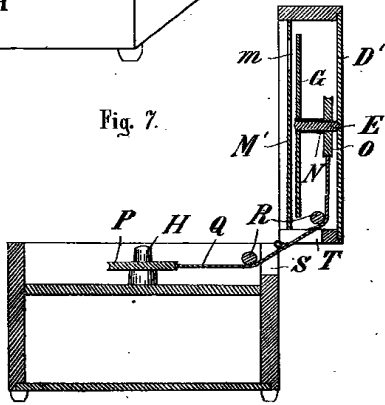


Fig. 8.

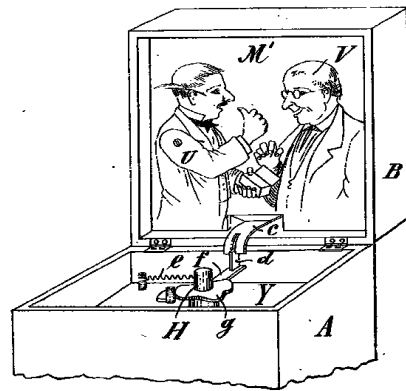
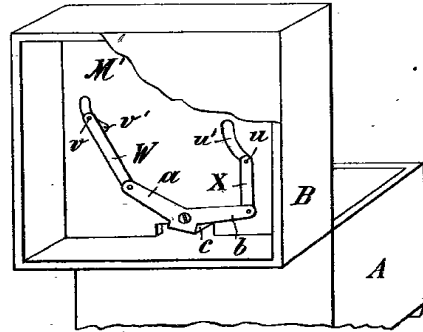


Fig. 9.



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Fig. 6.

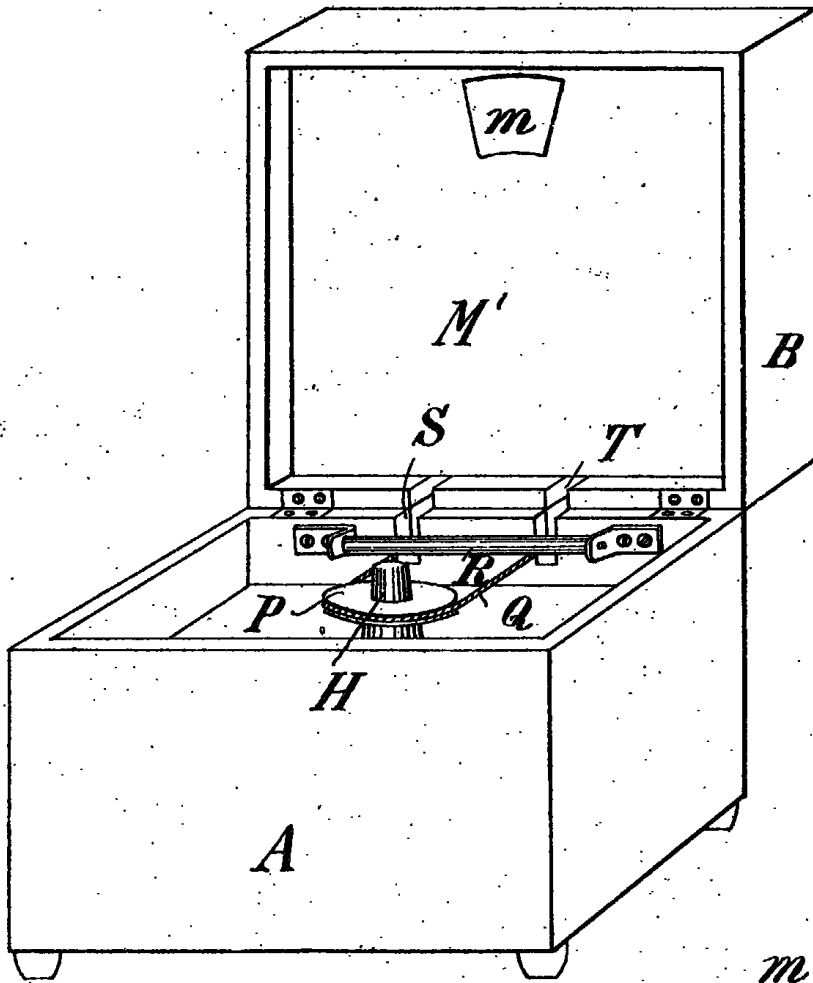


Fig. 7.

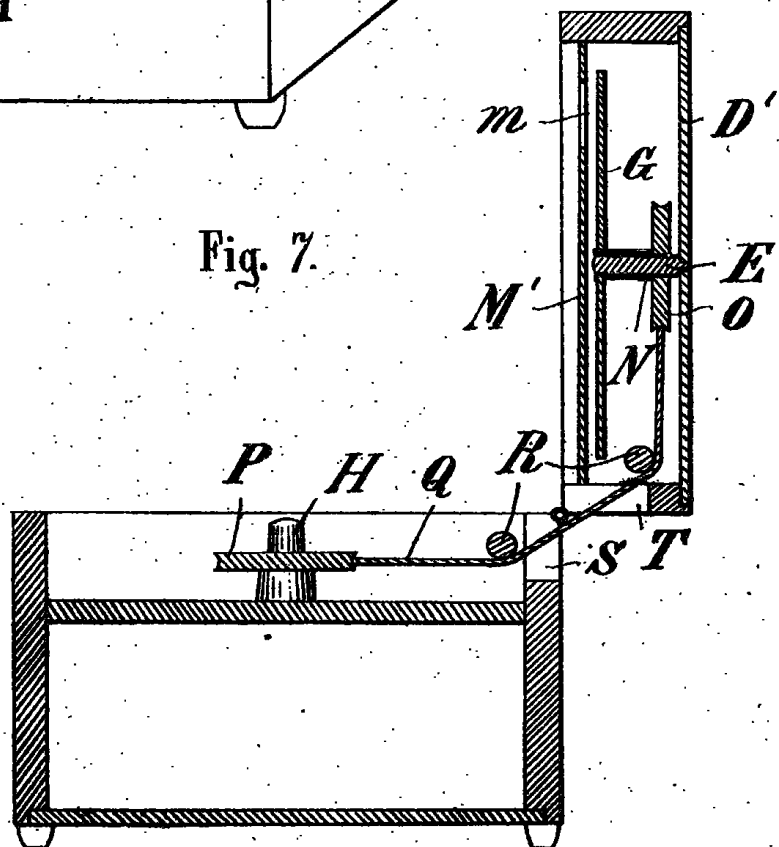


Fig. 8.

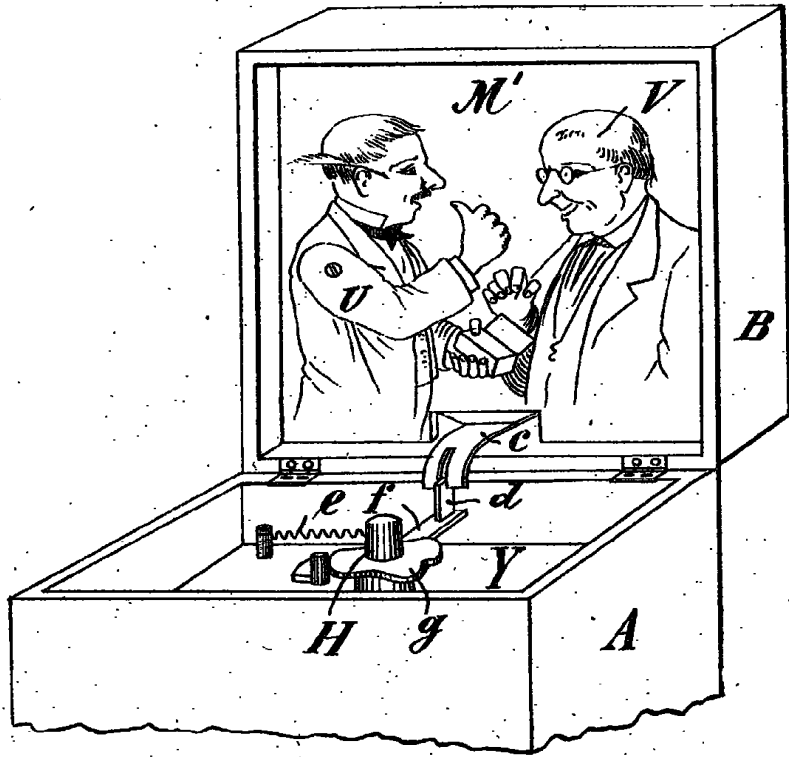
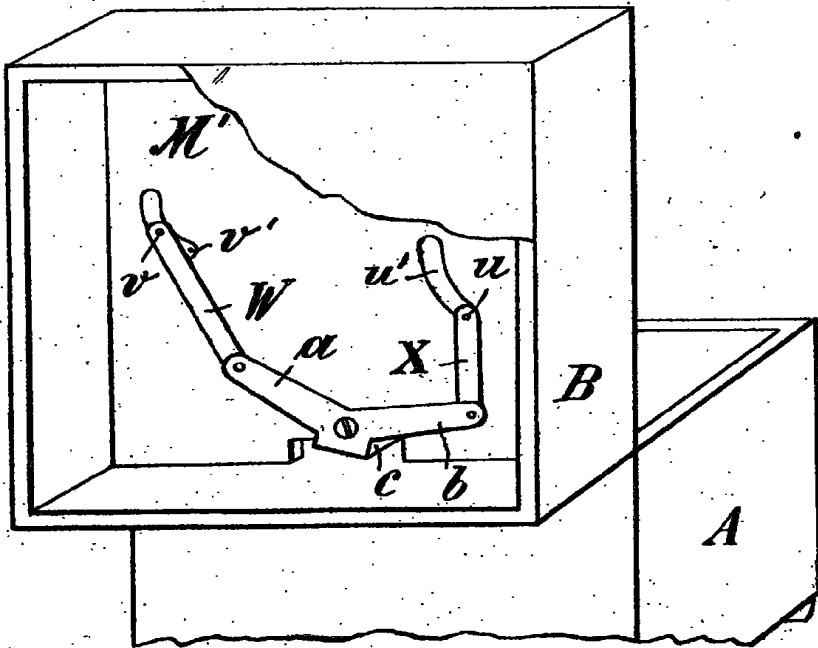


Fig. 9.



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Fig. 10.

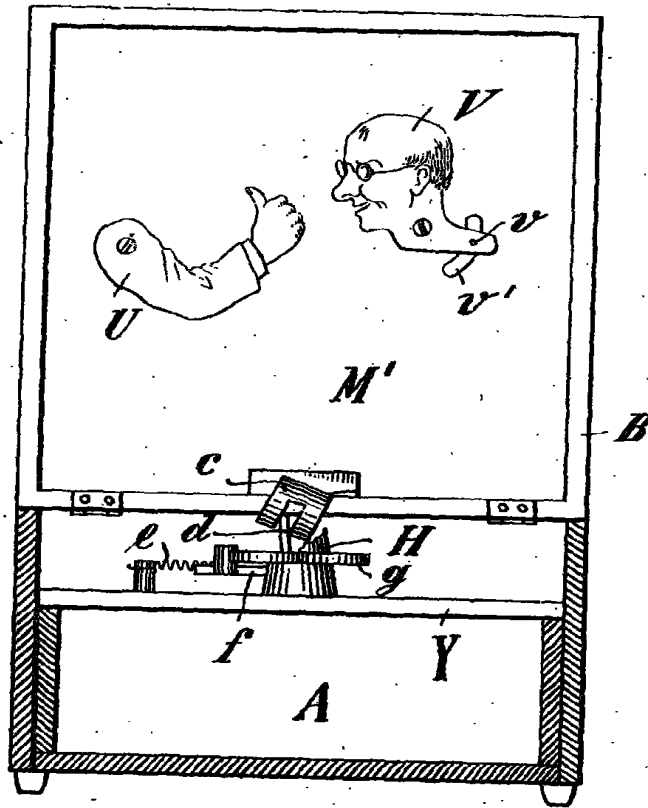
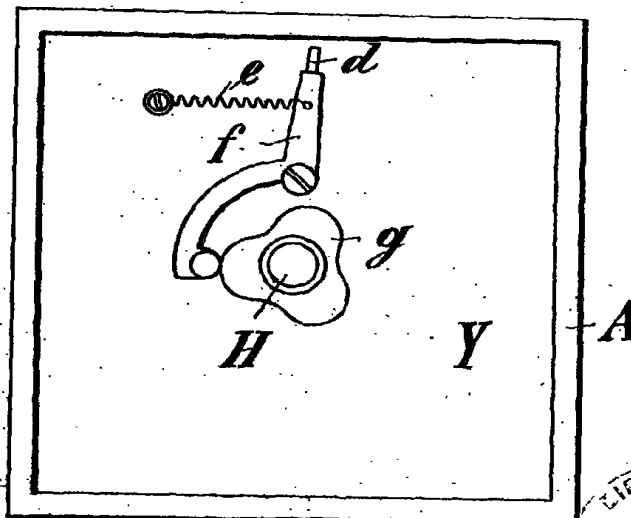


Fig. 11.



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