

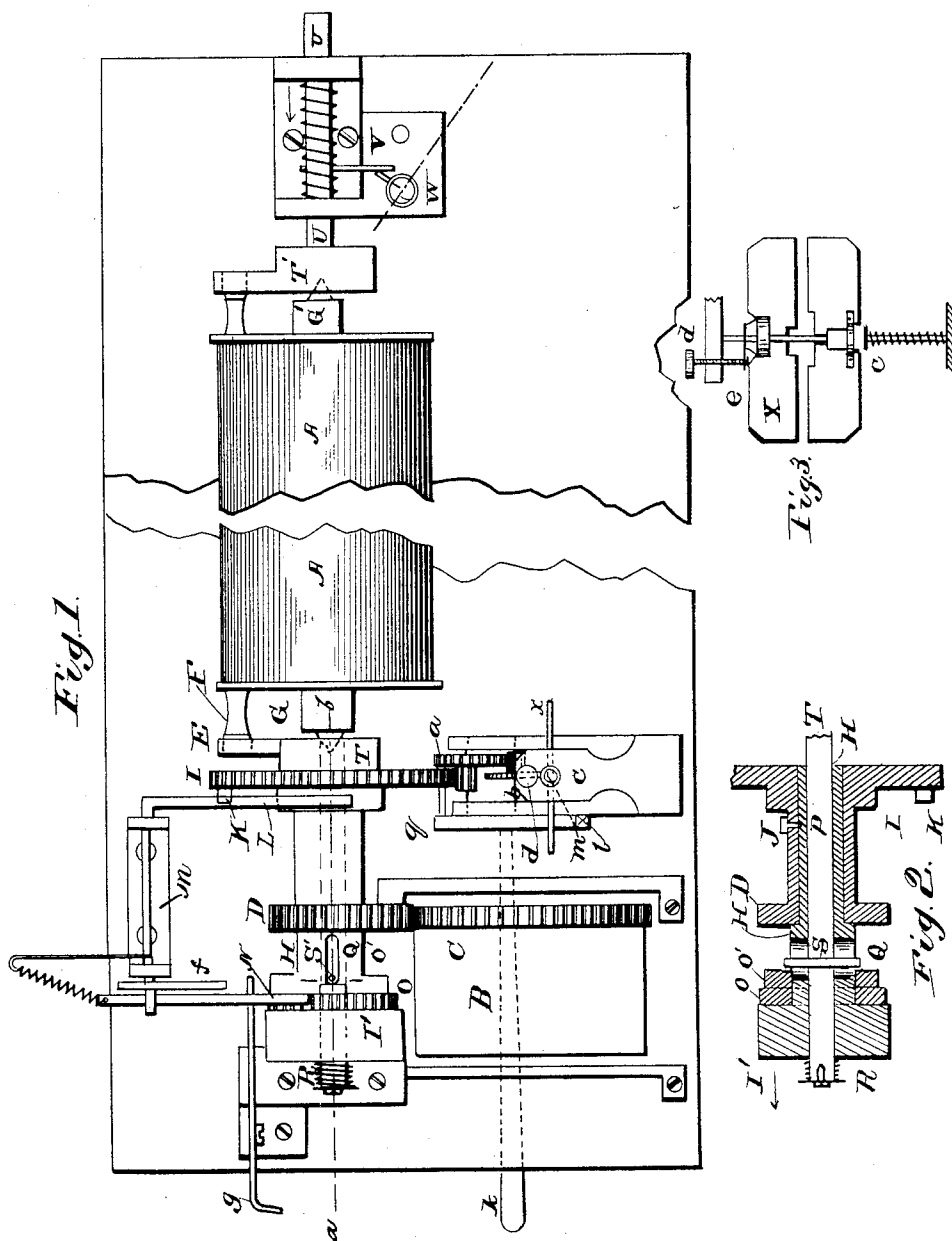
(No Model.)

E. JACCARD-MARGOT.

MUSIC BOX.

No. 460,253.

Patented Sept. 29, 1891.



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MUSIC-BOX.

SPECIFICATION forming part of Letters Patent No. 460,253, dated September 29, 1891.

Application filed January 9, 1890. Serial No. 336,453. (No model.) Patented in Switzerland May 29, 1889, No. 997.

To all whom it may concern:

Be it known that I, EMILE JACCARD-MARGOT, a citizen of the Helvetic Confederation, residing in the town of St. Croix, Switzerland, have invented certain new and Improved Musical Boxes, (for which I have obtained a patent in Switzerland, No. 997, bearing date May 29, 1889,) of which the following is a specification.

My invention relates to improvements in musical boxes, and of which the following is a full and exact description.

In the accompanying drawings, Figure 1 is a top view or plan of my improved musical box with the lid removed. Fig. 2 is a section on the line *a b* in Fig. 1. Fig. 3 is an elevation of the fly-wheel.

My improved musical box is composed, principally, of a clock mechanism, which transmits rotary movement to the musical drum A. The drum B, in which the spiral or main spring is located, transmits its movement to the drum A by means of the gear-wheels C and D and the arm E into a recess, in which a button or stud F, firmly fixed to or of one piece with the musical drum, penetrates said drum, carrying two centers or points G G' arranged in appropriate bearings. The toothed wheel D, Fig. 2, turns on a socket or sleeve H, made of one piece with the bearing, I', and is retained in the same by a screw J running in a groove in the sleeve H, so as to prevent all movement of the said wheel longitudinally to the socket, but allow the same to rotate freely. The toothed wheel I, made of one piece with the wheel D, is provided with a stud K, which, at each revolution, lifts a lever L, pivotally arranged in the bearing M and operating a pawl N, gearing into the ratchet-wheel O, Figs. 1 and 2, attached to the cam O'. This cam is provided with recessed and projecting parts and turns freely on the sleeve H, which is provided with a longitudinal slot Q for receiving a pin or peg S, fixed in the spindle P, running through the said sleeve H. A spiral spring R is arranged around the outer end of spindle P, has the tendency to push the same in the direction of the arrow, Fig. 2, and causes the extremity of the peg S to be continuously pressed against the recessed surface of the cam O'. The spindle P has a lon-

gitudinal movement, which depends on the rotary movement of the cam, said longitudinal movement being transmitted to the drum A, one of the points G being carried in the bearing in the extreme end of the spindle P, which produces the change in the tune or melody. The other extremity G' of the drum A rests in the bearing T' in a spindle U, surrounded by a spiral spring and carrying a pin V, the said spring having the tendency to press the spindle in the direction of the arrow, Fig. 1.

For releasing or fixing the drum A it is sufficient to give the key W a quarter of a turn, which said key operates on the pin V and presses the spindle U to the rear. The gear-wheel I transmits movement to a fly-wheel governor X by means of the toothed wheels *a b* and the worm C.

The device, as represented in Fig. 3, is formed of two wings, one movable and the other a fixture. The movable wing carries a fork *e*, attached at its extremity to a screw *d*, which serves to regulate the operation of the fly or wing, which also acts as brake by means of the augmentation of the resistance of the air. The regulation can be effected during the playing of the music and without stopping the same. The change of the airs can be made automatically at each revolution by means of the cam O', which is rotated one step by the pawl N, and the recessed or shouldered surface of which acts on pin S to move the drum A longitudinally and bring into place the devices adapted to produce another tune. The airs can also be changed, when desired, independently of stud K and lever L, and it suffices to operate the lever *f*, Fig. 1, which acts on the pawl N and the ratchet-wheel O. Another lever *g* serves to place the pawl N out of contact with the wheel O during the playing when it is desired to continue playing the same air.

In order to arrest the apparatus, the lever L must be operated, which lifts the piece *l*, against which a rod *m* abuts, said rod being of one part with the fly-wheel regulator or governor and serving to arrest the same, and consequently the whole mechanism. This stopping can only be effected when the drum A has made a complete revolution, the part *l* being provided with a rod *q*, which can en-

ter the recess in the wheel I and only come in contact with the same at each revolution of the wheel. The cam O' can be arranged on the end of the spindle in a special bearing, if so desired.

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

10 1. In a music-box, the combination, with the pin-drum, comb, and drive mechanism for the drum, of the cam-wheel mounted loosely on the drum-spindle, mechanical connections between the cam-wheel and driving
15 mechanism, whereby the same is rotated, and a pin controlling the longitudinal position of the drum with relation to the comb, bearing against said cam, substantially as described.

2. In a music-box, the combination, with
20 the pin, longitudinally-movable drum, comb, and drive mechanism for the drum, of the longitudinally-movable spindle having a bearing therein for the drum at one end, the cam-wheel journaled loosely on said spindle, a pin
25 on the spindle, bearing against the cam, and mechanical connections between the cam and driving mechanism, whereby the same is

rotated intermittingly, substantially as described.

3. In a music-box, the combination, with 30 the pin, longitudinally-movable drum, comb, and drive mechanism for the drum, of the cam journaled on the drum-spindle and engaging a pin thereon, a ratchet-wheel connected to said cam, a pawl moved by the 35 driving mechanism and engaging said ratchet-wheel to rotate the cam, and the pin on the spindle, substantially as described.

4. In a governor for the driving mechanism of music-boxes, the combination, with the 40 rotary fly-fan rotated by the driving mechanism, of the non-rotary fan adjustable toward and from the rotary fan, whereby the speed of the same may be regulated, substantially as described.

5. The combination, with the drum A, of the actuating mechanism, the fly-governor X, connected with said mechanism, the non-rotary member, and the regulating screw d, substantially as described.

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