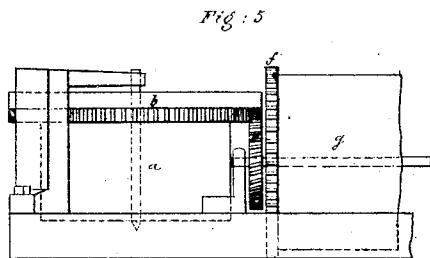
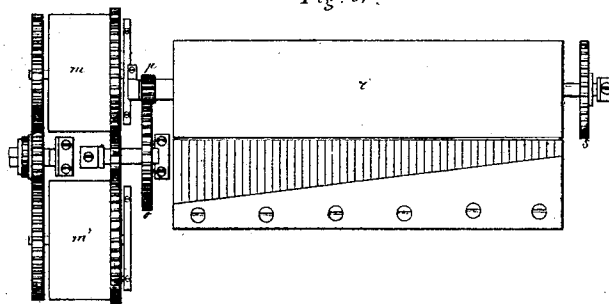
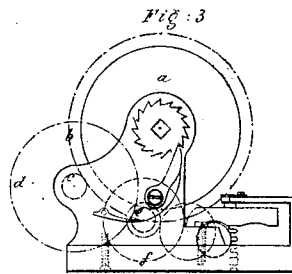
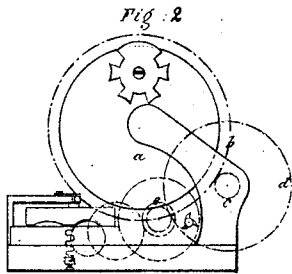
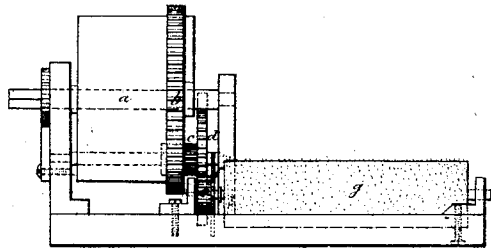


(No Model.)

D. AUBERT.
Musical Box.

No. 238,326.

Fig: 1 Patented March 1, 1881.



Witnesses:

1. *Ad. Haas*
2. *Gorges Hobart*

Inventor:

Daniel Aubert

UNITED STATES PATENT OFFICE.

DANIEL AUBERT, OF SAINTE CROIX, SWITZERLAND, ASSIGNOR TO AUBERT & SONS, OF SAME PLACE.

MUSICAL BOX.

SPECIFICATION forming part of Letters Patent No. 238,326, dated March 1, 1881.

Application filed July 24, 1880. (No model.) Patented in France June 30, 1879.

To all whom it may concern:

Be it known that I, DANIEL AUBERT, of Sainte Croix, Switzerland, have invented an Improved Mechanism for Musical Boxes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed sheet of drawings, making a part of the same.

This invention relates to mechanism for musical boxes, so as to increase the time of working and admitting of their being placed in a clock-case in connection with a clock, for example, only to be wound up every eight days, at the same time as the clock is wound; and in order that this invention may be better understood, reference is had to the drawings accompanying this specification, showing the different views of a musical box furnished with the improved mechanism.

Figure 1 shows a longitudinal elevation of the musical box. Fig. 2 shows a view at the cylinder end. Fig. 3 shows a view of the barrel end. Fig. 4 shows, in plan, a modification of the mechanism when applied to musical boxes of large size.

In the first three figures the same letters of reference denote the same parts.

The mechanism represented at Figs. 1, 2, and 3 consists of a barrel, *a*, carrying a wheel, *b*, with eighty-eight teeth, in the example shown. This barrel gears with a pinion, *c*, with twelve leaves. The pinion *c* carries on its axis a wheel, *d*, with sixty-four teeth, which is termed the "time-wheel." It is this time-wheel that constitutes the principal feature in this invention.

The time-wheel *d* gears with a pinion, *e*, with sixteen leaves fixed to a wheel, *f*, on the axis of the cylinder *g*, which works the keys. It is on this wheel *f* that the mechanism acts which causes the musical box to play at the changing of the hours, or at each hour, when the said musical box is placed in a clock-case and connected with the clock.

According to the numbers indicated above, and to the theory of gearing, the product of the number of teeth of the wheels divided by the product of the number of leaves of the pinions gives the number of revolutions of the cylinder to the number of turns of the barrel,

$$\text{viz., } \frac{88 \times 64}{12 \times 16} = \frac{5632}{192} = 29.3.$$

It will be seen that the cylinder will make 29.3 turns while the barrel only makes one turn. If the barrel turns four times by the entire action of the spring, it will be seen that 117.2 turns of the cylinder will be obtained without rewinding the apparatus, whereas the maximum number of turns of the cylinder obtained up to the present time is but twenty-four without rewinding.

The above arrangement will not answer for musical boxes of large size, the power of one barrel being in this case insufficient. For these latter boxes one or more auxiliary barrels are employed. The modified arrangement in this latter case is represented at Fig. 4. The mechanism consists of two barrels, *m* and *m'*, gearing with the pinion *n* of the time-wheel *o*. This latter wheel *o* gears with the pinion *p*, which causes, as before, the movement of the cylinder *r*. In this arrangement the wheel which causes the musical box to play at the changing of the hours when in a clock-case and connected with a clock is carried back in *s* to the other end of the cylinder *r*, as shown in the drawings.

In Fig. 5 is represented a modified arrangement of this invention, which, from its simplicity, can be made at a sufficiently low price to be applied to small musical boxes. In this arrangement the mechanism consists of a barrel, *a*, turning on a vertical axis. This barrel carries a crown-wheel, *b*, gearing direct with the pinion *c* of the arbor of the cylinder *g*.

f represents the wheel of the cylinder in connection with the mechanism of the clock when the musical box is placed in a clock-case. By this mechanism twenty-five turns of the cylinder are obtained by the entire action of the spring of the barrel *a*.

I claim—

In mechanism for musical boxes, the combination, with the cylinder *g*, the wheel *f*, and the pinion *e*, of the barrel *a*, the wheel *b*, the pinion *c*, and the time-wheel *d*, substantially as herein shown and described, and for the purpose set forth.

DANIEL AUBERT.

Witnesses:

F. FISCHER,
GEORGE HOBART.