

(No Model.)

L. CAMPICHE.
MUSIC BOX.

No. 374,394.

Patented Dec. 6, 1887.

Fig. 6.

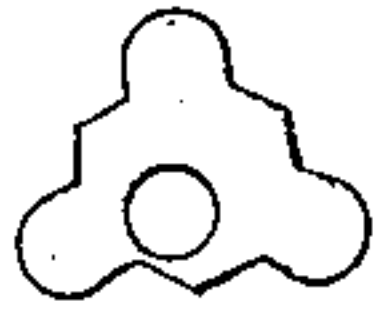


Fig. 7.

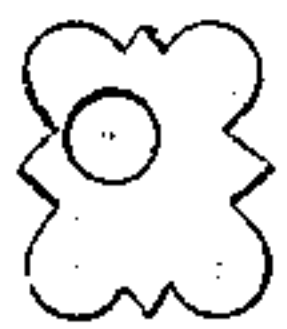


Fig. 8.

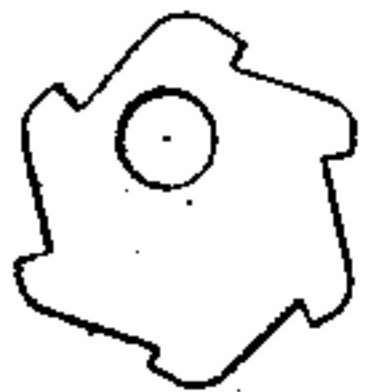


Fig. 1.

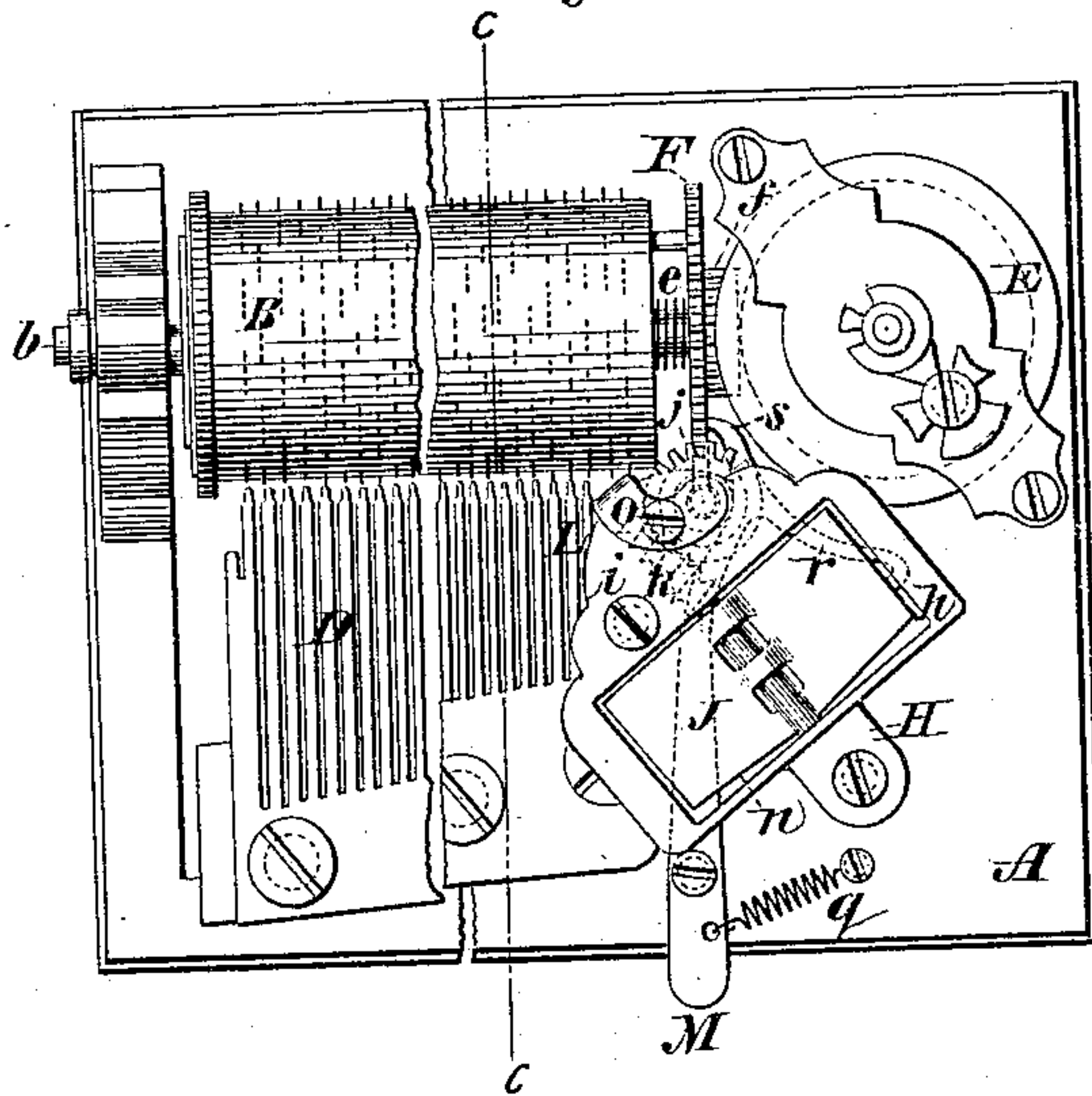


Fig. 2.

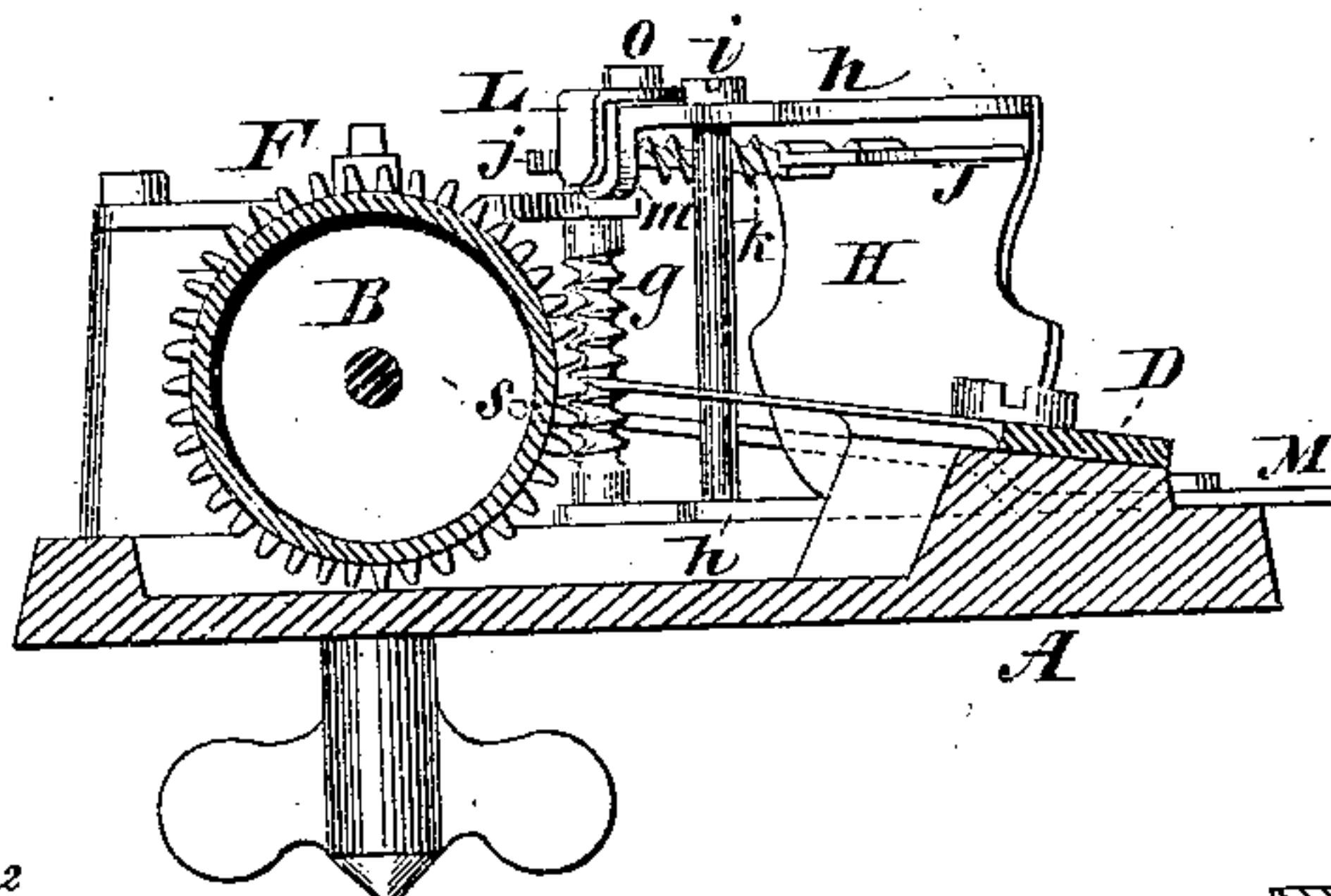


Fig. 4.

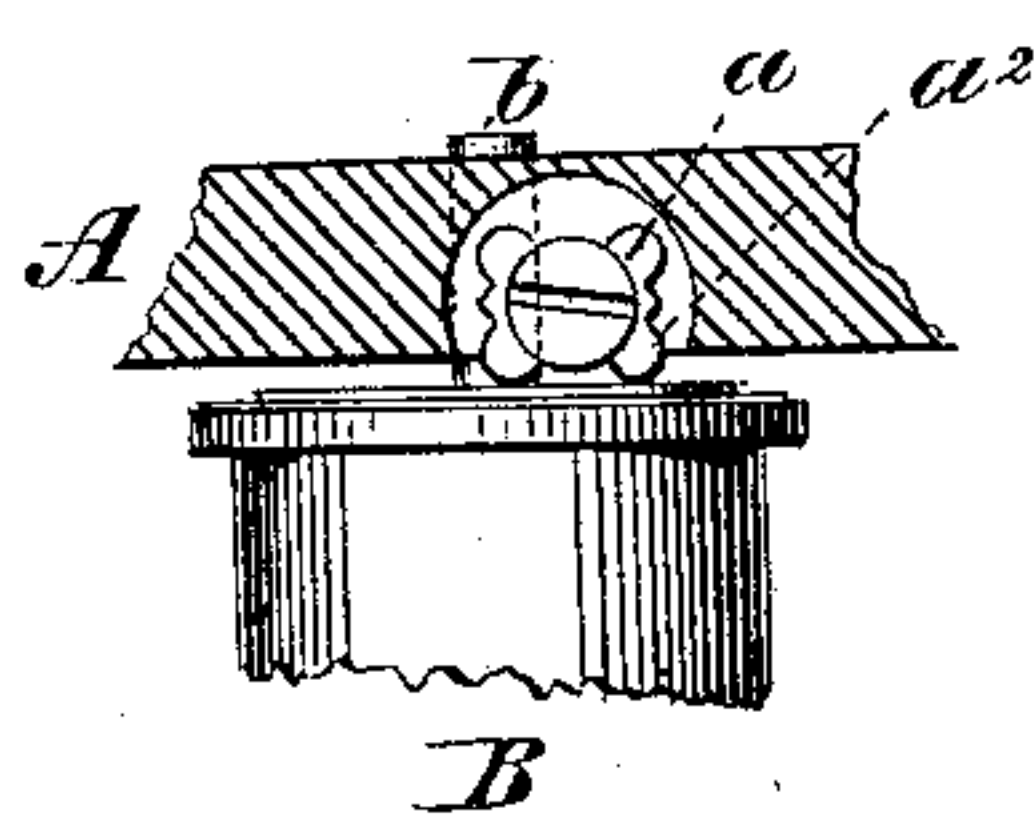


Fig. 3.

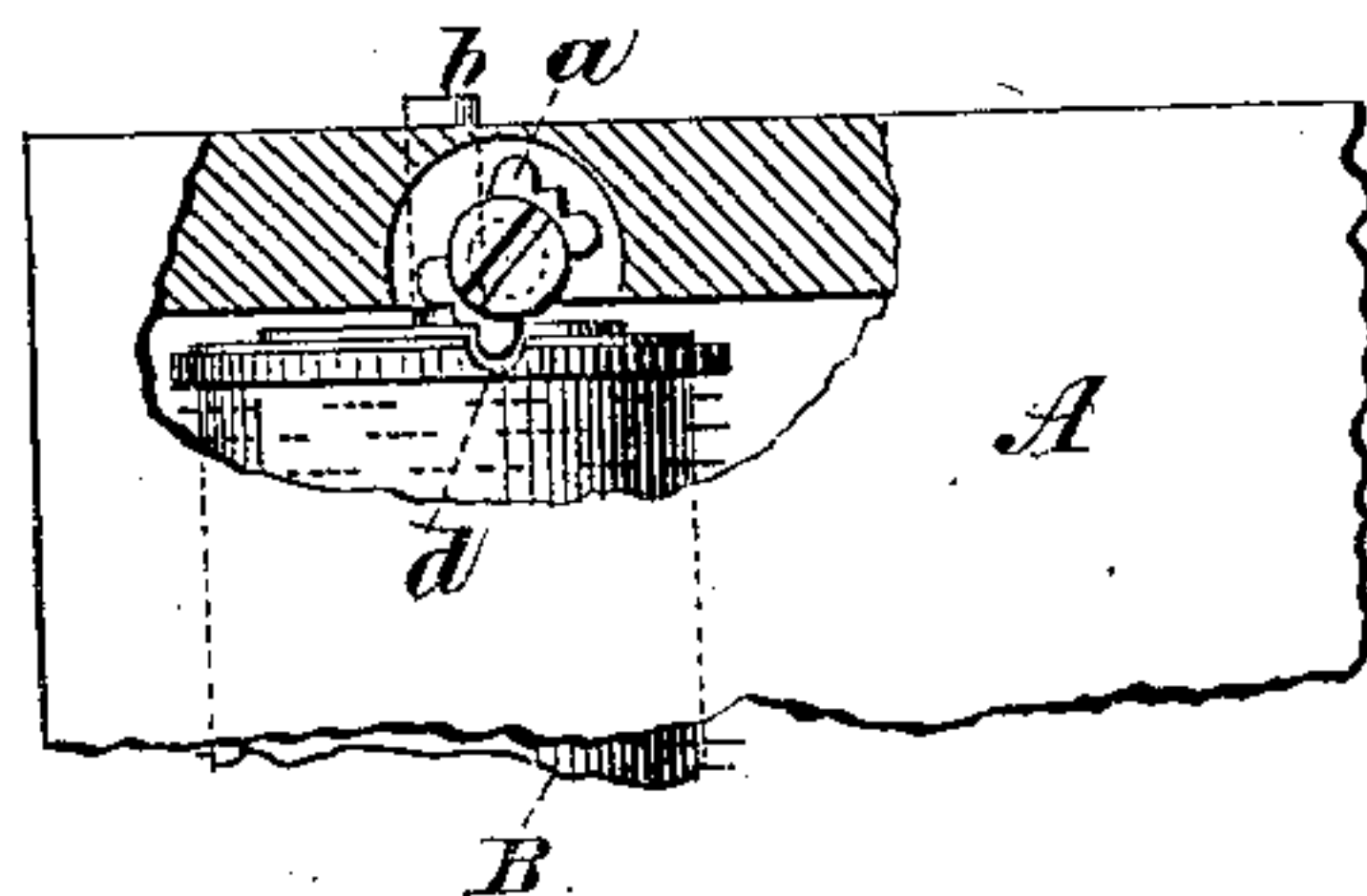
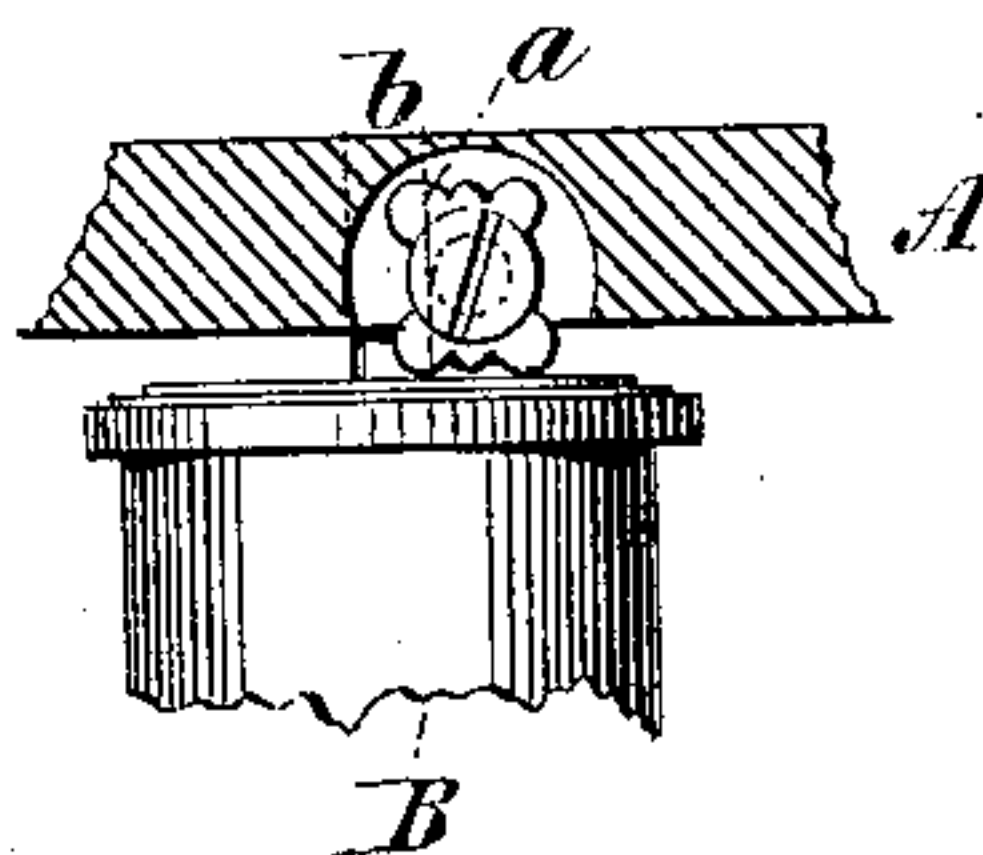


Fig. 5.



WITNESSES:

WITNESSES:
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INVENTOR.

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UNITED STATES PATENT OFFICE.

LOUIS CAMPICHE, OF STE. CROIX, SWITZERLAND, ASSIGNOR TO MERMOD FRÈRES, OF SAME PLACE.

MUSIC-BOX.

SPECIFICATION forming part of Letters Patent No. 374,394, dated December 6, 1887.

Application filed May 5, 1887. Serial No. 237,184. (No model.)

To all whom it may concern:

Be it known that I, LOUIS CAMPICHE, of Ste. Croix, Switzerland, have invented certain new and useful Improvements in Music-Boxes, of which the following is a full, clear, and exact description.

The object of my invention is to provide improved means for moving the pin-barrel in its longitudinal direction, and also to simplify the speed-regulating gear.

The invention consists in pivoting to the frame of the mechanism adjacent to one end of the pin-barrel a plate having its pivot at unequal distances from its faces and points on its corners, which points are acted upon by a recess in the end of the pin-barrel to turn said plate, which turning of the plate causes the pin-barrel to move along its shaft to change the tune.

The invention also consists of a novel speed-regulating gear, dispensing with a majority of the wheels and pinions for driving same now used in the ordinary music-box, and in details of construction and combination of parts, as will be more fully hereinafter set forth.

Reference is to be had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of a music-box embodying my improvements. Fig. 2 is a sectional view on line *cc*, Fig. 1. Fig. 3 is a view showing my improved pin-barrel-moving device in the act of shifting the barrel, part of the frame-work being broken away. Figs. 4 and 5 are similar views to Fig. 3, showing the barrel-moving device in the respective positions it assumes after having shifted the barrel. Figs. 6, 7, and 8 are views of separate barrel-moving plates arranged to produce different numbers of tunes.

A in the accompanying drawings represents the frame; B, the pin-barrel; D, the comb; and E the mainspring barrel and casing, which are of the ordinary or suitable construction.

a is a plate swiveled or pivoted in the frame A, preferably in a recess formed in the said frame. The plate *a* is made with sides that are at varying distances from its pivot and has projecting points at the corners, as shown.

The pivot of the plate *a* is a little to one side of or out of line with the axis of the pin-barrel shaft *b*.

d is a recess formed in the end of the barrel B, and so arranged as to engage one of the points on the plate *a* as said pin-barrel revolves. The pin-barrel B is pressed into engagement with the plate *a* by means of the spring *e*, Fig. 1. This barrel-shifting device operates as follows: When the barrel operates to produce music, two of the points of the plate *a* will bear against the barrel, as in Fig. 5; but as soon as the recess *d* arrives beneath one of these points the pressure exerted by the spring *e* will be applied only to the other of these two points, and the cylinder will be pushed as it turns, so as to engage the one point in the recess *d*, thereby turning the plate *a* into the position shown in Fig. 3, and from that into the position shown in Fig. 4. In the same manner the plate *a* will be turned back from the position shown in Fig. 4 to that shown in Fig. 5, the point *a*² first entering the recess *d*. The plate *a* having one face farther from the pivot than the next, it follows that when one face of said plate is presented to the barrel, as seen in Fig. 4, said barrel will be pressed nearer to the pivot of said plate, and when the other face of said plate is presented to the barrel, as seen in Fig. 5, the barrel B will be held farther away from said pivot, and thus by turning the plate *a* the tune will be changed. The plates *a* shown in Figs. 3, 4, and 5 are arranged to move the barrel to produce two tunes only, while those shown in Figs. 6, 7, and 8 may be used in music-boxes to produce three, four, and six tunes, respectively. The plates *a* may be provided with any number of faces and points to move the barrel to produce any desired number of tunes.

Heretofore tune-changes depending upon a projection and recess on barrel B have been used. By my invention I do away with every projection on said barrel. The shaft *b* carries a pinion, *f*, which is driven by a crown-wheel on the mainspring-barrel E. The shaft *b* also carries a spur-wheel, *F*, which gears with a vertical worm, *g*. The worm *g* is journaled in the two horizontal arms *h* of a bracket, *H*, which bracket is secured to the frame A.

The outer ends of the arms *h* are braced by the screw-rod *i*. Near the upper end of the worm *g* is secured the pinion *j*, which meshes with the horizontal worm *k*, one end of which is
 5 journaled in the vertical part of the bracket *H*, the opposite end of said worm *k* being journaled in a lug, *m*, projecting downward from the upper horizontal arm *h*. The worm *k* carries the fan *J*, which passes through an
 10 opening, *n*, in the upper horizontal arm *h*, as best seen in Fig. 1.

L is a cap secured to the upper arm *h* of bracket *H*, and placed over the bearings of the worms *g* and *k*, and held there by means of the
 15 screw *o*. (See Figs. 1 and 2.) The barrel *B* is stopped at the right position by means of the lever *M*, which is pivoted to the frame *A*, the longer or inner arm, *s*, of which is pressed into an aperture in the toothed wheel *F* by
 20 means of the spring *q* whenever said hole comes opposite the end of arm *s*. An arm, *r*, of the lever *M* projects upward, so that as the arm *s* drops into the aperture of wheel *F* said arm *r* will engage the fan *J* and prevent its
 25 revolution. As the lever *M* is withdrawn to release the pin-barrel *B*, the arm *r* will be simultaneously moved out of engagement with the fan *J*. With this construction the fan is brought nearer the source of power, thereby
 30 dispensing with the majority of wheels and pinions for moving same ordinarily used. By this means I obtain a mechanism which requires less power to operate the pin barrel, combining less liability of breakage and a
 35 minimum of friction over the ordinary form of construction.

Having now described my invention, what I claim is—

1. In a musical box, the pivoted plate *a*,

having projecting points at the corners and adapted to hold two of said projecting points normally in contact with the spring-pressed pin-barrel *B*, in combination with said pin-barrel having the recess *d*, but no projection near said recess, substantially as described. 40 45

2. The pin-barrel *B*, having recess *d*, but no projection near said recess, in combination with the swiveled plate *a*, having projecting points at the corners and having its faces at varying distances from its pivot, said plate
 50 being arranged to normally hold two of its projecting points in contact with said pin-barrel while the tune is being played, substantially as described.

3. The pin-barrel *B*, having recess *d*, but no projection near said recess, combined with spring *e*, and pivoted plate *a*, having projecting points at its corners, the pivot of plate *a* being on one side of the axis of the pin-barrel, substantially as described. 55 60

4. The spring-barrel *E* and gearing joining it to the shaft *b*, in combination with the shaft *b*, toothed wheel *F*, vertical worm *g*, horizontal worm *k*, and bracket *H*, substantially as described. 65

5. The bracket *H*, having the horizontal arms *h*, and vertical lug *m*, in combination with the horizontal worm *k* and vertical worm *g*, substantially as described.

6. The angular cap *L*, made in one piece, combined with the bracket *H*, and adapted to cover the ends of the horizontal worm *k* and vertical worm *g*, substantially as herein shown and described. 70

LOUIS CAMPICHE.

Witnesses:

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