

(No Model.)

A. SUEUR.
MUSIC BOX.

No. 355,485.

Patented Jan. 4, 1887.

Fig. 1.

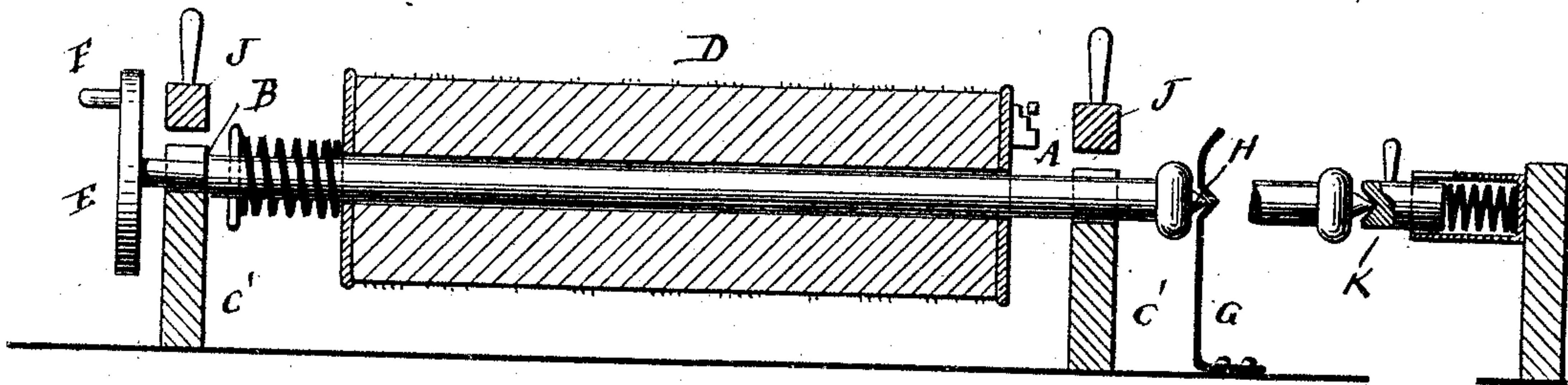


Fig. 2.

Fig. 3.

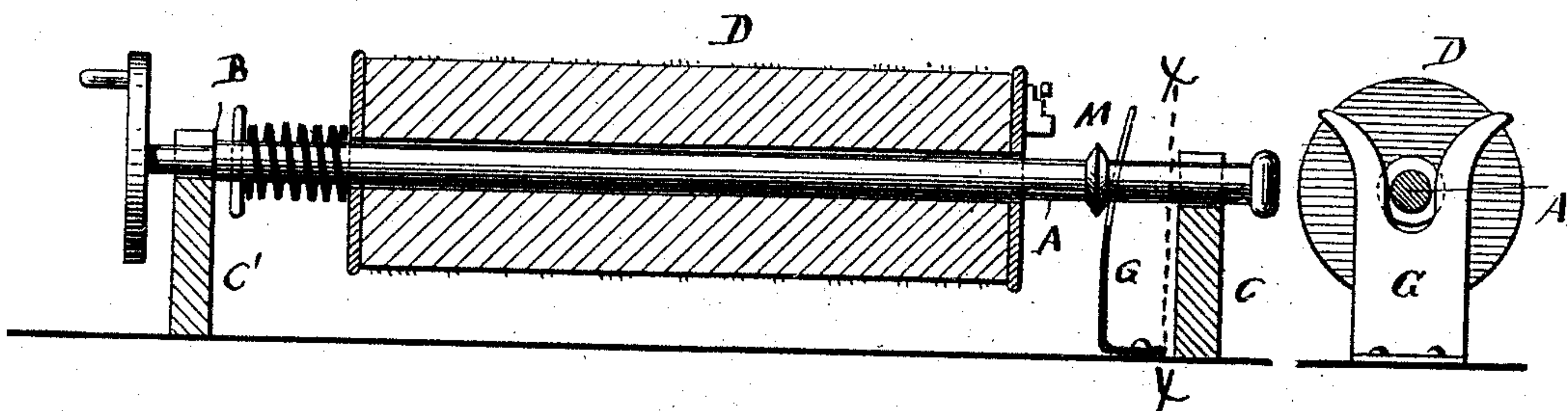


Fig. 4.

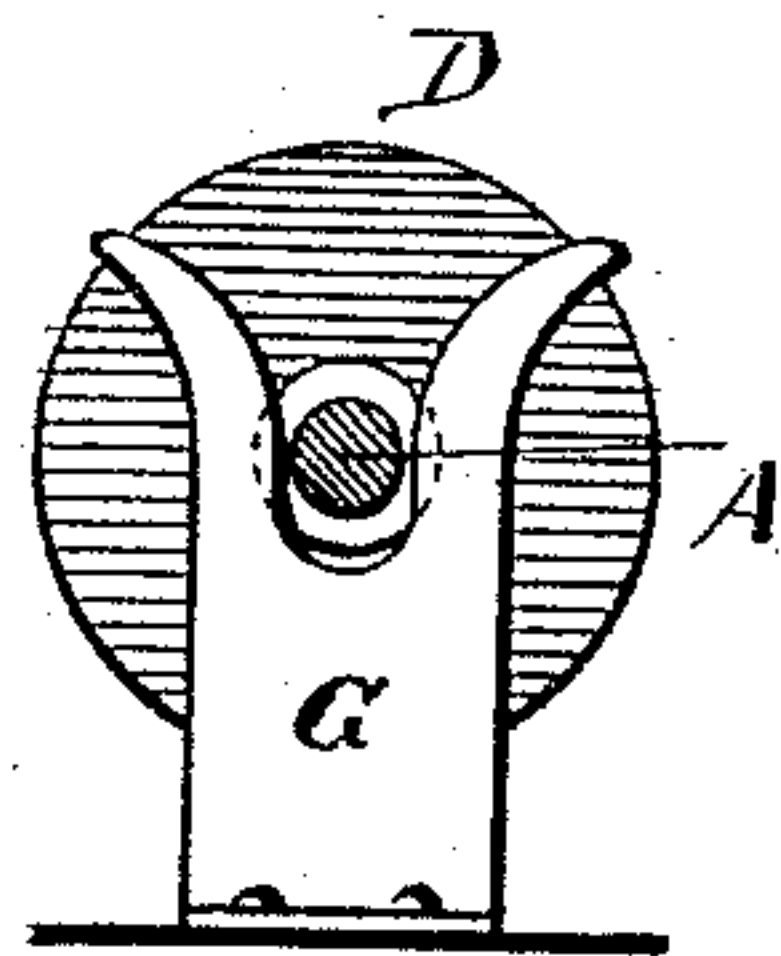


Fig. 5.

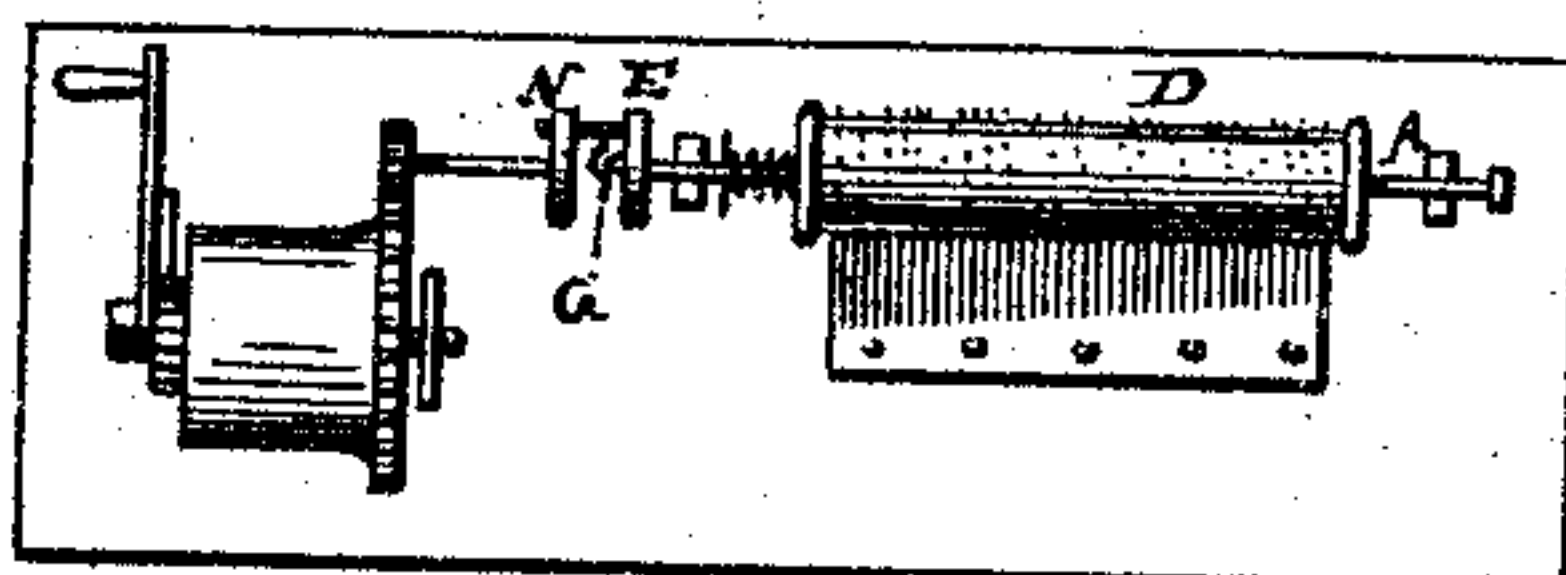
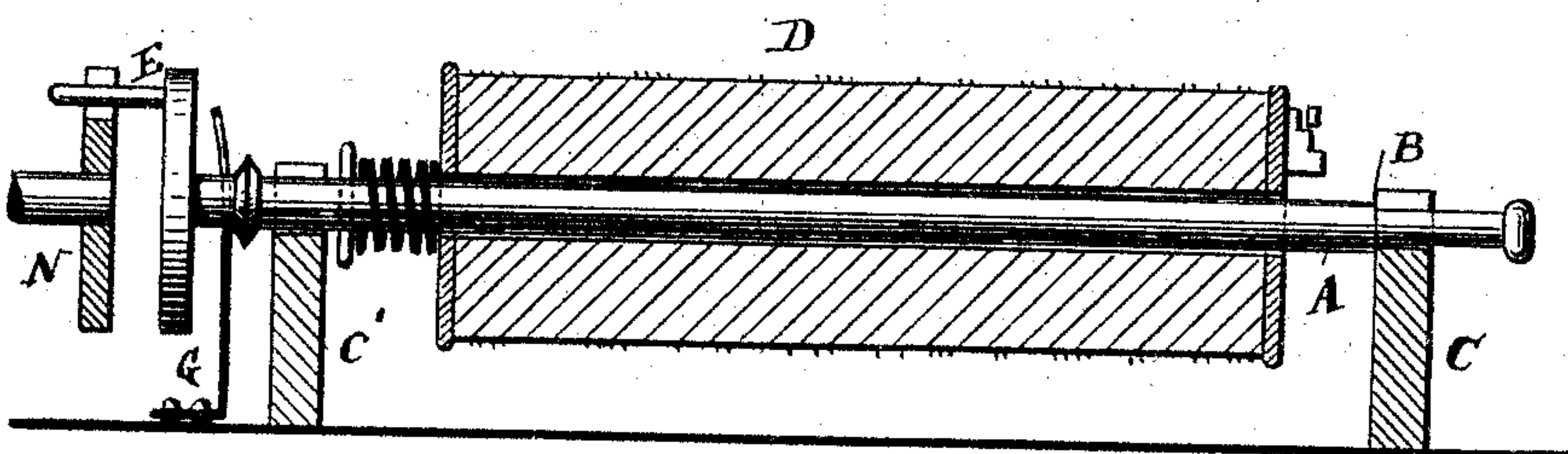


Fig. 6.



WITNESSES:

For W. Rosenbaum.
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UNITED STATES PATENT OFFICE.

ALFRED SUEUR, OF NEW YORK, N. Y., ASSIGNOR TO M. J. PAILLARD & CO.,
OF SAME PLACE.

MUSIC-BOX.

SPECIFICATION forming part of Letters Patent No. 355,485, dated January 4, 1887.

Application filed March 30, 1886. Serial No. 197,107. (No model.)

To all whom it may concern:

Be it known that I, ALFRED SUEUR, of the city, county, and State of New York, have invented certain new and useful Improvements in Interchangeable Cylinders for Music-Boxes, of which the following is a specification.

Music-boxes are constructed with pin-cylinders which are mounted permanently in the box, or with removable cylinders, and of the latter there are two kinds—changeable and interchangeable. The changeable cylinders must be made and adjusted to the box at the time the box is made, whereas the interchangeable cylinders can be made at any later time; but so that they will be in the proper place and have the proper adjustment in relation to the comb, a suitable device must be provided for moving the pin-cylinder shaft in the direction of its length and holding it in the required position. For this purpose springs on the driving mechanism, acting on said shaft or on a plate on the same, or springs in the locking devices or adjusting-screws, have been used, all of which tend to move and adjust the pin-cylinder shaft in the direction of its length.

The object of my invention is to provide a new and improved device for the same purpose, which device is simple in construction and effective in use.

The invention consists in the combination, with a pin cylinder shaft having a shoulder, of a spring or spring device fixed on the bed plate or frame of the mechanism or on the box and acting direct on said shaft.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of an interchangeable pin-cylinder and its shaft mounted according to my invention. Fig. 2 is a detail sectional view showing a modified construction of the spring. Fig. 3 is a longitudinal sectional view of a cylinder, showing still another construction of the spring. Fig. 4 is a cross-sectional view on the line *x x*, Fig. 3. Fig. 5 is a longitudinal sectional view of a cylinder, showing another modification of my invention. Fig. 6 is a plan view of the box on a smaller scale.

Similar letters of reference indicate corresponding parts.

The cylinder-shaft A is provided at one end with a shoulder or offset, B, and carries a pin-

cylinder, D, mounted on the shaft to slide slightly on said shaft in the direction of its length, and also to rotate with the shaft. The shaft is mounted on the bearings C C', and is provided at one end with a disk, E, from which a pin, F, projects, which is coupled to the driving mechanism, for the purpose of revolving the shaft. The shoulder or offset B must rest snugly against the bearing C'; and must be held in this position for the purpose of preventing any longitudinal movement or shifting of said shaft. To prevent such movement, the spring G is provided, which is fixed on the base-plate of the machine or on any other part of the frame, or on the box, and rests against the pin H on that end of the shaft opposite the one provided with the shoulder B. The top of the spring is preferably rounded or beveled off, and preferably provided with a notch or pocket for receiving the pin H. The spring G is not provided for the purpose of holding the shaft on its bearings, as the latches J serve for this purpose. The spring G only serves to press the shaft A in the direction of its length, and to keep the shoulder B against the bearing C'. The shoulder B or its equivalent is a very essential feature, as the cylinders and their shafts are all constructed in such a manner that when the shoulder rests against the bearing C' the pin-cylinder will be in the proper position for acting upon the teeth of the comb provided in the music-box.

If desired, the spring may act on a bolt, K, contained in a suitable casing, as shown in Fig. 2; or the spring may be forked and act on a collar, M, on the shaft A, as shown in Figs. 3 and 4. If desired, the spring can be provided at the disk E, as shown in Fig. 5. In this case the spring is at the end opposite the one shown in Figs. 3 and 4.

In all cases the spring presses the shaft in the direction of its length and presses the shoulder against the bearing. When the latches J are raised, a pin cylinder or roller and its shaft can be placed on the bearings, and the shaft is immediately shifted and brought to its proper position by the action of the spring, provided in the manner described. If desired, the spring may be arranged within or on the shaft, and its end may rest on a fixed object connected with the base

or frame of the mechanism or the box; but this construction is nothing more than a mere reversal of the construction shown and a full mechanical equivalent of the same.

5 Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a music-box, the combination, with a shaft mounted to revolve on its bearings and to move slightly in the direction of its length,
10 which shaft is provided with a shoulder, a pin-cylinder mounted to slide on and revolve with said shaft, and a music-box comb, a spring fast-

ened on one of the fixed parts of the music-box—such as the base or frame—and resting against and acting on the shaft to press the
15 same in a direction of its length, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ALFRED SUEUR.

Witnesses:

OSCAR F. GUNZ,
CARL KARP.