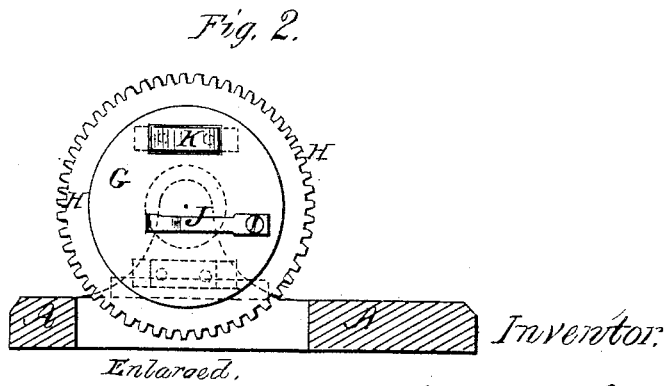
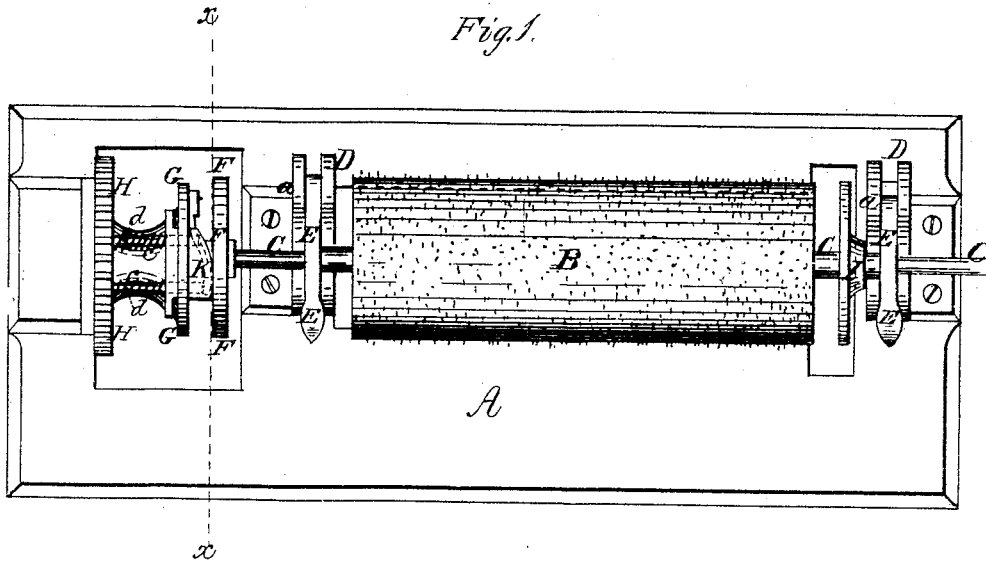


A. PAILLARD.  
Music-Box.

No. 212,108.

Patented Feb. 11, 1879.



Witnesses.

*H. Williams*  
*W. Warrick*

Inventor.

*Amedée Paillard.*  
per  
*C. H. Johnson*  
Atty.

# UNITED STATES PATENT OFFICE.

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PAILLARD & CO., OF NEW YORK, N. Y.

## IMPROVEMENT IN MUSIC-BOXES.

Specification forming part of Letters Patent No. **212,108**, dated February 11, 1879; application filed  
August 30, 1878.

*To all whom it may concern:*

Be it known that I, AMÉDÉE PAILLARD, a citizen of Ste. Croix, in the Swiss Republic, have invented certain Improvements in Music-Boxes, of which the following is a specification:

My invention relates to music-boxes in which a revolving pin-studded cylinder acts on combs or vibrators to produce the music. In such boxes but a limited number of airs can be arranged on one cylinder, and to produce a greater number two or more cylinders which are removable and interchangeable are required.

Prior to my invention, so far as known to me, the boxes to play numerous airs have been originally provided with more than one cylinder, and when new airs were desired it was necessary to return the box to the manufacturer, who fitted in the new cylinder, it being found impossible heretofore to furnish cylinders ready made which would fit the box with that degree of accuracy necessary for its proper action on the combs, owing to the play between the supports of the cylinder.

My invention consists in a novel construction, combination, and arrangement of parts, and has for its object to determine the position, longitudinally, of the cylinder in relation to the combs or vibrators, as will be fully hereinafter set forth.

In the drawings, Figure 1 is a plan view, and Fig. 2 a vertical transverse section, of my improvement, taken on the line *x x*, Fig. 1.

A is the base-plate, for supporting the works of the box and the combs or vibrators. (Not shown.) B is the cylinder, carried on shaft C, having its bearings on the supports D D, it being held down in its bearings by the cap-screws E, pivoted to the supports D at *a*, as shown, so that the cylinder may be readily removed from and inserted in its bearings.

On one extremity of the shaft is the disk F, from which a coupling-pin may project and enter a notch in the disk G, attached to the driving-gear H, as usual.

Between the driving-gear H or the disk G and the disk F is interposed a spring, which exerts a constant pressure against the disk F, and tends to keep the shoulder I of the shaft

C against the support D, thereby determining the position of the cylinder very accurately and definitely.

In the drawings two methods are shown of applying this pressure, one being a flat spring, J, secured to the disk at one extremity, the other end being adjusted to exert pressure against the disk F when the cylinder is inserted in its bearings. In the other method a block, K, projects through a slot in the disk G, and is pressed outward and against the disk F when the latter is in position by the spiral springs *c* around the guide-pins *d*, on which the block moves.

Where a single spring or block is used it might be preferable to have it act at the center of the disk F; but when more than one are employed they exert their pressure equally at a greater or less distance from the center of the disk.

The driving, regulating, and changing mechanisms of the box have not been shown, they being like those of boxes in ordinary use, and generally well known.

By my improvement I am enabled to furnish new cylinders to any box, the cylinders being first fitted to a duplicate of such box kept by the manufacturer.

What I claim is—

1. A musical box having a spring attached to the driving mechanism, and bearing against the end of the cylinder-shaft, or against a disk thereon, which couples the shaft to the driving mechanism, and a shoulder on the other end of the shaft, all combined and arranged as described and shown, whereby said shoulder is caused to bear against the support, thus always keeping the shaft in the same longitudinal position, substantially as and for the purposes hereinbefore set forth.

2. The combination of the cylinder-supports D, shaft C, provided with shoulder I, and disk F, driving disk or wheel G H, and one or more spring-pressure blocks, constructed and arranged to operate substantially in the manner described and specified.

AMÉDÉE PAILLARD.

Witnesses:

GEORGES BORNAND,  
CONSTANT JACCARD.