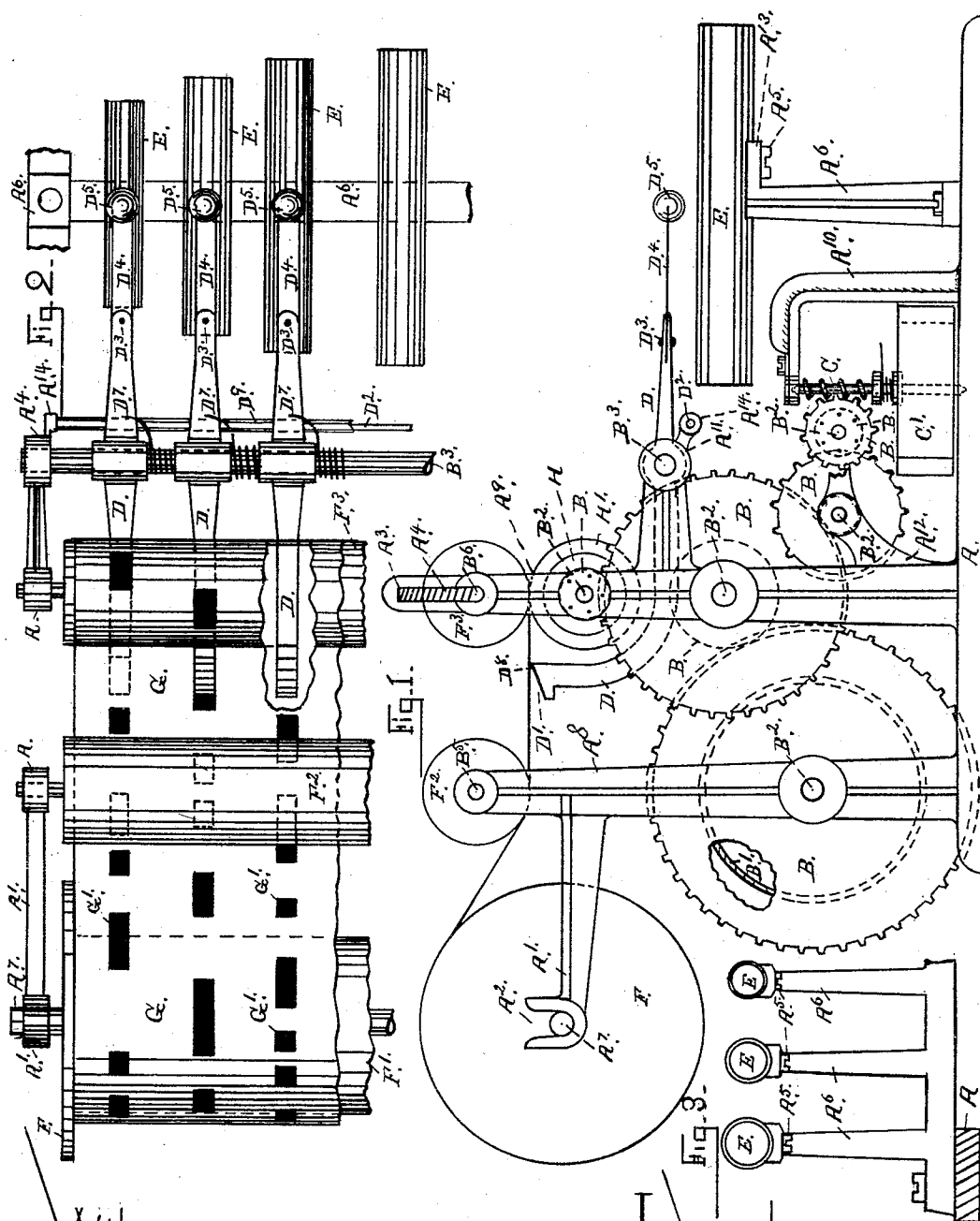


F. J. BERNARD.
MUSIC BOX.

Patented Dec. 15, 1896.



Witnesses:
E. S. Thomas,
L. Heusel

Inventor
By. *Frank J. Bernard.*
E. R. Thomas,
Atty.

UNITED STATES PATENT OFFICE.

FRANK J. BERNARD, OF JERSEY CITY, NEW JERSEY, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE AMERICAN MUSIC BOX COMPANY, OF WEST NEW YORK, NEW JERSEY.

MUSIC-BOX.

SPECIFICATION forming part of Letters Patent No. 572,950, dated December 15, 1896.

Application filed May 9, 1895. Serial No. 548,784. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. BERNARD, a citizen of the United States, and a resident of Jersey City, county of Hudson, and State of New Jersey, have invented a new and useful Improvement in Music-Boxes, of which the following is a specification.

The object of this invention is to provide a musical instrument with any interchangeable tune-sheet which can be used to operate a hammer.

The invention consists in a spring-operated mechanism for feeding a perforated note-sheet, a pivoted trip, a spring-hammer, reeds, and a tension-roll.

Figure 1 is a side view of the improved musical instrument. Fig. 2 is a partial top view of Fig. 1, and Fig. 3 is an end view of the reeds and supports.

A in the several figures represents a supporting-frame having stanchions A^6 , A^8 , A^9 , and A^{10} for supporting the various parts of the mechanism in their proper places. The stanchions A^6 , A^8 , and A^9 are provided with arms A^7 , A^{11} , A^{12} , A^{13} , and A^{14} , which hold the various arbors and reeds, as shown in Fig. 1.

B^1 , Fig. 1, is a case secured to or an integral part of the primary gear B for the spring (not shown) forming the motive power to drive the chain of gears and pinions B, which feed the perforated music-sheet G, the speed being governed by the regulator C^1 , which is fastened to the worm C. The gears and pinions are mounted on the arbors B^2 , as shown in Fig. 1.

D D, Figs. 1 and 2, are series of trips pivoted on the shaft B^3 and provided with a spring-tongue D^4 , held in place by the rivets D^3 and having on their outer ends a ball D^5 . The vertical section of the lever D is provided with an inclined plane D^7 , which prevents the lever from catching in the note-holes G^1 of the sheet G. It also forms an easy surface for the sheet to run over and gradually forces the lever D down after the point D^8 has been raised through an opening G^1 of the sheet.

D^2 is a stop-rod which prevents the head D^8 of the lever D from going too far through

the note-holes G^1 of the sheet G. The stop-rod D^2 is provided with a rubber sleeve D^9 , Fig. 2, which prevents noise.

F^1 , Fig. 2, is a cylinder or drum having flanges F. On this cylinder the perforated sheet-music G is wound previous to operating the machine. This cylinder is mounted on the arbor A^7 , which is supported in the open bearings A^2 , as shown in Fig. 1.

F^2 is a pressure or idle drum which holds the music-sheet down and assists in maintaining an even tension on the sheet in order to hold the lever D in a proper place and prevent the ball-hammer D^5 from vibrating only when the head D^8 of the lever is permitted to rise through the note-holes G^1 .

F^3 is a rewinding-cylinder to which one end of the music-sheet is attached before the instrument is set in motion.

It is supported on the arbor B^6 and is held down against the rubber feed-roll H^1 by spring A^4 , and as the cylinder fills up permits it to rise in the slot A^3 .

The rubber roll H^1 is mounted on the drum H, which is operated by the gearwork.

E in the several figures are tube-reeds mounted on the stanchion cross-bar A^6 and held in place by the screws A^5 . These tube-reeds are made of steel or other metal and vary in size and length to produce the proper sound or notes in one or more octaves.

The operation is as follows: The instrument is set in motion, which causes the perforated sheet G to move, and as the several note-holes G^1 , which are perforated in line with the levers D, reach the lever-head D^8 it is forced through the holes G^1 by the spring D^7 , causing the lever to swing on the pivot B^3 , and allows the spring-hammer D^5 to strike the reed-tube E, causing the proper sound. The sheet then, which is steadily advancing, forces the lever D down by aid of the inclined plane D^7 , in which position it remains until the next note-hole G^1 reaches the head D^8 , when it is again operated.

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

1. An automatic feeding mechanism for feeding a perforated music-sheet G, in com-

100

bination with the pivoted lever D, having spring D⁴, and hammer D⁵, and stop-rod D², as and for the purpose described.

2. An automatic feeding mechanism for
5 feeding a perforated music-sheet G, in combination with the pivoted lever D, having spring D⁴, and hammer D⁵, and stop-rod D², provided with the rubber sleeve D³, as and for the purpose described.

In testimony that I claim the foregoing as 10 my invention I have signed my name, in presence of two witnesses, this 29th day of April, 1895.

FRANK J. BERNARD.

Witnesses:

E. T. THOMAS,
L. HENSEL.