(No Model.)

M. BOOM.

MUSIC BOX.

No. 267,482. Patented Nov. 14, 1882.

Fig. 1

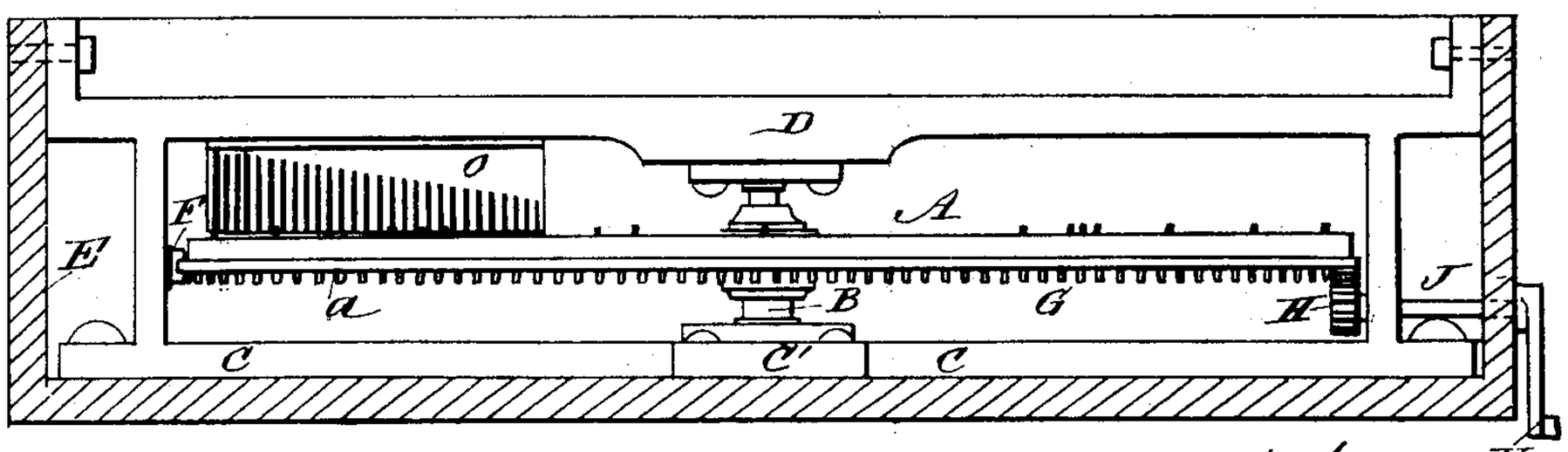


Fig. 3

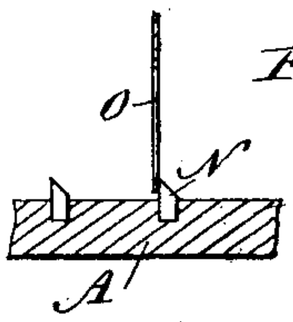
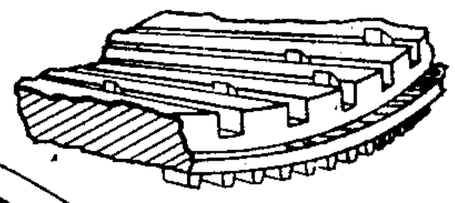


Fig. 2

Fig. 4.



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UNITED STATES PATENT OFFICE.

MIGUEL BOOM, OF PORT-AU-PRINCE, HAYTI.

MUSIC-BOX.

SPECIFICATION forming part of Letters Patent No. 267,482, dated November 14, 1882.

Application filed July 7, 1882. (No model.)

To all whom it may concern:

Be it known that I, MIGUEL BOOM, of Port-au-Prince, Hayti, have invented a new and Improved Music-Box, of which the following is a full, clear, and exact description.

The object of my invention is to provide an improved music-box which can be adjusted to play any desired piece of music by persons who are not acquainted with the art of performing on musical instruments.

The invention consists in the combination of parts forming a musical instrument, hereinafter fully described and set forth.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a cross-sectional elevation of my improved music-box. Fig. 2 is a plan view of the same. Fig. 3 is a detail sectional elevation of a part of the rotary annular disk and the teeth held therein. Fig. 4 is a perspective view of a portion of the disk A, showing the grooves in which pins N are held.

A brass or other metal annular disk, A, is rigidly mounted on a short vertical shaft, B, which is journaled in a base, C′, and a top cross-bar, D, which base-frame and cross-bar are contained in a box or casing, E, which is preferably made circular, but may be made of any desired shape, and may be made more or less ornamented, as desired. The disk A will thus be adapted to rotate in a horizontal plane, and the disk is provided at its edge with a projecting flange or ridge, *a*, which passes into a notched or recessed guide-lug, F, attached to the inner side of one of the standards of the frame C, whereby the annular disk A will be guided and vibrations of the same will be prevented. A circle of teeth, G, projects from the under side of annular disk A, and with these teeth a pinion, H, engages, which is mounted on the inner end of a shaft, J, provided at its outer end with a crank-handle, K, for turning this pinion, whereby the annular disk A will be turned, as indicated by the arrow *a′* in Fig. 2. In place of the crank, any other device may be used for operating the annular disk A, and, if desired, a clock-work may be used, as in the music-boxes of usual construction. The annular disk A is provided throughout the entire upper surface with a series of radial grooves, L, which are placed close together. These radial grooves are crossed by a series of concentric circular lines, M, which are placed equidistant, and are preferably numbered or otherwise designated by suitable marks, so that one can be distinguished from the others. Into these grooves steel teeth N are placed, which have their upper ends beveled. These ends project a short distance from the upper surface of the annular disk A. A steel comb, O, provided with teeth of different lengths, corresponding with the chromatic scale, and of the same or similar construction as the steel combs used in the boxes made hitherto, is attached to the under side of the cross-bar D in such a manner that the teeth N on the disk A can strike against the lower ends of these teeth, whereby these teeth will be vibrated and sounds produced, the sounds varying according to the length of the teeth. The number of teeth in the comb may be varied according to the size of the instrument. For instance, a comb may be provided with one, two, three, or more octaves of teeth. The length of the comb is to be equal to the length of the radial grooves of the annular disk. The grooves L must be of the same width and depth throughout, so that the teeth N can be placed into any part of the grooves.

The operation is as follows: The teeth N are adjusted in different positions in the grooves L, according to the melody that is to be played. With this instrument charts are furnished which are provided with radial lines and concentric lines in the same manner as the annular disk A, and these charts show the positions of the teeth for one melody, a chart being furnished for each melody to be played. As the concentric lines on the chart and on the disk A are marked alike, the teeth can easily be adjusted. In certain cases several teeth may be required in one groove. The next groove may contain only one tooth, and so on. The disk A is rotated by some suitable device, as stated heretofore, and as the teeth pass under the comb O they vibrate the teeth of the comb, thus producing the desired sound.

I am aware that a toothed disk has before been used in musical instruments, and that adjustable teeth in cylinders and music-sheets

are old, and I do not claim these, broadly; but

What I claim, and wish to secure by Letters Patent, is—

1. In a music-box constructed substantially as herein described, the combination, with a rotary disk and a radial stationary musical comb, of radial parallel-sided grooves in the face of said disk, and teeth arranged to fit anywhere in said grooves, so that revolving the disk will bring said teeth against the teeth of the musical comb, and the same teeth may be set to play different tunes, as shown and described.

2. The combination, with the disk A, provided with teeth N, the shaft B, the frame C D, and the musical comb O, secured to cross-bar D, of the notched lug F on the side post of frame C, and the flange *a*, fitted to revolve closely therein for the purpose of preventing the disk from vibrating and to insure exact contact between the comb and disk teeth, as shown and described.

MIGUEL BOOM.

Witnesses:

ADRIAN H. LAZARE,

A. SCHIESS.