Nov. 5, 1929. F. KAYAN 1,734,770

MECHANICAL MUSICAL INSTRUMENT

Filed March 8, 1929

Fig. 1.

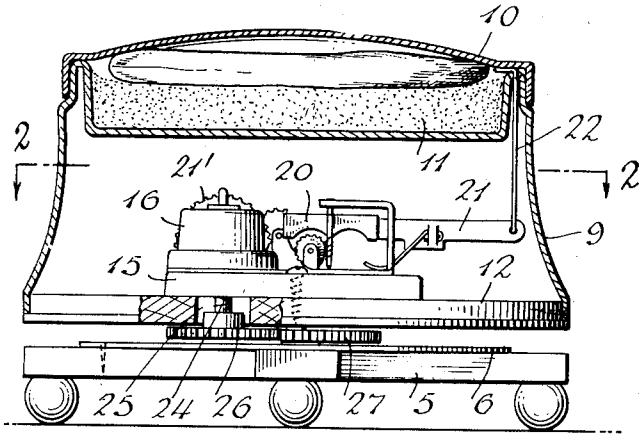


Fig. 2.

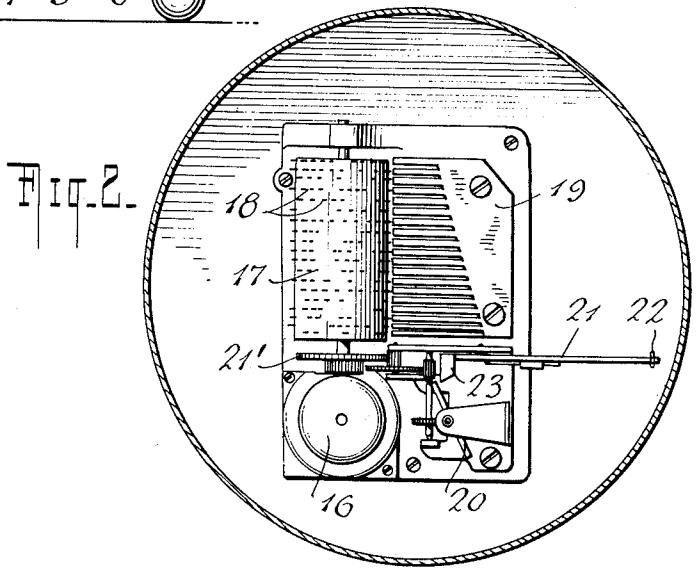


Fig. 3.

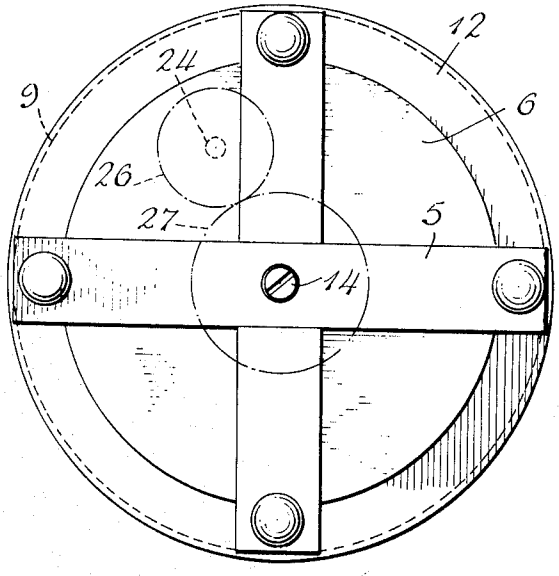
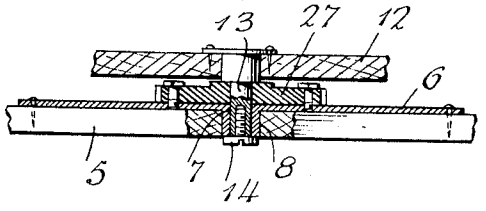


Fig. 4.



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UNITED STATES PATENT OFFICE

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MECHANICAL MUSICAL INSTRUMENT

Application filed March 8, 1929. Serial No. 345,272.

This invention relates to improvements in musical devices, and is a continuation in part of my co-pending application, Serial No. 338,213, filed February 7, 1929.

It has heretofore been common practice to provide a powder box or other like receptacle with a musical instrument mounted within the stationary body of the receptacle and to control the playing of said instrument by the removal and replacement of the lid of said receptacle.

In accordance with the present invention, the operation of the musical instrument forming a part of the device is utilized to effect the rotation of the body of said device. To this end, said body is rotatably supported upon a base or pedestal and the prime mover of the musical instrument, such as the spring motor usually employed, is so connected to said base that, when said motor is operating, it will impart a rotary movement to the body relative to the base.

The inventive idea involved is capable of receiving a variety of mechanical expressions one of which, for purposes of illustration, is shown in the accompanying drawing, wherein:—

Figure 1 is a vertical sectional view through a powder box constructed in accordance with the present invention;

Figure 2 is a section on the line 2—2 of Figure 1, showing the musical instrument in plan view;

Figure 3 is a bottom plan view of the base of the device; and

Figure 4 is a fragmentary vertical sectional view through the bottom of the body of the receptacle and its supporting base.

Although the invention is illustrated in connection with a powder box, it will be understood, of course, that the construction involved can be adapted to other types of receptacles or the like without departing from the spirit or scope of the invention, as defined by the claims appended hereto.

The device or receptacle, as shown, comprises a base or pedestal 5, which may be in the form of a spider including a plurality of radiating arms, there being four shown in the present instance. A base-plate 6 is secured to the upper surface of the spider and is provided therein with a central opening 7 registering with a similar opening 8 in the base 5, for a purpose which will presently appear. The body 9 of the receptacle, which may be of any desired shape, is provided with a lid 10 forming a closure for a powder compartment 11. Said body further has a bottom 12, depending from which is a spindle 13 which extends downwardly through and is rotatably mounted in the aligned openings 7 and 8 of the base-plate 6 and base 5, respectively, and forms the axis about which the body 9 rotates relative to the base. A screw 14 may be threaded into the lower end of the spindle 13 and have its head engaged with the base to prevent detachment of the body from the latter.

The bottom 12 of the body supports a mechanical musical instrument which, briefly, comprises a supporting base-plate 15 upon which is mounted a prime mover, such as the spring motor 16, which drives the cylinder 17 having prongs 18 thereon adapted to engage and vibrate the fingers of a tuned steel comb 19 to produce musical notes. The movement further includes a governor 20 utilized to control the speed of the motor and driven by a train of gearing generally indicated at 21′ and which is commonly known in the prior art.

The control mechanism for the governor, which is specifically described and claimed in the above-identified co-pending application, briefly comprises a stop member in the form of a lever 21, to one end of which is connected a rod 22 extending upwardly through the upper edge of the body 9 where it is adapted to be engaged by the lid 10 to retain the lever 21 in the position shown in Figure 1. When the lid 10 is removed from the body, the lever 21 will swing about its pivot a slight distance sufficient to move the extremity of the lug 23 on said lever out of the path of the blades of the governor 20 and thus permit the instrument to operate under the influence of the spring motor 16.

With the musical instrument, including its base-plate 15, mounted centrally of the bottom 12, the spring motor 16 is offset from the

center of the bottom 12 and its axis of rotation 13. In order to transmit the motion of the shaft 24 of the spring motor to the body 9 to rotate the same, said shaft is extended through an opening 25 in the bottom 12 and has fixed thereto below said base a gear 26 which meshes with a similar gear 27 mounted upon the spindle 13 and secured to the baseplate 6 between the latter and the bottom 12. From this construction, it will be apparent that, as the shaft 24 of the prime mover is rotated, the gear 26 fixed thereto and meshing with the stationary gear 27 will rotate around the latter gear and about the spindle 13 as an axis, so that the entire body 9, including its bottom 12 and said spindle, will revolve relative to the base 5.

In instances where the musical instrument is sufficiently small to mount the motor 16 and its shaft 24 directly over the center of the bottom 12, the lower end of the shaft 24, which is then in the same relative position as the spindle 13, would be fixed to the base 5 and, in this manner, the use of the gears 26 and 27 would be dispensed with.

After the motor 16 has run down, the same may be rewound by either rotating the body 9 in an opposite direction from that in which it is driven by the motor, or by rotating the base 5 relative to said body in the same direction in which the latter is driven. In either event, motion is transmitted through the gears 27, 26 to rotate the shaft 24 and rewind the spring of the motor.

What is claimed is:

1. In a receptacle of the class described, a base, a body rotatable thereon, a musical instrument supported by the bottom of said body and including a prime mover having a shaft which extends through said body, a gear rotatable with said shaft, and a second gear fixedly secured to said base and engaging the first named gear.

2. In a receptacle of the class described, a base, a body rotatable thereon, a lid for the body, a musical instrument supported by said body and including a prime mover having a shaft extending through the bottom of said body in offset relation to the axis of rotation thereof, a gear carried by the shaft, a second gear fixed to said base concentric to said axis and engaging the first named gear, and means actuated by the removal of said lid from said body to control the operation of said prime mover.

3. In a receptacle of the class described, a base, a body rotatable on said base and having a bottom, a musical instrument in said body and mounted upon said bottom, a prime mover for said instrument also mounted upon said bottom and means depending from said prime mover and connected to said base to rotate said body when said prime mover is operating.

4. In a receptacle of the class described, a base, a body rotatable on said base, a musical instrument carried by said body, a spring motor for operating said musical instrument and including a shaft, and a connection between said shaft and base for rotating said body in one direction relative to said base and for tensioning the spring of said motor by another relative movement between said base and said body.

5. In a receptacle of the class described, a base, a body rotatable on said base, a musical instrument in said body and directly supported thereby and bodily rotatable therewith, a prime mover for said instrument also directly supported upon said body, and having a shaft extending therethrough, and a connection between said shaft and base whereby operation of said prime mover will rotate said body relative to said base.

In testimony whereof I have affixed my signature.

FRITZ KAYAN.