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COMPLETE SPECIFICATION.

Musical Box Playing Mechanism.

I, ERNST VOELK, of No. 45, Theaterstrasse, Fürth, Bayern, Germany, of German Nationality, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

Musical box playing mechanisms of the Swiss type are known comprising a sheet metal cylinder with projections punched up from the surface thereof, and rotated by means of a driving mechanism situated outside the cylinder.

The object of the invention is to produce a cheap and compact musical box.

According to the invention in a musical box playing mechanism of the Swiss type in which the cylinder is made of sheet metal with flaps punched up therefrom, in order to save space and simplify the whole construction, the driving mechanism is arranged in the cylinder and is controlled by means of a catch lever adapted to resiliently engage through an aperture in one end of the cylinder and lock the fly of the driving mechanism, thereby stopping the rotation of the cylinder.

As the punching of the flaps from the cylinder is inconvenient, it is proposed according to a further feature of the invention to punch these flaps from a flat metal sheet by means of dies cutting on a portion of their contour the sheet being then rolled to form the cylinder.

The reed comb cooperating with the flaps preferably comprises round or polygonal steel pins one end of each of which is cast in a block.

Two embodiments of the invention are illustrated in the accompanying drawing in which:—

Fig. 1 shows in top plan view a portion of the sheet metal strip in flat condition before being rolled to form a cylinder.

Fig. 2 is a side elevation of Fig. 1.

Fig. 3 is a front elevation of Fig. 1.

Figs. 4 to 6 are similar views to Figs. 1 to 3 respectively showing a modified form of construction.

Fig. 7 is a top plan view of the whole playing mechanism.

The musical box playing mechanism [Price 1/-]

consists of a sheet metal strip *a* or *b* designed to be rolled to form a cylinder. From this strip whilst in flat condition flaps *a'* or *b'* are punched up without waste by a punch only cutting on part of its contour in the arrangement corresponding to the notes to be produced, these tongues standing either transversely to the longitudinal direction of the strip and having rounded ends (Figs. 1 to 3) or standing in the longitudinal direction of the strip and having straight inclined front edges so that points in the direction of rotation of the cylinder are produced (Figs. 4 to 6). A driving mechanism *c* is accommodated within the cylinder made from the sheet metal strip. Thus, the secondary noises are considerably reduced and it is possible, by suitably arranging the wheel gearing or axle of the driving mechanism carrying the fly *g*, to stop the cylinder after each revolution by a single catch lever *h* which, resiliently engaging through a lateral aperture in the cylinder, locks the fly and at the same time stops the rotation of the cylinder. If, when the driving mechanism is wound, the lever *h* is swung outwards, its nose liberates the fly *g* and at the same time the cylinder, the nose slides on the side face of the cylinder until the cylinder has completed a revolution. The cylinder is rotatably mounted on a base plate *f*. This base plate also carries a block *e* of composition or other suitable material. The reed comb is fixed in this block *e* and is either punched from a single strip of sheet steel or other metal, or is composed of separate round or polygonal steel pins *i*, the inner ends of which, which may be roughened or flattened, and are cast in the block *e* of composition or other suitable material.

Such a musical box playing mechanism is cheap and simple to manufacture and produces perfect notes.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1.—A musical box playing mechanism of the Swiss type the cylinder of which

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- is made of sheet metal with flaps punched up therefrom, characterized in that the driving mechanism (*c*) for revolving the cylinder is accommodated in the cylinder and a catch lever (*h*) is adapted to resiliently engage through a lateral aperture in one end of the cylinder and lock the fly (*g*) of the driving mechanism thereby stopping the cylinder.
- 2.—A musical box playing mechanism as claimed in claim 1, characterized in that flaps are punched up from the metal sheet of the cylinder whilst in flat state by means of punches having cutting edges only on part of their contour, the metal sheet being subsequently rolled into cylindrical shape.
- 3.—A musical box playing mechanism as claimed in claims 1 and 2, characterized in that the bent up flaps lie transversely to the direction of rotation of the cylinder and have curved ends.
- 4.—A musical box playing mechanism as claimed in claims 1 and 2, characterized in that the bent up flaps lie in the direction of rotation of the cylinder and have a straight inclined front edge.
- 5.—A musical box playing mechanism as claimed in claims 1 and 2, characterized in that within the range of bent up flaps a reed comb is arranged in known manner, this reed comb comprising round or polygonal steel pins (*i*) cast in a block (*e*) of composition or other suitable material.
- 6.—A musical box playing mechanism as claimed in claims 1, 2 and 5, characterized in that the inner ends of the pins are roughened or flattened before being cast in the block.
- Dated this 6th day of November, 1933.
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[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1

Fig. 3

Fig. 4

Fig. 6

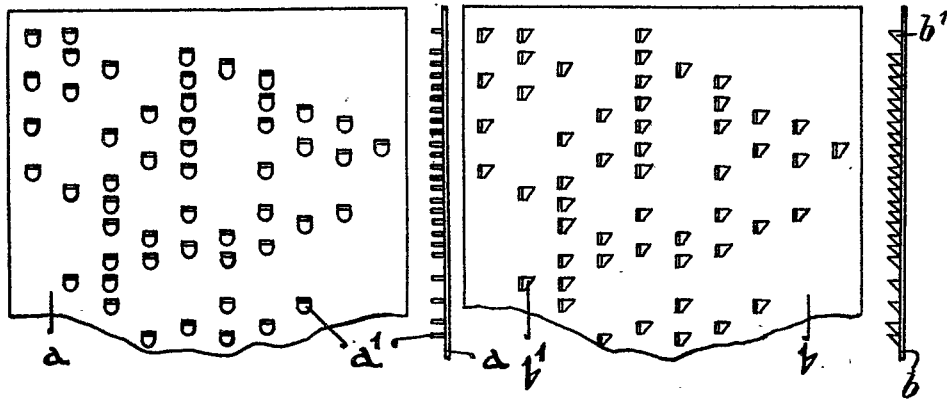


Fig. 2

Fig. 5

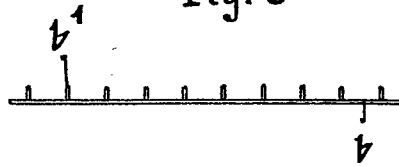
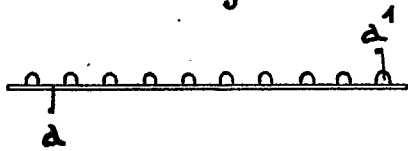


Fig. 7

