

(No Model.)

A. RICHTER.

DEVICE FOR VIBRATING TONGUES OF MUSIC BOXES.

No. 532,585.

Patented Jan. 15, 1895.

Fig. 1

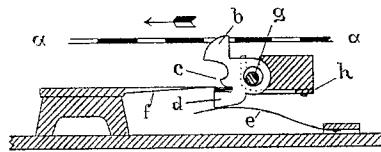


Fig. 2

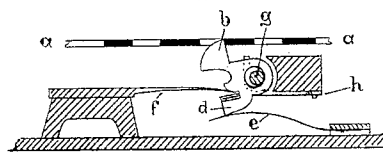


Fig. 3

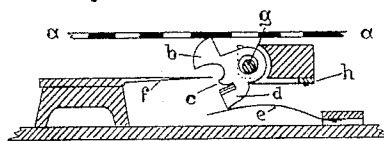


Fig. 4

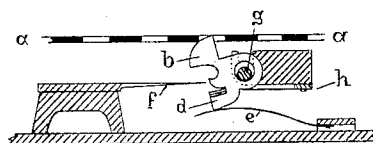
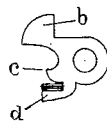


Fig. 5



Witnesses:

L. M. Hachschlager,
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UNITED STATES PATENT OFFICE.

ADOLF RICHTER, OF RUDOLSTADT, GERMANY.

DEVICE FOR VIBRATING TONGUES OF MUSIC-BOXES.

SPECIFICATION forming part of Letters Patent No. 532,585, dated January 15, 1895.

Application filed September 18, 1894. Serial No. 523,331. (No model.)

To all whom it may concern:

Be it known that I, ADOLF RICHTER, a subject of the King of Bavaria, residing at Rudolstadt, Germany, have invented certain new and useful Improvements in Devices for Vibrating Tongues of Music-Boxes, of which the following is a specification.

The present invention consists of a device for vibrating the tongues of music-boxes in which the contact wheel hitherto employed to strike the notes is developed into a pivoted hammer loosely mounted on a fixed spindle and provided with an upper projection adapted to engage with the slots of the note sheet or disk, a projection arranged thereunder to strike and vibrate the steel tongue producing the sound and a muffler arranged under the said tongue, all the said parts being situated at one and the same side of the hammer pivot. The hammer is loosely arranged on its pivot and capable of lateral movement on the same and is retained by a spring as hereinafter more particularly described, and located in such manner that when the upper arm or cam of the hammer is in engagement with one of the slots of the note sheet or disk the said hammer will be caused to move first forward, then downward, striking the note. Then the tongue which has struck the note is by the action of the said spring in combination with the note sheet or disk, moved horizontally or nearly so, backward on its pivot and may rise, when the next orifice of the note sheet comes, in front of and clear of the steel tongue.

In order to make the present specification more easily intelligible reference is had to the accompanying drawings in which similar letters denote similar parts throughout the several views.

Figure 1 is a side elevation of the device with the hammer in position previous to striking the steel tongue. Fig. 2 shows the hammer in the act of striking the tongue. Fig. 3 shows the position of the hammer after having struck the tongue; Fig. 4, the position of the same when rising into an orifice of the note sheet or disk; Fig. 5, a detail view of the hammer.

As shown in Fig. 5 the hammer is provided with the upper arm or cam *b*, a projection *c* below the same and a muffler or damper *d* below the latter, all these parts being arranged

on one side of the pivot. The projection *c* may either be rounded or pointed. Owing to this arrangement of the parts the center of gravity of the hammer will be displaced to one side of the pivot of the same and a spring *e* is advantageously employed (Fig. 1) to press against the damper *d* and balance the said hammer. In this position, the damper *d* which is covered with leather, felt or analogous material, will be held against the under surface of the steel tongue *f* as shown at Fig. 1, and consequently muffles or stifles the vibrations of the same. The pivot hole of the hammer is made larger than the diameter of the spindle *g* upon which it turns and the said hammer is pressed upward against its pivot spindle by means of a spring *h* in conjunction with the spring *e*, so that the hammer will rest eccentrically on its pivot spindle *g*. The hammer is in a position of equilibrium when the cam *b* of the same is in an orifice of the note sheet or disk, which moves over the hammers in the direction of the arrow as shown in Fig. 1. If now the rear end of one of the slots of the note sheet in which the cam *b* lies, strikes the latter, the whole hammer will first be pushed forward on its pivot owing to the bore of the same being larger than the diameter of the spindle. The spring *e* attached to the base plate of the mechanism and having its free end supporting the hammer will keep the latter up during its forward movement. On the further advance of the note sheet *a* the hammer will be depressed in its forward position striking and setting in vibration the steel tongue *f* with its projection *c* (Figs. 2 and 3). By this movement the hammer will be turned round its pivot sufficiently to allow the steel tongue to vibrate freely without coming into contact with the projection *c* or damper *d*. At the next orifice in the note sheet the cam *b* will be pushed into the same by the spring *e* its curved or cam surface contacting with the front end of the slot and thus simultaneously with the upward movement retaining the same in its backward position on the pivot *g*, and keeping the projection *c* clear of the steel tongue *f*.

The spring *h* presses the hammer on its pivot *g* and effects thus a steady and even movement of the same. The said spring *h* may however be omitted if the hammer is

provided with a horizontal slot instead of the enlarged pivot hole.

I claim as my invention—

5 1. The combination of a hammer having arranged at one and the same side of its pivot a cam *b*, a projection *c* and a damper *d*, a spring *e* mounted on the base plate to bear against the under surface of said damper and enlarged pivot hole and a pivot *g* substantially as described.

10 2. The combination of a hammer having at one and the same side of its pivot a cam *b*, a projection *c* and damper *d*, a spring *e* at-

tached to the base plate to bear against the under surface of said damper, an enlarged 15 pivot hole and a pivot spindle *g* therein, a second spring *h* to bear against the under surface of the pivot boss of the hammer substantially as described.

In testimony whereof I have signed my 20 name to this specification in the presence of two subscribing witnesses.

ADOLF RICHTER.

Witnesses:

CHAS. H. DAY,
W. HAUPT.