N° 11,816 A.D. 1900

Date of Application, 29th June, 1900—Accepted, 4th Aug., 1900

COMPLETE SPECIFICATION.

Improvements relating to Mechanical Musical Instruments.

I, Dr. Friedrich Adolf Richter, of 65, Schwarzburgerstrasse, Rudolstadt, in the Principality of Schwarzburg-Rudolstadt, in the Empire of Germany, Doctor of Philosophy and Manufacturer, 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:—

My invention relates to improvements in mechanical musical instruments of that type in which, by means of suitable actuating mechanisms, note-disks or sheets are rotated or moved across the instrument respectively for the purpose of intermittently operating sliding levers so as to cause the reeds to sound in correspondence with the notes of said disks or sheets; and the object of my invention is to provide means for obviating the troublesome and disagreeable noise caused by the slotted levers striking on their return travel against their pivotal pins or the wire forming their pivot.

I attain this object by the arrangement illustrated in the accompanying drawing, in which

Figures 1 to 3 are elevations of parts of a mechanical musical instrument showing the invention with levers of three different types respectively;

Figure 4 is an elevation corresponding to that of Figure 3 and showing a modification of the arrangement representing the invention;

Figure 5 is likewise an elevation showing the invention in use with a lever actuating two reeds simultaneously, and

Figure 6 is a detail view partly in section illustrating an essential part of the modified arrangement shown in Figure 4.

Similar letters refer to similar parts throughout the several views.

The stool supporting the toothed comb or the reeds *i* and the upright *l* supporting the sliding lever *b* are secured to the plate or bottom *n* of the musical box in the usual and well-known manner and are disposed or located at such distance from each other as to suit the conditions required for sounding the reeds or teeth of the tuned comb. As illustrated in the Figures 1 to 5, the lever *b* is provided with a longitudinal slot *d* through which the pivotal pin or wire *g* passes allowing the lever to slide endwise for the distance of the length of said slot. When a tune is being played the note-disk or sheet *c* travels in the direction indicated by the arrow, and at proper intervals just as the tune may require, the nose *a* of the lever *b* will pass through a slot in the disk or sheet and thereby assume the position shown in the drawing. Owing to the pressure of a spring *e* the lever *b* tends to bear with one end of its slot *d* against the pivot *g*, see Figures 1 to 3. As soon as the nose *a* enters the slot of the disk or sheet the lever is taken along with said disk or sheet for a short distance that is to say, a distance equal to the length of the slot *d*, and will now assume a position relative to the pivot *g* such as shown in Figure 5. The lever *b* is then turned around its pivot by the disk or sheet in the usual and well-known manner so that the reed *i*, Figures 1 to 4, or the reeds *i*, Figure 5, actuated by the nose or noses *f*, respectively, of the lever will be caused to sound and the lever *b* will slip out of the slot in the disk

whereupon the spring *e* will draw back the lever to the initial or normal position relative to the pivot, as shown in Figures 1 to 3.

In mechanical musical instruments known heretofore, sliding levers of the kind set forth above, proved to be highly inconvenient for the reason of the troublesome and disagreeable noise they produce by striking against their pivots at the end of their return travel under the action of the spring. According to the present invention the slot *d* of the lever is fitted with a little piece or block of elastic material such as cork, rubber or any similar and equivalent means such as a small spring which may be disposed with one end rigidly attached to the lever *b* so that the said block, or the free end of the spring, respectively, will strike and bear against the pivot *g* when the lever *b* (on having actuated the reed) is drawn back by the spring to the position relative to the pivot as shown in Figures 1 to 3.

In the drawing, Figures 1 to 3 and 5, show a rectangular or prismatic block *h*, preferably of rubber, located within the slotted lever for the purpose above referred to. Said block is embedded in a correspondingly shaped transverse slot provided in the lever at one end of the pivotal slot so that the block will form the end of the slot *d* at one end thus to serve as a buffer between the lever and its pivot and to receive the shock or impact which the spring controlled lever will impart to its pivot after every actuation of the corresponding reed or prong of the tuned comb.

In the modified form of buffer shown in Figures 4 and 6, a small spring *k* is firmly attached to the face of the lever by means of a pin *m* and extends with its free end across the pivotal slot *d* in the lever *b* so as to be in engagement with the pivot *g* and to receive the shock or impact imparted by the lever *b* to the pivot *g* when travelling home after each actuation of the corresponding reed.

I am aware that prior to my invention longitudinally slotted levers sliding on their pivots have been in use with mechanical musical instruments for the purpose of operating or actuating the reeds, no means, however, have, as far as my knowledge goes, been employed heretofore for the purpose of avoiding the troublesome noise originating from the harsh contact of the pivot with the lever returning to the rest position after the actuation of the reed.

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. In a mechanical musical instrument having a slotted sliding lever to operate the reeds, the combination with the slotted lever, of a body of elastic material as described and disposed within the slotted lever to bear normally against the pivot of the said lever, all substantially as and for the purpose set forth.

2. In a mechanical musical instrument having a slotted sliding lever to operate the reeds, the combination with the slotted lever, of a block *h* of elastic material shaped as described and fitting a correspondingly shaped transverse slot adjacent to the end of the sliding slot containing the pivot *g*, substantially as and for the purpose specified.

Dated this 29th day of June 1900.

HASELTINE, LAKE & Co.,
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Agents for the Applicant.

Redhill: Printed for Her Majesty's Stationery Office, by Malcomson & Co., Ltd.—1900.

A.D. 1900. JUNE 29. N°. 11,816.

RICHTER'S COMPLETE SPECIFICATION.

(1 SHEET)

Fig. 1.

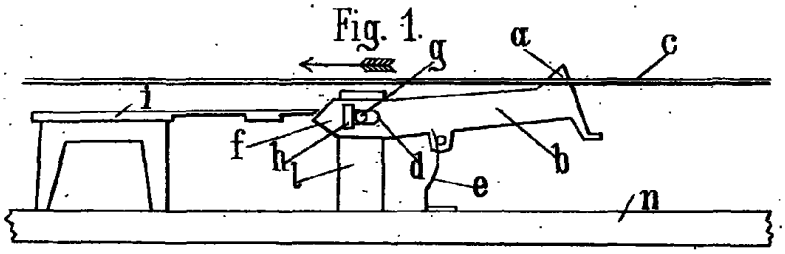


Fig. 2.

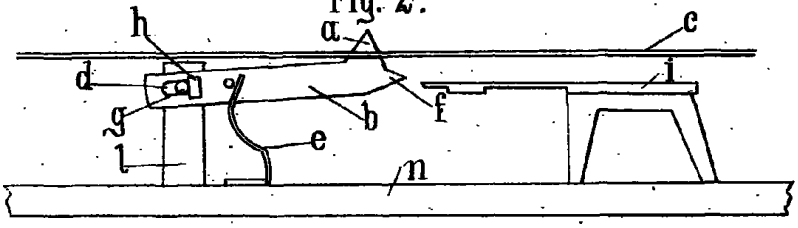


Fig. 3.

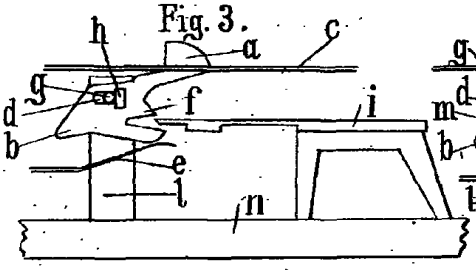


Fig. 4.

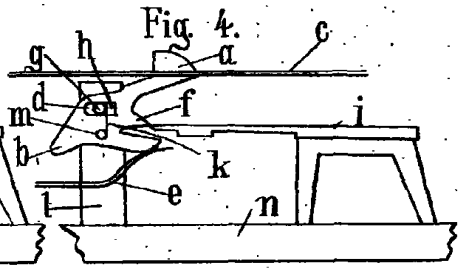


Fig. 5.

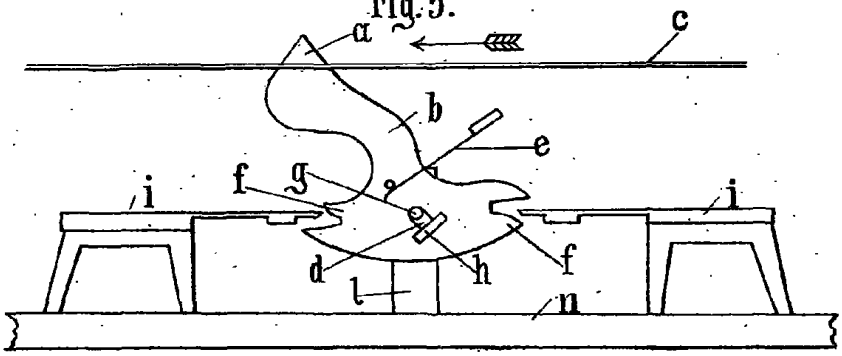
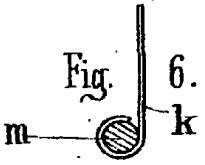


Fig. 6.



[This Drawing is a reproduction of the Original on a reduced scale.]

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