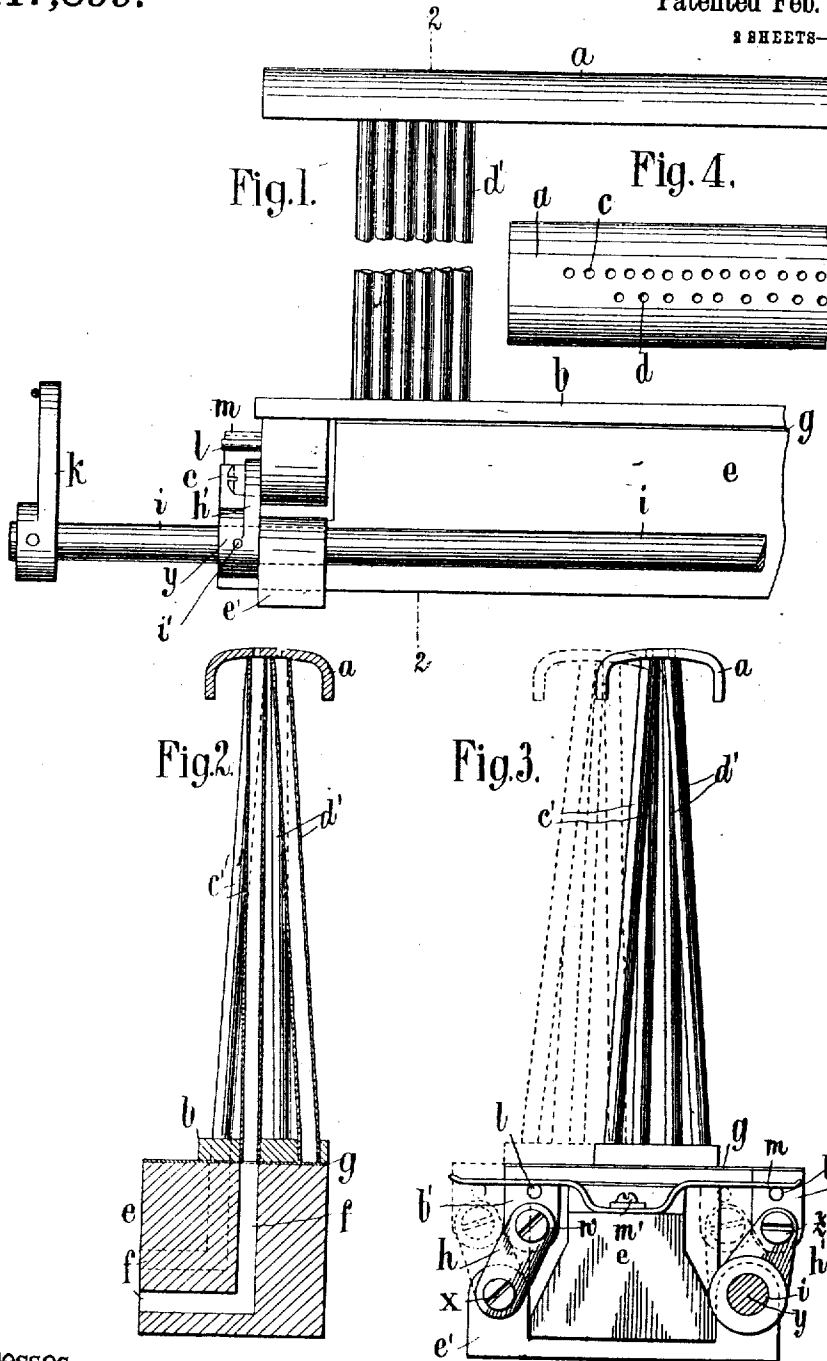


R. FRÖMSDORF.
MECHANICAL MUSICAL INSTRUMENT.
APPLICATION FILED MAY 18, 1908.

947,899.

Patented Feb. 1, 1910.

2 SHEETS—SHEET 1.



Witnesses.

Jesse N. Lutton.
C. M. Rommels

Inventor.

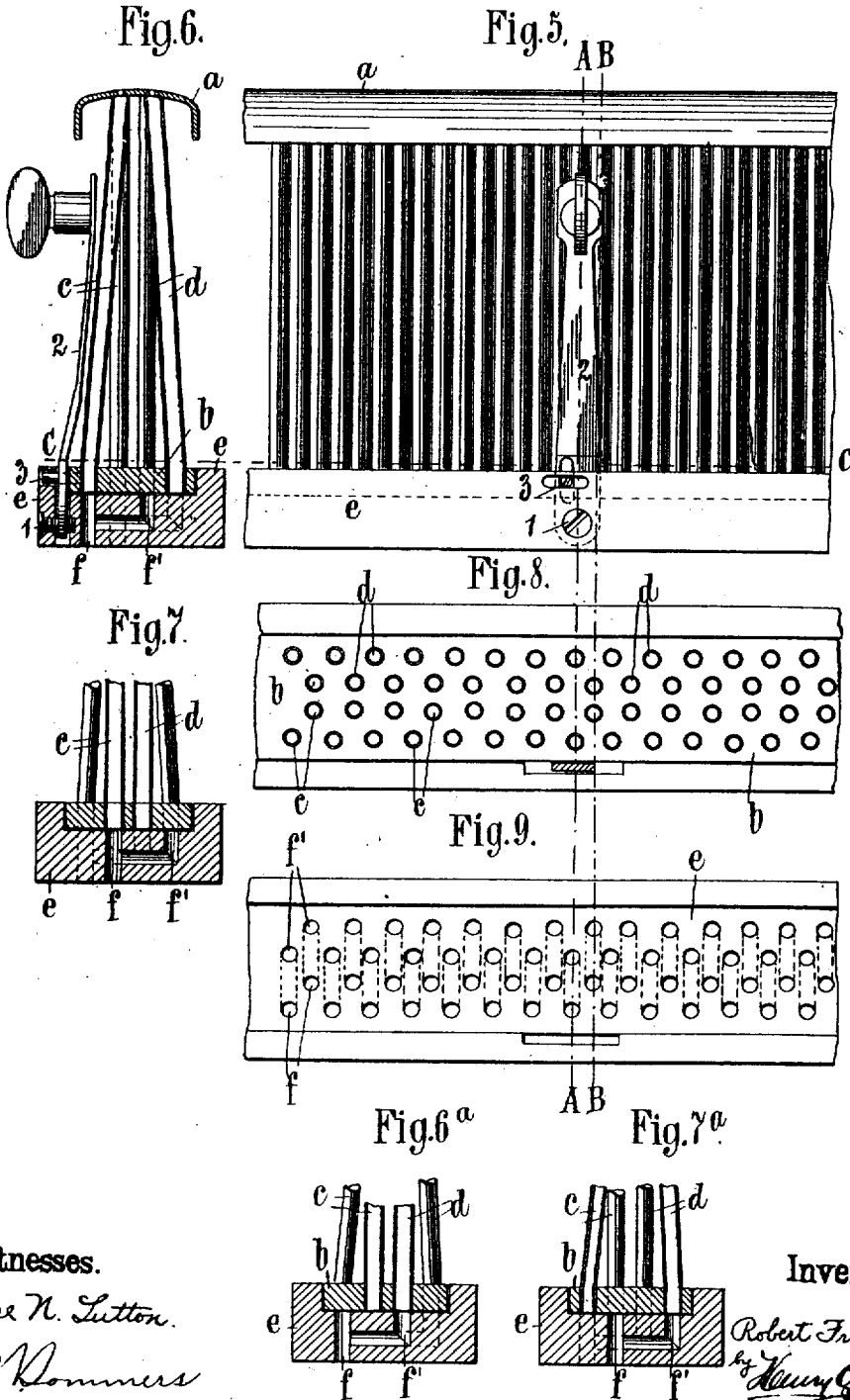
Robert Frömsdorf
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Robert Frömsdorf
by *Henry Oth. J.*
Aug.

UNITED STATES PATENT OFFICE.

ROBERT FRÖMSDORF, OF LEIPZIG-EUTRITZSCH, GERMANY, ASSIGNOR TO THE FIRM OF LUDWIG HUFFELD AKTIENGESSELLSCHAFT, OF LEIPZIG, GERMANY.

MECHANICAL MUSICAL INSTRUMENT.

947,899.

Specification of Letters Patent.

Patented Feb. 1, 1910.

Application filed May 18, 1908. Serial No. 433,422.

To all whom it may concern:

Be it known that I, ROBERT FRÖMSDORF, a subject of the King of Saxony, residing at Leipzig-Eutritzsch, Germany, have invented certain new and useful Improvements in Mechanical Musical Instruments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same; reference being had to the accompanying drawings, and to letters and figures of reference marked thereon, which form a part of this specification.

The perforated note sheets of various pneumatically operated musical instruments are not all of the same dimensions nor are the perforations the same distances apart across the sheet and in order to adapt an instrument to the use of these differently constructed sheets it has been in some cases customary to use a plurality of tracker bars capable of being disconnected in various manners from the suction mechanism when not to be used. These tracker bars have been arranged one behind the other or side by side. The perforations or canalization of these bars are made in accordance with the particular dimensions of the note sheet to be used.

According to the present invention I use a single tracker bar having a plurality of sets or lines of openings and capable of being shifted so as to bring any one of a number of sets of perforations into operative position and by doing so I have decreased considerably the cost of manufacture of these instruments. While the perforations or openings in the tracker bar may be either of different size or different distances apart or both they are connected to the bottom of the bar in a manner to register with a single set of channels at their bases.

Referring to the drawings in which like parts are similarly designated; Figure 1 is an elevation of the tracker bar; Fig. 2 is a section on the line 2—2 of Fig. 1; Fig. 3 is an end view; Fig. 4 is a plan view of a bar showing two sets or lines of holes; Fig. 5 is an elevation of another modification of the tracker bar; Fig. 6 is a section on the line A—A of Figs. 5, 8 and 9; and Fig. 6^a is a section on the same line, but with the base in shifted position. Fig. 7 is a section on the line B—B of the Figs. 5, 8 and 9; and Fig.

7^a is a section on the same line, but with the base in shifted position. Fig. 8 is a section on the line C—C of Fig. 5, and Fig. 9 is a top plan view of the channel block, the base being removed.

In Figs. 1—4 the tracker bar proper consists of a crown *a* and a base *b*. The crown *a* being in the present instance provided with two sets of holes *c d* which are connected respectively by pipes *c' d'* to the base *b*. The base *b* is mounted to slide on a channel member or block *e* provided with channels or openings *f* leading to the usual tone generating mechanism. Between the base *b* and the block *e* we provide a suitable packing *g* in order to make a tight joint between *b* and *e* and the particular form of packing which I prefer to use is the soft leather. At each end of the base *b* I provide blocks or depending ears or the equivalent *b'* and in these ears I mount pins *l*. At each end of the block *e* I provide a suitable base *e'* in which are mounted pivots *x* and *y* connected by links *h* and *h'* to pivots *w* and *z* on the depending ears or lugs *b'*. These links *h* and *h'* are inclined and have substantially the same inclination and direction so that the base *b* will be connected to the base *e'* by means of a parallel motion formed by the links *h* and *h'* and their pivots.

One of the pivots *y* is formed as an actuating shaft *i* extending along the block *e* to its opposite end where it is connected to a similar parallel motion. The link *h'* is rigidly connected to this shaft, for example, by pin *l'*. The shaft is oscillated by any suitable mechanism for example a handle or lever *k*. By moving the lever *k* to rock the shaft *i* the links *h* and *h'* and the tracker bar will be moved into the dotted position shown in Fig. 3, thereby lifting the tracker bar slightly from the block *e* and moving it laterally and down again on to the block *e* throwing the set of openings *c* out of register with the channels *f* in the block *e* and simultaneously bringing the openings *d* into register therewith.

In order to hold the tracker bar air tightly in position I provide a leaf spring *m* secured at its center by a screw 2 to the block *e*. The free ends of this spring take over the pins *l* and thereby hold the base *b* down on to the block *e*.

In the modification shown in the Figs. 5—9 the base *b* is mounted to slide in a

longitudinal direction on the channel member or block *e*. The block *e* is provided on the upper side with a number of holes or channels *f f* and *f' f'* corresponding to the number of holes *c* and *d* in the base *b*.

The holes in the base *b* and the block *e* are arranged in such a manner, that in the one position of the base *b* shown in section in Figs. 6 and 7 the holes *c* correspond with the channels *f* in the block *e*, while the connection between the holes *d* in the base *b* and the channels *f'* in the block *e* is interrupted.

In the other position of the parts shown in Figs. 6^a and 7^a the holes *d* in the base *b* correspond with the channels *f'* in the block *e* and the connection between the holes *c* in the base *b* and the channels *f* in the block *e* is interrupted. The channels *f'* in the block are led in the channels of the same, leading to the usual tone generating mechanisms.

The mechanism to shift the tracker bar to register any one of the sets of openings with the channel member consists of a lever 1 connected by a pivot 2 with the block *e* and having a longitudinal opening 3.

In the opening 3 slides the pivot 4 connected with the base *b*. By moving the lever 1 the tracker bar is brought in the positions shown in Figs. 6 or 7 and the one or other set of openings in the crown *a* is brought in connection with the tone generating mechanisms.

In the modification shown in Figs. 5—9 it is not necessary that the openings in the base *b* have the same distance in the several sets of openings.

The number of holes and channels in the base *b* or sets of holes or channels and the block *e* may be altered in a convenient manner.

I claim:—

1. The combination with a channel member, of a tracker bar having a plurality of sets of openings and mechanisms to longitudinally shift the tracker bar to register with any one of the sets of openings of the channel member.

2. The combination with a channel member of a tracker bar having a plurality of sets of openings in its crown, a base, means to connect these openings with the base to be capable of registering with the channels in the channel member, and mechanism to longitudinally shift the tracker bar to bring any one of the sets of openings into registration with the channels in the channel member.

3. The combination with a tracker bar having a crown provided with a plurality of sets of openings, the openings of each set being different distances apart, a base, means to connect the openings of each series with the base, a channel block and a longitudinal motion device to move the tracker bar to bring any one of sets of openings into register with the channels in said block.

4. The combination with a tracker bar having a crown provided with a plurality of sets of openings, a perforated base, and means to connect the openings of each set in the crown with the perforations in the base; of a block having sets of air passages therein and its upper face having a longitudinal channel in which the said base is capable of sliding.

5. The combination with a tracker bar having a crown provided with a plurality of sets of openings, a perforated base, means to connect the openings of each series with the perforations in the base, a block having a set of air passages therein on which the base is capable of sliding and a lever pivoted to the block, and having a slot therein, and a pin engaging said slot and secured in the base, to longitudinally slide the tracker bar on the block to connect a different set of openings in the crown with the air passages in the block.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

ROBERT FRÖMSDORF.

Witnesses:

EMIL GEUDTNER,
RUDOLPH FRICKE.