(No Model.) 2 Sheets—Sheet 1.

F. PIETSCHMANN.

MECHANICAL MUSICAL INSTRUMENT.

No. 363,480. Patented May 24, 1887.

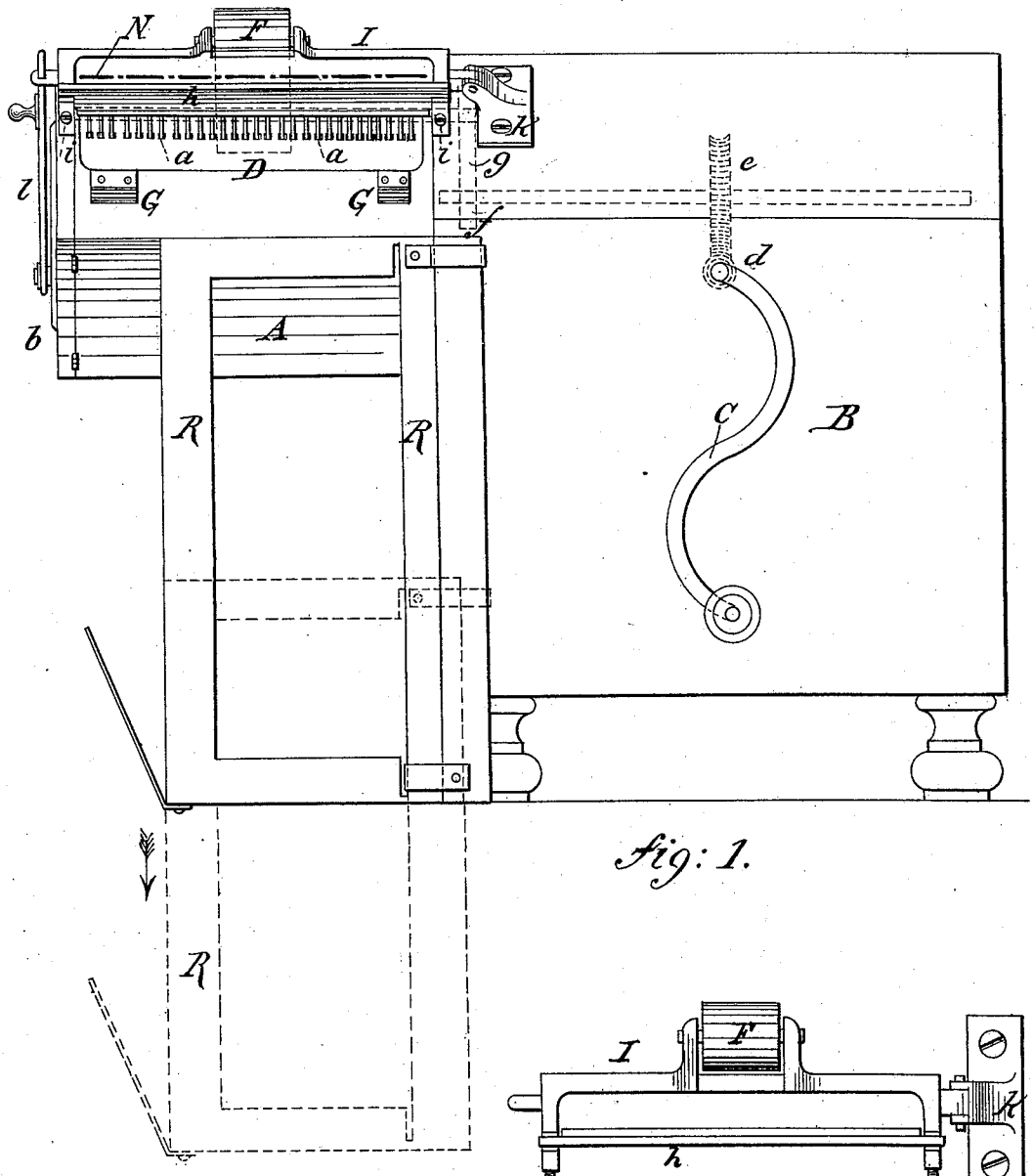


Fig: 1.

Fig: 3.



Fig: 5.

WITNESSES:

D. Petri-Palmedo.

Carl Kapp

INVENTOR

Ferdinand Pietschmann

BY Goepel & Paegener

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

F. PIETSCHMANN.

MECHANICAL MUSICAL INSTRUMENT.

No. 363,480. Patented May 24, 1887.

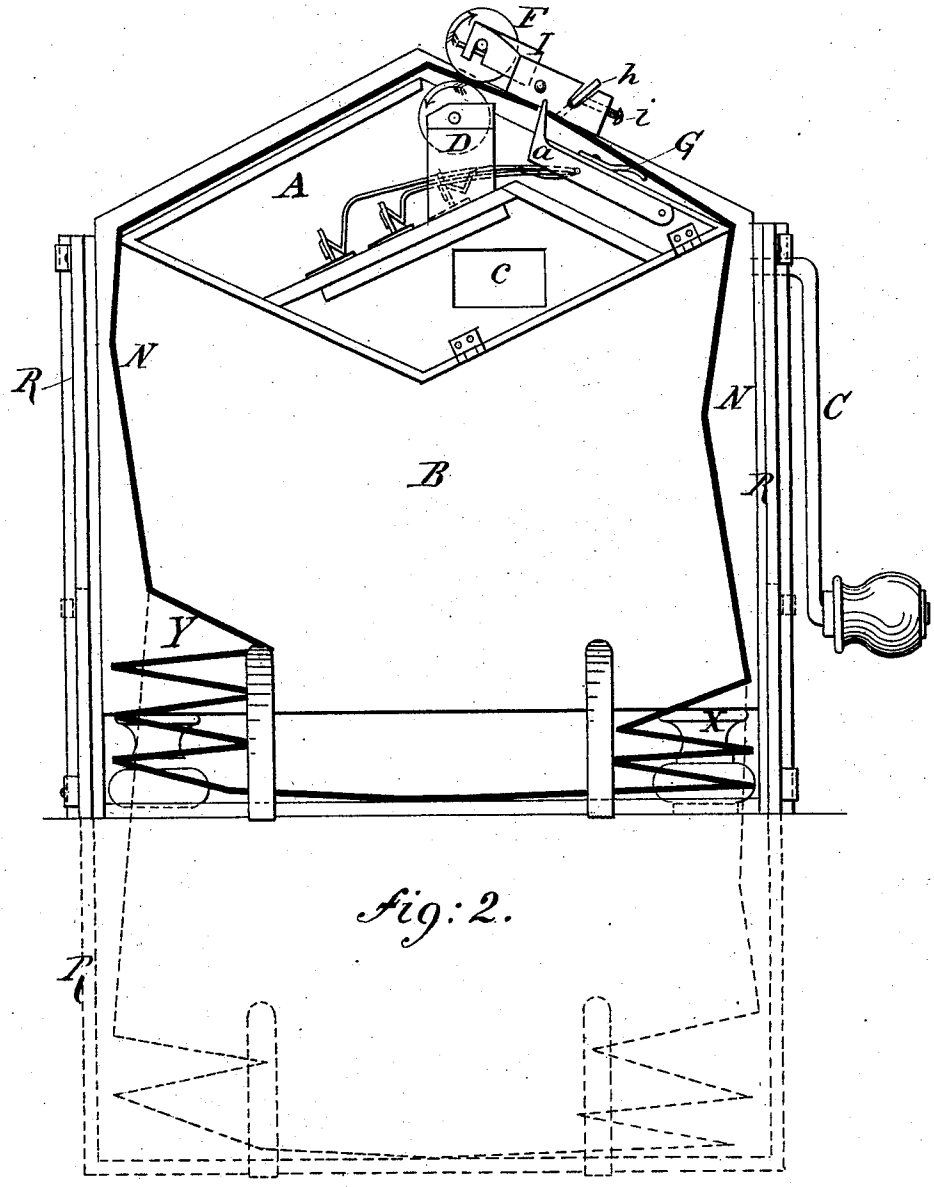


Fig: 2.

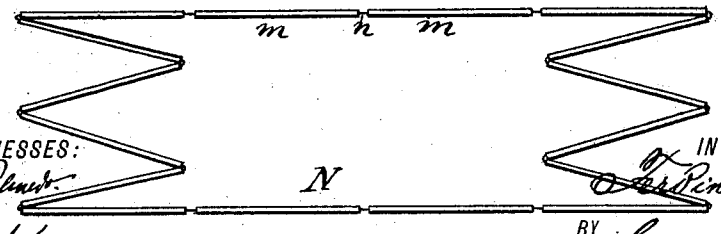


Fig: 4.

WITNESSES:
S. Petri-Palmer.
Carl Kurz

INVENTOR
Ferdinand Pietschmann
BY
Goepel & Raegener
ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

FERDINAND PIETSCHMANN, OF BERLIN, GERMANY.

MECHANICAL MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 363,480, dated May 24, 1887.

Application filed March 12, 1887. Serial No. 230,586. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND PIETSCHMANN, a subject of the King of Prussia, German Emperor, and a resident of the city of Berlin, German Empire, have invented certain new and useful Improvements in Mechanical Musical Instruments or Hand-Organs, and in the perforated music-sheets by which they are operated, of which the following is a specification.

This invention relates to improvements in mechanical musical instruments or hand-organs, and in the perforated music-sheets by which they are operated.

Hand-organs operated by means of perforated music sheets or bands, as hitherto constructed, have the following defects: First, the music sheets or bands cannot be conveniently replaced in the organ, and, second, the said sheets or bands are not properly guided in their travel within the instrument while the latter is being played, so that the said sheets become easily locked, and the instrument then ceases to be of any practical use.

In instruments where rollers are employed, one for winding up the music-sheet while the other unwinds the same, it is requisite to change these rollers, or parts of them, whenever a music-sheet is to be replaced by another, which requires a very careful manipulation in order that the instrument may continue to operate efficiently. In instruments where endless music-bands are used one is limited to a constant length of band.

Now, according to this invention, and in order to enable a change of music-sheets to be effected in the easiest and most practicable manner possible, and to permit the use of music-sheets of suitable lengths, whether endless or not, the music-box is placed entirely outside the instrument—that is to say, on the side of the casing containing the wind and the motor mechanism—the music-sheets being guided in such a manner that they can be simply hung over the music box. This arrangement allows at the same time, by opening or withdrawing a lateral door or valve, access to the sonorous reeds and to the key-board, and hence facilitates repairs, which, in instruments of this class as heretofore constructed, could only be effected with great difficulty.

In the accompanying drawings, Figure 1 is a side elevation of a hand-organ constructed according to this invention; and Fig. 2 is a front elevation of the same, one of the side flaps or covers having been removed.

The music-box, or box containing the reeds and the key-board, is carried, as shown in Fig. 1, at one side of the main casing or box of the instrument, which contains the bellows and the motor mechanism, and this arrangement is effected in such a manner that the music-sheet N, composed, by way of example, of several flexible parts or members, *m*, connected together as hereinafter described, may be hung upon the projecting music-box, as clearly shown in Fig. 2. The said music-sheet N is actuated or driven by means of two rollers, D and F, covered with india-rubber, the lower roller, D, being arranged within the music-box A and set rotating by the crank-handle C, with the aid of any suitable mechanism, or, as shown by way of example, by means of the toothed wheels *f g*, the worm-wheel *e*, and the endless screw *d*. The upper roller F is mounted in a frame, I, Fig. 3, connected to the casing B by means of the hinges *k*, and is capable of being firmly secured in position by a hook or bolt, *l*, or by other similar device, arranged upon the cover *b* or upon the box A. The music-sheet N is pressed upon the levers *a* of the key-board by means of a rail, *h*, likewise held by the frame I, Fig. 3. This rail *h* is capable of moving in the said frame, and can be secured in position by the set-screws *i*. It further serves to regulate the power with which the levers *a* may be pressed downwardly.

The cover *b*, which serves as a means of closing the side of the box A, is connected to the latter by hinges; but it may, however, be fixed thereto by screws.

When it is required to place a music-sheet upon the music-box, the hook *l* is released, the frame I is raised, and the sheet is hung upon the said box. The frame I is next lowered or folded over and secured in position. The instrument is then ready to be played. While the music-sheet is being played out it hangs freely on both sides of the music-box A, and the parts or members thereof, which are taken up at X, are laid automatically one upon an-

other at Y after having been played out. The music-sheet is guided so as to be laid down with perfect freedom, and its motion and operation can be watched, while the size of the instrument is entirely independent of the length of the sheet used.

When music-sheets of very great length are made use of, sufficient room must be left below the box for the same; and in order to prevent the sheet from spreading out behind or before the instrument, there is provided by the side of the music-box a movable frame or drawer, R, Figs. 1 and 2, which serves as a receptacle or support for the said music-sheet, and which can be drawn down after the instrument has been moved against the edge of a table. Within this frame or drawer the sheet lays itself in folds, in the manner of the leaves of a book, and in such a way that it cannot leave the said frame.

From the above arrangement it may happen that a fold or bend of the sheet formed of parts or members may be drawn upwardly between the key-board and the rail *h*, and injury may be caused to the mechanism. In order to obviate such injury, two blades or tongues, G G, Figs. 1 and 2, fixed to the music-box, prevent the passage of such fold or bend, and the sheet rises up much more, while its adjoining member falls back.

In order to easily manufacture music-sheets of great length, the said sheets are formed, as before mentioned, of several parts or members, which are connected together end to end by means of strips of parchment, pig's leather, or any other thin material of the same nature. Fig. 5 illustrates on an enlarged scale the mode of connecting together these various parts or members. The opposite ends of two of such parts or members *m* are split, and the strips *n*, which have been previously coated with some adhesive substance, are inserted in these slits and the joint is firmly pressed together. Fig. 4 shows an endless music-sheet formed of parts or members *m* connected together in the manner above described. By means of such connections the ends of these parts or members can be so well joined together that the passage of such connections during the travel of the music-sheet has not in the least any damaging influence upon the operation of the levers *a*.

Instead of rollers for feeding the music-sheet, other contrivances may be used, such as pin-wheels, spur-wheels, endless screws, and the like. In such cases the roller F can be dispensed with.

I claim—

1. A mechanical musical instrument having its casing provided on one side with a fixed projection for supporting a music-sheet, which projection contains the key-board and reeds, and mechanism for shifting the music-sheet, substantially as shown and described.

2. A mechanical musical instrument constructed with a fixed projection on one side of its casing for supporting the music sheet, which projection contains the key-board and reeds, and a rail in a hinged frame on said projection for pressing the music-sheet on the key-board, substantially as herein shown and described.

3. A mechanical musical instrument constructed with blades or tongues G, for preventing the folds of the music-sheet passing under the sheet-holding frame, substantially as shown and described.

4. A mechanical musical instrument provided with a sliding frame or extension for receiving music sheets or bands of great length, substantially as shown and described.

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

FERDINAND PIETSCHMANN.

Witnesses:

B. ROI,

RICHARD MARTIENSSEN.