J. H. CHASE.

Mechanical Musical Instrument.

No. 204,949. Patented June 18, 1878.

FIG. 1.

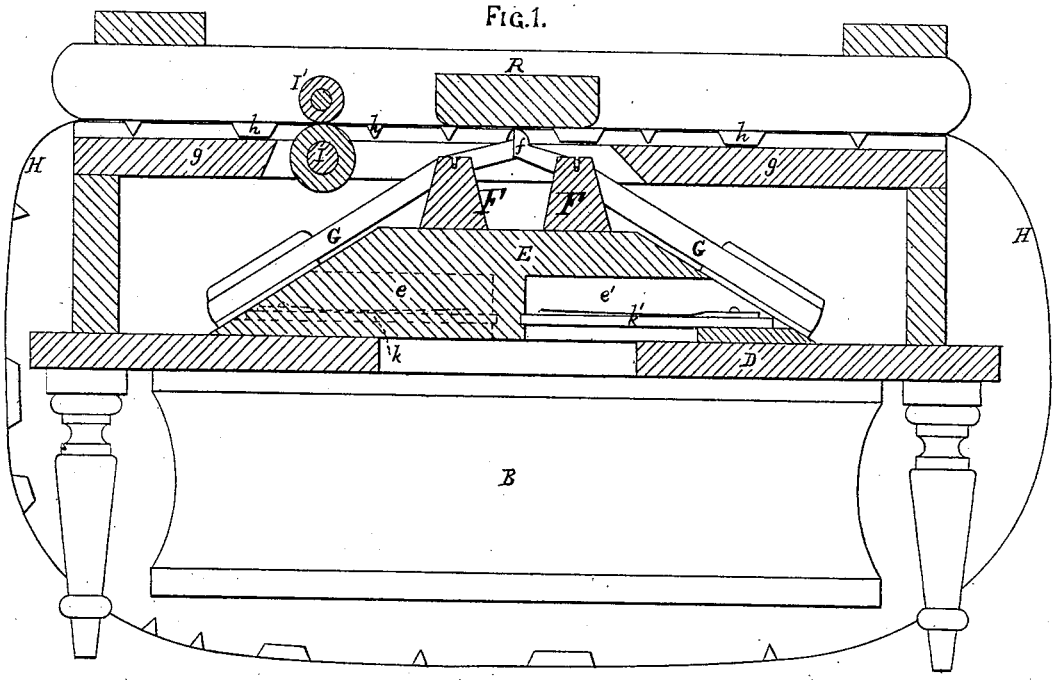


FIG. 2.

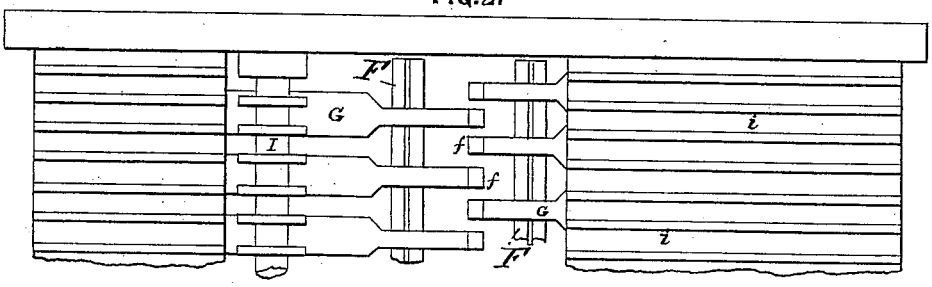
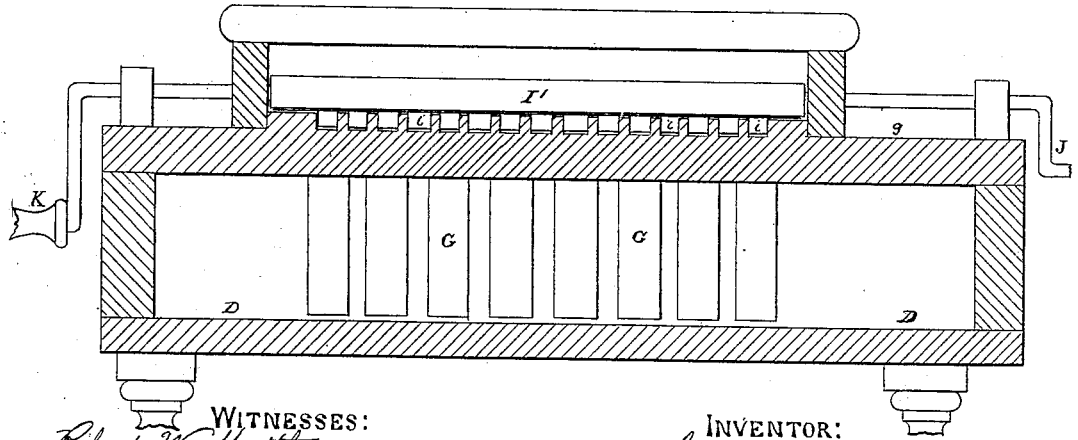


FIG. 3.



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J. HERBERT CHASE, OF CAMBRIDGEPORT, MASSACHUSETTS.

IMPROVEMENT IN MECHANICAL MUSICAL INSTRUMENTS.

Specification forming part of Letters Patent No. **204,949**, dated June 18, 1878; application filed December 19, 1877.

To all whom it may concern:

Be it known that I, J. HERBERT CHASE, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Mechanical Musical Instruments, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to mechanical musical instruments; and it consists in combining a music-sheet, provided with projections or studs on its surface, with a series of lever-valves, constructed and arranged to be held to their seat or bed by their own weight and by pneumatic pressure.

It also consists in combining the said music-sheet with a tube-board or reed-chest having the reeds arranged alternately in two rows, for the purpose of economizing space and paper.

Referring to the drawings, Figure 1 is a sectional elevation, representing the main parts of my improved instrument. Fig. 2 is a plan view, showing the arrangement of the valves, the operating paper sheet being removed. Fig. 3 is a sectional elevation of one of the ends of the instrument.

The bellows are constructed on the ordinary suction principle.

On the top of the platform D is the reed-chest E. The reeds K K are arranged in two rows in alternate rotation, so as to bring the reeds within as narrow compass as possible. On the top of the reed-sheet E are two grooved rails, F F, arranged parallel with each other. Mounted on these rails F F are the lever-valves G G. The cam-points *f* reach through the platform *g* to the operating-sheet H. Glued to the under surface of this operating-sheet H are patches of wood *h*, of suitable lengths, and arranged at intervals agreeable to the tune or music to be produced. The platform *g* is provided with grooves *i*, to allow the passage of the studs or projections on the operating-sheet H. The partitions between the grooves serve to guide said studs to the levers which they are designed to operate. The operating-sheet H is moved along between the feed-rollers I I′, the roller I being grooved in correspondence with the grooves on the platform *g*. The roller I′ is covered with rubber. The roller I is grooved to correspond with the grooves *i* in the platform *g*. On the end of the roller I′ is a crank, J. On the other end is a handle, K. When the handle K is turned the bellows are operated through the medium of the crank J and other suitable mechanism, and the operating-sheet H is drawn along and over the cam-points *f*, which are depressed at suitable intervals by the patches of wood *h*, and thus the lever-valves G G are opened and air admitted to the reeds *k k′*. As the cam-points *f* are released the lever-valves G G fall to their seats, to which they are closely sucked by the exhaust power of the bellows, no valve-springs, such as would be necessary in connection with pressure-bellows, being required. The operating-sheet H is held down by the cap R.

I do not confine myself to the precise form of construction hereinbefore described. It is evident that many modifications may be made without exceeding the limits of my invention.

Instead of employing patches of wood, other material might be used, or the paper might be embossed.

The grooved platform *g* may be substituted by a series of wire guides answering to the partitions between the grooves on the platform *g*.

I am aware that embossed paper or other flexible material having projections from its surface for the purpose of operating musical instruments is not new, and such I do not claim, broadly; but

What I claim, and which is set forth in the following clauses, is—

1. The lever-valves G G, mounted on the outside of the bevel-faced tube-board E, arranged relatively to the wind-reservoir chest B, so as to be adapted to be held to their seat or bed by their own weight and by pneumatic pressure, in combination with a music-sheet provided with projections or studs on its surface, as described.

2. In a mechanical musical instrument, the combination of the music-sheet H, the grooved platform *g*, the grooved roller I and friction-roller I′, and lever-valves G G, when said parts are constructed and arranged to operate substantially as described and shown.

3. In a mechanical musical instrument in which is employed an endless band or detached sheet of paper or other flexible material having projections from its surface for the purpose of operating valves, the reeds *k k′*, arranged alternately in two rows, substantially as and for the purpose set forth.

J. HERBERT CHASE.

Witnesses:

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