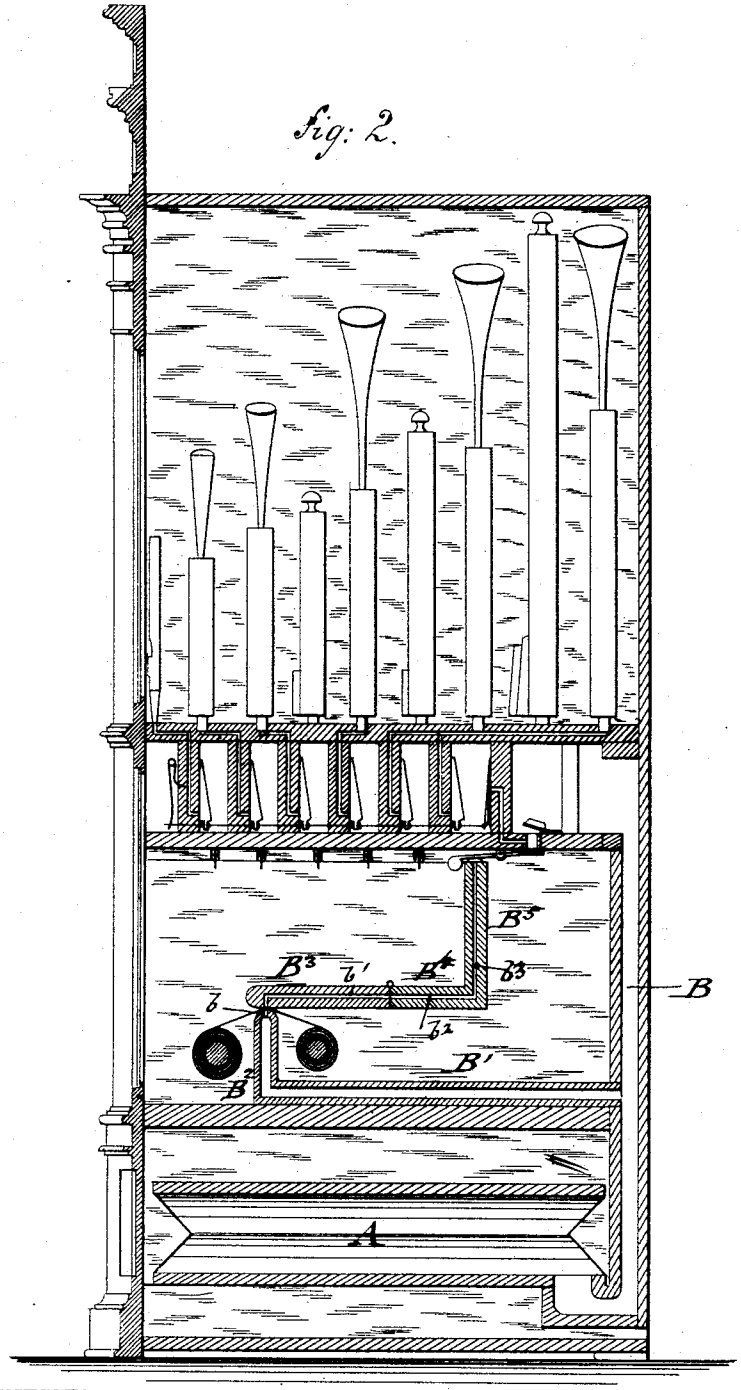
(No Model.) 3 Sheets—Sheet 2.

E. WELTE.

MECHANICAL MUSICAL INSTRUMENT.

No. 287,599. Patented Oct. 30, 1883.

Fig. 2.



WITNESSES:

A. Schehl.

Otto Fisch.

INVENTOR

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BY Paul Goepel.

ATTORNEY

(No Model.) 3 Sheets—Sheet 3.

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Fig. 3.

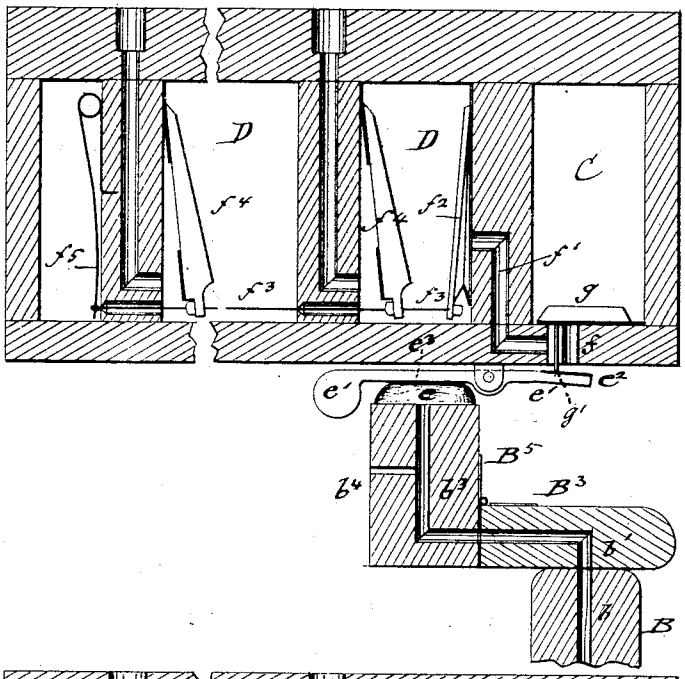
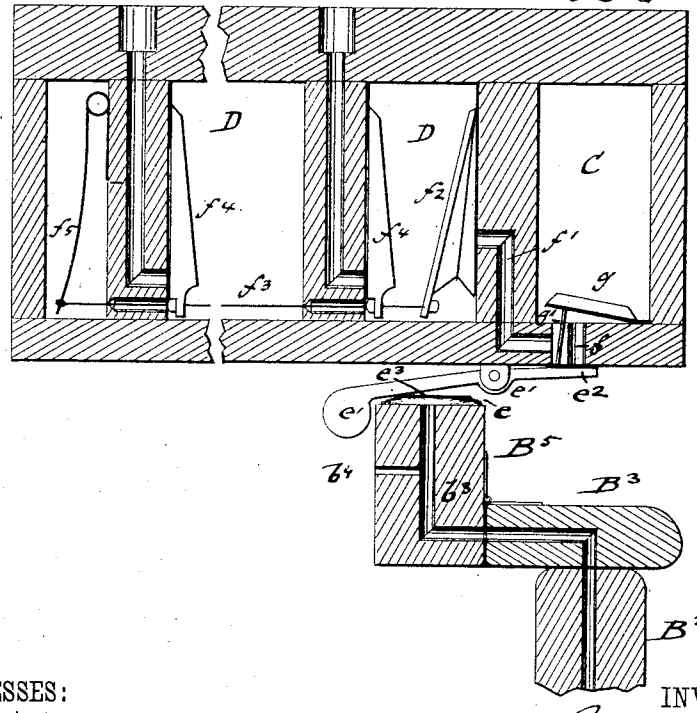


Fig. 4.



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UNITED STATES PATENT OFFICE.

EMIL WELTE, OF NEW YORK, N. Y.

MECHANICAL MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 287,599, dated October 30, 1883.

Application filed January 2, 1883. (No model.)

To all whom it may concern:

Be it known that I, EMIL WELTE, of the city, county, and State of New York, have invented certain new and useful Improvements in Mechanical Musical Instruments, of which the following is a specification.

This invention relates to mechanical musical instruments in which the wind is supplied at the proper time to the different registers, as well as to the individual reeds, pipes, and other sound-producing devices, by means of a traveling sheet of perforated paper.

The invention consists in certain combinations of parts, hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents a front elevation, with the lower part in section, of an orchestrion with my improved pneumatic valve-action. Fig. 2 is a vertical transverse section of the same; and Figs. 3 and 4 are detail vertical transverse sections of the valve-action, showing the same, respectively, in open and closed position.

Similar letters of reference indicate corresponding parts.

A in the drawings represents the main bellows of an orchestrion or other musical instrument. The bellows are operated in the usual approved manner, and connected by main air-channels B to the wind-chests C, by which the air is supplied to the different registers D of the instrument. These registers are arranged below the reeds, pipes, and other sound-giving parts of the instrument, a larger or smaller number of registers being used, according to the number of sounding devices in the instrument. Whenever any one of the reeds or pipes is to be sounded, the valve C′ of its register, as well as the valve of the special reed or pipe, has to be opened, so as to supply the wind for sounding the reed or pipe. This is accomplished by means of a branch air-channel, B′, that is provided with a vertical portion, B^2, the upper edge of which is rounded off, and made of sufficient width to guide the perforated strip of paper, by which the sound-producing devices of the instrument are thrown into action. The upper rounded-off edge of the channel B^2 has as many holes *b* as there are register-valves and individual reed or pipe valves in one of the registers. These holes *b* communicate with a corresponding number of air-channels, *b′*, of a hinged and weighted piece, B^3, that bears with such pressure on the perforated sheet which passes between it and the rounded-off edge of the air-channel B^2 that the paper may be readily moved through between the same by suitable mechanism, it being unwound from a roller at one side and wound up on a roller at the other side of the upright channel B^2. By raising or lowering the hinged piece B^3 the perforated sheet can be readily placed in position for being moved forward.

The air-ducts *b′* of the piece B^3 communicate with a corresponding number of air-ducts, b^2, of a horizontal channel, B^4, which latter connects with a vertical wall, B^5, the ducts b^3 of which diverge from the horizontal air-ducts b^2 laterally to different points of the rearmost register, as shown in Figs. 1 and 2, so as to supply thereby the wind to actuate the valves of the registers and the individual reed or pipe valves within the same by means of intermediate valve-actions. (Shown in detail in Figs. 3 and 4.) These valve-actions consist of a small expansible leather bellows, *e*, which actuates a fulcrumed lever, *e′*, that is weighted at one end, and provided with a valve, e^2, at its opposite end. The weighted end of the lever *e′* rests upon the bellows *e* by means of an intermediate washer-plate, e^3, which protects the bellows *e* against injury by wear. The valve e^2 of the lever *e′* opens an air-channel, *f*, when the bellows *e* is expanded by a body of air which is admitted thereto through the branch air-channel whenever a perforation or slot of the actuating-sheet establishes communication between the branch channel B^2 and the air-ducts of the hinged piece B and of the walls B^4 B^5. A valve, *g*, which is located at the inner end of the channel *f* in the wind-chest C, rests by a pin, *g′*, on the valve e^2, and is dropped and held in closed position by the pressure of the air in the wind-chest.

The air-channel *f* is connected by a channel, *f′*, with a bellows, f^2, of the rearmost register, D, adjoining the wind-chest C. The bellows f^2 is expanded when the drop-valve *g* is in open position, as the wind passes through channels *f f′* to the interior of the same. The moment the drop-valve *g* closes the inner end of channel *f* by the action of the small bellows *e* and lever *e′*, the supply of wind to the bellows f^2

(No Model.) 2 Sheets—Sheet 1.

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CLOCK PENDULUM.

No. 287,604. Patented Oct. 30, 1883.

Fig. 1.

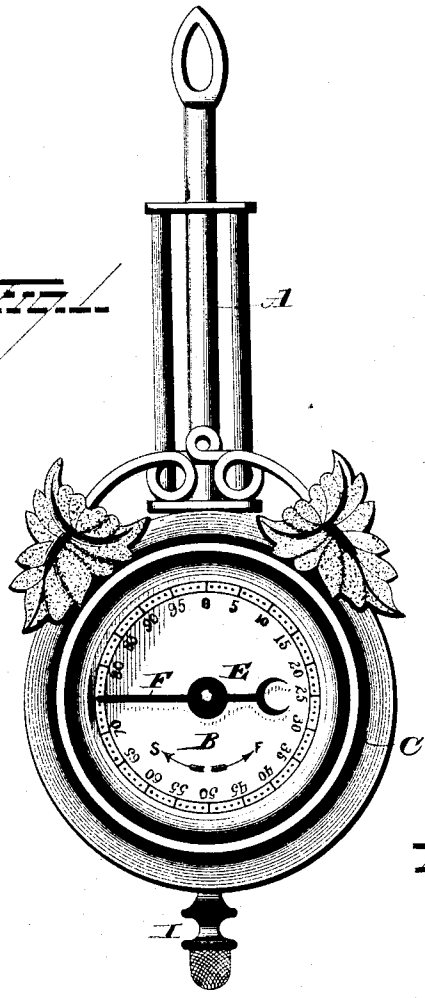


Fig. 2.

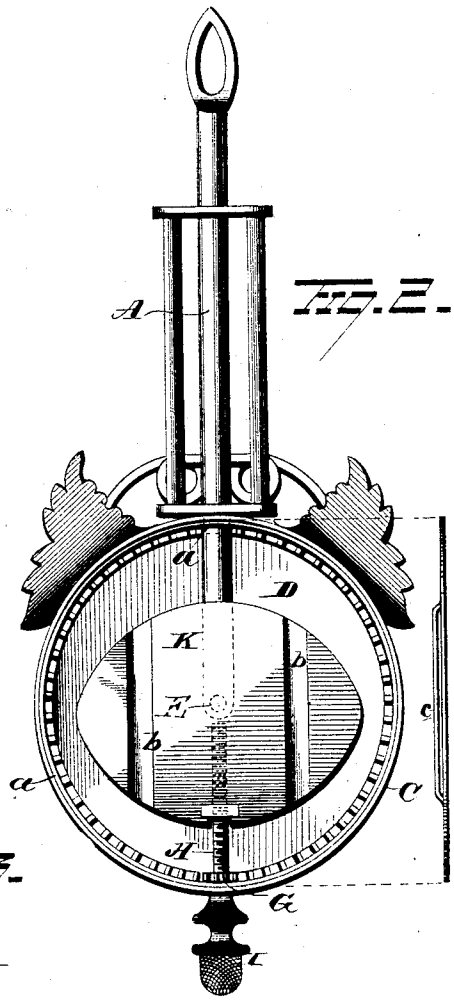
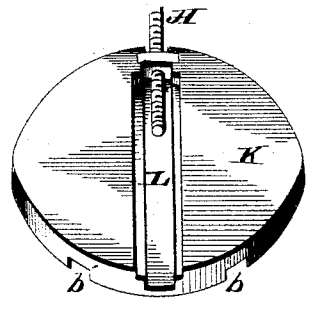


Fig. 3.



WITNESSES

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