

(No Model.)

R. ESSIG.
HARMONIUM.

No. 462,307.

Patented Nov. 3, 1891.

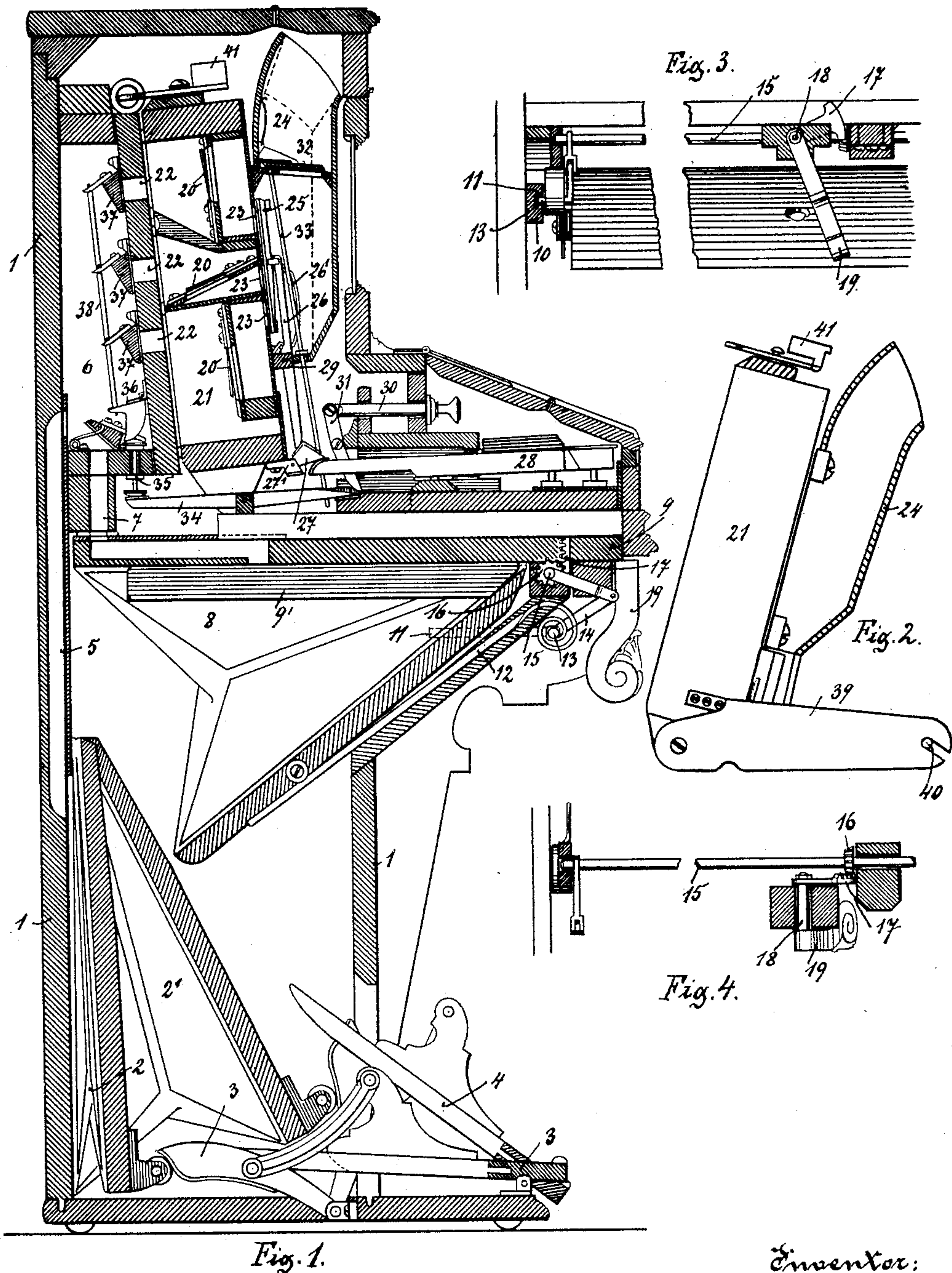


Fig. 1.

Fig. 2.

Fig. 4.

Witnesses:
Gustaf Thakau
Alex. Selander.

Inventor:
Rudolf Essig.
per Heinrich Lade
Attorney.

UNITED STATES PATENT OFFICE.

RUDOLF ESSIG, OF STUTTGART, GERMANY.

HARMONIUM.

SPECIFICATION forming part of Letters Patent No. 462,307, dated November 3, 1891.

Application filed March 13, 1891. Serial No. 384,970. (No model.) Patented in Germany January 29, 1890, No. 54,682.

To all whom it may concern:

Be it known that I, RUDOLF ESSIG, a subject of the King of Würtemberg, residing in the city of Stuttgart, in the Kingdom of Würtemberg, Germany, have invented a certain new and useful Improved Harmonium, (for which I have received Letters Patent in Germany, No. 54,682, dated January 29, 1890;) and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a construction of harmonium with an oscillating note-chest, a register acting direct on a reserve-bellows, another register communicating with the air-valves leading to the note-chest and opening the sound-chest, and a particular means for the sudden opening of the valves behind the vibrators.

In the accompanying drawings, Figure 1 is a vertical section of the harmonium of this invention. Fig. 2 is a view showing the note-chest and the sound-chest turned to the front. Fig. 3 is a part sectional view of parts located underneath the key-board. Fig. 4 shows the mechanism for operating the register.

1 is the frame to which bellows 2 2' are attached. In Fig. 1 one of these is shown closed by treadle 3, while the other is opened by treadle 4. From the bellows 2 2' a channel 5 leads to wind-chest 6, and from this a channel 7 to reserve-bellows 8. The latter is suspended from frame *g*, which also carries the key-board, note-chest, and registers. Frame *g* is carried on supports *g'*, fixed to frame 1. In this frame or in a bracket 10 fixed thereto there is a slot 11, in which a pin 13, connected to spring 12, engages. Springs 12 bear against reserve-bellows 8 and serve to press it. 14 is a jointed lever connected at one end to pin 13 and at the other end to spindle 15, on which is fixed toothed wheel 16, engaging toothed segment 17, fixed at one end of shaft 18, crank 19 being fixed on the other end thereof and moved by the knee of the player, so as to work more or less reserve-bellows 8.

20 are vibrators in the note-chest 21, receiving the wind through apertures 22, communicating with wind-chest 6.

23 are apertures which lead from the vibrators to the sound-chest 24. They are covered by valves 25, which upon striking the keys are suddenly lifted through oscillating part 27 and lever 26 against the resistance of spring 26'. Part 27 is operated direct from keys 28. Levers 26 are carried in bearings 29. Parts 27 may also be operated through brackets 27', screwed to the note-chest 21. Other registers 30 are over the key-board, to the stops of which are connected bell-crank levers 31, which move rods 33 of valves 32 upward and also operate levers 34, so as through sliding pushers 35 to work oscillating piece 36, rods 38, and through these the valves 37, lifting them up when sliding pushers 35 are pressed upward. As seen in Fig. 2, the note-chest 21 is on each side jointed to a plate 39, the latter taking onto a pin 40, so that the note-chest 21, together with sound chest 24, may be turned over to the front and the stops at once set free. Catch 41 serves for fastening to wind-chest 6.

The harmonium may be taken apart in two pieces, the one consisting of frame 1, bellows 8, and wind-chest 6, the other of frame *g*, key-board, note-chest 21, sound-chest 24, and registers. The advantages are the sudden opening of the vibrators, remarkably easy method of playing, and the absolutely simultaneous and exact sound of the tongues.

The instrument may be readily played with expression, as the player may pass from the gentlest pianissimo to the strongest forte without special training merely by means of a slight pressure of the knee.

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. The combination of bellows 2 2', with wind-chest 6, and channel 5, arranged in frame 1, and with reserve-bellows 8, for the purpose specified, substantially as described and shown.

2. Springs 12, which through one or more levers 14 are in connection with a shaft 15 and toothed wheel 16 thereon, and which are operated through register 19 and toothed segment 17, for the purpose specified, substantially as described and shown.

3. The note-chest 21, arranged to turn over toward the front and back of the instrument, substantially as described and shown.

4. The sound-chest 24, placed against the
5 note-chest 21, provided with forte-valves 32, from which a rod 33 leads to a cranked lever attached to the register-stops, substantially as described and shown.

5. The combination of valves 37, closing
10 wind-chest apertures 22, and rod 38, connected thereto with register 30 through oscillating part 36, sliding pusher 35, and lever 34, substantially as described as shown.

6. The combination of valves 25 and their levers 26, with the oscillating parts 27 and 15 keys 28, substantially as described and shown.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

RUDOLF ESSIG.

Witnesses:

TH. SPAUNAGEL,
E. TASCHNER.