2 Sheets--Sheet 1.

A. R. KOERBER.

Reed-Organ.

No. 206,250. **Patented July 23, 1878.**

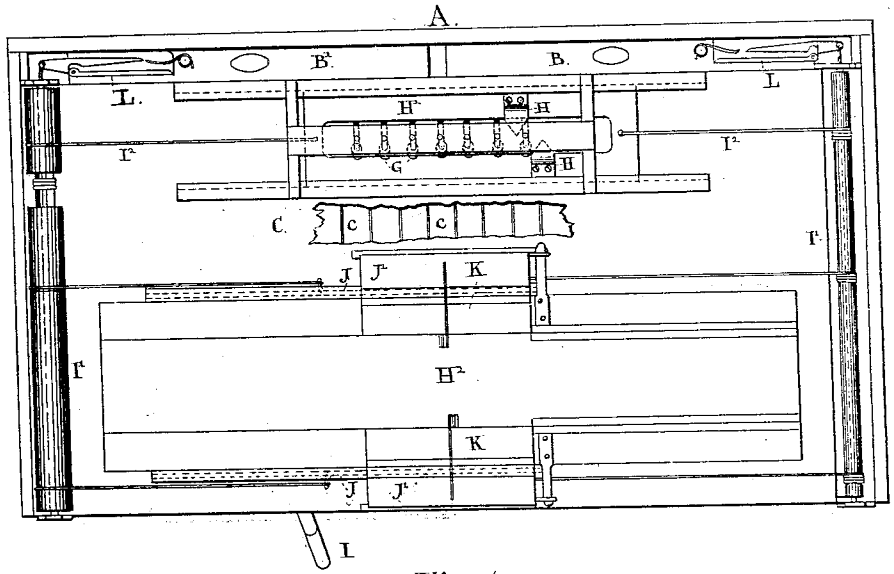


Fig. 1.

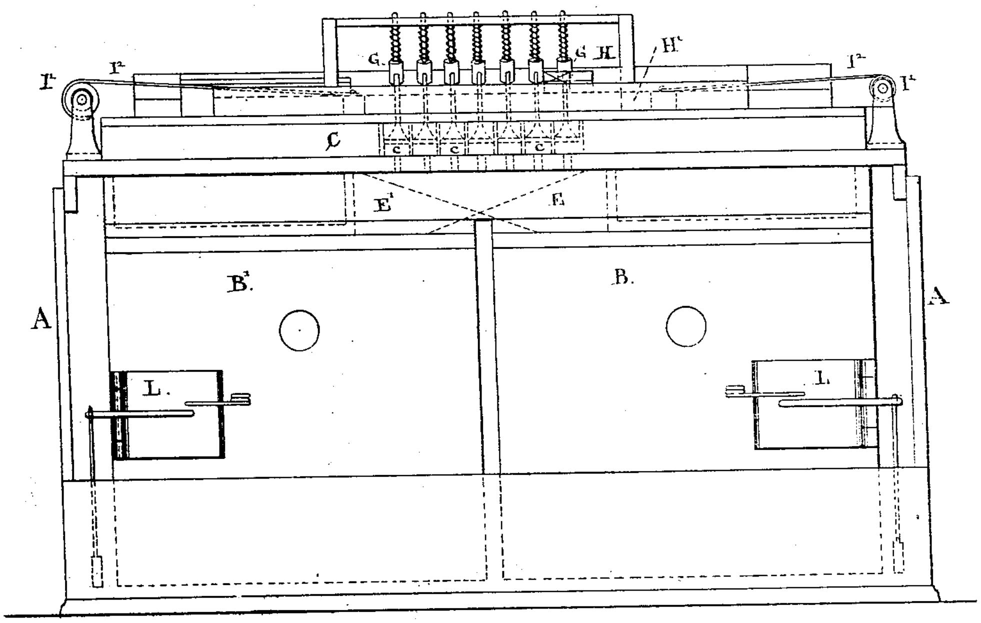


Fig. 2.

Witnesses:

L. Whitehead.

A. E. Curran.

Inventor:

A. R. Koerber

by Ridout & Aird & Co

Atty's

A. R. KOERBER.

Reed-Organ

No. 206,250. Patented July 23, 1878.

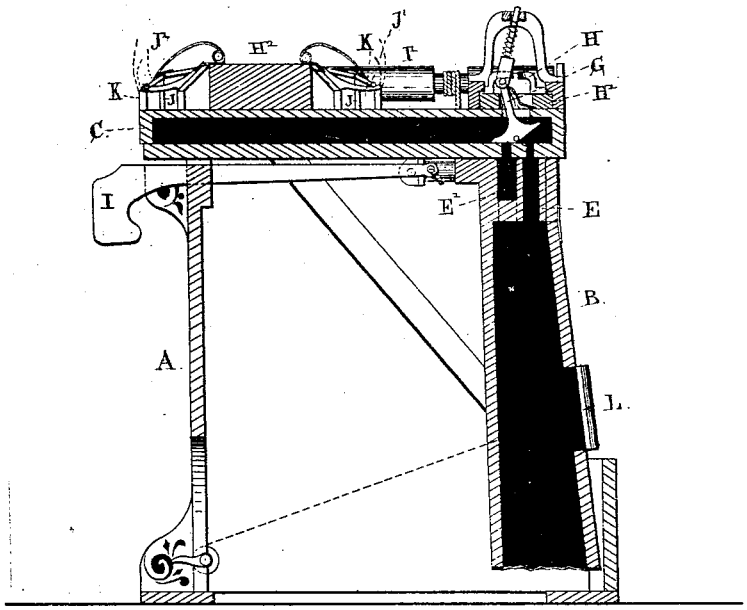
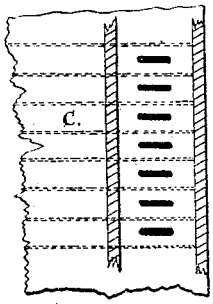


Fig. 3.

Fig. 4.



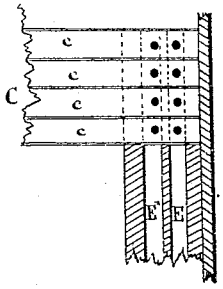


Fig. 5.

Witnesses:

C. Whitehead.

A. E. Burian.

Inventor:

A. R. Koerber

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UNITED STATES PATENT OFFICE

ALEXANDER R. KOERBER, OF TORONTO, ONTARIO, CANADA, ASSIGNOR OF ONE-HALF HIS RIGHT TO JAMES SHERIDAN, OF SAME PLACE.

IMPROVEMENT IN REED-ORGANS.

Specification forming part of Letters Patent No. **206,250**, dated July 23, 1878; application filed January 16, 1878.

To all whom it may concern:

Be it known that I, ALEXANDER RUDOLPH KOERBER, of the city of Toronto, in the county of York and Province of Ontario, Canada, music teacher, have invented a new and useful Improvement in Musical Reed-Instruments, which improvement is fully set forth in the following specification and accompanying drawing.

My invention relates to improvements which increase the expressional power of reed-instruments; and it consists, first, in dividing the wind-chest into two sections corresponding to the bass and treble notes, and in the connection therewith of separate and independently-acting bellows; second, in the construction by which the point of division between the bass and treble notes may be varied at the will of the operator to extend the treble-notes beyond the usual point of division into the bass-notes, and inversely to extend the bass-notes into the treble-notes; third, in the arrangement of the swell mechanism, by which the treble and accompaniment notes are controlled independently of the bass-notes; fourth, of a wind-inlet valve on the bellows connected to a suitable foot or knee lever on the front of the instrument, and arranged in such manner that the operator can suddenly admit air to either bellows for the purpose of varying the strength of the bass-notes in contrast with the power of the treble-notes, or inversely.

In the accompanying drawings, Figure 1 is a plan, Fig. 2 a rear elevation, and Fig. 3 a cross-section, of a reed-instrument in which my improvements are shown as applied, with the upper portion removed to expose the construction. Figs. 4 and 5 are details.

A is the instrument-case; B, the treble-bellows; B′, the bass-bellows, and C the sectional wind-chest.

The instrument is provided with two pedals, one for the treble-bellows and one for the bass-bellows. Each bellows, therefore, is capable of being operated independently of the other.

The wind-chest is divided on each side of the center of instrument, or to correspond with the accompaniment-notes, with a series of chambers, *c*, which extend entirely across the wind-chest, and by which wind is admitted from the reeds into the leading-tubes E (to the treble-bellows) and E′, (to the base-bellows.) The admission of air into these passages from the subdivisions of the wind-chest is governed by valves G. These valves are operated from cams H, placed on a sliding block, H^1, which block is caused to travel to and fro by the movement of a knee-lever, I, on the front of instrument, or by the rollers I^1 and rope-connection I^2, or in any other suitable manner.

Each subdivision of the wind-chest is provided with two air-inlet holes, one connecting with the treble leading-tube E and the other connecting with the bass-air leading-tube E′. The valves G are arranged to open or close either one of these inlet-holes by the movement of the cams H, as the operator wishes to make the note treble or bass.

When the valves G are thrown over to close the inlet-holes to the bass-bellows all the notes connected with the subdivisions of the wind-chest will be treble, and the treble end of the instrument will thus be extended up into the bass-section, and when the valves are thrown over to close the inlet-holes to the treble-bellows all the notes will be bass, and the bass portion of the instrument will then be extended up into the treble. The accompaniment-notes of the instrument thus, to any required and useful extent each way from the center, can be played as bass or treble notes at pleasure, as the point of division between the bass and treble is variable.

The central or accompaniment portion H^2 of the reed-chamber, embracing the notes connected to the subdivided section of the wind-chest, is constructed according to Patent No. 192,583, granted to me and one James Sheridan, July 3, 1877, with a variable swell, which consists of a traveling valve, J, working in connection with the wind-inlet passages to the accompaniment-notes. Upon this construction I have improved by inclosing the valve J and the mouths of the inlet-passages with a chamber, K, which chamber is fitted within a swell-valve, J′, operated to open and close by the movement of the treble-swell valve. I connect the valve J to the same operating mechanism which moves the valves G, and adjust it to travel uniformly and to correspond

with the cams H in relation with the accompaniment-notes. The advantage gained is that the swell can be given to the accompaniment-notes when played as treble-notes without placing the swell on the bass-notes; and, further, by a rapid movement of the knee-lever, the swell can be placed on individual accompaniment-notes, bringing them out clearly to contrast with the bass-notes being played and with the treble-notes previously played or that will be played without the swell.

Upon the back board of each or either bellows, in addition to the ordinary safety-valve, I place an inlet-valve, L, closed by a spring and connected by a wire or lever to the front of instrument. This valve enables the operator to suddenly admit air into either bellows and play softly or in strains to contrast with the full swelling tones of the notes sounded by the exhausted bellows.

By the use of independent bellows for the treble and bass notes great effect can be obtained by blowing stronger with one bellows than with the other, and when the accompaniment-notes connect with the bass wind-chest the treble-notes will sound out clearly and well defined over the tone of the bass-notes, because they are fewer in number. The reverse will be the case when the treble-notes are extended into the bass.

The valves G may be operated in a manner different to that set forth. Therefore I do not limit my claim to the mechanism shown and described.

What I claim as my invention is—

1. The wind-chest C, divided into a series of compartments, *c*, corresponding with the central or accompaniment notes, and connected by air-passages with the independent air-bellows, in combination with the valves G, arranged to control the admission of air in such manner that the notes corresponding to the said compartments may be played as treble or bass notes.

2. The traveling cams H, in combination with the valves G, wind-passages E E′, bellows B B′, and the subdivided wind-chest C, substantially as shown and described.

3. The combination, with the wind-chest C, having the subdivided central section-valves G and cams H, of the swell-valve J′, substantially as shown and described.

4. The valve J, connected with the cams H and inclosed within a chamber, K, provided with a swell-valve, J′, and arranged to be operated by the movement of the treble-swell valve, substantially as and for the purpose specified.

5. The wind-inlet valves L, operated from the front of the instrument for the purpose of suddenly admitting air to the bellows, all when arranged to operate substantially as and for the purpose specified.

A. R. KOERBER.

Witnesses:
GEO. A. AIRD,
JAMES SHERIDAN.