F. L. WING & O. C. ISBELL.

REED ORGAN CASE.

No. 173,149. Patented Feb. 8, 1876.

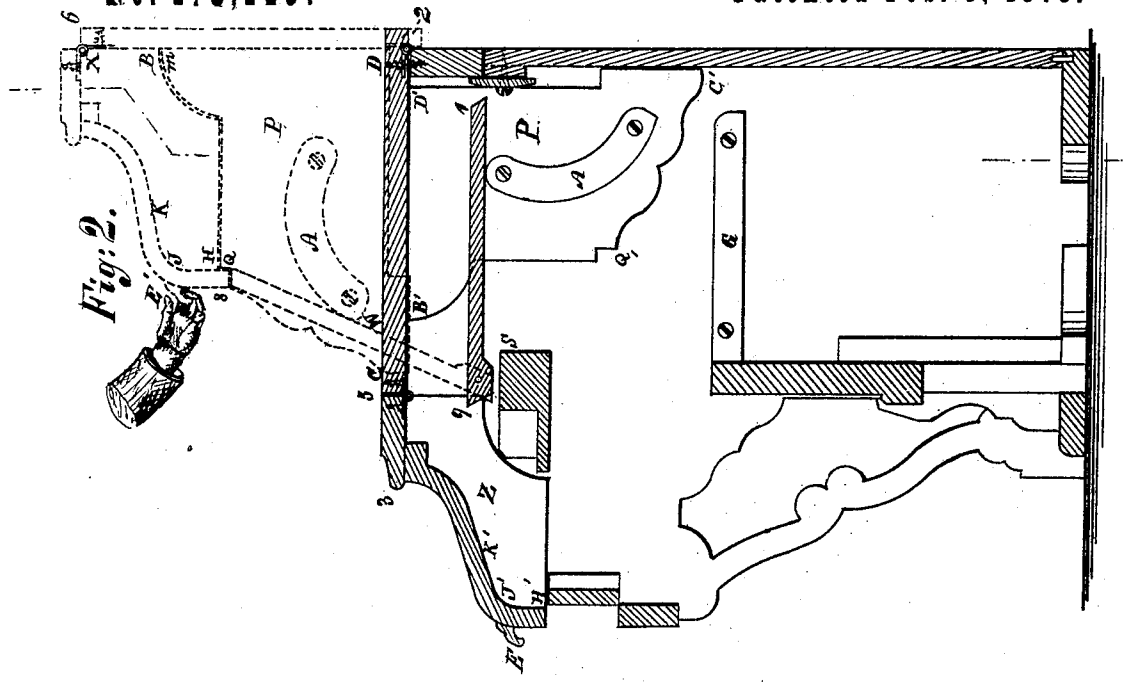

Fig: 2.

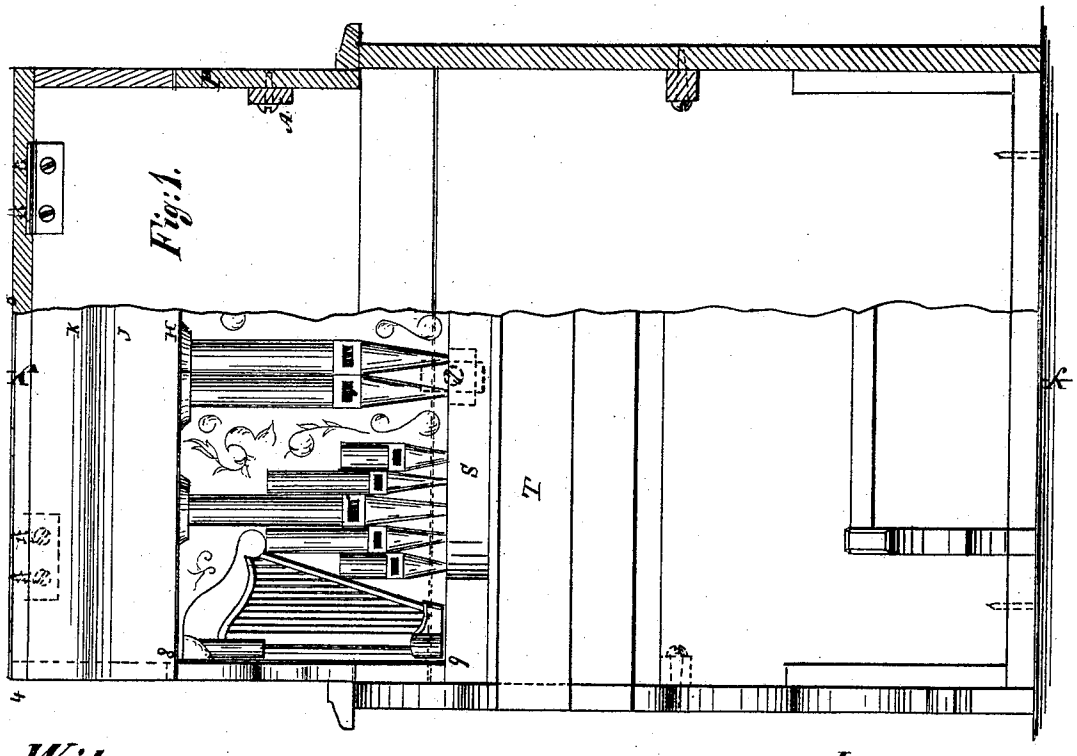

Fig: 1.

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FRANK L. WING AND OLIVER C. ISBELL, OF NEW YORK, N. Y.

IMPROVEMENT IN REED-ORGAN CASES.

Specification forming part of Letters Patent No. **173,149**, dated February 8, 1876; application filed July 13, 1875.

To all whom it may concern:

Be it known that we, FRANK L. WING and OLIVER C. ISBELL, of New York, in the State of New York, have invented a new Organ-Case; and we do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute a part of the following specification.

The object of our invention is to construct an organ-case, which shall be, when closed, of the old and ordinary size and form, but of a new, enlarged, and improved design when opened, and to create, in the very act of opening the case, a large "tone-chamber" above the main body of the case as it is when closed, which chamber adds largely to the body and quality of the tone, and equally to the beauty, size, and symmetry of the case.

This case is illustrated in detail by the accompanying drawings, Figure 1 being partly a front and partly a sectional view, and Fig. 2 a vertical section.

The tone-chamber referred to is shown in Fig. 2 by the dotted lines W H X D. The walls of the chamber consist of the top or lid 2 6 8, the desk or music-support 8 9; the wings—one at each end of the case—such as D C Q M, (being fastened at right angles to the inside surface of the lid or top,) and the end of that portion of the lid known as the lock-board, as H K X B. As the top is hinged only at the points 6 and 2, it is easily raised by the handle on the lock-board portion, as E, and may be placed in the position shown by the dotted lines 2 6 8. The desk 8 9 is pivoted at each end above the stop-board S. The wings at each end have fastened to their inside surfaces arched cleats, as A, placed in such a position that they support each end of the desk 8 9, which rests thereon by its own inclination. The end of the lock-board Z, when raised, makes a joint with the top edge of the wing shown at H Q B M, thus closing completely the end of that portion of the top of the case or the tone-chamber. This chamber is formed automatically, the lid, in being raised by means of the handle E, creating it; for the top C D carries with it the wings fastened to it, as described. The cleat A, fastened to these wings, as B′ D′ C′ Q′, raises (when the wing moves) the desk 9 1. As the wing continues to rise the cleat A revolves, carrying with it the desk, inasmuch as it rests continually upon the cleats, and tangent to them, by reason of its own weight. When the lid reaches the perpendicular the desk has been raised to the position 9 8. The bottom edge of the lock-board is then placed on the top edge of the desk, forming a joint, as H 8 in Fig. 1. The chamber is thus completely closed in front by the desk meeting the lock-board, as just described, at the ends, as previously detailed.

To close the case, the foregoing operation is reversed, the desk and lid being lowered at once by using the handle E′. The cleat A revolves, but always acts as a support for the desk 8 9, giving no opportunity for accident.

The measurements of the lid, desk, lock-board, and depth of case must, of course, be accurately proportioned to make proper joints. The end wings may either clear the interior action entirely, or play through small slots cut in the bellows-board for the purpose.

The desk may be either of wood or papier-maché, and in design either a scroll-work or imitation pipes, as in Fig. 1.

The lock-board may be of any shape or outline. As constructed in drawings herewith, the inner surface H J K acts as a reflector; also as a condenser to the waves of sound.

The improvements we claim, so far as they relate to convenience and appearance, are, first, in the large addition we make by our devices to the size of any given case—its effectiveness is nearly doubled as an ornamental piece of furniture, and with little additional cost. The old style of cases have been constructed so as to fold back the top by hinging it about the center of the top. This would in the drawing lessen the total altitude of the case by the distance D M. Moreover, our improved case is the simplest in its manipulation, for it is opened and closed, also adjusts its desk, by a single movement of one hand, unaided by springs or any mechanism liable to get out of order. As to musical properties, our new case obtains its improvement by reason of the described tone-chamber, named by us the "cam-

eresona." The acoustic principle of resonance is well known. The vibrations of any tone medium communicate to the surrounding air-particles a corresponding movement, and the more confined the tones from any instrument the less is the movement of the air-particles, and the consequent loudness and sonorousness of effect. Our new case gives a chamber nearly or quite of twice the ordinary size. The top, the desk, and the two ends, as W H X D, moreover, act as four sounding-boards, and the curved surface H J K of the length of the entire case, condenses and reflects the entire body of tone. The combination we find practically furnishes the maximum of sonorousness possible from reeds. The case below the line of the key-frame and reed-board can be of wood or of any flexible material, such as leather or reps.

We claim—

1. In a musical-instrument case, the revolving wings or end pieces P, attached to the top, substantially as described, and combined with the ends of the lock-board, substantially as described.

2. An arc, A, of any material, and attached to the wings P, in combination with the desk or showfret, substantially as described, and for the purposes set forth.

3. The combination of a lid or top, hinged as described, a lock-board, as Z, and the end pieces or wings, in connection with a front fret or desk, forming, when the instrument is open, a close chamber, substantially as described.

4. The combination of a top, end pieces or wings, having cleats A, a lock-board, and a front fret or desk, substantially as described.

5. The combination of a front desk, a top, end pieces, as P, and a curved lock-board, the latter forming a reflector and condenser of the sound, substantially as described.

6. The combination of a front desk or surface, a top, end pieces, as P, and a lock-board, the form of which presents an interior concavity, to act as a reflector and condenser of tone-waves, substantially as described.

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