(No Model.)

G. R. NEWMAN.

REED ORGAN.

No. 388,499. Patented Aug. 28, 1888.

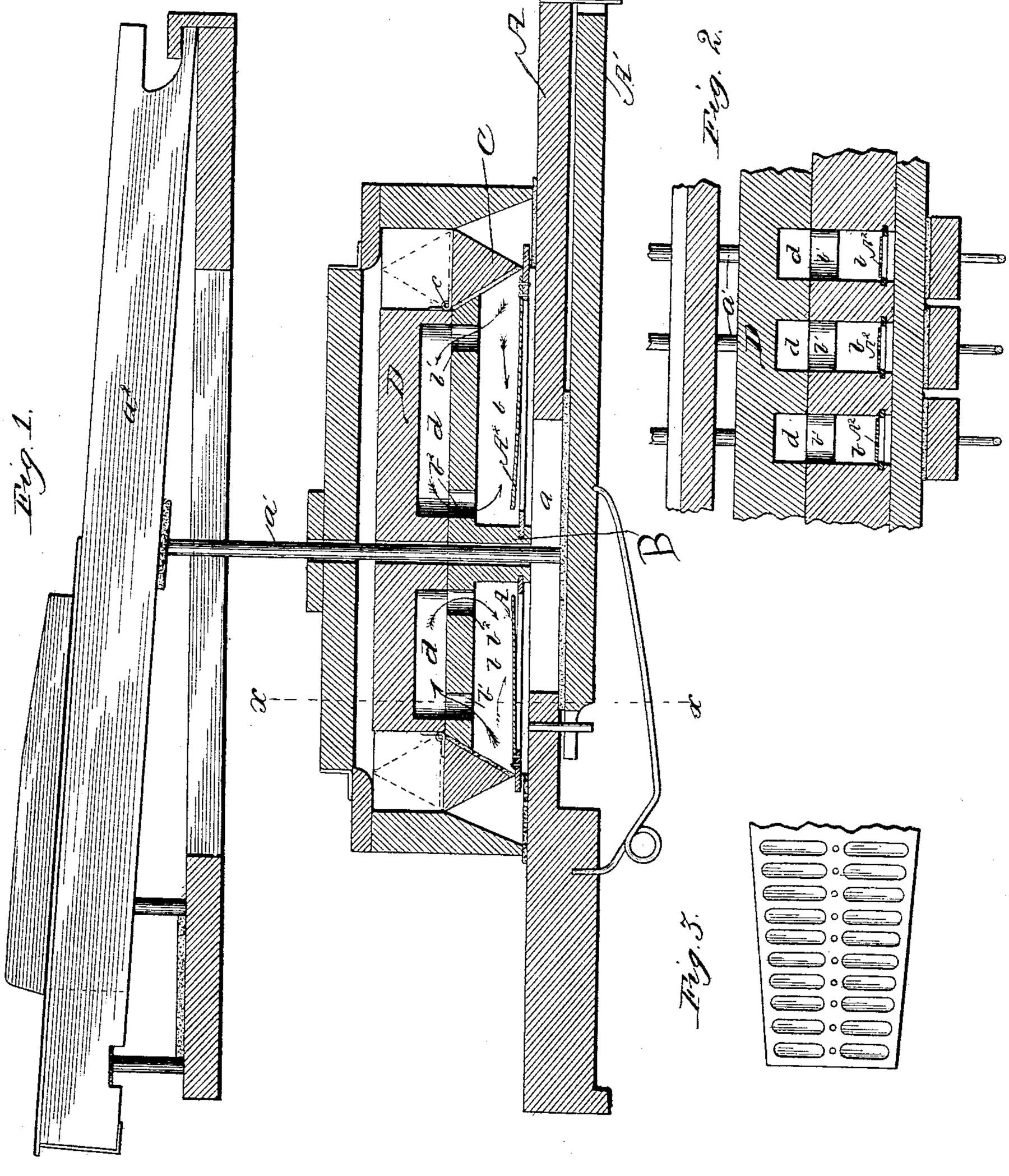

Fig. 1.

Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

GUSTAV R. NEWMAN, OF CHICAGO, ILLINOIS.

REED-ORGAN.

SPECIFICATION forming part of Letters Patent No. 388,499, dated August 28, 1888.

Application filed June 14, 1888. Serial No. 277,043. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV R. NEWMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Reed-Organs, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 is a view in vertical transverse section through the reed-board and connected parts of a reed-organ having my improvement applied thereto. Fig. 2 is a fractional view in vertical longitudinal section through a portion of the reed-board and adjacent parts. Fig. 3 is an inverted plan view upon reduced scale of a portion of the supplemental cell-board.

My present invention relates to reed-organs, melodeons, or like musical instruments, in which the production of the tone is effected by means of vibrating tongues or reeds; and the object of my invention is to so modify the tone of the reeds as to give thereto a character closely resembling in quality or "timbre" the corresponding tone of a pipe-organ.

To this end my invention consists in certain novel features of construction hereinafter described, illustrated in the drawings, and particularly pointed out in the claims at the end of this specification.

A designates the mortise-board or reed-board of the organ, the reed-openings *a* of which are controlled by the usual or suitable valves, A′, the stems *a′* of which connect with the usual keys, a^2, of the key-board. Upon the mortise-board or reed-board A is set the cell-board B, that is provided with a series of cells, *b*, of any usual or suitable form and arrangement, the front ends of these cells being controlled by means of the mute or stop valves C, pivoted as at *c*, and operating in well-known manner.

Within the cells *b* and above the appropriate openings in the reed-board A are set the reeds or tongues A^2, by the vibration of which the musical tones are effected. The construction and operation of the parts as thus far defined are familiar to those skilled in the art and need not be more particularly described.

I provide the top of the cell-board with a series of ports or perforations, *b′*, near the front edge of the cells, and with a like series of ports or perforations, b^2, near the back of the cells, a front and back perforation being provided for each cell *b* of the cell-board.

Upon the top of the cell-board B is fixed what for convenience may be termed a "supplemental" cell-board, D, that is provided with a series of cells or cavities, *d*, corresponding in number and location with the subjacent cells of the cell-board B, and it is apparent that when the cell-board D is in the position shown the perforations *b′* and b^2 will afford a passage-way between the cells *b* of the usual cell-board and the corresponding cells, *d*, of the supplemental cell-boards at the front and rear of such cells. My invention is shown in the drawings as applied to a reed-organ in which a suction-bellows is employed, and by the arrows I have indicated what I understand to be the effect upon the incoming air when the mute-valves have been lifted, as shown by dotted lines in Fig. 1 of the drawings—that is to say, a portion of the air will pass directly through the cells *b* of the cell-board B around the tongues A^2 and downward through the openings *a* of the mortise-board A, while a portion of the incoming volume of air will pass upward through the perforations *b′* into the cells *d* of the supplemental cell-board and thence through the cells *d* and downward through the perforations b^2 into the cells *b* of the cell-board B. In this way a circulation of the air between the cells *b* and *d* is effected, and I have found in practice that a very material improvement is secured in the tone of the organ. In fact, the quality or timbre of the tone is so far modified that it resembles much more approximately the like tone of a pipe-organ than I have ever been able to produce in constructions in which a supplemental series of cells was not employed above the usual cell-board. The air, circulating as it does through the cells *d* of the supplemental cell-board, seems to operate in much the same manner and with much the same effect as do the pipes of a pipe-organ, and the resultant tone is correspondingly similar to that of a pipe.

It will be readily understood that instead of employing the supplemental cell-board D

above the usual cell-board B the series of cells *d* may be formed in other convenient manner—as, for example, by a series of short pipes communicating with the perforations *b'* and b^2 of the cell-board B, although I regard the construction shown as a very cheap one, and in practice it has proved in all respects most advantageous. It will be understood also that while I have shown my invention as applied to one form of reed-organ it will be readily applicable to a variety of other constructions.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a reed organ, the combination, with the usual cells, of supplemental cells, the usual cells being provided with ports communicating with the supplemental cells at both front and rear of said cells, substantially as described.

2. In a reed-organ, the combination, with the usual cell-board, of a supplemental cell-board having a series of cells closed at their ends and arranged above the cells of the cell-board, the top of the usual cell-board being provided with the front and rear perforations leading into the cells of the supplemental cell-board, substantially as described.

3. In a reed-organ, the combination, with the reeds A^2 and the cell-board B, having cells *b*, and having perforations *b'* and b^2, of the supplemental cell-board D, having a series of cells, *d*, communicating at their ends with the cells *b* of the usual cell-board B, substantially as described.

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