

(No Model.)

C. F. SOUTHACK.

REED CHAMBER.

No. 346,177.

Patented July 27, 1886.

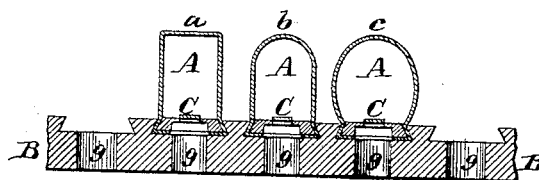


Fig. 1.

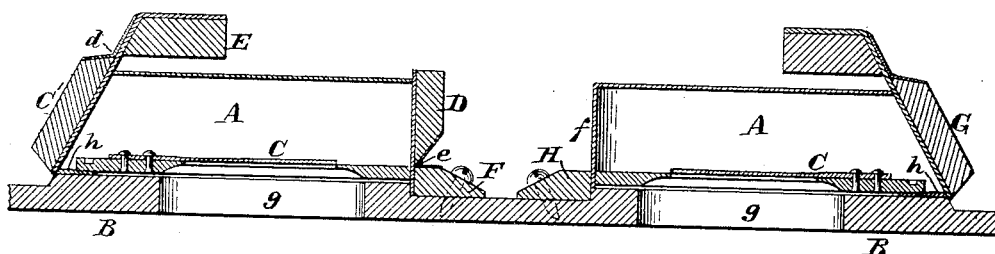


Fig. 2.

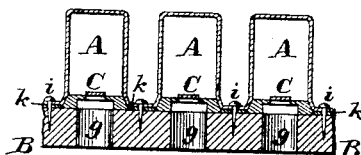


Fig. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

C. FRANK SOUTHACK, OF CAMBRIDGEPORT, MASSACHUSETTS, ASSIGNOR OF
ONE-HALF TO NATHAN C. LOMBARD, OF SAME PLACE.

REED-CHAMBER.

SPECIFICATION forming part of Letters Patent No. 346,177, dated July 27, 1886.

Application filed November 9, 1883. Serial No. 111,377. (No model.)

To all whom it may concern:

Be it known that I, C. FRANK SOUTHACK, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Reed-Chambers for Musical Instruments, of which the following, taken in connection with the accompanying drawings, is a specification.

In the manufacture of reed-organs and similar instruments it is usual to form the reed-chambers or cells containing the reeds from a solid strip of wood by cutting away the surplus portions thereof by the aid of suitable tools and machinery, and then gluing the strip containing the cells thus formed to or upon the reed-board proper. In climates or localities where the air is moist the glue in the joints of the wood is apt to become softened by this moisture, and allow said joints to separate or be forced apart by the pressure of the wind or air when the instrument is in use, thus producing leakage of the air and impairing the quality of the instrument. It thus happens that the separation of the joints allows more or less air to pass from one to another of the reed-chambers and effects a partial communication of two or three adjacent chambers, so that when a single key is pressed to sound a certain note two or three of the adjacent reeds may also be caused to sound, producing discord, the perfection of the instrument being seriously injured.

The object of my present invention is to obviate the above difficulty and produce a reed-chamber so constructed as to be easily adjusted and secured upon the reed-board and adapted to be readily removed therefrom at any time for cleaning or repairs; and it consists in forming a reed-chamber of sheet metal adapted to cover and inclose the reed, and provided at its lower edges with a dovetail fitted to and adapted to enter a similar-shaped groove in the reed-board, and also arranged to receive and hold the reed, as will be further described.

In the drawings, Figure 1 is a partial section cutting transversely through several reeds and reed-chambers and a portion of the reed-board. Fig. 2 is a section at right angles to the above, cutting longitudinally through two reed-chambers; and Fig. 3 is a section similar

to Fig. 1, illustrating a modified form of the reed-chambers.

Each of the reed-chambers A, Figs. 1 and 2, is made of sheet metal bent to the shape shown, with its lower edges so shaped as to accurately fit a dovetailed groove formed in the reed-board B, and receive a reed, C, of the usual construction, the chamber A being readily placed in position by sliding it endwise into the groove in the reed-board, while the reed may in the same manner be inserted within the chamber A. The shape of the reed-chambers, as seen in cross-section, may be varied according to the quality of the tone it is desired to produce—as, for instance, they may be made with a square top, as at *a*, Fig. 1, with a rounded top, as at *b*, or of an oval shape with bulging sides, as at *c*.

The reed-chambers may be formed with open ends adapted, when in position on the reed-board, to be opened or closed by means of the stop-valves C' and D, Fig. 2, in a well-known manner, the valve C' being hinged at *d* to a bar, E, while the valve D is hinged at *e* to a strip, F, secured by screws or otherwise to the reed-board B.

When a stop-valve is designed to be used upon one end only of the reed-chambers, as at G, Fig. 2, each chamber may be made with one closed end, *f*, formed by bending down the sheet metal from which the reed-chamber is formed, or, if desired, by securing therein a piece of wood of suitable shape.

The ends of the reed-chambers may be brought into proper line and their position gaged by means of the strips F or H, which come in contact with the ends of the reed-chambers, and which act as stops when said reed-chambers are slid into position in their grooves.

The reed-board is provided with the usual openings, *g*, beneath the reeds for the passage of the air, and the outer ends of the reeds are made to rest upon pieces of felt, *h*, in the usual manner, to prevent the air from entering beneath said reeds.

The shape and size of the dovetail at the lower edges of the reed-chambers may be varied to fit the edges of the particular style of reed which it may be desired to use, the edges

of the grooves in the reed-board being varied to correspond.

Two, three, or more reed-chambers may be made in a continuous strip from a single piece of sheet metal, as illustrated in Fig. 3, the chambers being secured to the reed-board by means of small screws or tacks, *i*, passing through the narrow horizontal portions of the metal between the chambers A, strips of leather, *h*, being placed beneath said narrow portions to make the joints tight, while the reeds C are inserted in place in the same manner as before described.

By the use of my present invention the bad results arising from the separation of glued joints are entirely obviated, while the reed-chambers, together with the reeds, may be readily placed in their required position and as readily removed for inspection, cleaning, or repairs.

In forming the reed-chambers in a solid strip of wood in the manner heretofore practiced a considerable stock is necessarily wasted. By my invention this waste is prevented, and the operation of gluing is dispensed with, while the labor of grooving and finishing the wood-work is greatly reduced. The stop-valves C, D, or G are rendered less liable to leakage, as the thin edges of the reed-chambers will sink slightly into the leather facings of said valves, thus making a tighter

joint or closure than when the valves rest against the broader edges of the wooden reed-chambers.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. In a reed musical instrument, the combination of a plain reed or sounding board, provided with wind-passages and grooves to receive the reed-blocks, and a series of independent cells or reed-chambers made of sheet metal, removably secured directly to said reed or sounding board independent of the reed-block or additional wood-work, substantially as and for the purpose described.

2. A reed-board for musical instruments, having one or more dovetailed grooves formed therein, in combination with one or more reed-chambers made of sheet metal, and provided with dovetails at their lower edges, adapted to fit the grooves in said reed-board and to inclose the reeds, substantially as and for the purposes described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 2d day of November, A. D. 1883.

C. F. SOUTHACK.

Witnesses:

N. C. LOMBARD,
WALTER E. LOMBARD.