

*N<sup>o</sup> 7,352,*

Fig. 1



# UNITED STATES PATENT OFFICE.

AMOS L. SWAN, OF CHERRY VALLEY, NEW YORK.

## IMPROVEMENT IN MELODEONS.

Specification forming part of Letters Patent No. 7,352, dated May 7, 1850.

*To all whom it may concern:*

Be it known that I, AMOS L. SWAN, of Cherry Valley, in the county of Otsego and State of New York, have invented a new and useful Improvement in Keyed Reed Instruments, called "Swan's Parlor Melodeon," which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a perspective view of the instrument as completed. Fig. 2 is a vertical transverse section through the center, the valve in the wing of the bellows being closed and that in the bottom open to admit the air into the receiver and compressor. Fig. 3 is a plan of the two halves of the spring employed to close the bottom of the air receiver and compressor detached the one from the other. Fig. 4 is an elevation of the two halves of the said spring riveted together at their thick ends and detached from the instrument.

The same letters in the several figures refer to corresponding parts.

The case A, keys B, and legs C of this instrument are made in the usual manner. The bellows D and air receiver and compressor E do not differ from others in use, except in certain particulars, which will be hereinafter explained, and in the manner of combining the same with the ordinary case for keyed reed or wind instruments. The pin or piston F, placed in a vertical position between the finger-key B and hinged valve G, the spring H, for closing the valve G, the reed I, through which the air is forced to produce the sound, the wings K of the bellows, the spring L, for expanding the top of the bellows, and the strap M, attached to the top and to the pedal N, for contracting it, are likewise made substantially like the same parts in other keyed reed instruments.

The improvements that I have made in the instrument relate to the manner of increasing the size of the bellows without increasing the size of the top board, and rendering it more easy of operation by the addition of arms P to the top board O, and extending said arms to the front of the case and hinging them to the rail at Q. By the addition of these arms P and the manner of arranging them the wings K of the bellows nearest the center of the case may be increased in width with-

out increasing the size of the wings next the back of the case, and thus the capacity of the bellows is increased without increasing the depth of the case. The use of these extended arms P enables the performer to bring down the top board O of the bellows more easily than when the hinges are affixed to the inner edge of the top board.

Another important improvement that I have made in the keyed wind instrument is in so combining and arranging the bellows and air receiver with the case as to make the bottom of the case R answer for the partition between the bellows D and receiver E, by which all the parts of the instrument that produce the musical sounds or notes shall not occupy a space of more than three or four inches in height and be entirely out of sight. The bottom board S of the receiver is nearly the length of the distance from the outer extremity of the top board of the bellows to the fulcrum of its arms, and is likewise hinged to an inner front rail of the instrument, which gives it sufficient capacity for air without an extraordinary sweep of the bottom board of the receiver. The springs employed in this combination, in order to keep up a constant upward tendency of the hinged bottom of the receiver, are composed of pieces of steel T T, bent in the form of a segment of a circle and riveted together at two of their ends, while their opposite ends, which are made hook-formed, are asunder, one of them being made fast by a staple or other means to the under side of the bottom of the case, and the other to the upper side of the bottom board of the receiver. Fig. 3 represents the springs before they are riveted together. Fig. 4 represents them after they are riveted, and Fig. 2 shows them partly bent by the pressure of the air forced into the receiver by the bellows. This spring, by its constant and uniform tendency to close and by its attachment to the inside of the receiver, causes a constant and uniform compression of the air, so that the moment the valve G of the wind-chamber V, beneath the reed I, is opened by the descent of the key B the reed I will commence to vibrate by the passage of the air through the opening in which the reed is placed in the usual manner.

The spring L, that lifts the top board O of the bellows as soon as the foot is raised from

the pedal, is made in the manner represented at L, Fig. 2.

The valve W, for admitting air to the bellows, is arranged over an opening in one of the inclined sides of the wings K in such manner as to have a downward tendency to close the opening when the top board is drawn down in forcing the air into the receiver E.

An oblong opening *r* is made in the bottom board of the instrument, which opens a communication from the bellows D to the receiver E, in which opening is arranged a partition *z* in the shape of the letter Z, there being an opening in the inclined portion of said partition, over which is placed a flap-valve *x*, which is also so arranged as to have a constant tendency to descend and close said open-

ing when the top board of the bellows is ascending.

Having thus described the construction and operation of my improvement in keyed reed instruments, what I claim as my invention, and desire to secure by Letters Patent, is—

The employment of the arms P, in combination with the top O of the bellows, in the manner and for the purpose set forth in the foregoing specification.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

A. L. SWAN.

Witnesses:

LUND WASHINGTON,  
WM. P. ELLIOT.