# P. J. Puetz,

## Organ Swell,

No. 48,437, Patented June 27, 1865.

Fig: 1.

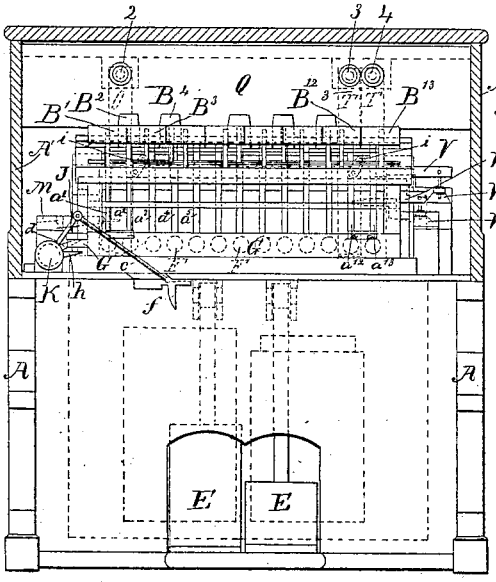


Fig: 2.

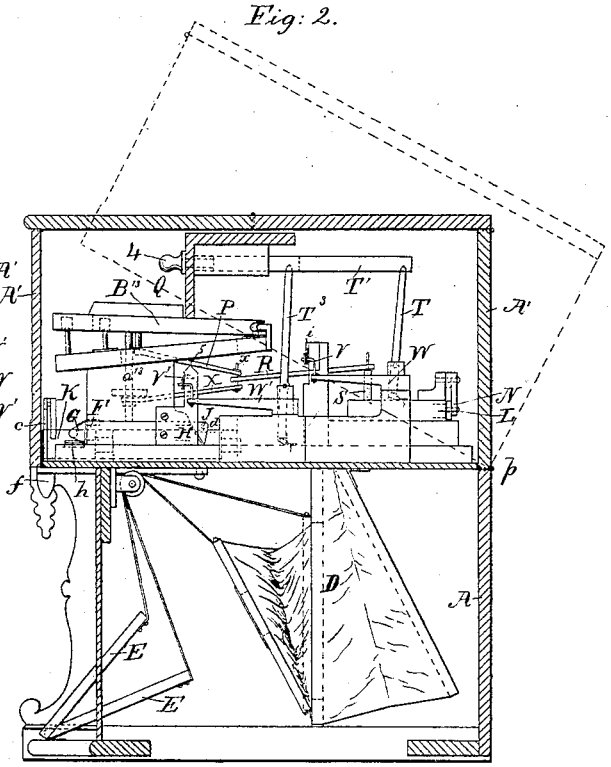
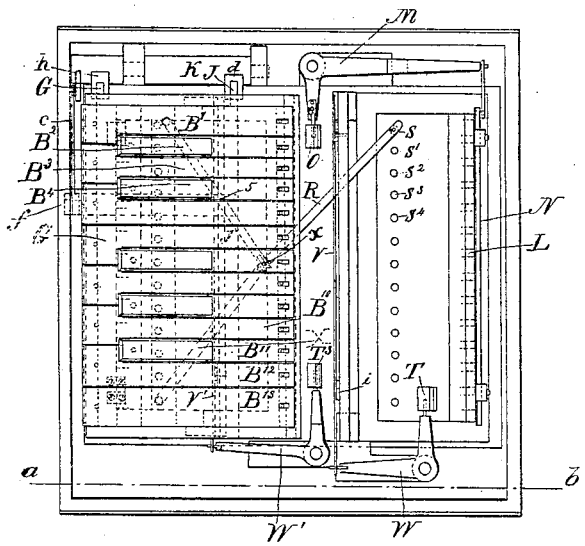


Fig: 3.



# UNITED STATES PATENT OFFICE.

PETER J. PUETZ, OF MILWAUKEE, WISCONSIN.

## IMPROVEMENT IN MELODEONS.

Specification forming part of Letters Patent No. **48,437**, dated June 27, 1865.

*To all whom it may concern:*

Be it known that I, PETER J. PUETZ, of Milwaukee, in the county of Milwaukee, in the State of Wisconsin, have invented certain new and useful Improvements in Melodeons; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure I represents a front view of the melodion with the top casing in section. Fig. II is a cross-section of the same, taken at the line *a b*, Fig. III; and Fig. III shows a top view or plan with the top casing removed.

Similar letters represent similar parts.

In the accompanying drawings, A represents the melodeon-case; B′ to B[13], the keys; D, the bellows, and E E the pedals acted upon by the feet to operate the bellows in the usual manner. The several keys are connected through their rods *a′* to *a*[13] with a set of valves placed below said keys and constructed in the usual manner.

In the front of the rods *a′*, &c., a set of reeds, F, are arranged, capable of being closed by a shutter, G. Behind the rods *a′*, &c., a set of reeds, H, are arranged, closed by a shutter, J. A third set of reeds, L, is arranged at the back end of the melodeon, closed by a sliding bar, N.

The valves operated by the keys B′, &c., through their rods *a′*, &c., communicate with their respective reeds, both in the row F and H, so that when both shutters G and J are opened two notes will be sounded by one touch of a key. The reeds F are one octave higher than those in H.

On one side of the instrument a shaft, K, is placed, provided with two levers, *d* and *h*, and connected, by means of a rod, *c*, with a lever, *f*, capable of being operated by the knee of the player. The lever *d* operates the shutter J and the lever *h* operates the shutter G in such a manner as to open the same when required, while suitable springs are arranged to shut said shutters and keep the same closed when not acted upon by their respective levers. These levers *d* and *h* are so arranged that a short motion of the lever *f*, and consequently of the shaft K, will open only the shutter J of the reeds H, while a further or longer motion of said lever *f*, and consequently of the shaft K, will act upon the shutter G of the reeds F and open these reeds. The reeds H are always a little open, and are those usually played with, and a further opening of the shutter J of these reeds will increase the volume of the sound, while the opening of the shutter G and of the reeds F will produce two notes, the one one octave higher than the other.

The shutter or sliding bar N, which opens or closes the reeds L, is operated through the crank-lever M in connection with the upright lever O, which latter is moved by means of a sliding bar passing through the face-board Q and finishing in a knob, 2.

To the key B′ a lever, P, is attached, turning on a center, 5, and to the other end of this lever P another lever, R, is fastened, attached to a spindle, S, in connection with the valve communicating with one of the reeds in the row L. This spindle S is held in its position to keep its valve closed by means of a suitable spring, and the motion of the key B′ communicated to the lever P, and through the latter to the lever R, will cause the end of said lever R to turn or move only slightly on the spindle S, without operating the same to open the valve connected to said spindle. About the middle of said lever R a swinging bar or rod, V, is arranged, operated by the crank-lever W, in connection with the upright lever T, which latter is moved by means of a sliding bar, T′, passing through the face-board Q and finishing in a knob, 4. This swinging bar V is suspended from links *i*, by which arrangement said bar will be moved a little upward when the links *i* are in an inclined position, as represented in the drawings, while said bar V will move downward when the links *i* are in a perpendicular position. When said bar V is brought downward the lower edge of this bar V will come in contact with the upper edge of the lever R, and act in that case as a fulcrum for said lever R to turn upon, instead of turning on the spindle S, as above described. By this arrangement when the knob 4 is pulled out, and consequently likewise the sliding bar T′, the swinging bar V will be brought to bear upon the upper edge of the lever R, and when the key B′ is now moved the motion thereby communicated to the lever R will cause the latter to turn upon the swinging bar V, similar to

turning on a fulcrum, and produce thereby sufficient motion at its other end to operate the spindle S, and consequently its valve of the reed in the row L.

As before mentioned, the shutters J and G were open, by which we obtained already two notes by one touch of the key B′, and by this described arrangement we obtain now three notes by one touch of the key.

To the pin *x* at the end of the lever P a lever, X, is attached, the other end of which is attached to the rod $a^{13}$ operated by key $B^{13}$. The end of this lever X is attached only loosely to the rod $a^{13}$ of key $B^{13}$, so that the motion of the key B′ does, by this arrangement, not give sufficient power to operate the valve below said key $B^{13}$.

About in the middle of the lever X a swinging bar, V′, is arranged above said lever X, similar in construction and arrangement to the swinging bar V, and operated by the crank-lever W′ in connection with the upright lever $T^3$, which latter is moved by means of a sliding bar passing through the face-board Q and finishing in a knob, 3. This swinging bar V′ is likewise suspended from links, and when said bar is moved so as to come into its lowest position the lower edge of said bar V′ will come in contact with the upper edge of the lever X, acting then as a fulcrum for said lever X to turn upon. When, therefore, in this latter position of the swinging bar V′, the key B′ is moved or pressed downward, the lever P will communicate motion to the lever X, turning on the bar V′ as a fulcrum, so as to operate the rod $a^{13}$ of the key $B^{13}$, and thereby open the valve operated by this rod $a^{13}$, giving thereby, as the shutters J and G are open, two more additional notes, and consequently, together with the above mentioned three notes, we obtain now by one motion of the key five distinct and separate notes.

I have described here, and likewise shown in the drawings, only the connection and mechanism of one key; but it will be readily understood that in the same manner every other key can be connected, in consequence of which, when four keys are moved at one and the same time twenty notes will be sounded, and when eight keys are moved at one time forty notes or sounds will be produced at one and the same time.

The upper part of the casing A′ is hinged to the lower part, A, at *p*, or near the bottom of the mechanism, and is secured at the front by suitable bolts or hooks, suitable provisions being made to give the usual and necessary opening to operate the keys and knobs. By this arrangement of hinging the whole of the upper part of the case near the bottom of the mechanism I obtain a ready and easy access to the mechanism, when required for cleaning or any other purpose, as said upper casing may be turned on its hinges at *p*, so as to expose to view all the inner arrangement, as shown in red lines in the drawings.

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

1. The arrangement of closing and opening the reeds at F and H by means of shutters J and G, and operated by arms *d* and *h*, fast to a shaft, K, when arranged and operating in the manner substantially as described.

2. Operating the shaft K by means of a lever, *f*, acted upon by the knee of the player, in such a manner as to open either one set of reeds or both sets, as may be desired, substantially as set forth.

PETER JOSEPH PUETZ.

Witnesses:
JAMES A. MALLORY,
WERNER TRIMBORN.