M. J. MATTHEWS.

REED-ORGAN.

No. 177,411. Patented May 16, 1876.

Fig. 2

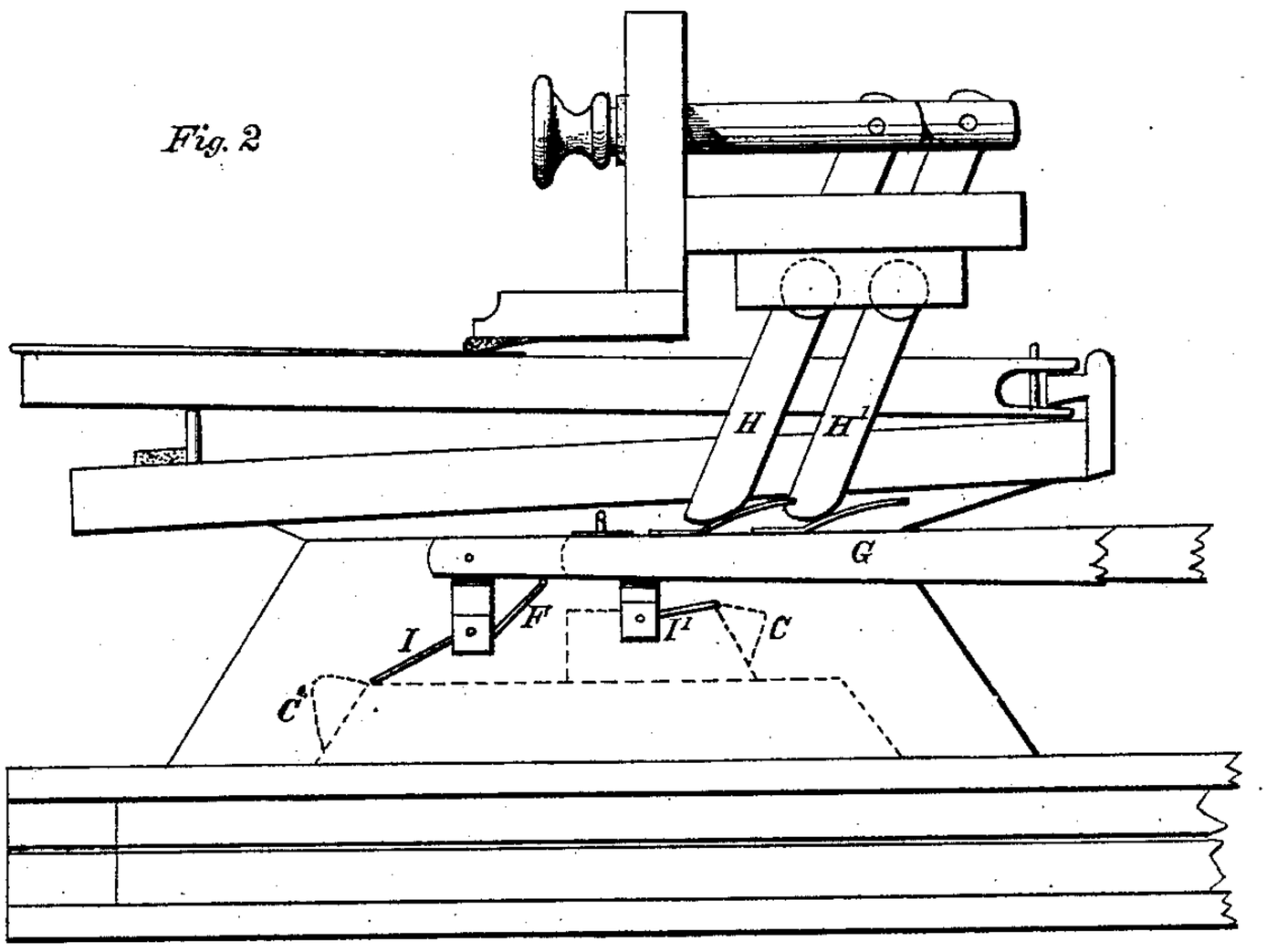
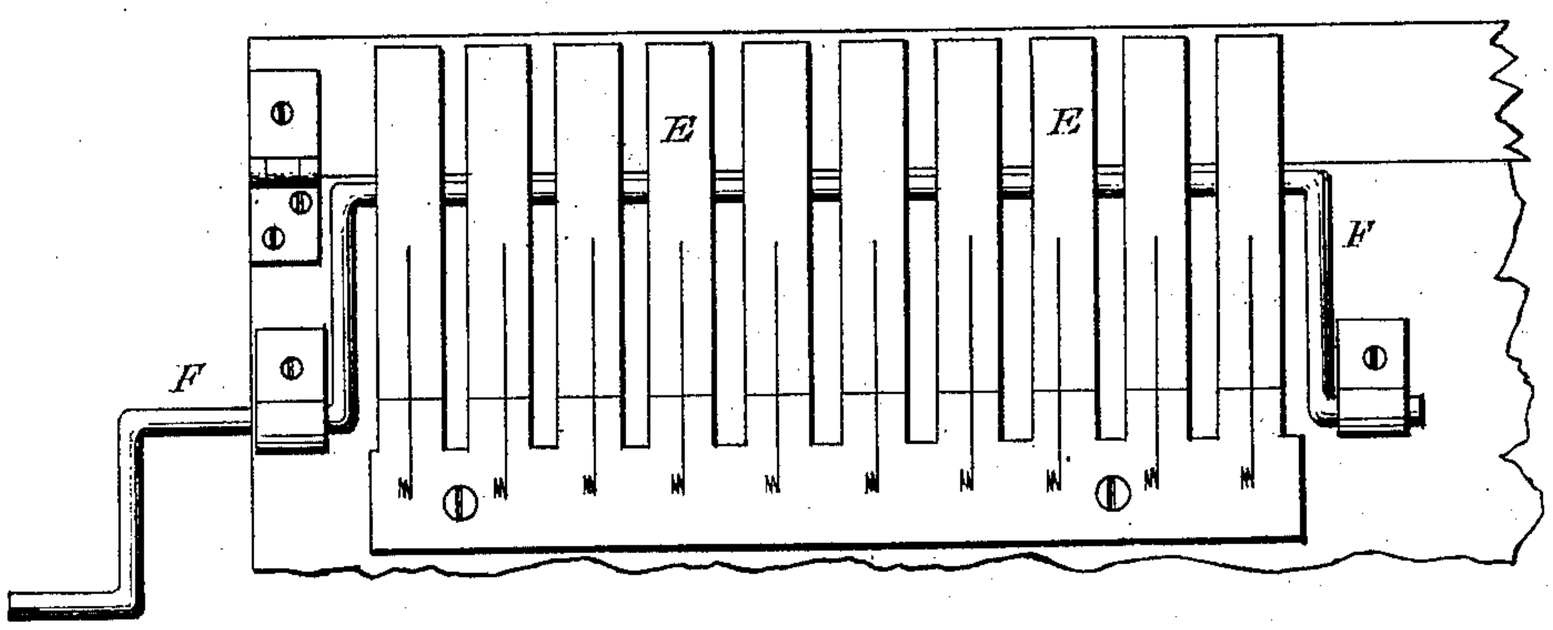


Fig. 1

Fig. 3



Witnesses
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UNITED STATES PATENT OFFICE.

MASON J. MATTHEWS, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO MASON & HAMLIN ORGAN COMPANY.

IMPROVEMENT IN REED-ORGANS.

Specification forming part of Letters Patent No. **177,411**, dated May 16, 1876; application filed August 14, 1875.

To all whom it may concern:

Be it known that I, MASON J. MATTHEWS, of Boston, in the State of Massachusetts, have invented a certain Improvement in Reed-Organs, of which the following is a specification:

My invention relates to certain peculiar means for obtaining, in a reed-organ, the musical effect commonly known as "voix celeste." This effect is produced, usually, by two extra sets of reeds, one set tuned a little above or a little below the other set. Sometimes, and on the score of economy, only one extra set is employed. This, according to taste, is tuned a little sharp or a little flat of the pitch of one of the ordinary sets of the instrument with which it is combined. While the celeste effect thus produced is good, the extra set is so much at variance with the normal pitch of the instrument that it can only be used legitimately in combination with the proper ordinary set; whereas, if the extra set could be tuned near enough in pitch to the ordinary set to be agreeable, and some other means be devised to obtain the necessary variance of pitch to produce the desired pulsations of the celeste, it would make a good and effective solo-stop, and thus add capacity for variety without materially adding to the cost of the instrument.

Some makers employ in their instruments a provision called mutes, for preventing the upper reeds speaking when the stop-valve is closed. This is an important provision, because, owing to the present mode of constructing reed-instruments, it is almost impossible to make the stop-valve to fit so tight that some wind will not suck through and cause the small reeds to speak. Where mutes are used the stop-valve must open wide to lift them clear of the reeds. It is necessary, therefore, in order to effect the purpose described that some means should be employed to raise the mutes in advance of the stop-valve. My invention was designed for and accomplishes this object.

The following specification, of which the accompanying drawings form a part, fully sets forth the nature and describes the manner of construction of my invention.

Figure 1 is a sectional elevation, representing the stop-valves and the mutes. Fig. 2 is a side elevation of the organ-action above the bellows, showing the stop work. Fig. 3 is a plan view of the mute-action.

In order to simplify description, those parts of my invention operating in conjunction are brought as near together as is practicable.

The ordinary sets or series of reeds A A^1 are inserted in tubes B B^1. An extra set of reeds, A^2, is inserted in the tubes B^2. This is the celeste set. Over the mouths of the tubes B^2 is a valve, C, represented as wide open. Over the mouths of the tubes B^1 is another valve, C^2, shown partially open. It is a matter of common knowledge among reed-organ mechanics that the nearer the valve is brought to the mouth of the tube the flatter will be the pitch of the tone educed from the reed sounding therein. My invention takes advantage of this fact in the following manner: The reeds A^1 are tuned to the normal pitch of the instrument. The reeds A^2 are tuned a very little above the normal pitch, not enough to produce a proper "voix celeste" effect, nor enough to sound disagreeably out of tune with the general instrument. There are two stops which act through the medium of the transverse levers H H′ connected with the set of reeds A^2. One of these stops opens the valve C alone. This gives a single-set solo. The other stop opens the valve C and at the same time opens the valve C^2 just enough to secure prompt speech and to lower the pitch of the reeds A^1 enough to produce, in combination with the set A^2, a marked celeste effect or double-set solo. Thus it will be seen that I produce the celeste effect partly by tuning sharp one set and partly by flattening the pitch of another set already tuned, and thereby secure the advantages before alluded to. It may sometimes be deemed advisable to tune the reeds A^2 just as much below the normal pitch as I have tuned them above, and to get the necessary additional variation in pitch by a partial opening of the stop-valve C instead of C^2, as before described. This would produce nearly the same results, providing the stop-valve should operate directly on the face of the tubes as in ordinary cases,

A mute consists of a small peg, D, which passes through the tube-board to the reed. A lever, E, with a slight spring acting upon it, presses on the peg D and holds it down while the stop-valve is closed. The peg D is connected with the lever E by means of a patch of leather, which is glued to both. The usual method for lifting these mutes from the reeds has been to let the stop-valve C^2 come in contact with the under side of the levers E. This plan works well where the stop-valve is always required to open wide, but where a slight opening is sometimes required, as in the case relating to my invention, it is important that some other means should be devised. I have, therefore, employed a crank-wire, F, which is mounted on the tube-board and under the mute-levers E. This crank-wire F is connected with the lever G, and is so proportioned that it lifts the mutes in advance of the rising of the stop-valve C^2. This plan, slightly varied as to proportions, may be employed in instruments having a full-organ knee-action, in which its important that the stop-valve should close in advance of the mutes reaching the reeds. The stop-draw action employed by me is the transverse lever H, which acts as a cam in connection with the lever G and in relation to other ordinary members of stop-work. The wire levers I and I′ are connected with the stop-valves C C^2, shown as closed in Fig. 2, in dotted lines.

It may sometimes be deemed desirable to use some other stop-action than that described above. This is a matter of option.

The reeds A^2 may be mounted in a separate tube-chest, and be located in some other part of the instrument.

I do not claim as my invention the partial opening of a stop-valve, nor do I here claim the mounting of a solo set of reeds over any ordinary set in a reed-organ.

I claim—

The crank F or its equivalent, the mutes D and levers E, in combination with the reeds A^1 and stop-valve C^2, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 31st day of July, 1875, in the presence of two subscribing witnesses.

MASON J. MATTHEWS.

Witnesses:

GEORGE F. STONE,

GEORGE F. EMERSON.