(No Model.)

J. P. CAULFIELD.

SOLO ATTACHMENT FOR REED ORGANS.

No. 493,014. Patented Mar. 7, 1893.

Fig. 1.

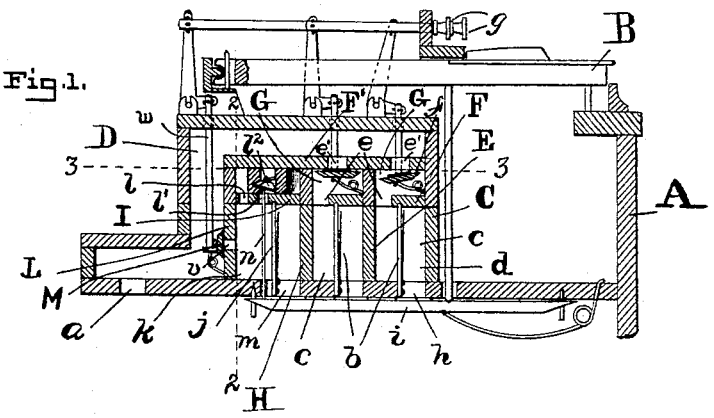


Fig. 2.

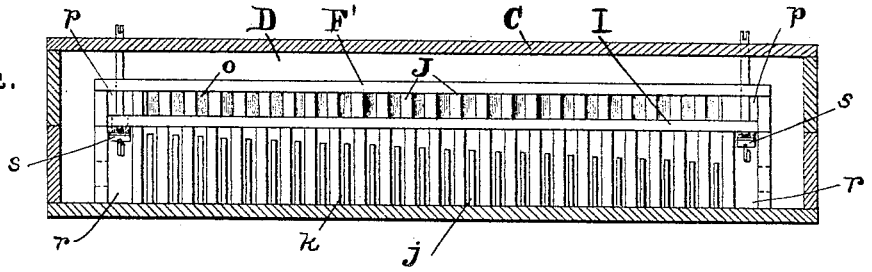


Fig. 3.

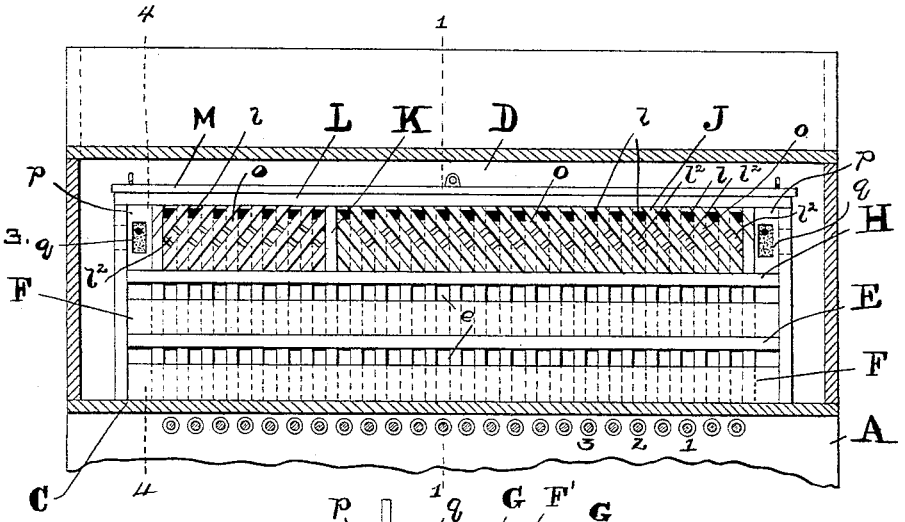
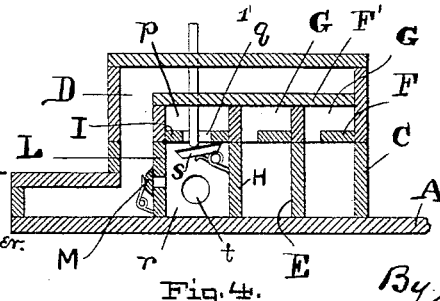


Fig. 4.



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SOLO ATTACHMENT FOR REED-ORGANS.

SPECIFICATION forming part of Letters Patent No. 493,014, dated March 7, 1893.

Application filed November 16, 1892. Serial No. 452,143. (No model.)

To all whom it may concern:

Be it known that I, JAMES P. CAULFIELD, a citizen of the United States, residing at Baltimore, Maryland, have invented certain new and useful Improvements in Reed-Organs, of which the following is a specification.

The object of this invention is to provide a reed-organ with a solo arrangement of reeds controlled by a stop whereby in performing on the organ special reeds will cause the solo to sound out prominently above the accompaniment and this without special manipulation on the part of the performer.

The invention is illustrated in the accompanying drawings, in which,—

Figure 1 shows a vertical cross-section view of the organ provided with my improved arrangement. Fig. 2 shows a vertical longitudinal section of the organ taken on line 2—2 of Fig. 1; the pallets are omitted. Fig. 3 shows a plan view with the casing and wind-chest in section on line 3—3 of Fig. 1. Fig. 4 shows a vertical cross-section on line 4—4 of Fig. 3.

The letter, A, designates the organ-case; and, B, the keys. Within the said case is a chest, C, inclosing a main channel D for passage of air from the reeds to the bellows; said channel communicating with the bellows through an opening, *a*.

I have shown two primary sets of reeds, *b*, for the ordinary action of the organ, and these stand vertically in channels, *c*, the two sets of reed-channels being separated by a longitudinal partition, E, and the channels of each set being separated from each other by boards, *d*. Cover-boards, F, fit tight over the top of the reeds, but leave openings, *e*, for communication of each reed-channel separately with chambers, G, above said cover-boards,—one of said chambers being for each set of reed-channels, and extending over all of them; these chambers are covered by a top-board, F′, and communicate with the main-channel, D, through openings, *e′*, in said top-board, said openings being closed by stop-valves, *f*, which are controlled by stops, *g*, through the lever-connections shown.

Each reed-channel has an inductive opening, *h*, at the bottom and on the side of the reed opposite that on which the opening, *e*, is located, and the said bottom-opening is closed by a pallet, *i*, arranged to be opened by the depression of the key, B. Each of these pallets, *i*, closes two of the inductive openings,—one of each set,—and when this pallet is open and the stop-valves above are open the reeds sound by reason of the air being drawn through them to the exhaust bellows.

My special solo-reeds are arranged in the chest behind the others and are separated therefrom by a longitudinal partition, H.

The letter, *j*, designates the reeds, which stand vertically in channels, *k*, corresponding with the primary reed-channels, and covered by a board, I, which has two openings, *l*, *l′*, over each channel, and both on the rear side of the reed in said channel. An opening, *m*, is in the bottom of the channel on the opposite side of the reed and closed by the pallet, *i*, which closes the corresponding channels of the primary sets of reeds.

A valve, l^2, is over the inner opening, *l′*, in the board, I, and is held normally open by a rod-connection, *n*, between it and the pallet, *i*, while the opening, *l*, has no valve but is always open. Diagonal strips, J, are above the board, I, and they form passages or channels, *o*, between them which channels are covered by the top-board, F′. Each of the diagonal channels connects a valved-opening, *l′*, of one of the auxiliary reed-channels with the free opening, *l*, of the adjoining reed-channel. A partition, K, divides the diagonal channels above the treble reeds from those above the bass-reeds, and the channels on one side of said partition extend reversely to those on the other side so that a current of air will be toward the low or the high end according as the note struck is in the bass or the treble. Each end-diagonal channel opens into a chamber, *p*, and there is an opening, *q*, from this chamber to a chamber, *r*, below the horizontal board, I, which opening is covered by a valve, *s*, operated by a stop through suitable connections. The lower chamber communicates by a hole, *t*, with the main or bellows-channel, D. All the auxiliary-reed-channels may communicate with the main-channel through openings, *v*, in the back-board, L,—said openings being all closed by a valve, M, which is connected by rods, *w*, with a suitable stop.

I will now describe the effect of this arrangement in performing upon the organ. Say for example the three keys designated Nos. 1, 2, 3, (see Fig. 3) in the treble are depressed. This operates the three pallets, *i*, with which said keys are connected, and uncovers the inductive openings of all the reed-channels below which said pallets have position. The reeds of the two front or primary sets will sound together in the ordinary way provided of course that the stop-valves, *f*, are open. The highest reed only of the auxiliary set will sound, however, for the following reasons. The depression of the key No. 1 closes the valve, l^2, at the upper end of the reed-channel, at the same time that it opens the lower end of said channel and the air passes the reed and then goes up through the opening, *l*, into the diagonal passage, *o*, which takes it across to the valved-opening, *l'*, of the adjoining reed-channel. The valve over this reed-channel being normally open the air passes down through the opening into the reed-channel and out again through the free opening, *l*, without affecting the reed, and so on through the diagonal channels and reed-channels to the end-chamber and out into the main-channel,—the stop-valve, *s*, being open, and thus the highest note sounds. The key, No. 2, has also been depressed and has closed the valve, l^2, between its auxiliary-reed-channel and the diagonal channel above, but this reed will remain silent, as the passage to the main channel is blocked by the valve, l^2, which is held closed by the key, No. 1, and no air-current can pass. Likewise an air-current would pass the reed whose channel is opened by the depression of the key No. 3, but the passage to the main-channel is blocked by the stop-valve, l^2, which has been closed by the depression of the key No. 2. But the passage to the main-channel from the reed whose channel is opened by the key No. 1, is not blocked, and hence said reed will sound, the highest note of the three which have been struck, while the other two remain silent. If key No. 1, is raised then the note of key No. 2, immediately sounds, as the passage to the bellows is opened by the valve l^2, of said key, No. 1. But the note of key No. 3, still remains silent being blocked by the valve, l^2, of the key No. 2. Thus a single note only can sound at one time, and that the highest when in the treble. The action is the same if the keys are in the bass and the lowest note is the only one which sounds. It will thus be seen that the performer by simply drawing a stop may produce a perfect solo and at the same time an accompaniment of entirely different quality of tone. Neither does it require an expert to accomplish this; a child playing an ordinary hymn would have the melody singing out prominently above the other parts without any special effort.

By opening the bass-channels through the valve, *s*, at the bass-end, a good pedal effect is produced as the lowest auxiliary reed only sounds. This is specially advantageous in the sub-bass, as the volume is increased without having two or more of these auxiliary sub-bass reeds sounding at once, which would be objectionable.

The auxiliary reeds may be employed with the others in the ordinary way if it is desired to simply increase volume without any special solo effect,—by operating the stop which opens the long valve, M.

While I have here shown two sets of primary reeds it is obvious the auxiliary solo-reeds could he used with only one set of primary reeds, or with more than two sets. It is also obvious that the construction and arrangement of parts might be varied without departing from my invention.

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 primary reed-channels; reeds therein; pallets for said channels; and keys controlling said pallets; of auxiliary reeds and channels therefor said channels arranged to be opened also by said pallets; and channels which connect said auxiliary reed-channels through valved-openings, whereby when a number of keys are depressed only one of the auxiliary-reeds sounds; substantially in the manner described.

2. In a reed-organ, the combination with the primary reed-channels; reeds therein; pallets for said channels; and keys controlling said pallets; of auxiliary reeds and channels therefor said channels arranged to be opened also by said pallets; and diagonal channels each of which connects two adjacent auxiliary-reed-channels through openings one of which is valved, whereby when a number of keys are depressed only one of the auxiliary reeds sounds substantially as described.

3. In a reed-organ, the combination with the primary reed-channels; reeds therein; pallets for said channels; and keys controlling said pallets; of auxiliary reeds and channels therefor said channels arranged to be opened also by said pallets; channels connecting the said auxiliary reed-channels through suitable openings; valves over said openings and standing normally open; and rod-connections between said valves and the main valves respectively, substantially as and for the purpose described.

4. In a reed-organ, the combination with the primary reed-channels; reeds therein; pallets for said channels; and keys controlling said pallets; of auxiliary reeds and channels therefor said channels arranged to be opened also by said pallets; and having openings through which they may communicate with the main bellows-channel; a stop-valve over said openings; and channels connecting said auxiliary reed-channels through valved openings, whereby when a number of keys are depressed only one of the auxiliary-reeds sounds.

5. In a reed-organ, the combination with the primary reed-channels; reeds therein; pallets for said channels; and keys controlling said pallets; of auxiliary reeds and channels therefor said channels arranged to be opened also by said pallets; channels connecting the treble auxiliary reed-channels through valved openings; channels connecting the auxiliary bass-reed channels through valved-openings; a partition between said two sets of connecting channels; and stop-valves controlling the communication between said connecting channels and the main bellows-channel.

6. In a reed organ, the combination with the primary reeds; channels therefor; pallets closing said channels; and keys controlling said pallets; of auxiliary-reeds and channels for the same which are also closed by the said pallets; and valves connected with said pallets and controlling communication between the auxiliary-reed channels whereby when a number of keys are depressed only one of the auxiliary-reeds sounds.

In testimony whereof I affix my signature in the presence of two witnesses.

JAMES P. CAULFIELD.

Witnesses:
JNO. T. MADDOX,
F. PARKER DAVIS.