

T. WINANS.
Organ-Stop Actions.

No. 148,272.

Patented March 3, 1874.

Fig. 1

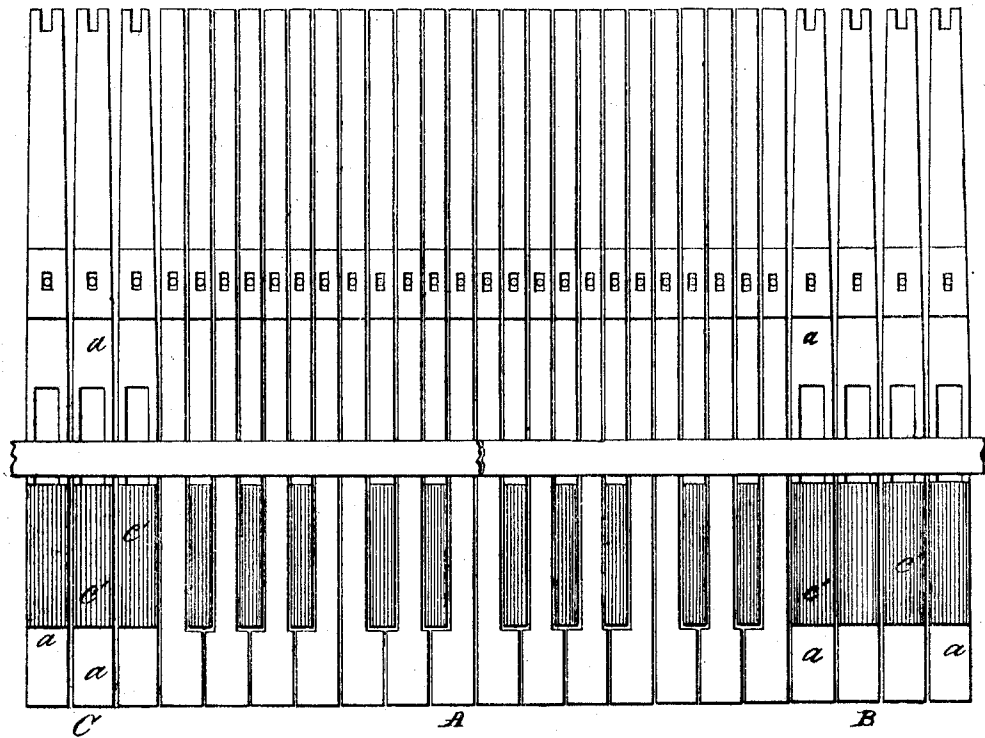


Fig. 2.

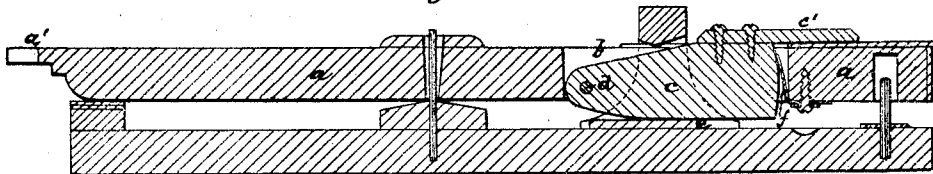
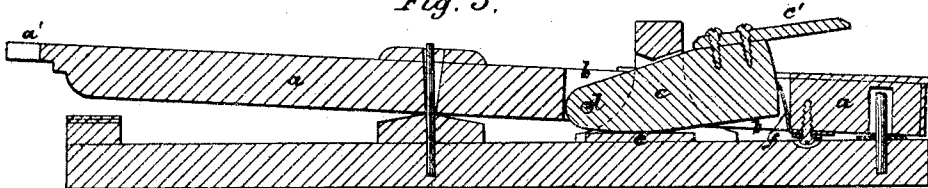


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

THOMAS WINANS, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN ORGAN-STOP ACTIONS.

Specification forming part of Letters Patent No. **148,272**, dated March 3, 1874; application filed February 4, 1874.

To all whom it may concern:

Be it known that I, THOMAS WINANS, of Baltimore, Maryland, have invented certain new and useful Improvements in Organs, of which the following is a specification:

The improvements I have in contemplation relate to the organ-stops. These stops or draw-stops usually consist of sliding rods terminating in knobs, and arranged on the sides of the organ adjoining the key-boards, in position to allow them to be reached by the person playing on the organ. The ordinary arrangement of the stops is well known. It is also well known to organists that the manipulation of these stops is difficult, and requires great exertion, especially when sudden and frequent changes of register are required during the playing of the organ. Under these circumstances it is most difficult and fatiguing, as well to reach for the stops, to select them accurately, and operate them with the proper quickness. Moreover, the position of the various stops will vary on different organs, according to the peculiar views of the maker, and according to the peculiar combinations of stops to which it may be desired to give prominence, so that an organist who may be at home on one organ, will be embarrassed in his attempt to play on other organs, and cannot be relieved from this embarrassment until he has perfectly familiarized himself with the location and grouping of the stops on such organs. A further difficulty with all draw-stops is, that the player is required, in order to manipulate them, to use a different set of muscles, to exert himself in a different direction. Each manipulation of a draw-stop during playing calls off both the hand and the mind of the player from the keys, and causes a greater or less break or interruption in the playing action, or that action which is directed to the obtaining of musical effects from the manipulation of the keys. It is my desire to concentrate these stops in as small a space as possible, to locate them where they may be reached and manipulated by the organist without extraordinary exertion, without requiring him to sensibly move or shift his hands from the key-board, and without requiring from him any action other than that which would be required to manipulate the keys. With this

view I form the stops, not with the ordinary draw-stop or sliding action, but with a key-action, and I arrange them on the prolongation of the key-board to which they belong. In other words, the stops in my system are no longer draw-stops, but keys, and are arranged not on the case of the organ beyond the manual, but, as it were, form part of the manual, being so located as to be a prolongation of the manual. In a large organ there are, of course, several banks of keys. Each bank of keys has usually its stops and couplers. I prefer to arrange the coupler and combination keys at one end of the manual, and the stop or register keys, as they may be termed, at the opposite end of the manual.

In the accompanying drawing, I have represented one way in which my invention may be carried into effect.

Figure 1 is a diagram of a key-board, representing the stop-keys on the prolongation and at each end of the manual.

The manual-keys are represented at A. The simple stop-keys may be located at one end of the manual, as at B, and the combination and coupler keys at the other end of the manual, as at C. It has not been thought necessary here to indicate in detail the action operated by the stop-keys. For the action which I design to use in practice I refer to my Letters Patent No. 143,602, dated October 14, 1873, in which is described and shown a stop-valve pneumatic action. I now operate each balanced slide-valve, which controls a stop-action such as described in that patent, by a stop-key that acts on the valve through the intermediary of a "sticker," in the same way as that in which each manual-key acts on its valves.

Figs. 2 and 3 are longitudinal vertical sections of one of the stop-keys which I make use of. The key is made up of two parts—a black portion, in line with the black keys of the manual, and a white portion, in line with the white keys of the manual. *a* is the white portion and main lever of the stop-key. It is formed substantially like a white manual-key, and is mounted in the same manner. At its rear end *a'* is attached the sticker that operates the balanced slide-valve, by means of which the appropriate stop or register connected with that valve is opened or closed in

the manner described in my Letters Patent aforesaid. The main lever *a* is slotted at *b* to receive the auxiliary lever *c*, which, for the most part, is situated in the slot, and is pivoted to the main lever *a* at *d*. To the top of the auxiliary lever *c* is fastened a plate or strip, *c'*, which is above the main lever, and extends some distance in advance of the front end of slot *b*. When the stop-key is in its normal position, the plate *c'* rests flat on the top of the lever *a*. The plate *c'* is colored black, is in line with the black keys of the manual, and is preferably of equal width with the main and white lever *a*, in order that it may be readily distinguished from the black keys of the manual. The auxiliary lever *c* bears, at its under side, on a cross-bar, *e*, which is forward or in advance of pivot *d*.

The operation of these devices is as follows: If the white portion or the lever *a* be depressed, it will tend to carry with it the auxiliary lever *c*; but this movement of the latter will be resisted by the cross-bar *e*, which will thus tend to move the auxiliary lever on its pivot *d*, and to throw up its front end *c'*, as indicated in Fig. 3. Thus the depression of the white key will occasion the lifting of the black key, in this manner indicating unmistakably that the register is open. On the other hand, by depressing the black key the white key will thereby be positively lifted, the cross-bar *e* constituting the fulcrum of the lever *c*. The two keys will thus be returned to the position indicated in Fig. 2, in which position the register will be closed. The stop-keys, of course, must differ from the manual-keys, in the respect that they should not return to their normal positions as soon as the player's hand is removed from them. To this end I interpose between the auxiliary lever or black key *c* and the main lever or white key *a* a friction pad or spring, *f*, which will offer just enough resistance to the free movement of the two levers to keep them in any position to which they may be brought by the hand of the player. Any other suitable means for the purpose may, however, be employed.

It will be, of course, understood that the stop-keys, including those which act as coupler and combination stops, may, while arranged on the prolongation of the manual, be grouped together to suit the requirements of the instrument. I prefer, as above stated, to locate the couplers, &c., at one end of the manual, and the simple stops at the other end.

I have illustrated my invention by its application to my patented pneumatic action. It will, however, be manifest that the same system is applicable to the ordinary action, or an electric action, &c.

The name of each stop may be printed or otherwise formed on the stop-key itself; or it may be otherwise suitably located.

I also prefer having pedals for the feet, on the same principle, and under the same arrangement, for throwing on and off the whole or different portions of the organ.

Having now described my invention and the manner in which the same is or may be carried into effect, I desire to state, in conclusion, that I do not limit myself to the special details herein shown and described in illustration of my invention; but

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

1. Stop-keys, arranged on the prolongation of the manual or pedals of an organ, and adapted to operate the registers, couplers, or combinations of the same, by a key-action, in contradistinction to the ordinary draw-stop or sliding action, substantially as described, and shown in the drawings.

2. The stop-key, composed of a main lever or white key, and an auxiliary lever or black key, constructed and combined to operate together, substantially in the manner herein shown and set forth.

In testimony whereof I have hereunto signed my name this 31st day of January, A. D. 1874.

THOMAS WINANS.

Witnesses:

FERDINAND C. LATROBE,
W. S. WILKINSON.