2 Sheets—Sheet 1.

N. M. BOYNTON.

Organ-Stop Action.

No. 197,203. **Patented Nov. 20, 1877.**

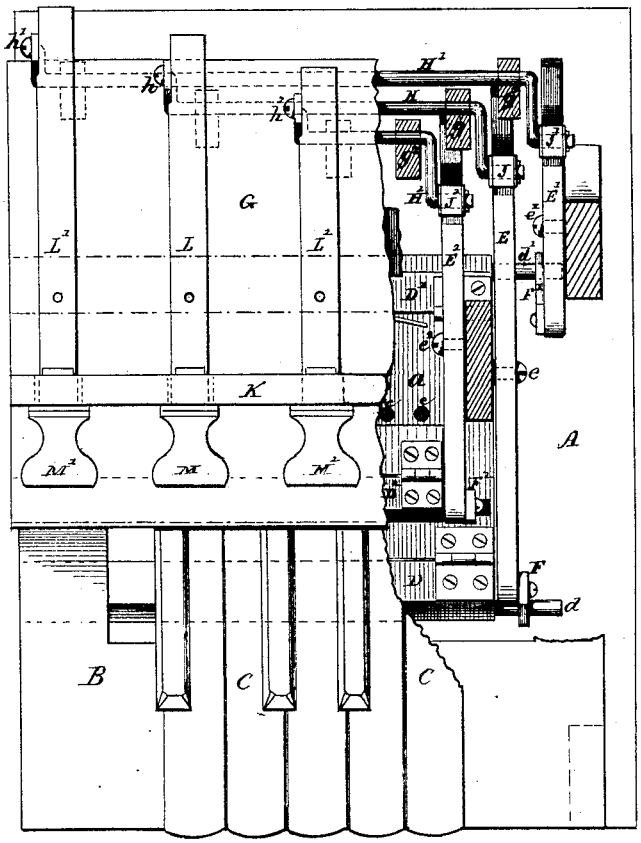

Fig. 1

Witnesses.

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D. Harrington

Inventor.

Newell M. Boynton

by Chas. H. Burleigh

Atty.

2 Sheets—Sheet 2.

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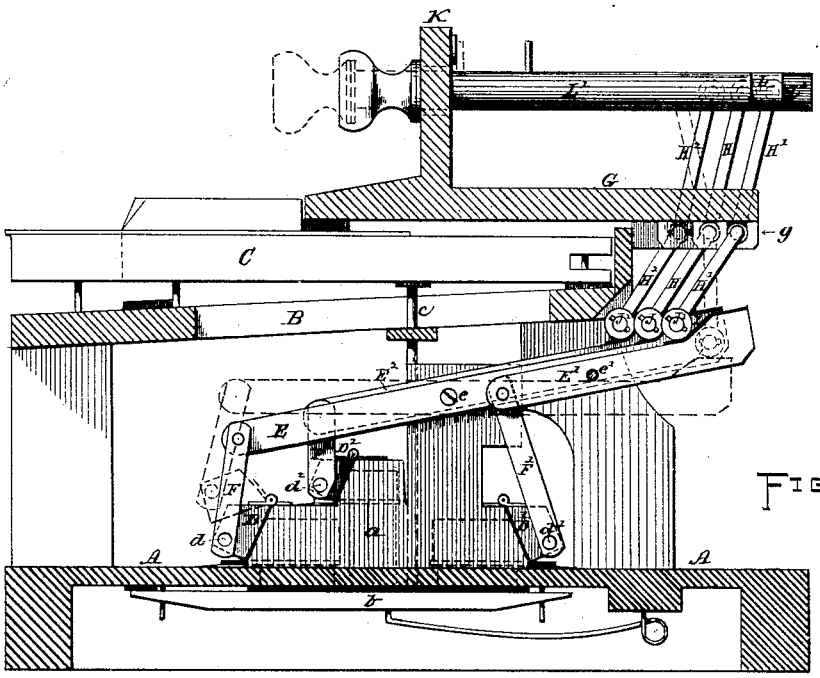

Fig. 2

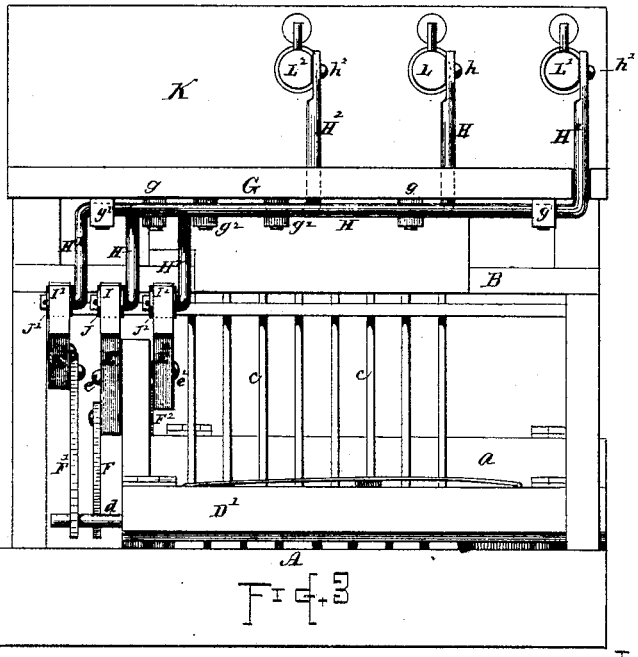

Fig. 3

Witnesses

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UNITED STATES PATENT OFFICE.

NEWELL M. BOYNTON, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO LORING & BLAKE ORGAN COMPANY, OF SAME PLACE.

IMPROVEMENT IN ORGAN STOP-ACTIONS.

Specification forming part of Letters Patent No. **197,203**, dated November 20, 1877; application filed July 7, 1877.

To all whom it may concern:

Be it known that I, NEWELL M. BOYNTON, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Organ-Actions; and I declare the following to be a description of my said invention, sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 represents a plan view of such parts of an organ as are necessary to illustrate the nature of my invention. Fig. 2 represents a transverse vertical sectional view, and Fig. 3 a rear view of the same.

My invention relates to improvements in devices for opening and closing the mutes or stops in organs; and it consists in mechanism constructed and organized for operation substantially as hereinafter described, the subject-matter claimed being hereinafter definitely specified.

In the drawings, A denotes the sound-board; *a*, the cell-board for the reeds; B, the key-frame; C, the keys; *c*, the pitmen, and *b* the valves, all of which parts may be constructed and arranged in the ordinary manner, and therefore require no detailed description. D D^1 D^2 indicate the mutes, hinged to the cell-board *a* to close down over the reeds, the usual spring device being employed for giving the closing pressure. Each mute is provided with a pin, *d*, projecting from its end, to which pin the opening mechanism is connected.

The operating devices being similar for each of the several mutes, this description will be confined to one set of mechanism in the series, while the affix 1 or 2 after the reference-letter will be used on the drawings to denote corresponding parts belonging to the other sets of mechanism in the series, the letters, whether with or without the affix, being considered the same, or as denoting mechanical devices of the same kind.

The mute D is operated by means of a lever, E, fulcrumed on a suitable standard or portion of the frame, as at *e*, and connected at one end to the mute D, in the present instance, by a link-piece, F, pivoted to the lever end, and embracing the pin *d*, while at the other end said lever E is provided with an inclined projection or surface, I, against and over which works a roll, J, arranged on the end of a swinging arm or lever, H, which latter is fulcrumed in suitable bearings *g* on the horizontal back brace G in rear of the name-board K, the upper end of said lever H being pivoted to the rear part of the pull I, in the manner indicated at *h*.

The lever H is offset along the under side of the brace-board G, to compensate for the difference in lateral position between the lever E and pull L, and the fulcrum-bearings *g* are arranged on this offset or horizontal portion, as illustrated.

The end of arm H, with its roll J, moves back and forth in a positive and definite line, traversing, in its motion, a curve governed by the swing or oscillation of arm H on its fulcrum *g;* and as the pull L is drawn out said roll J, moving in said definite line, passes in contact with the inclined surface or projection I, and, in conjunction with said incline, causes the depression of the rear end of lever E, while the front end of said lever, which is thereby elevated, draws up the link F, causing the elevation or opening of the mute D. (See dotted lines, Fig. 2.)

The bearing-surface on the lever E, against which the roll J strikes, is preferably covered with cloth, felt, or other suitable cushion material. If desired, the end of the arm H could be made to work directly against the inclined surface on the lever E, the roll being omitted; but I prefer the roll J, as operating easier and quieter.

The pull L is arranged through a bushed opening in the name-board K, with the usual hand-knob M at the front, as illustrated.

When the pull L is drawn out to its full extent the roll J rests on the straight portion of the lever E beyond the inclined surface, and thus retains the lever in position with the mute D held open.

When the mechanism is released by pressing back the pull L, the mute D is closed by the action of its spring.

Having described my improvements in organ-

actions, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. In combination, substantially as hereinbefore set forth, the pull-bar L, the rocker bar or lever H, its upper end pivoted to the pull, and its fulcrum at *g*, with the spring-lever E, fulcrumed at *e*, and at one end connected to the mute D, its opposite end being provided with an inclined surface, I, acted upon and depressed by the lever H, for opening the mute, in the manner described.

2. In combination, substantially as hereinbefore described, the offset arms or levers H, fulcrumed at *g*, with their lower ends provided with rollers J, with the centrally-fulcrumed levers E, having inclined surfaces I, the connecting-links F, and pins *d*, for opening the mutes D, said parts being constructed and operating as set forth.

Worcester, Massachusetts, June 26, 1877.

NEWELL M. BOYNTON.

Witnesses:
CHAS. H. BURLEIGH,
D. HARRINGTON.