

W. H. Gerrish, 2. Sheets, Sheet. 1.

Organ Action.

No. 105,936.

Patented Aug. 2, 1870.

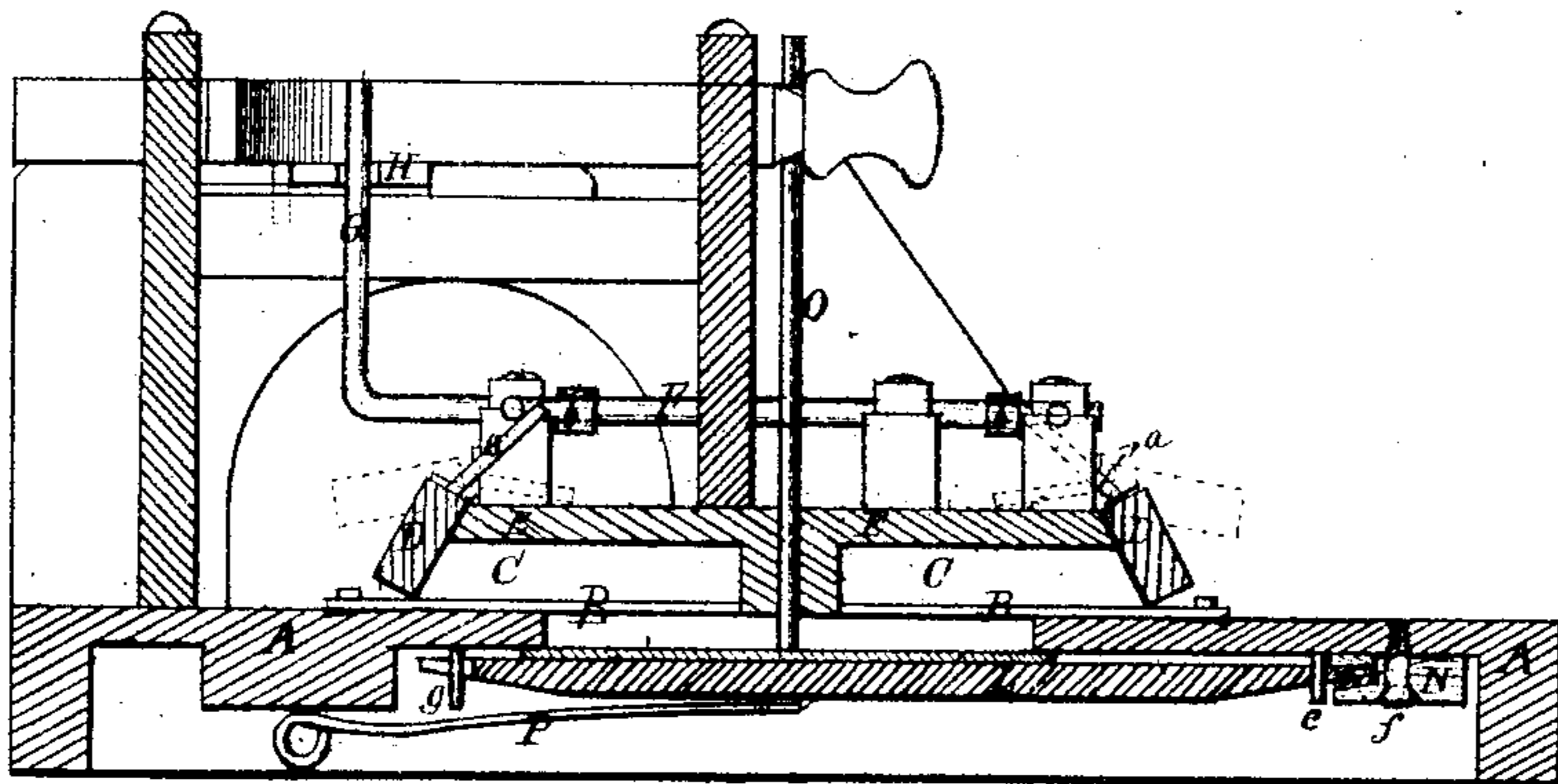


Fig. 2.

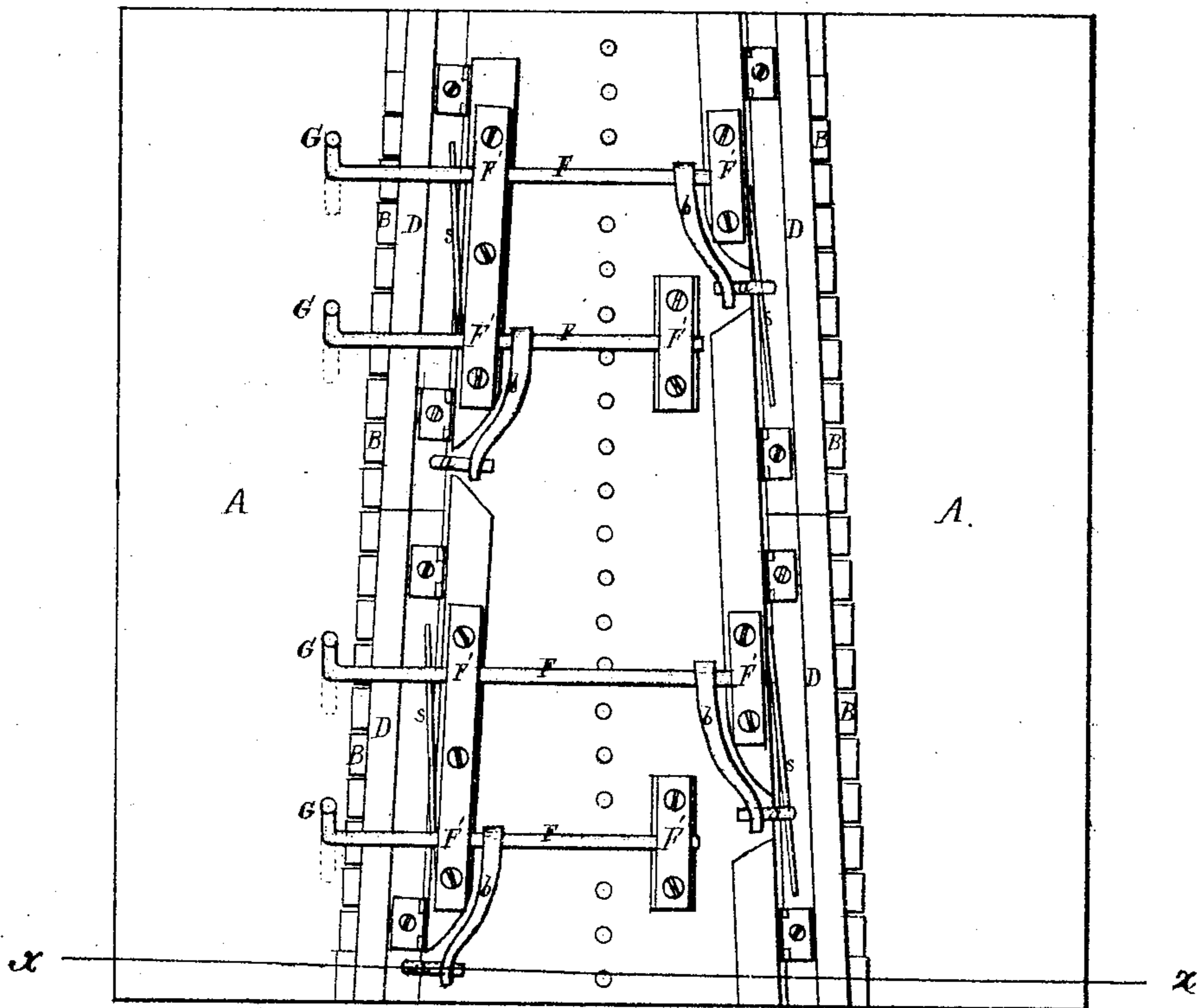


Fig. 1.

Witnesses.

N. C. Lombard

B. L. Whitney

Inventor.

William H. Gerrish

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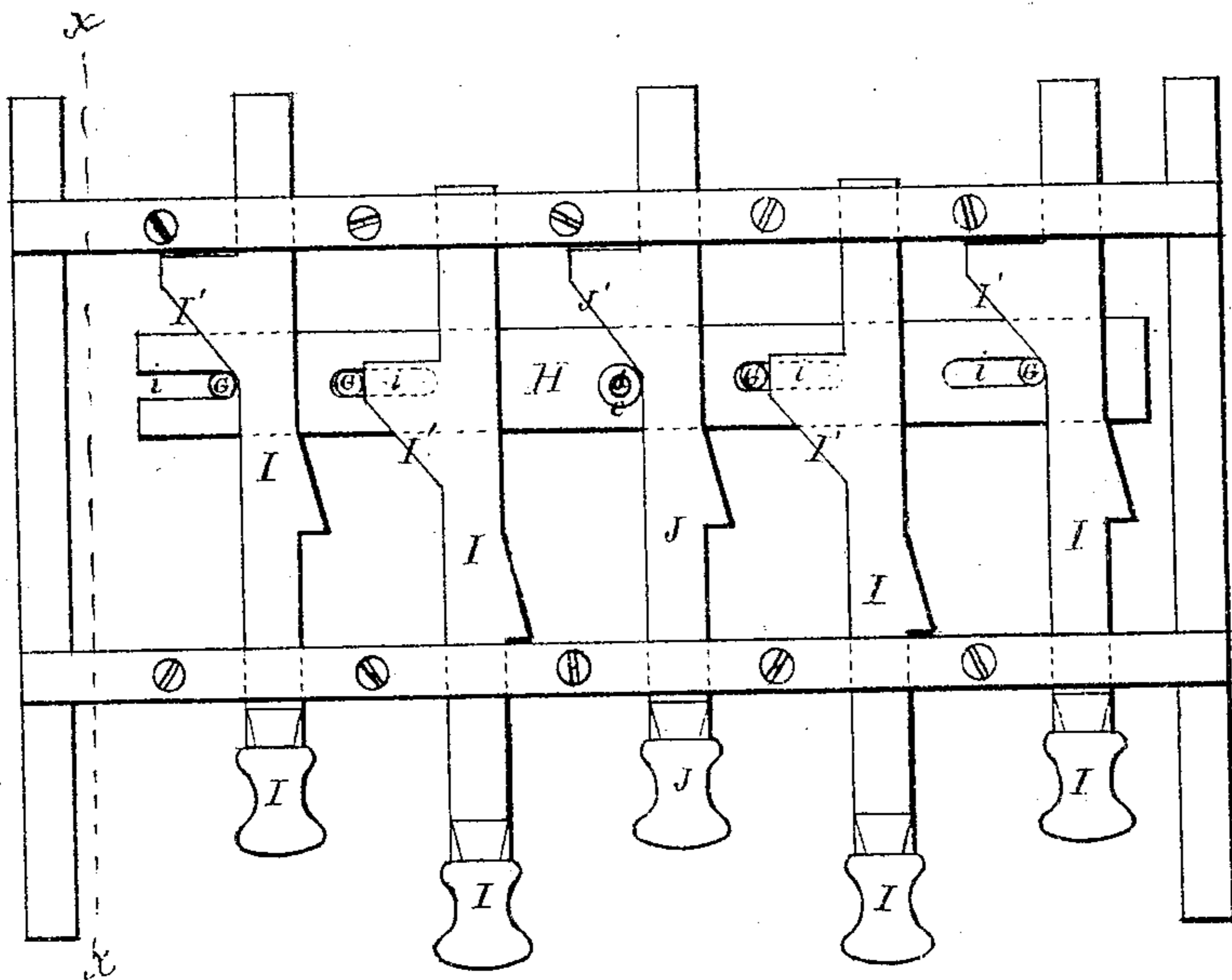


Fig. 3

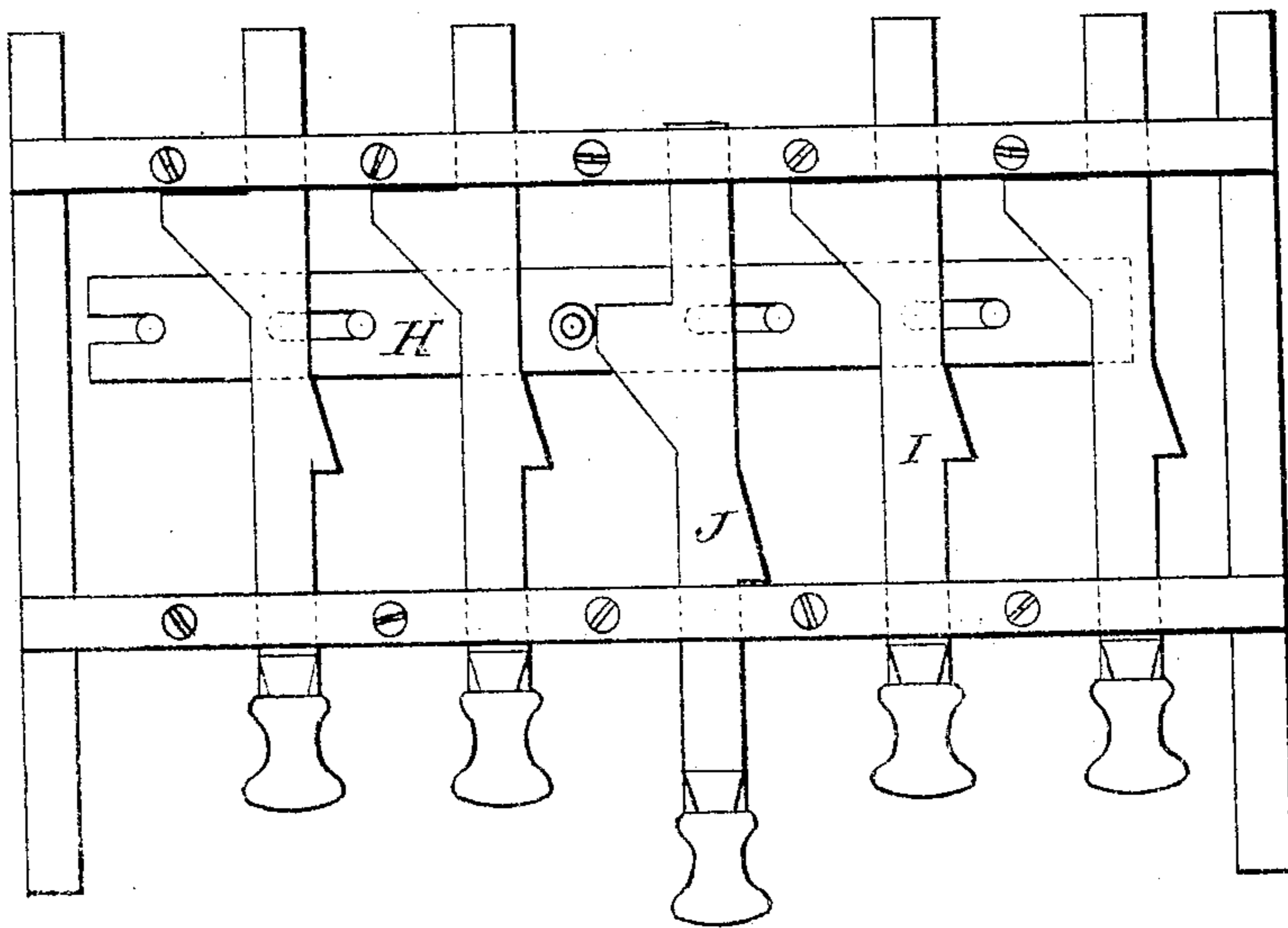


Fig. 4.

Witnesses.

N. B. Lombard

D. B. Whitney

Inventor.

William H. Gerrish

UNITED STATES PATENT OFFICE.

WILLIAM H. GERRISH, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN REED MUSICAL INSTRUMENTS.

Specification forming part of Letters Patent No. **105,936**, dated August 2, 1870.

To all whom it may concern:

Be it known that I, WILLIAM H. GERRISH, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Reed Musical Instruments, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates, in the first place, to the mechanism for operating the stop-valves; and it consists in the use of a sliding bar so combined with the several registers and a series of rocker-shafts and levers and the several stop-valves that either stop-valve may be opened or closed at will by operating the appropriate register without moving said slide-bar, and at the same time, if it is desired to throw on the whole force of the instrument, it may be done by pulling a register, which acts directly upon said sliding bar, and, moving it in the direction of its length, causes all the stop-valves not previously opened to be opened, and if said register be again pushed in, so that the slide-bar is moved to its original position, the stop-valves will be left in the same positions they occupied before the slide-bar was moved.

My invention relates, in the second place, to the manner of hanging the pallets or valves which close the cells and prevent the passage of air through the reeds; and it consists in securing said pallets to the under side of the reed-board by means of an adjustable clamp-bar one edge of which bears upon the reed-board, and the other edge, being lined with cloth, rests upon one end of the whole line of pallets, said clamp-bar being secured to the reed-board and pressed down upon the pallets by regulating-screws, a piece of cloth being placed between the pallets and the reed-board.

It also consists in the use, in combination with said adjustable clamp-bar, of a series of pins or studs set in the under side of the reed-board near the inner edge of the clamp-bar, and passing through holes in the pallets in such a manner that the pallets cannot be removed without first removing the clamp-bar; and it also consists in the combination, with said clamp-bar, of a spring for holding the pallet upon its seat, said spring resting in a groove formed in the under side of the pallet in such a manner that it is free to slide upon the pallet in the direction of its length when

the pallet is opened by the action of the key thereon.

In the drawings, Figure 1 is a plan of a reed-board, showing the stop-valves, rocker-shafts, and levers for operating the same, the registers and keys being removed. Fig. 2 is a transverse section through the reed-board and register-frame on line *xx* on Figs. 1 and 3. Fig. 3 is a plan of the registers and sliding bar with two registers drawn, showing how the individual registers may be moved without operating the slide-bar; and Fig. 4 is a plan of the same parts, showing how the central register, through its action upon the slide-bar, operates all of the stop-valves.

A is the reed-board, B the reeds, and C the air-cells.

D D are the stop-valves, hinged to the tube-board E, and provided with the stems or arms *a*, upon which rest the outer ends of the levers *b*, which are firmly secured to the rocker-shafts F, mounted in the bearings F'. The back ends of the rocker-shafts F are bent up at right angles to form the levers G, by which said shafts may be rotated, and by the action of the levers *b* upon the arms *a* the stop-valves will be opened. The levers G pass through slots *i*, formed in the bar H, said slots being of sufficient length to allow of the full movement of the levers G to open the stop-valves without moving said bar; or the sliding bar H may be made without the slots *i* by cutting notches in one edge of said bar, so as to form shoulders to strike against the levers G; or the bar may be made straight and have secured thereto short fingers or arms to strike the levers in a perfectly obvious manner. The stop-valves D are held upon their seats by the springs *s*. The levers G project above the bar H, and are acted upon by the inclines I' upon the side of the registers I, so that by operating either of the registers I the stop-valve connected therewith will be opened or closed, as desired. The incline J' upon the register J acts upon a truck, *c*, mounted upon a pin, *d*, set in the sliding bar H, and, moving said bar in the direction of its length, opens all of the stop-valves not previously opened by its action upon the levers G.

L is the pallet or valve which closes the wind-passage, one end of which is provided with a hole to fit the pin *e*, and is secured between two pieces of cloth or felt by the clamp-

bar N, secured to the reed-board A by the adjusting-screws *f'*, the inner edge of said clamp-bar resting upon the ends of the pallets L in a perfectly obvious manner. The clamping of the pallet between the two pieces of cloth, in combination with the pin *e*, inserted in the hole in the end of the pallet, serves as a hinge upon which the pallet swings as it is pressed down by the action of the key pressing upon the top of the pitman O. The other end of the pallet L is forked, and is guided in its movements by the pin *g*, inserted in the under side of the reed-board and projecting through the said fork.

P is the spring which forces the pallet against the seat, so as to stop the passage of the wind through the reeds when the finger is removed from the key. This mode of applying the pallets has the advantage over other modes now in use that they are much less liable to twist about and get out of place, are more readily adjusted, and may be readily removed for repairs or adjustment.

I do not claim broadly a register so ar-

ranged as to control all of the stop-valves, for I am aware that that has been done before; but

What I claim as new, and desire to secure by Letters Patent of the United States, is as follows:

1. The sliding bar H, in combination with the register J and stop-valves D, and a suitable mechanism for transmitting the motion of the sliding bar to the stop-valves, substantially as described.

2. The registers I and J, provided with the inclines or wedges I' and J', in combination with the bar H, the rocker-shaft F, and levers G and *b*, arranged and operating substantially as described.

3. The pin *e*, fitted to a hole in the pallet L, in combination with the clamp-bar N, substantially as described.

Executed at Boston, Massachusetts, this 20th day of May, 1870.

WILLIAM H. GERRISH.

Witnesses:

G. E. WHITNEY,
N. C. LOMBARD.