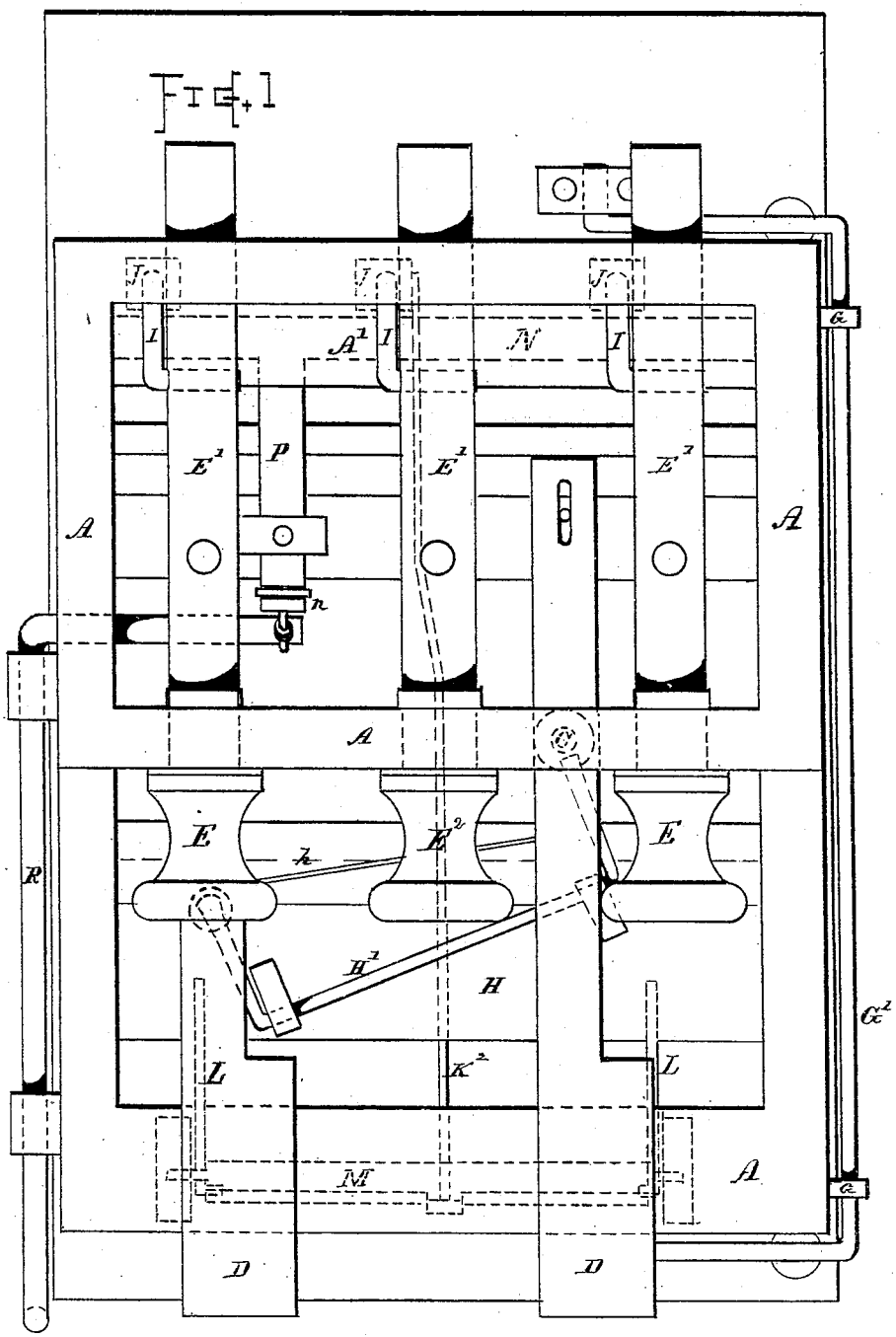
3 Sheets—Sheet 1.

A. H. HAMMOND.

REED-ORGAN ACTIONS.

No. 183,496. Patented Oct. 24, 1876.

Fig. 1



Witnesses

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3 Sheets—Sheet 2.

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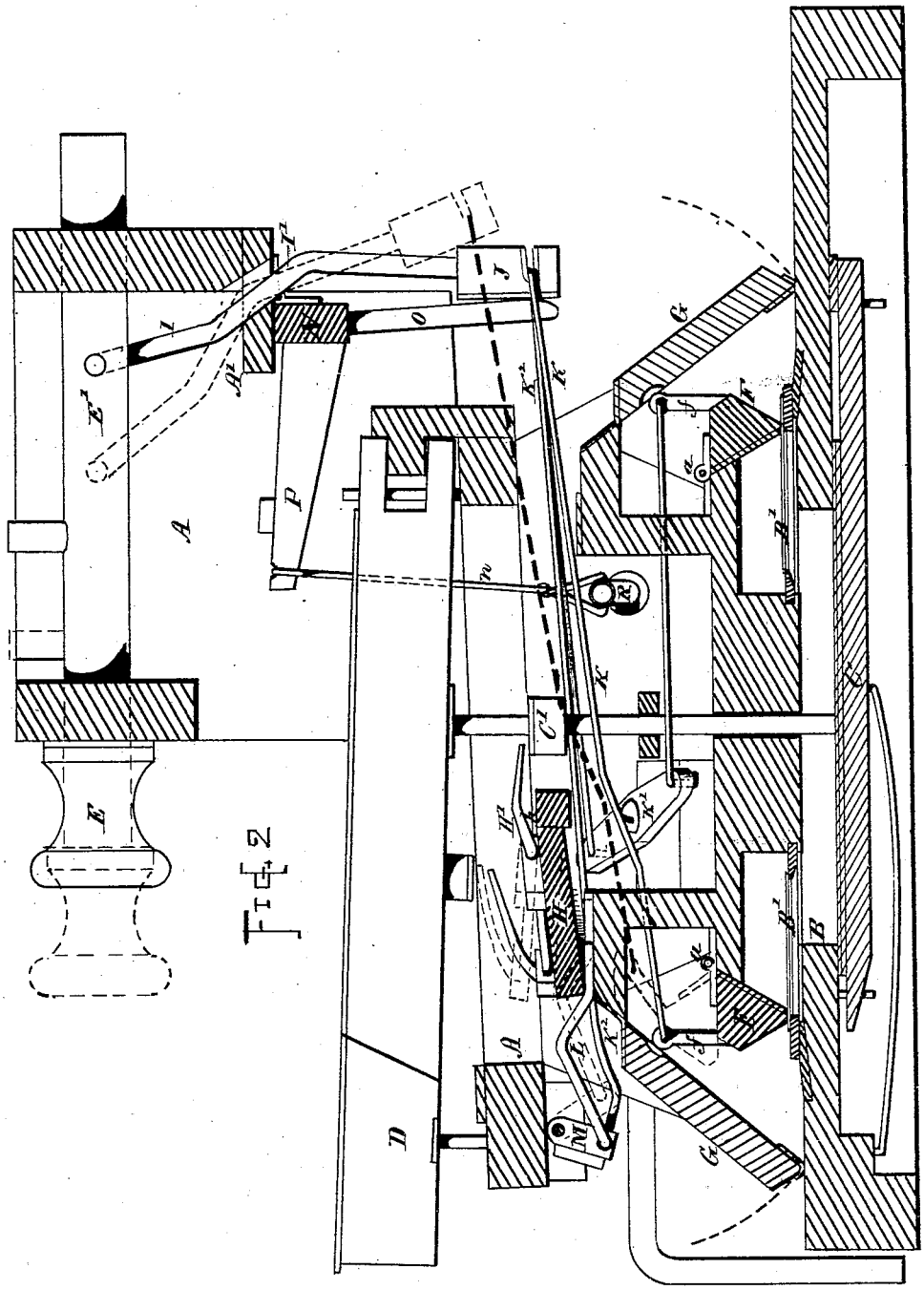

Fig. 2

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3 Sheets—Sheet 3.

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REED-ORGAN ACTIONS.

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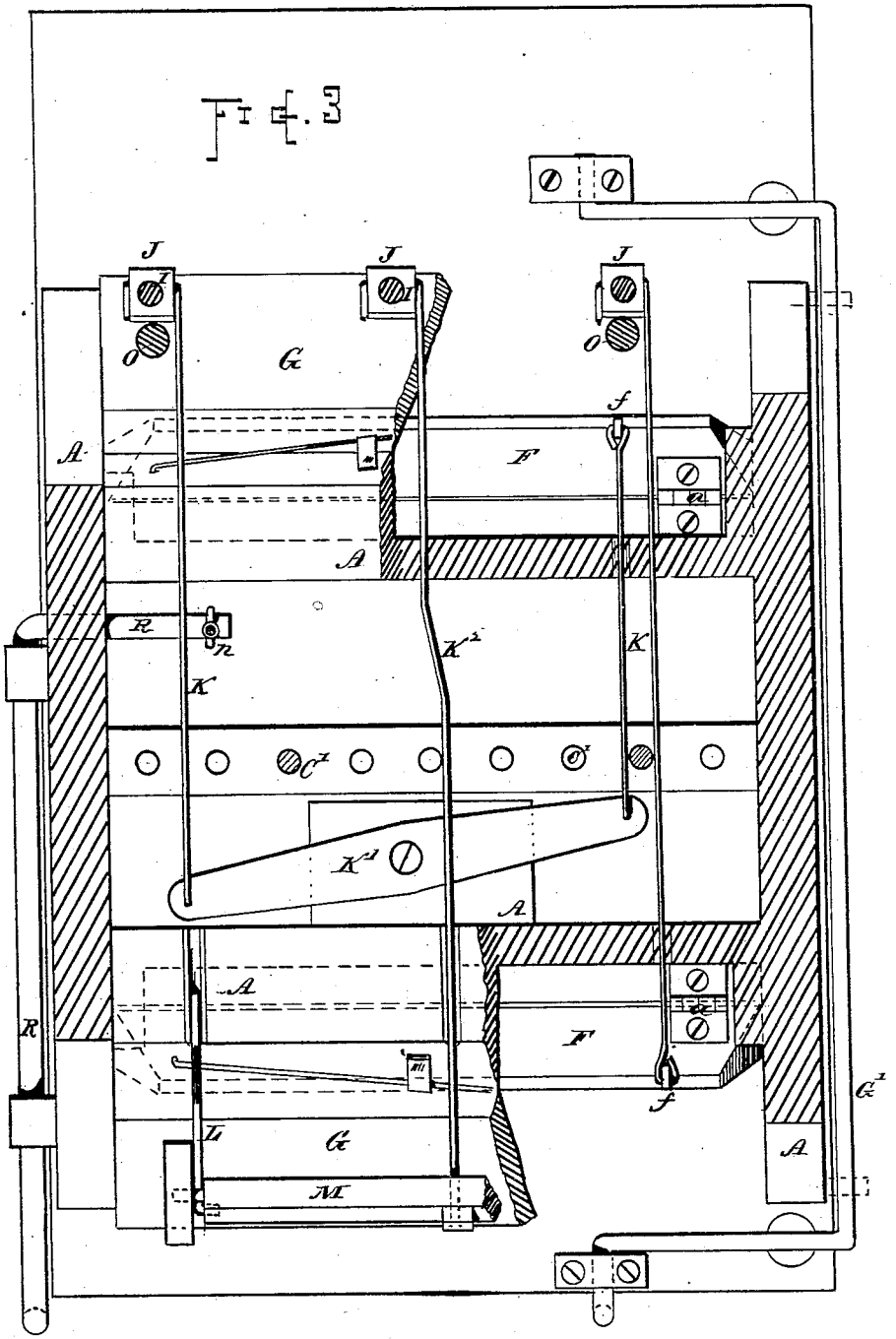
Fig. 3



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UNITED STATES PATENT OFFICE.

ANDREW H. HAMMOND, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN REED-ORGAN ACTIONS.

Specification forming part of Letters Patent No. **183,496**, dated October 24, 1876; application filed July 3, 1876.

To all whom it may concern:

Be it known that I, ANDREW H. HAMMOND, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Reed-Organs; and I hereby 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 a reed-organ as are necessary to illustrate my invention. Fig. 2 represents a vertical transverse section of the same; Fig. 3, a horizontal section, showing arrangement of the connecting-rods, &c.

My invention consists in certain improvements in the construction and organization of the stop mechanism in reed-organs, and in the devices for connecting and operating the mutes and also the octave-coupler mechanism, as hereinafter fully described, the subject-matter claimed being hereafter definitely specified.

In the drawings, A denotes the frame; B, the reed-bed; B′, the reeds; C, the air-valves; C′, the valve-rods, and D the keys, all of which parts may be arranged in the ordinary manner. E denotes the stop-pulls, the rods E^1 of which are supported to slide in and out at the upper part of the frame A. F denotes the mutes, which are arranged to close down upon the reeds B′, as indicated. G indicates the swell-valves, which are raised by the action of the rod G′; and H indicates the octave-coupler table, upon which are supported the coupling-levers H′. The stops E are provided with peculiar-shaped arms or connecting-levers I, in the present instance formed from wire. Their upper ends pivot in the stop-rods E^1, while their central portion is formed or bent with an offset, as at I′, and their lower ends are provided with cushions or head-pieces J, to which the connecting-rods K are secured. The levers I pass from the pull-rods E^1 downward through openings in a bar or supporting-seat, A′, fixed to the rear part of the frame A, or otherwise, and the peculiar form and arrangement of the levers I is such that when the pulls E are drawn the offset portions I′ of the levers will rest upon or against the supporting-seat A′, as indicated by dotted lines in Fig. 2, and will, without other attachments, firmly retain the parts in position, and prevent any movement occasioned by strain on the rods K, while at the same time no strain or tendency toward backward movement is imparted to the pull-rods E^1. The operation of the stop mechanism is also rendered easy and quiet. The levers I can, if preferred, be made from wood or any other suitable material, and said levers I and their supporting-seat A′ may be modified as to size and position to conform to the requirements of organs of different construction. The mutes F, which are hinged, as at *a a*, to swing upward, I provide with short arms or pins *f*, to the upper ends of which I join the connecting-rods K. In the case of the front mutes making a direct connection with the lever I or its head J, and in the case of the rear mutes, I change the direction of movement of the connection K by the use of a pivoted arm or reversing-lever, K^1, arranged substantially as shown in Figs. 2 and 3. By this arrangement the connections or rods K are subjected to tensile strain only, and can, consequently, be very small. The connections K are preferably made with small wires, with their ends bent or looped around or into openings in the arm-heads J and pins *f*, and the wires passing through small spaces in the walls of the air-cells. Said connections K can also, if desired, be made by means of cords or by wood rods, or with any suitable material. The octave-coupler table H is hinged at *h* to move up and down for bringing the coupling-levers H′ within reach of the keys D, in the ordinary manner. For imparting to said table H its upward movement, I employ bent rods L, or equivalent inclined pieces, the outer ends of which are pivoted or hinged to a rocking bar or piece, M, attached to the forward part of the frame A, as indicated, while the rear ends of said rods L are fitted to slide in grooves on the frame beneath the table H. The piece M is hinged to the frame A in such manner that it can be moved or swung backward by the connecting-rod K^2, operated by the pull E^2, which backward movement of the bar M slides the inclined portion of the rods L beneath the table H in the manner of a

wedge, thereby elevating said table with ease, and solidly and firmly supporting it while in its elevated position, (see Fig. 2,) so that the downward pressure of the keys D can cause no springing or trembling of the coupler devices or table H. The bar M can be made of any desired length, with the rods L arranged at desired intervals throughout its length, thereby operating the coupler devices with ease and facility.

Forward of the arms or levers I, and hinged to a suitable part of the frame A, I arrange a rocking bar, N, from which depend arms O, reaching to, and terminating with rounded ends at, the front sides of the cushions or heads J of the levers I, or such of said levers as are employed for operating mutes F. A lever or arm, P, projects from the rocking bar N, and is joined, by suitable connections *n*, to the shaft R, (which latter is moved by the ordinary knee-swell device, not herein shown,) so that the action of said shaft R rocks the bar N, causing the arms O to press back the levers I J, and thus open all the mutes F not previously opened by drawn stop-pulls E, the arms O operating independently of and without affecting the stop-bars E^1.

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

1. The combination, with the stop pulls or rods E^1 and mute-connections K, of the arms or levers I, constructed with offsets I′, arranged for operation against a suitable supporting-seat, A′, substantially in the manner described, whereby the levers are rendered self-supporting and the mutes held open when the pulls are drawn.

2. In combination and relative arrangement, substantially as described, the mutes F, provided with arms or pins *f*, the connecting rods or cords K, with the reversing-lever K^1, the offset levers or arms I, and stop-pulls E E^1, for the purposes set forth.

3. In combination with the octave-coupler table H, the inclined reciprocating rods or wedges L, bar M, and mechanism for imparting movement to the same, substantially as and for the purpose set forth.

4. The combination, with the levers I or cushions J, which sustain the mute-connections, and the operating-shaft R, of a rocking bar, N, provided with arms O, which act against said levers I or cushions J, and operate the mutes when said bar N is oscillated, substantially as and for the purposes set forth.

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Witnesses:
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