

(No Model.)

2 Sheets—Sheet 1.

H. E. HODGSON.
ATTACHMENT FOR PIPE ORGANS.

No. 582,287.

Patented May 11, 1897.

Fig. 1.

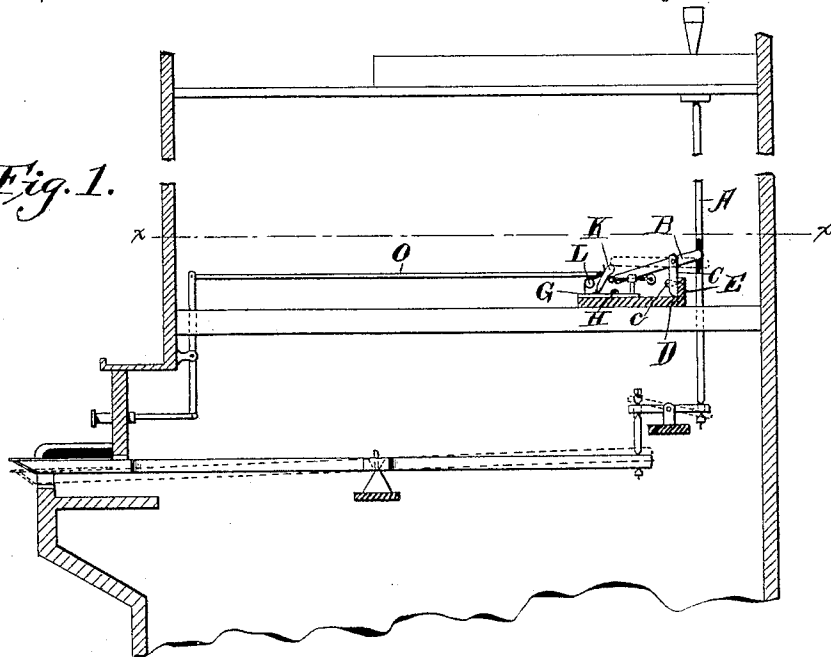
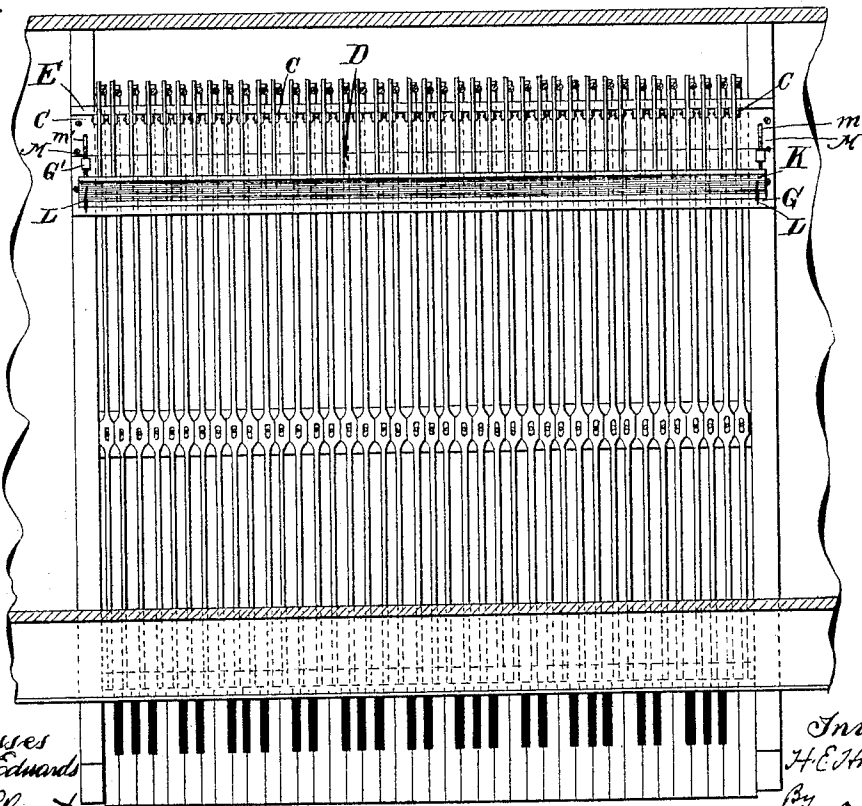


Fig. 2.



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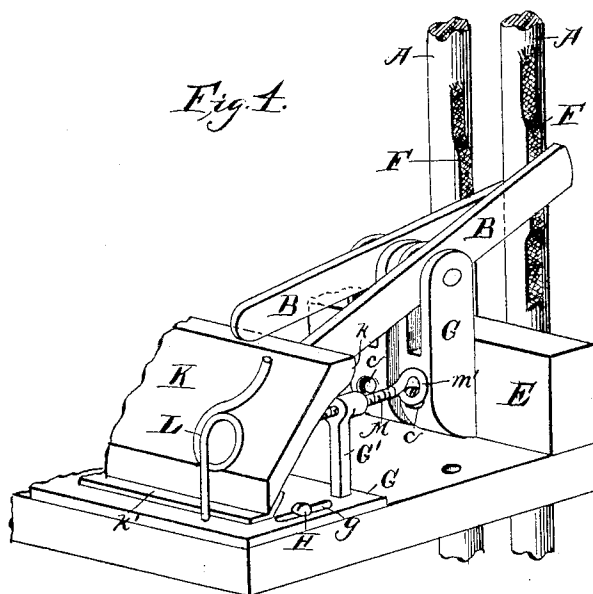
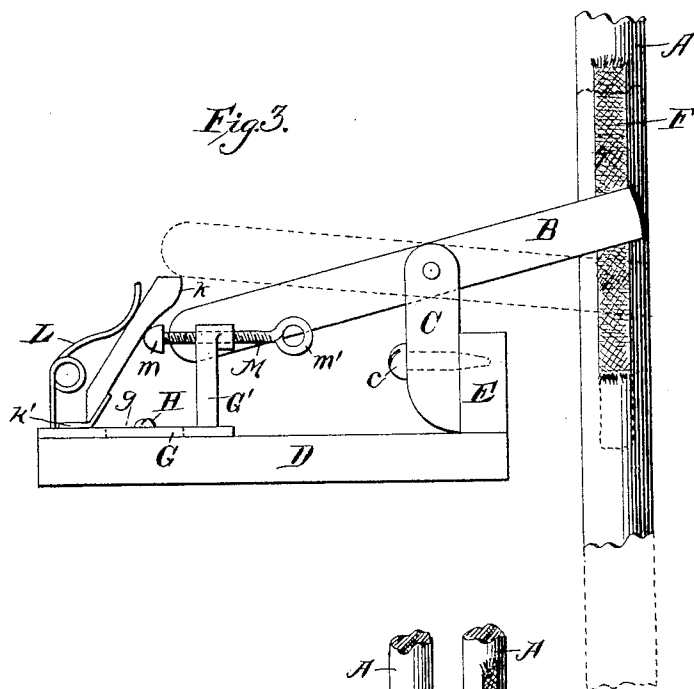
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UNITED STATES PATENT OFFICE.

HERBERT E. HODGSON, OF NORFOLK, VIRGINIA, ASSIGNOR TO THE
HODGSON SUSTENUTO COMPANY, OF SAME PLACE.

ATTACHMENT FOR PIPE-ORGANS.

SPECIFICATION forming part of Letters Patent No. 582,287, dated May 11, 1897.

Application filed July 9, 1896. Renewed April 13, 1897. Serial No. 632,044. (No model.)

To all whom it may concern:

Be it known that I, HERBERT E. HODGSON, a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Attachments for Pipe-Organ and Similar Instruments; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a vertical sectional view of a portion of an organ, showing my improvements applied. Fig. 2 is a horizontal sectional view on the line $x-x$ of Fig. 1. Figs. 3 and 4 are detail views on an enlarged scale.

In the drawings, A indicates the trackers or valve-operating rods, which may be of any suitable and well-known form and be connected with the keys of the instrument and with the valves in any desired manner.

My improvements are particularly adapted for use in connection with pipe-organs, although they may be used with any of several keyed musical instruments, and it will be understood that the parts of such an instrument not herein specifically described may be of any ordinary or desired form.

To each of the tracker-rods A is flexibly connected one end of a lever B. As shown, these levers B are fulcrumed between uprights C, rigidly secured to a plate D, there being one of such standards on each side of the levers. The plate-like support D is firmly secured, by means of screws or other similar means, to the framework of the organ; and to the rear longitudinal edge or side of such frame is secured an upwardly-extending bar E to enable the standards C to be secured in position thereon by means of screws c .

As stated above, the inner rear ends of the levers B are flexibly connected with the trackers A. This connection may be formed in various ways. In the drawings I have illustrated one form of connection which I have found to be very satisfactory and which I at present prefer to employ. In this construction a flexible fabric strip F is secured at its

ends by glue or other fastening means to the side of the tracker, and the said strip is similarly connected at an intermediate point of its length with the adjacent face or side of the lever B.

From the above description and the drawings it will be seen that as each tracker A is depressed by striking the key connected therewith and the corresponding valve of the instrument is operated the rear end of the lever B, connected with such tracker, will be correspondingly depressed. In order that the note or tone sounded by the depressing of the tracker A may be sustained after the key is released, which is frequently desired, I have provided means for engaging with the forward ends of the levers B and successively holding such ends in the elevated position to which they are moved when their rear ends are depressed or drawn downward.

G designates a plate which is adjustably mounted on the support D in such manner as to be moved bodily toward and from the standards C. In the construction shown the said plate is provided with a series of slots g , through which fastening screws or bolts H, connected with the said support D, extend and by means of which the plate can be rigidly secured in the desired position.

To the upper side of the plate G is hinged a bar K, which extends longitudinally of the frame D, and, from a point beyond the plane of the tracker A, is connected with the key at one end of the keyboard to a point beyond the tracker connected with the key at the opposite end of the keyboard.

As shown in Fig. 3, the rear face or side of the bar K is preferably made slightly concave, so that a slight enlargement k is formed at the upper end thereof, and this head-like part normally projects slightly over the forward ends of the levers B. The said bar K is maintained in this position by means of suitable springs L, which are connected at their lower ends to the plate G and have their free ends bearing against the outer face of the bar. The angle at which said bar shall be held by said springs with relation to the plate G is regulated by one or more screws M. These screws, there being, preferably, one adjacent to each end of the bar K, are fitted in threaded

passages formed in standards or uprights G' on the plate G and are provided at one end with a head *m*, which bears against the bar K, and at the other end with a ring *m'*, by which they can be turned.

The forward ends of the levers B are preferably rounded, and when such forward end of any one of said levers is forced upward by reason of the depressing of its rear end this rounded surface rides on or bears against the convex surface at the rear of the enlarged portion *k* of the bar K and forces the said bar forward and outward. As soon as the forward end of the lever B has moved into the position indicated in dotted lines in Fig. 1—that is, into a plane above the upper edge of the bar K—the springs L act to throw said bar back to its normal position against the screws M. The bar K thus moves under the elevated end of the lever B and holds it in its elevated position, thus maintaining the tracker A, connected therewith, in its lowermost position, and the valve connected with such tracker is held open. The parts will be held in the positions last described, and the tone produced by the pipe which is thus brought into action will be sustained until another key has been depressed sufficiently far to cause the forward end of the lever B, connected therewith, to again force the sustaining-bar K outward and thus release the forward end of the lever last actuated.

The hinge *k'* between the sustaining-bar K and the plate G is preferably made of a strip of leather or fabric, which, I find, makes a very desirable connection, being flexible and preventing warping of the bar K.

In order that an organ having my improvements may be used, if desired, without actuating the tone-sustaining devices, I provide a draw-rod O, which is connected to the bar K and adapted to be secured in such position as to hold the upper edge of said bar beyond the outer ends of the levers B at all times.

I am aware that prior to my invention it has been proposed to provide means for maintaining the keys of an organ in a depressed position successively, whereby the tone produced through the action of each key may be sustained until another key is struck, and have in an earlier patent, No. 542,054, dated July 2, 1895, presented such a construction; but the improvements described and illustrated in the present case possess many practical advantages over those earlier devices, in which the key-levers were directly engaged or locked in position after action. Among such advantages I desire to note the following: The amount of movement of the parts immediately connected with the keys is so slight that the adjustment of the locking devices must necessarily be exceedingly fine, and when a single bar is used for engaging all of the keys the least warping thereof renders the same unfit for accurate and certain action. With the present construction, however, in which the levers are fulcrumed at a

point relatively near their point of attachment to the tracker-rods, considerably more motion is allowed the free ends thereof, and the bar K being carried by an adjustable support the warping of said bar does not render the attachment inoperative. Again, by means of the attachment herein described an organist playing upon one keyboard can have any chord reproduced from the corresponding valves connected with another keyboard. The coupling of one keyboard to another being in modern or latest styles of organs effected at some point on the trackers, the keys of the coupled keyboard are not necessarily depressed when the valves normally operated thereby are opened, and therefore the earlier devices, which depended on engagement of the key to effect the sustaining of the tones, would not be applicable to such an instrument.

As before pointed out, my improvements are applicable to instruments of various styles, and therefore I do not wish to be understood as intending to limit myself to such an arrangement of parts as I have herein illustrated for connecting the trackers and keys, for holding the bar K out of the path of the arms B, &c., such illustration being merely conventional and introduced solely for the purpose of showing the relation of my improvements to the trackers and make clear the difference between the present invention and those tone-maintaining devices heretofore in use and above referred to.

I am also aware that it has been proposed to interpose between a key and the reed-board of a reed-organ a spring-pressed pivoted arm one end of which is bifurcated to extend on opposite sides of the sticker-pin adapted to be actuated by the key and to interpose between said pivoted arm and the key a locking-bar adapted to be manually moved to maintain said pivoted bar in a depressed position. Such a construction, however, differs in important particulars from my present improvements. By my construction the key-retaining levers are connected positively and directly to the trackers, and the lock bar or plate for said levers is constructed and arranged to automatically engage with the free ends thereof without requiring any action on the part of the player, and the action of each key automatically releases said lock-bar from engagement with the levers of keys previously sounded. I also dispense entirely with the use of springs for moving the levers.

I am also aware that it has been proposed to arrange in the front wall of the keyboard of an organ a series of push-rods and to provide the keys with projecting rods extending into the path of said push-rods, there being a lock-bar arranged to engage said push-rods for the purpose of holding any desired one of the series in such position as to engage with the projecting rod of one of the keys; but such a construction is objectionable, both because of the number of small easily-dis-

arranged parts required, and also because a separate and distinct action and movement on the part of the player, after striking the key, is required in order to sustain any tone.

5 With my construction it will be noticed the number of parts is reduced and the sustaining of a tone is automatically effected without special action on the part of the player after the key is struck.

10 What I claim is—

1. In a musical instrument the combination of a series of keys adapted to be actuated to produce musical tones, a series of rods, one interposed between and connected with 15 each key and the tone-producing devices adapted to be actuated thereby, a series of levers each having a direct connection with one of said rods, and means adapted to automatically engage with the lever controlled by 20 any key when said key is actuated, to sustain the tone produced, and to simultaneously release the lever or levers engaged thereby prior to said key being actuated, substantially as set forth.

25 2. In a musical instrument the combination of a series of keys adapted to be actuated to produce musical tones, a series of valve-operating rods connected with said keys, a series of levers each having one end connected 30 directly to one of said rods, and means adapted to automatically engage the free end of any one of said levers when the key connected to said lever is depressed and to simultaneously release any lever engaged by said 35 means at the time of actuating said key, substantially as set forth.

3. In a musical instrument, the combination with the keyboard, of the trackers or valve-operating rods interposed between and 40 each connected with one of the keys and with the tone-producing devices controlled by said

key, a series of levers each having one end connected, by a flexible connection, directly with one of said trackers, and a pivoted locking-bar extending transversely of said levers 45 in the path of the free ends thereof, whereby its movements will be controlled by the said keys and it will automatically engage with any one of said levers as the key connected to said lever is actuated and will be simultaneously disengaged from any previously- 50 engaged lever, substantially as set forth.

4. In a musical instrument, the combination with the keyboard, of the rods interposed between and each connected with one 55 of the keys and with the tone-producing devices controlled by said key, a series of levers each connected with one of said rods, and a spring-pressed lock-bar pivotally mounted at one side of said rods and normally projecting 60 over the free ends of the levers whereby when a key of the keyboard is depressed the lever connected therewith, through said rod, will rock the lock-bar to disengage it from any of the series of levers with which it is 65 then engaged, and will in turn be itself engaged by said bar, substantially as set forth.

5. The combination with a series of trackers, or valve-operating rods, of a musical instrument, of a series of levers, a series of flexible strips each secured at its ends to one of 70 the trackers and at an intermediate point of its length to one of said levers, and means for engaging with the other, free ends of said levers to maintain the valves connected therewith open, substantially as set forth. 75

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

HERBERT E. HODGSON.

Witnesses:

THOS. W. SHELTON,
CHAS. W. TODD.