

J. T. AUSTIN.
 ORGAN STOP ACTION.
 APPLICATION FILED DEC. 19, 1913.

1,123,216.

Patented Jan. 5, 1915.

Fig. 2.

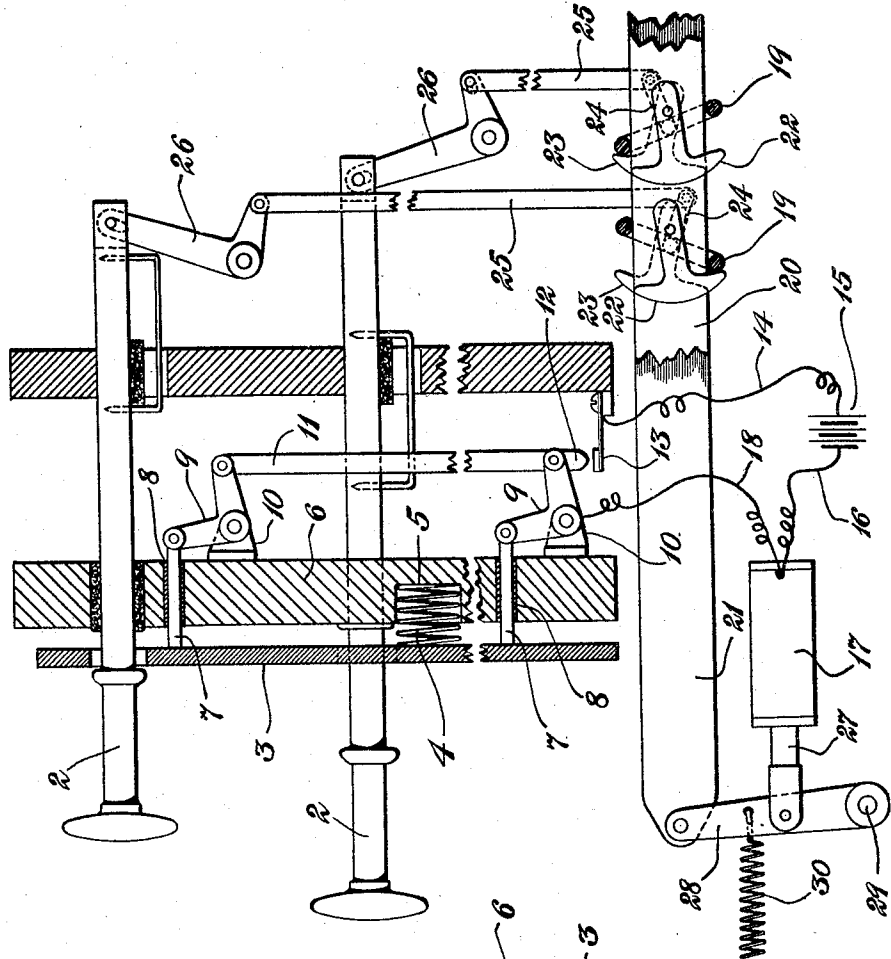
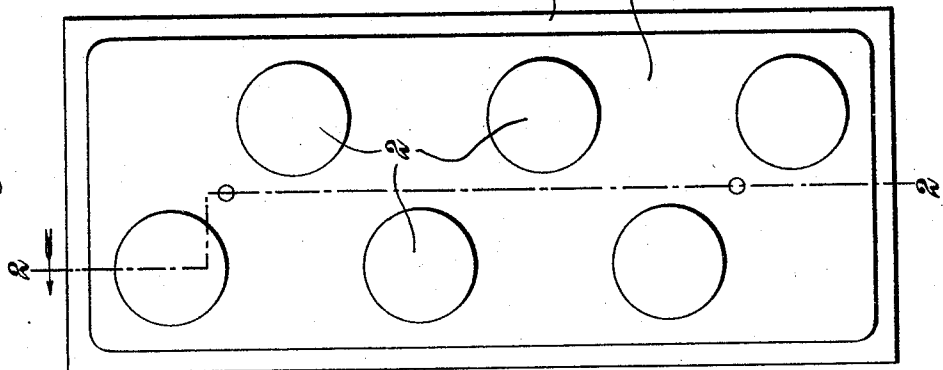


Fig. 1.



Witnesses:

L. L. Markel
 C. B. Anderson

Inventor:

John T. Austin
 By his Attorneys,

Sutherland & Anderson.

UNITED STATES PATENT OFFICE.

JOHN T. AUSTIN, OF HARTFORD, CONNECTICUT, ASSIGNOR TO AUSTIN ORGAN COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF MAINE.

ORGAN STOP-ACTION.

1,123,216.

Specification of Letters Patent.

Patented Jan. 5, 1915.

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To all whom it may concern:

Be it known that I, JOHN T. AUSTIN, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Organ Stop-Actions, of which the following is a specification.

This invention relates to organ stop actions, the object of the invention being the provision of simple and easily-operative means by which stop-knobs can be moved simultaneously in a group from on to off.

In the drawings accompanying and forming part of the present specification I have shown in detail one of the several convenient forms of embodiment of the invention which to enable those skilled in the art to practice the same will be set forth fully in the following description. I do not restrict myself to this showing; I may depart therefrom in several respects within the scope of the invention defined by the claims following said description.

Referring to said drawings: Figure 1 is a front elevation of an organ-stop-action involving my invention. Fig. 2 is a vertical section on the line 2—2 of Fig. 1, looking in the direction of the arrow.

Like characters refer to like parts in both figures.

In my contemporaneously-pending application filed October 30, 1913, Serial No. 798,322 I have illustrated an organ-stop-action by which several stop-operating members can be returned simultaneously from on to off whereby the work of the organist can be simplified. In said application it was intimated that the stop operating members could be of any kind; that is they might be keys, knobs, pedals or in fact anything by which the action of a stop could be secured. In the present case the stop operating members are in the form of knobs and the construction hereinafter described is intended primarily to effect the movement of several of these simultaneously from on to off. There are several of these knobs 2 shown. In Fig. 2 I have shown at least one lower knob out or on, while at least one upper knob is shown in or off. The shanks of the knobs 2 extend freely through perforations in the plate or board 3 which presents a convenient restoring-member. It is not essential that said restoring-member,

however, should take this particular form, the invention not being limited in this particular. Said restoring-member 3 is normally held in an advanced position by some suitable means, for instance by one or more coiled push springs as 4 acting thereagainst and disposed in a counterbore or counter-bores 5 in the outer face of the front board 6. In Fig. 2 the restoring-member 3 is shown as occupying its forward or outer position where it is held by said spring or springs. When it is moved rearwardly it is adapted to effect through suitable means, the return of one or simultaneously several knobs 2 from shifted or on to initial or off positions. As will be inferred the means by which the action in question is accomplished, may vary radically, although those hereinafter described have been found satisfactory, being part mechanical and part electrical.

Fastened to and extending rearward from the restoring-member 3 are pins 7 which project freely through openings 8 in the front board 6 and which as shown are pivoted to the upright arms or branches of angle-levers 9 fulcrumed at their elbows to brackets 10 on the rear of the front board 6, the approximately horizontal branches of the angle levers being connected by the link 11 which presents a convenient circuit closer, for which purpose its lower portion is continued below the lower lever 9 as at 12 to coöperate with a spring-contact as 13.

The angle lever and link construction just described insures parallel motion of the restoring-member 3, by virtue of which the latter may be properly operated by pressure at any point on its front surface. From the spring-contact 13 the conductor 14 extends, being connected to one pole of the battery 15. From the other pole of the battery the conductor 16 leads, being connected to one terminal of the magnet 17, the conductor 18 extending from the other terminal of said magnet to the lower bracket 10 with which the lower angle lever 9 is electrically connected, the link 11 in turn being electrically connected with said lower angle lever. There is normally a break between the lower projecting end 12 of the link 11 and the contact 13, the consequence being that the circuit involving the magnet 17 is normally open. If the member 3 be moved inwardly by the hand of the organist or otherwise, the

pins 7 will be carried therewith and will rock the two angle levers 9, by reason of which the projecting end 12 will be carried against the contact 13 to thereby close the electric circuit described and result in the energization of the magnet 17. In the present instance, the means which return the shifted knobs to their original positions are actuated by the magnet 17.

10 In Letters Patent No. 1,078,079 granted to me November 11, 1913, for a combination organ stop action and to which reference may be had, are shown rollers. Several of these rollers are represented herein and are designated by 19. Said rollers 19 are adapted to occupy operative and inoperative positions, the roller at the right in Fig. 2 occupying its operative position, while the roller at the left occupies its inoperative position. 20 Through the rollers extend traces as 20 and 21. The trace 20 performs the function set forth by the traces in the prior Letters Patent to which I have alluded, while the trace 21 does not altogether find its equivalent in said patent, although it is intended through suitable means, to move any rollers which may be in their operative positions to their inoperative positions. In the application to which I have referred, however, I have shown a trace for accomplishing this particular office. On the trace 20 are actuators 22, the purpose and objects of which are fully set forth in said Letters Patent. The trace 21 is provided with exactly similar actuators 23, which extend normally above the upper edge of said trace 21, so that when the latter is moved toward the right in Fig. 2 from its normal position the upper portions of said actuators 23 can engage the upper cross bars of any rollers 19 which may be shifted to return said rollers to their initial positions, and thereby through the aid of proper means as will now appear, move one or more knobs 2 from on to off. If there be several knobs out, these will be simultaneously moved to off positions.

The rollers 19 have crank arms 24 to which are pivoted the lower ends of links 25 connected at their upper ends with the short arms of angle levers 26, the long arms of which are pivoted to the inner ends of the shanks of the respective knobs. The links 25, as will be clear are of different lengths owing to the positioning of the knobs. The armature 27 of the magnet is pivoted to the lever 28 fulcrumed as at 29 and pivoted at its upper end to the trace 21, the lever 28 and therefore said trace 21 being maintained in their normal positions by suitable means as the spring 30 connected with said lever.

It will be assumed that several of the knobs 2 have been pulled out. In this event the rollers 19 connected therewith will have been moved against the upper projecting portions of the actuators 23. To return the

knobs to their initial positions the following procedure may be adopted: The restoring-member 3 will be pushed inward thereby moving through the intermediate parts, the projection or circuit-closing portion 12 against the contact 13 and closing the circuit including the magnet 17 to energize the latter. When the magnet is energized its armature 27 is attracted to swing the lever 28 to the right and thereby correspondingly move the trace 21, so that the actuators 23 will engage the upper bars of the rollers 19 and return said rollers from their shifted to their original positions. On the movement of the rollers in the manner set forth said rollers through the described connections return the knobs to their primary positions.

What I claim is:

1. The combination of a plurality of stop knobs, a restoring-member through which the shanks of the knobs extend, and means governed by said restoring member, for simultaneously returning to off any knobs that may be on.

2. The combination of a plurality of stop knobs, a restoring-member having openings through which the knobs extend, means for normally holding the restoring-member in a forward position, and means governed by said restoring-member, for simultaneously returning to off any knobs that may be on.

3. The combination of a plurality of stop knobs, a restoring-member through which the knobs extend, spring-means for holding the restoring-member in a forward position, and means governed by said restoring member, for simultaneously returning to off any knobs that may be on.

4. The combination of a plurality of stop knobs, a restoring member through which the knobs extend, an electric circuit having a magnet, means governed by said restoring device for closing said circuit on a predetermined movement of the restoring member, and means actuated by said magnet, for returning simultaneously to off any knobs that may be on.

5. An organ having a front board, a plurality of stop knobs, the shanks of which extend through said front board, a restoring member, the shanks extending through said restoring member, the latter being situated between the front board and the heads of the knobs, and means governed by said restoring member on its rearward movement for simultaneously returning to off any knobs that may be on.

6. The combination of a plurality of stop-knobs, rollers operatively connected with the knobs and movable from inoperative to operative positions when the respective knobs are moved from off to on, a trace provided with means on the advancing movement thereof for moving the rollers from

operative to inoperative positions, a restoring-member through which the knobs project, and means governed by the restoring member for advancing the trace, on a pre-determined movement of the restoring-member.

7. The combination of a plurality of stop-knobs, rollers operatively connected with the knobs and movable from inoperative to operative positions when the respective knobs are moved from off to on, a trace provided with means on the advancing movement thereof for moving the rollers from operative to inoperative positions, a restoring-member through which the knobs project, a normally open circuit having an electrically-operated device, and means actuated by said restoring-device for closing said circuit to energize said electrically-operated device, and an operative connection between said electrically-operated device

and said trace, for advancing said trace when the circuit is closed.

8. The combination of an organ having a front board, a plurality of stop knobs, the shanks of which extend through said front board, a restoring member through which said shanks extend, located between the front board and heads of the stop knobs, spring means acting against the front board and restoring member respectively to hold the latter yieldingly in an advanced position, and means governed by said restoring member on the rearward movement thereof for simultaneously returning to off any knobs that may be on.

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

JOHN T. AUSTIN.

Witnesses:

HEATH SUTHERLAND,
CHAS. T. CARBIT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."