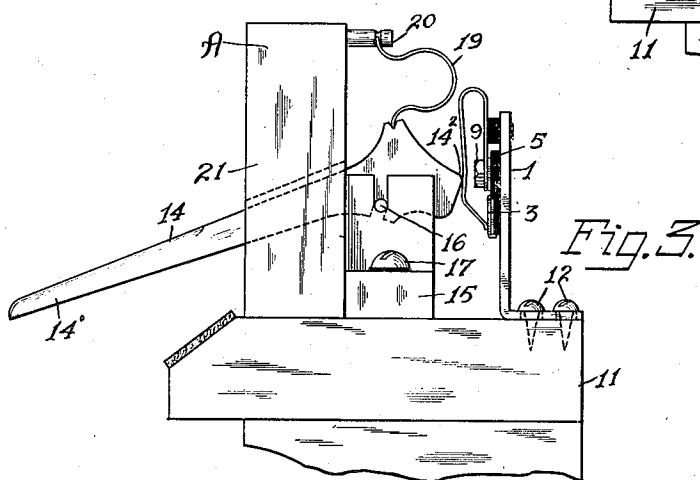
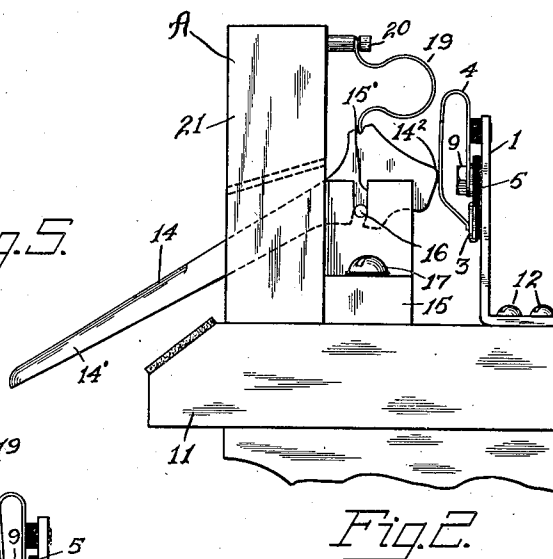
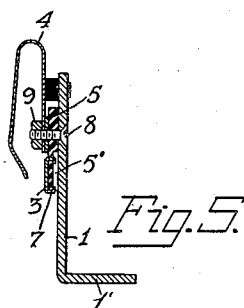
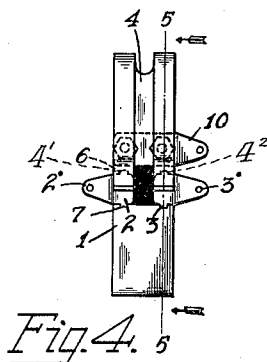
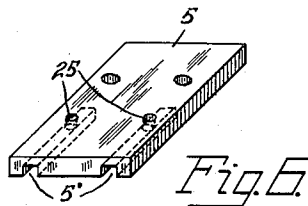


1,200,847.



George E. Mueller
Wm. Bengham

Inventor:
William Kaisting
By Curtis B. Camp
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM KAISLING, OF CHICAGO, ILLINOIS, ASSIGNOR TO KELLOGG SWITCHBOARD AND SUPPLY COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

STOP-LEVER CONTACT DEVICE.

1,200,847.

Specification of Letters Patent.

Patented Oct. 10, 1916.

Application filed November 16, 1914. Serial No. 872,490.

To all whom it may concern:

Be it known that I, WILLIAM KAISLING, a citizen of the United States of America, resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Stop-Lever Contact Devices, of which the following is a specification.

My invention relates to stop lever contact devices for use on electrically controlled organs, one of the principal objects of my invention being to provide a simple and cheap lever actuated contact device which is positive in its operation. To this end I provide a device having resilient or yielding contact members adapted to be engaged by the stop lever when advancing so that its continued movement causes a rubbing engagement between the movable and stationary contacts. In this way the contacting surfaces are always kept clean and free of dust.

For a better understanding of my invention, reference will be had to the accompanying drawing in which—

Figure 1 is a side view of an organ stop lever and the contact elements in their normal position; Fig. 2 illustrates the contact device and lever in a partially actuated position; Fig. 3 illustrates the contact device and lever in a fully operated position; Fig. 4 is a face view of the contact device; Fig. 5 is a section on the line 5, 5 of Fig. 4 looking in the direction of the arrows indicated thereon; and Fig. 6 is a perspective view of the insulating contact block.

Referring now more in detail to my invention as illustrated, I provide a spring mounting support 1 on which the individual contacts 2 and 3 and common resilient contact member 4 are mounted, a strip of suitable insulation 5 being placed between the contacts 2, 3, the common resilient contact 4 and the mounting 1. The contacts 2 and 3 are suitably clamped upon the insulation strip 5 by the tongues 6 and 7 which are integral with the same. The tongue 6 is inserted through an opening 25 in the insulation strip 5 and its inserted end is bent up to engage the face of a groove 5¹ cut in the bottom of the insulation strip 5. The tongue 7 is bent over the lower edge of the strip 5 and its end is also bent up to engage the face of the groove 5¹, thus securely holding the contact in place upon the strip 5. The individual contacts 2 and 3 also have suit-

able terminals 2¹ and 3¹ to which connections may be attached. The resilient common contact 4 is held in place by means of the screws 8 and nuts 9 and a terminal 10 is inserted between the strip 5 and the contact member 4 this serving as a terminal for the contact 4. The contact member 4 is provided with resilient contact extensions 4¹ and 4² which are adapted to engage the stationary contacts 2 and 3 when the said members 4¹ and 4² are actuated.

The bracket 1 is fastened to the base 11 of a frame A by means of screws 12, elongated slots 13 (Fig. 1) being provided in the base portion 1¹, so that the spring support may be adjusted relative to the stop lever 14 which is pivotally supported in a block 15 by means of the pivot pin 16 which rests in slots 15¹ cut in the support 15, the support being fastened to rail 11 by means of the screw 17. A slot 18 (shown in dotted lines) running the width of the rearwardly extending enlarged portion of the lever, receives the pin 15 thereby forming a bearing about which the lever rocks. A holding spring 19 is provided which holds the lever in either its normal or actuated position, one end of the spring resting in a groove 26 in the rear portion of the lever while the other end has a notch cut in it to engage a stud 20 which is fastened to the face board 21 of frame A. The stop lever 14 extends through a suitable opening in the face-board 21, its end 14¹ extending out beyond the frame so as to be easily engaged by the fingers of the operator.

To actuate the contact device, the operator raises the lever upward. As the lever is advanced, the rounded edge 14² of the lever engages the extensions 4¹, 4² as shown in Fig. 2 and a continued movement of the lever to its fully actuated position as shown in Fig. 3 causes the resilient extensions 4¹ and 4² to give slightly and as the contacting ends of the extensions 4¹ and 4² had engaged the contacts 2 and 3 before the lever was fully actuated, this slight bending of the extensions caused a rubbing engagement to be effected between the contacting ends and the stationary contacts 2, 3, producing a more positive electrical engagement. As the lever is advanced to a point where its groove 26 passes beyond a line between the spring supporting slot in stud 20 and pivot 16, spring 19 acts to continue the advance of

the lever with a snap like movement and then holds the lever until restored by the operator. In restoring the lever, spring 19 acts to continue its restoration after it has returned part way as will be understood from the previous description.

Having described my invention, what I claim as new and desire to secure by United States Letters Patent, is:

1. A device of the character described comprising a stop lever having normal and operated positions, spring means for snapping said lever from one of its positions to another when said lever is manually operated, relative stationary and yielding contact elements, means whereby when said lever is advanced said contacts are closed and whereby a further advance of the lever effects a continued relative movement of the contacts so as to produce a rubbing engagement between said contacts:

2. A device of the character described comprising a stop lever having a normal and an operated position, a spring member for snapping said lever from one of its positions to the other and for yieldingly holding said lever in either of its positions, stationary contact devices, and yielding contact elements engaged by said lever when advanced to close the yielding and stationary contacts whereby a continued advance of the lever causes a continued movement of the yielding contacts to effect a rubbing engagement with the stationary contacts.

3. A device of the character described comprising a two position stop-lever, means for pivotally supporting said lever at an intermediate point, a contact bracket supported to the rear of said lever, stationary and relatively movable contacts supported by said bracket in operative relation to said lever, said movable contacts being of resilient material and adapted to engage the stationary contacts when said lever is partly advanced so that a continued advance of said

lever will effect a further movement of the resilient contacts so as to produce a rubbing engagement between the movable and stationary contacts, and a spring member for moving said lever from one of its positions to another when said lever is manually operated.

4. A device of the character described comprising an elongated two position stop lever, means for pivotally supporting said lever at an intermediate point, a spring member for yieldingly holding said lever in either of its positions, a contact bracket supported to the rear of said lever, stationary and relatively movable contacts supported by said bracket in operative relation to said lever, manual means for moving said lever into engagement with said movable contact at which time said spring member causes a continued advance of said lever to effect a further movement of said resilient contact so as to produce a rubbing engagement between the said movable and stationary contacts.

5. A device of the character described comprising a two position stop lever, a spring member for yieldingly holding the said lever in either of its positions when moved thereto, stationary and relatively movable contacts supported in operative relation to said lever, and means for moving said lever to a point where said spring member will cause a continued advance of said lever, said movable contact being of resilient material so that when it is operated by said stop lever it produces a rubbing engagement with said stationary contact.

Signed by me at Chicago, county of Cook and State of Illinois, in the presence of two witnesses.

WILLIAM KAISLING.

Witnesses:

GEORGE E. MUELLER,
M. R. ROCHFORD.