M. W. OBERMILLER.

CUT-OFF VALVE FOR PNEUMATICALLY OPERATED MUSICAL INSTRUMENTS.

APPLICATION FILED DEC. 18, 1920.

1,415,894. Patented May 16, 1922.

Fig. 1

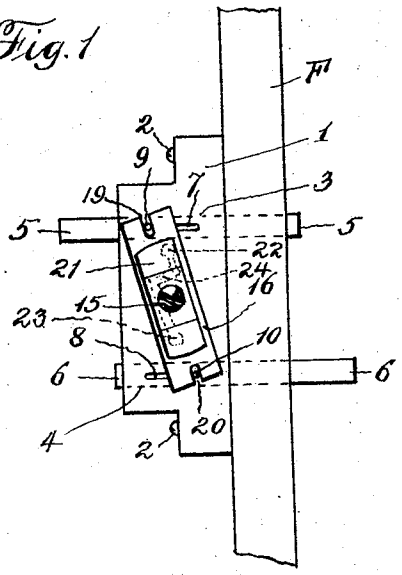


Fig. 2.

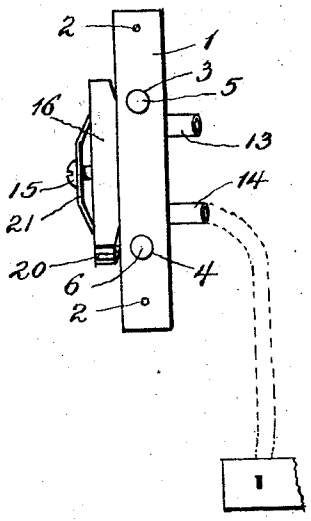


Fig. 3.

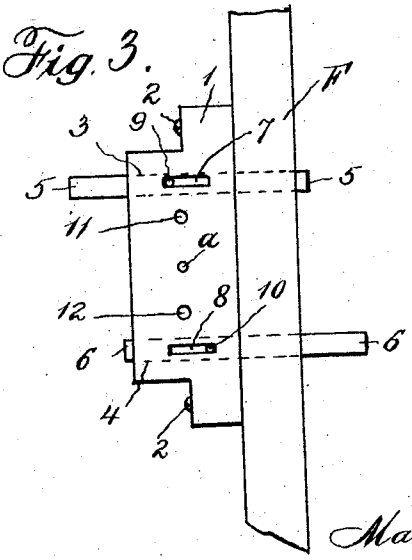
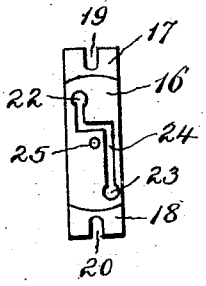


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CUT-OFF VALVE FOR PNEUMATICALLY-OPERATED MUSICAL INSTRUMENTS.

1,415,894. Specification of Letters Patent. Patented May 16, 1922.

Application filed December 18, 1920. Serial No. 431,598.

To all whom it may concern:

Be it known that I, MAXIMILIAN W. OBERMILLER, a citizen of the United States of America, residing at New York, in the county and State of New York, United States of America, have invented certain new and useful Improvements in Cut-Off Valves for Pneumatically-Operated Musical Instruments; and I do hereby 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 letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to cut-off valves for pneumatically operated musical instruments, and has for its object the construction of a simple, inexpensive valve, to be included in any pipe or tube of a pneumatically operated piano.

As now used, such valves are included in a tube leading to a tracker bar opening controlling the sustaining pedal mechanism of the piano.

The object of this valve is to close the tube leading to the tracker opening, thereby preventing the note sheet from controlling the sustaining pedal mechanism, and allowing the operator to either produce his own expression by operating such pedal or by operating a manual control lever for the mechanism.

Referring to the drawings, in which like parts are similarly designated—

Figure 1 is a side elevation of the valve in place.

Fig. 2 is an end elevation of the valve.

Fig. 3 is a side elevation of the body block.

Fig. 4 is a view of the underside of the valve member.

The valve is screwed to the frame F in the front panel of a piano that carries the note sheet mechanism.

The valve comprises a wooden block 1 screwed to the frame F by screws 2. The block is bored at 3 and 4 to receive two operating rods 5 and 6, both of the same length.

The block has two slots 7, 8, each communicating with a bore, and through these slots project pins 9 and 10 secured in the rods 5 and 6 respectively; and the block has two air ports 11 and 12, Fig. 3, in which are connected the two sections of the rubber or other air conduit 13 and 14 respectively.

Mounted on a pivot screw 15 at the centre *a* on the side of block 1 is a valve member 16 consisting preferably of a wooden block whose contacting face is bevelled off at its ends at 17 and 18 to reduce surface friction, and the ends are slotted at 19 and 20. A leaf spring 21, through which the pivot screw 15 passes, holds the valve 16 against the side of block 1. The screw operates as a tensioning means, and determines the ease with which the valve member 16 and rods 5 and 6 shall operate.

The valve member has two recesses 22 and 23 on its under face arranged to register with the air ports 11 and 12 respectively, and connected by a groove 24 circumventing the screw hole 25.

The pins 9 and 10 project into the slots 19 and 20, respectively, and operate to swing the valve on the pivot 15.

Conveniently the projecting ends of the rods may be of different color, and the contacting surfaces of valve member and block suitably lubricated.

In operation it is simply necessary to push one of the rods, say the lower one 6, to swing the valve member 16 to move the recesses 22 and 23 in the member out of register with the air ports 11 and 12 in the block, thus cutting off the passage of air from port 12 to 11, or vice versa, through the connecting groove 24. At the same time the valve pushes the other rod 5 out, for movement by the operator to again establish the air connection and permit the music sheet to control the expression.

I claim—

1. A cut-off valve for air conduits of pneumatic player mechanisms, comprising a block having air ports therein, a movable valve member having communicating recesses on its under face arranged for registration with the aforesaid ports, and manually operated means to move the valve first in one direction and additional manually operated means to move the valve in an opposite direction to cause said recesses to move into and out of register with said ports to connect and disconnect them.

2. A cut-off valve for air conduits of pneumatic player mechanisms, comprising a block having air ports therein, a valve member pivoted to slide on said block and having recesses in its under face connected together

and arranged to swing into and out of register with the aforesaid ports to connect and disconnect them, means to yieldingly hold said member near both ends against said block and manually operated means to operate said valve.

3. A cut-off valve for air conduits of pneumatic player mechanisms, comprising a ported block, a valve member pivoted to swing on the face of said block and having connected recesses on its under face to be moved into and out of register with the ports of said block to connect and disconnect them, a push rod mounted in the block and connected to said member to move it in one direction, and a second push rod connected to said member to move it in the opposite direction and simultaneously project the first push rod.

4. A cut-off valve for air conduits of pneumatic player mechanisms, comprising a block having a pair of ports, a valve member pivoted to swing at its center and having a recess on its under face on each side of its pivot and a groove connecting said recesses to connect and disconnect said ports, means connected to one end of said valve to swing it on its pivot in one direction, and means connected to the other end of said valve to swing it in the other direction.

5. A cut-off valve for air conduits of pneumatic player mechanisms, comprising a block having a pair of ports therein, a valve member contacting with one face of the block, a central pivot for said member, a spring between the pivot and member to yieldingly hold the member against the face of the block, said member having a recess on each side of the pivot arranged to register with said ports, and a groove connecting said recesses to connect and disconnect said ports, means connected with one end of said member to swing it in one direction and means connected with the other end of said member to swing it in the opposite direction.

6. A cut-off valve for air conduits of pneumatic musical instruments, comprising a block having a port on each side of a center and a bore through the block adjacent each port, and a slot on each side of said center communicating with the bore thereat, a rod in each bore, a pin in each rod projecting through the slot, a valve block having slots in its ends into which said pins enter, a leaf spring, a screw passing through the spring and valve block at said center, said valve block having a recess on each side of said center to register with said ports and a groove connecting said recesses and circumventing said screw.

7. In a cut-off valve for air conduits of pneumatic musical instruments, a block having two ports therein, a valve member movable on a face of the block over said ports and having connected recesses on its under face arranged to be moved into and out of register with said ports to connect and disconnect them, a push-rod for moving said member in one direction and a second push-rod for moving said member in an opposite direction, and a spring to yieldingly hold the member against said block, the member returning one of the rods into initial position when the other rod is pushed.

In testimony that I claim the foregoing as my invention, I have signed my name hereto.

M. W. OBERMILLER.