W. C. KIDDER.

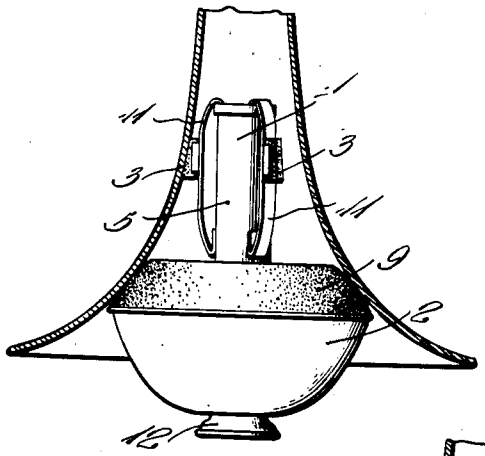
MUTE FOR WIND INSTRUMENTS.

APPLICATION FILED MAY 6, 1918.

1,307,259.

Patented June 17, 1919.

FIG. 1



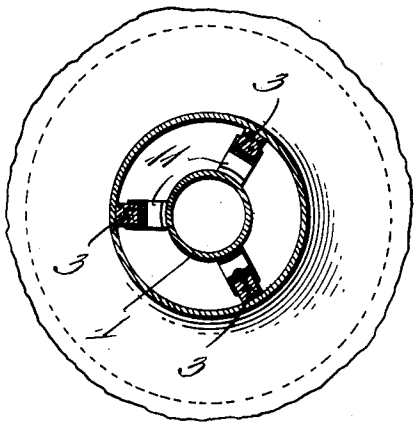
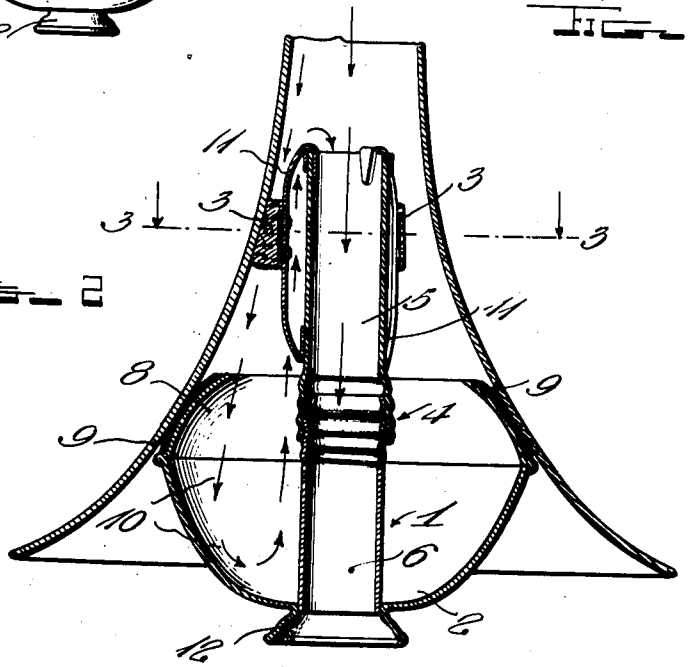


FIG. 3

FIG. 2



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MUTE FOR WIND INSTRUMENTS.

1,307,259. Specification of Letters Patent. Patented June 17, 1919.

Application filed May 6, 1918. Serial No. 232,861.

To all whom it may concern:

Be it known that I, WILLIAM C. KIDDER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Mutes for Wind 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.

My invention has for its object to provide an improved form of mute for cornets, trombones, and other wind instruments, the arrangement being such as to decrease the volume of sound without changing the pitch of the instrument.

With the foregoing general object in view, the invention resides in the novel features of construction and unique combinations of parts to be hereinafter fully described and claimed, the descriptive matter being supplemented by the accompanying drawings which form a part of this specification and in which:

Figure 1 is a side elevation of the improved mute located in the bell of a wind instrument;

Fig. 2 is an enlarged longitudinal section of the mute applied; and

Fig. 3 is a transverse section on the plane of the line 3—3 of Fig. 2.

Briefly speaking, the invention consists of a central air escape tube 1 through which the strong central currents of air pass from the bell of the instrument, a barrier 2 for sealing the bell around the tube 1 to prevent the direct escape of the currents of air along the wall of the bell, a plurality of friction shoes 3 for holding the tube 1 and barrier 2 in place, and means 4 for varying the length of said tube 1 to restore the pitch of the instrument to normal after such pitch has been changed by the insertion of the mute.

The tube 1 is open at both ends and is formed of an inner section 5 and an outer section 6, these sections being connected by the means 4 so that the length of the tube may be increased or decreased as occasion may demand, said means 4 being preferably embodied in the form of screw threads as shown. The outer section 6 of the tube 1 is soldered, brazed or otherwise secured to the closed end of the barrier 2, said barrier being preferably of the bowl shape shown in Figs. 1 and 2, the edge of said barrier adjacent its open end being turned inwardly at 8 and provided with a packing 9 of felt or the like for snug contact with the bell of the instrument.

The friction shoes 3 are preferably formed of cork although any other suitable material could well be employed, and in most cases these shoes will be carried by substantially semi-elliptic springs 11 secured to the inner section 5 of the tube 1. The shoes in question frictionally engage the wall of the instrument bell and thus hold the entire device in place. These shoes will also prevent rotation of the inner section 5 while turning the outer section and the barrier 2 for the purpose of extending or retracting the tube 1 to restore the normal pitch to the instrument after insertion of the mute. It is not necessary, however, to make this adjustment while the mute is in place, and it may be here pointed out that the adjusting means 4 may be of any preferred construction and need not consist of screw threads as shown.

For the purpose of applying and removing the device, the barrier 2 is preferably provided with an angularly located flange 12 surrounding the outer end of the tube 1 and forming an effective hand grip. Here again it is to be understood that although this detail is preferably employed, other provisions can well be made for attaining the same end.

From the foregoing, taken in connection with the accompanying drawing, it will be obvious that although my invention is of comparatively simple and inexpensive nature, it will be highly efficient and desirable. The extensibility of the tube 1 is a highly advantageous feature since it overcomes the necessity of playing the instrument with either a flat or a sharp pitch, it being well known that the insertion of a mute into a wind instrument usually produces either one result or the other. If the pitch of the instrument has been made sharp by the insertion of the mute, the pitch may be restored by lengthening the tube 1, whereas this tube is shortened if the pitch is flat.

Since probably the best results are obtained from the features shown and described, these features are preferably followed, but within the scope of the inven-

tion as claimed, considerable latitude is allowed for adapting the device to different types of instruments.

I claim:

1. A mute for wind instruments comprising an air escape tube for central reception in the bell of the instrument in spaced relation to the wall thereof, said tube being open at both ends, a bowl shaped barrier secured to said tube for snug reception in said bell, said tube extending from the closed end of said bowl shaped barrier through and beyond its open end, and a packing on the wall of said barrier for air-tight contact with the instrument bell.

2. A structure as specified in claim 1, together with spring pressed friction shoes on said tube for engagement with the bell of the instrument to retain the device in place.

3. A structure as specified in claim 1, said tube being extensible and retractable at the open inner end of the bowl shaped barrier for projection various distances into the bell of the instrument, whereby to restore the pitch of the latter after insertion of the mute, should this be necessary.

4. A structure as specified in claim 1, said tube being formed of inner and outer sections relatively movable to vary the length of the tube, the outer section being secured to said barrier, and friction shoes on the inner section for engagement with the bell to hold the device in place.

5. A structure as specified in claim 1, said tube being formed of inner and outer sections threaded together for adjustment to vary the length of the tube, the outer tube section being secured to said barrier, and friction shoes on the inner section for engagement with the bell to retain the device in place and to hold said one section of the tube against turning, whereby the two sections may be adjusted relatively by turning of the outer section and barrier.

6. The combination with the bell of a wind instrument, of a central air escape tube positioned in said bell, and a bowl-shaped barrier secured at the center of its closed end to said tube and snugly contacting with said bell to seal the latter against the escape of air along the wall of the bell, said barrier having its closed end disposed adjacent the open end of said bell, and said tube extending from said closed end of the barrier through and beyond the open inner end of said barrier.

7. A structure as specified in claim 6, said tube being extensible and retractable at the open inner end of said barrier for varying the tone of the instrument.

8. A mute for wind instruments comprising a bowl shaped barrier having the free edge of its side wall turned inwardly and provided with an external packing for snug air-tight contact with the wall of the instrument bell, an air escape tube secured at one end to the center of said barrier at the closed end of the latter, said barrier having an outstanding flared flange around its tube engaging portion, said tube being open at both ends and formed of inner and outer adjustably connected sections, semi-elliptic springs secured to the inner section of said tube and friction shoes carried by said springs for engagement with the wall of the instrument bell.

In testimony whereof I have hereunto set my hand.

WILLIAM C. KIDDER.

Witnesses:

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