

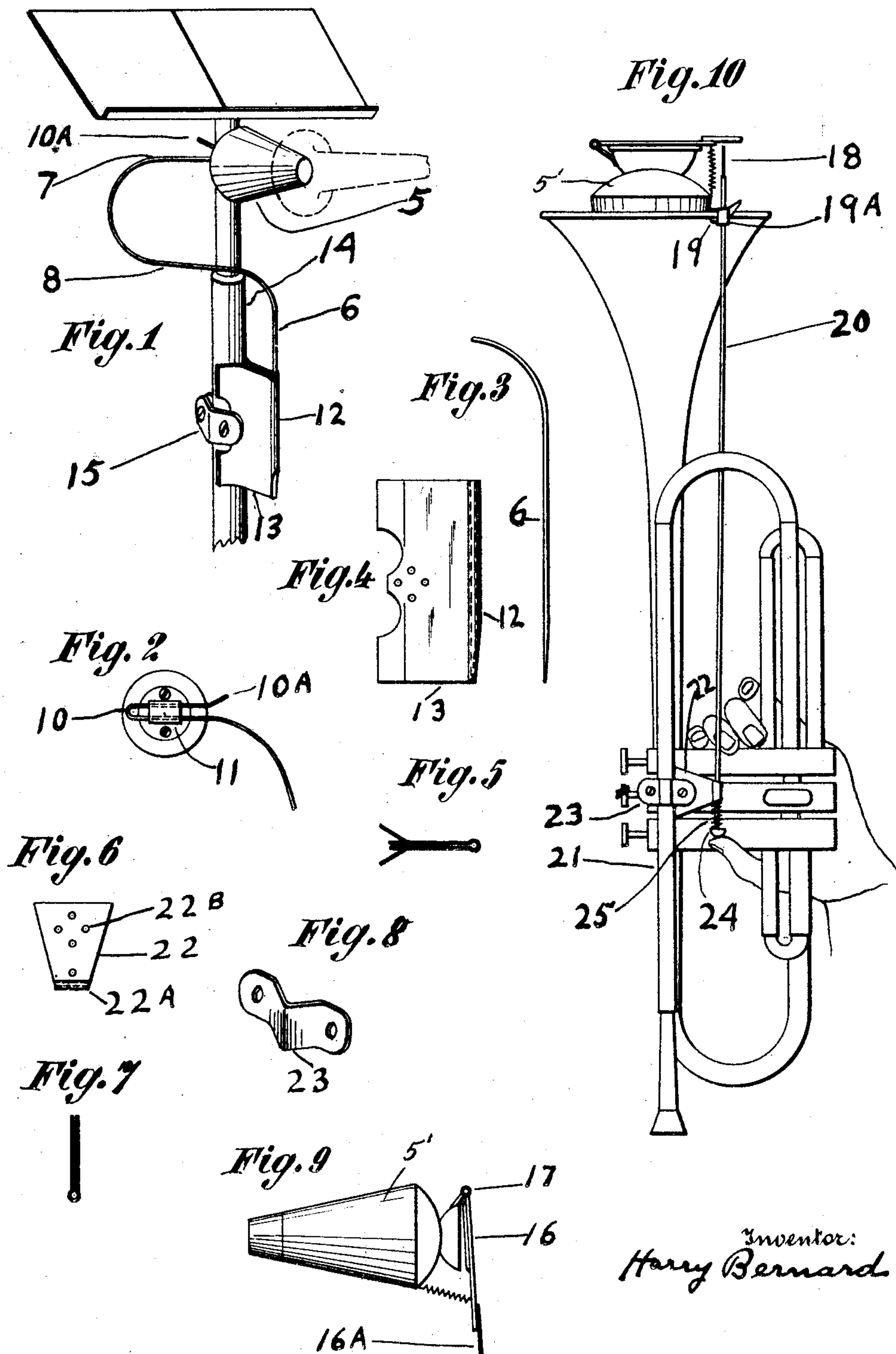
Oct. 7, 1930.

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1,777,823

MEANS FOR OPERATING MUSICAL MUTES

Filed Jan. 13, 1927



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## UNITED STATES PATENT OFFICE

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## MEANS FOR OPERATING MUSICAL MUTES

Application filed January 13, 1927. Serial No. 161,004.

This invention relates to means for enabling a musician or player to operate a mute of a wind instrument employed in the production of musical sounds or tones, from a point distant to the mute itself, so that the player can keep the correct time in the production of the musical score being played, with the least effort, uncertainty and shortest possible movement of his hand or hands from the control of the operating parts of the instrument itself.

The invention particularly resides in the provision of a mute for a musical wind instrument, wherein the mute is supported in an elevated position at one end thereof, so that the player can locate the mute within the horn bell while continuing to play, by simply forcing the horn bell over the mute.

With the above and other objects in view the invention consists in certain new and useful constructions, combinations and arrangements of parts, clearly described in the following specification and fully illustrated in the accompanying drawings, in which:—

Fig. 1 is a view in perspective showing the preferred form of mute support and control therefor.

Fig. 2 is an end view showing the manner in which the wire support for the mute is interlocked with the end of the mute.

Fig. 3 is a detail side view of a tapered wire end.

Fig. 4 is a side view of a connecting plate therefor.

Fig. 5 is an end view thereof.

Fig. 6 is a side view of another connecting plate.

Fig. 7 is an end view thereof.

Fig. 8 is a detail of a strap.

Fig. 9 is a side view of another form of musical mute, showing a spring closed valve for the axial opening thereof.

Fig. 10 is a side view of a musical wind instrument showing the modified musical mute in muting position within the horn bell of the instrument, and the means carried by and detachable from the instrument for operating the mute valve from a location distant thereof.

Referring to Figs. 1 to 8 inclusive, 5 designates a musical mute, which is in the form of a conical plug, designed to be inserted in the horn bell of a musical wind instrument and have a modifying action upon the sound waves emitted thereby in normal playing. This conical mute may be of any standard construction.

In the ordinary practice it is necessary that a player grasp this mute with one hand, force the same into the horn bell, and at the same time continue playing in step with the music being played by other musical players and by himself. This necessarily involves a loss of position of one hand at the controls of the instrument, and an interruption of operation of the complete movements required by such removal of the hand required to grasp and insert the mute.

To provide for uninterrupted continuity of playing and increase the efficiency obtainable from the use of a mute, so that insertion and removal may be better timed, without disturbance of playing, I provide a support for the mute in the form of a rod or wire 6. The upper end of this rod or wire is shaped in the form of a relative large U, so that an upper horizontal arm 7 is formed and a lower horizontal arm 8 is also provided, which is extended thence to provide an upright carrier arm 9. The upper arm 7 is formed with a friction producing spring loop 10, the free terminal leg 10<sup>a</sup> of which is deflected outwardly to provide an operating handle.

The larger end of the conical mute 5 is equipped with a metal strap 11, secured thereto by fasteners or otherwise, and this is provided with a central eye through which the spring loop is forced, thus providing an easy and simple detachable connection between the supporting rod or wire and the mute, by means of which various mutes may be employed, by removing one and placing another in position.

The lower end of the rod or support is tapered and is inserted in the elongated eye 12 provided on the clamp 13. This clamp consists of a piece of sheet metal which is folded upon itself to provide companion jaws, and these jaws are held in clamped relation to



the upright post or rod 14 of a musical stand by means of the connecting strap 15, and a clamping screw or fastener. When the jaws of the clamp 13 are clamped to the post the tapered end of the rod will be frictionally gripped, so that the mute will be supported in the required elevation from the music stand.

It is general practice to locate the music stand an easy ready distance from the player, giving ample room for the necessary movements and demonstrative gestures of the instrument being played. By means of my invention the mute is supported in convenient relation to the instrument and by simply forcing the horn bell of the instrument over the mute it may be located in proper muting position within the horn bell. By a reverse action the mute may be withdrawn, as by moving the instrument away from the mute. This operation is obviously conducted without requiring the player to change the location of either hand upon the controls of the instrument, as the instrument is pushed over the mute by an arm and body movement, and the use of the hands in operating the controls of the instrument is not modified in the least. Distortion of playing is thus prevented.

In Figs. 9 and 10 I illustrate a modified construction of the means for operating mutes, wherein a mute constructed with a central axial opening is employed. This type of mute 5' is well known. It is the practice of many players to move the hands back and forth over the outer end of the mute, to obtain the rapid changes in tone quality desired, and with others to manipulate a valve at the end of the mute, which is always a little further from the end of the bell, of course some distance from the zone of the controls or keys where the hands of the player must operate, in the production of music in correct time and tone.

In this case distant control is obtained by means of a valve 16, which is connected to the end of the mute 5' by means of a hinge 17. The valve 16 is provided with an arm 16<sup>a</sup> which projects laterally of the mute and outwardly of the horn bell itself, so that the end of the operating rod 18 may engage it. This rod is held in working relation to the valve arm 16<sup>a</sup> by means of a spring closed clip 19, which is of the standard type sold in stationary stores for holding magazines and the like, and consists of a pair of spring closed jaws adapted to grip the small reinforcing flange conventionally provided on the edge of the horn bell. This clip 19 is provided with an eye 19<sup>a</sup> through which the rod 18 operates. This rod slides through a small tube 20 which is tightly held in the eye. The lower end of this tube is secured in place on the musical wind instrument 21, by means of the plate 22, which is provided with an eye 22<sup>a</sup>,

and is shown in detail in Figs. 6 and 7. This plate is also formed with a series of holes 22<sup>b</sup> which are designed to provide change of adjustment with the screws or fasteners used to hold the plate on the wind tube of the instrument, and also with the strap 23, which is clamped by the screws to the wind instrument.

The lower end of the rod 18 carries a thumb piece 24 and between this thumb piece and the eye of the plate 22 a coil spring 25 is positioned on the rod.

By means of the spring pressed rod the player by a simple movement of the thumb in normal playing position, can vibrate the mute valve, by pushing the rod, which will be withdrawn by its own spring, and by the aid of the spring for operating the mute valve.

The entire device shown in Figs. 9 to 10 may be readily detached from the musical instrument.

I claim:

1. The combination with a musical wind instrument having a horn bell, of a mute insertable in the bell, and means for supporting the mute at one end in an elevated position, whereby the player of the instrument may bodily push the horn bell over the mute and continue playing without interruption.

2. The combination with a mute for a musical wind instrument of a support secured to one end of the mute and connectible in place to hold the mute in extended position whereby the horn bell of a musical instrument may be pushed over the mute without engaging the support thereof.

3. A support for a musical wind instrument mute consisting of a wire having a connecting loop on its upper end and a pair of horizontally disposable arms extending from the loop and a vertically disposable arm extending from the arms, a conical mute connectible with the loop, and means for adjustable connecting the wire with a musical instrument stand.

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