

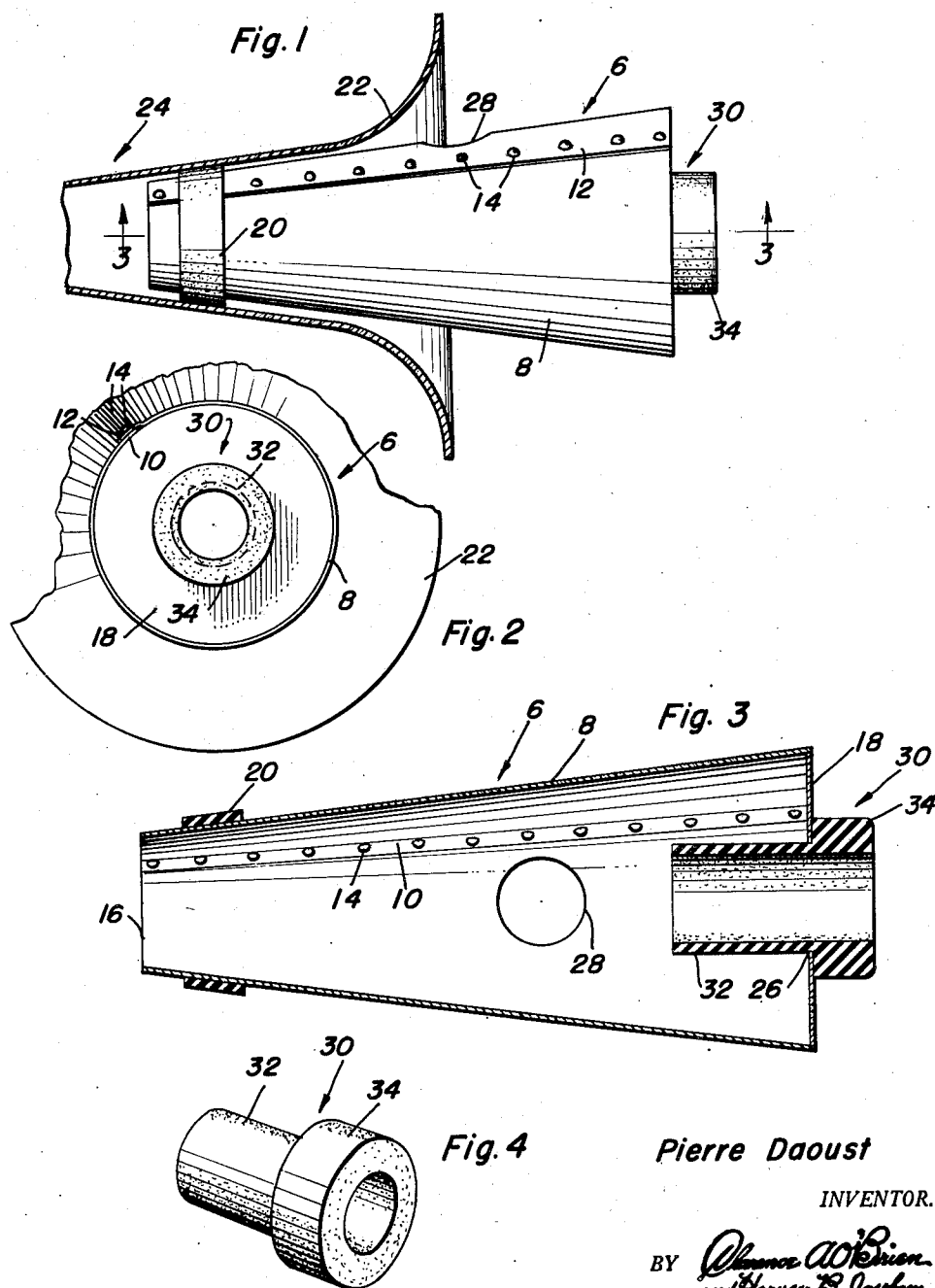
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BRASS INSTRUMENT CONE-TYPE MUTE

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BRASS INSTRUMENT CONE-TYPE MUTE

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2 Claims. (Cl. 84—400)

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The present invention relates to certain new and useful improvements in cone-type mutes for brass wind instruments and has more particular reference to a mute which is primarily adapted for utilization in connection with trumpets, cornets, trombones and the like.

There are, of course, many and varied styles and forms of mutes in the category of invention herein under advisement. The most common type is a hollow truncated body or shell whose outer end is normally imperforate and closed and whose inner truncated end fits telescopically into the bell of the instrument, being held frictionally therein by circumferentially spaced cork or equivalent retaining lugs.

The object of the invention is to improve upon mutes having the general structural characteristics just described.

Another object of the invention is to provide a mute which is of the utmost simplicity in construction, is economical to all concerned and is unique and therefore possessed of the structural and functional characteristics likely to be indorsed by manufacturers and musicians alike.

Briefly, the improved mute is characterized by a hollow truncated conical body having its inner truncated end wholly open, the opposite end being flat and formed with a central tone discharge hole, further formed in one side with a small complementary tone discharge hole, provided with an endless compressibly resilient retaining gasket encircling the truncated end portion and further provided with a readily insertable and removable novelly constructed plug, the latter fitting into the first named tone hole.

Another object of the invention is to provide a mute of the stated construction wherein all of the sound or tone waves are compelled to pass from the bell of the instrument into and through the mute, the latter being such that, when the plug is removed, the tone waves escape simultaneously through the end and side tone holes, whereby to produce a quality of tone which is distinguishably different from the regular "open" tone, a kind of tone which is unlike that susceptible of achievement with competitive types of mutes.

A further object has to do with the selectively usable readily insertable and removable plug, this being in the form of a resilient reducer sleeve, said sleeve fitting into the end tone hole and projecting concentrically into the chamber of the mute and having an annular collar on its outer end which constitutes a stop and also a convenient finger grip for handling the plug, said plug

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when in use serving to produce a second distinct kind or quality of tone which lends itself for harmonious use when playing a musical composition which seemingly calls for this unique tone quality.

Other objects and advantages will become more readily apparent from the following description and the accompanying sheet of drawings.

In the drawings:

Figure 1 is a side elevational view of the improved mute showing its exterior construction and the manner in which it is used in the bell of a trumpet or the like.

Figure 2 is an end elevation of the structure shown in Figure 1 observing the same in a direction from right to left with the bell of the trumpet broken away.

Figure 3 is an enlarged longitudinal sectional view on the line 3—3 of Figure 1, looking in the direction of the arrows.

Figure 4 is a perspective view of the readily insertable and removable tone changing plug.

Referring now to the drawing by way of reference numerals and accompanying lead lines, the mute is denoted, as a structural unit, by the numeral 6 and it comprises a hollow body or shell 8 of sheet material, the same being of truncated conical form and therefore resembling, exteriorly, mutes which are commonly employed in the field under consideration. Appropriate grade of sheet material may be employed and the longitudinal edges 10 and 12 are overlapped and riveted or otherwise secured together as at 14. The truncated end in Figure 3 is denoted by the numeral 16 and the opposite outer larger end is flat and denoted by the numeral 18. The packing ring or gasket is compressibly resilient and is denoted by the numeral 20. This is of endless form and encircles the inner truncated end and constitutes a friction retainer for the mute. That is to say, it fits frictionally into the bell 22 of the trumpet or other correspondingly constructed brass wind instrument. One improvement has to do with a circular tone discharge hole 26 which is provided centrally in the flat outer end 18. Another improvement has to do with a complementary or companion smaller tone discharge hole 28. This is provided in a side wall of the body and is situated between the inner and outer ends of said body. The next improvement has to do with the tone changing insertable and removable plug 30. This may be of suitable material but is preferably constructed of compressibly resilient rubber. It is characterized by an open ended sleeve 32 having an endless annu-

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lar collar 34 on its outer end. The collar constitutes a stop and also a finger grip. It may be ornamented to contribute to the over-all appearance of the assembly, if desired. When the plug is in place the collar abuts the end 18 as shown and the sleeve portion projects concentrically into the chamber of the mute. By projecting in the manner shown in Figure 3 it is obvious that some of the tone waves entering through the truncated end 16 and, being trapped in the chamber of the mute, will escape partly through the side tone discharge hole 28 and partly through the passage of the reducer sleeve. Some of the tone waves will be trapped in the space concentrically surrounding the sleeve and if desired the sleeve may be of vibratory material which is responsive to sound vibrations. By this trapping and discharging of tone waves acting on the sleeve itself a novel quality or kind of tone is obtainable. If desired the plug 30 may be completely removed and only the two tone holes 26 and 28 utilized. This gives the mute a two-way performance, as is evident. The inherent resilient properties of the reducer sleeve serve to lodge and hold the same in the hole 26, as is obvious.

Minor changes in shape, size, materials and rearrangement of parts may be resorted to in actual practice provided no departure is made from the invention as claimed.

Having described the invention, what is claimed as new is:

1. For use in the usual bell of a trumpet, cornet, trombone or the like, a variable tone producing mute comprising a hollow truncated conical body having its truncated end wholly open, the opposite end flat and formed with a central tone discharge hole, an endless compressibly

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resilient gasket encircling the truncated end portion of said body, said body having a second smaller tone discharge hole complementary to said first hole and situated in a side of said body intermediate the opposite ends of said body, and a resilient reducer sleeve removably lodged in said first hole and projecting a predetermined distance into said body, said sleeve having an annulus on its outer end abutting said flat end.

2. For use in the usual bell of a trumpet, cornet, trombone or the like, a mute comprising a hollow truncated conical body having its truncated end wholly open, the opposite end being flat and formed at its axial center with a restricted tone hole of a diameter less than the diameter at the truncated end, and a readily insertable and removable selectively usable resilient reducer sleeve of an outside diameter corresponding to the diameter of said central tone discharge hole, said sleeve being removably lodged in said hole and projecting a predetermined distance into said body, the outer end of said sleeve being increased in diameter and providing an annulus and said annulus forming a shoulder and said shoulder abutting said flat end.

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