Feb. 27, 1968 W. ZWOLAK 3,370,500

MOUTHPIECE FOR BRASS MUSICAL INSTRUMENTS

Filed Aug. 13, 1965

Fig. 1.

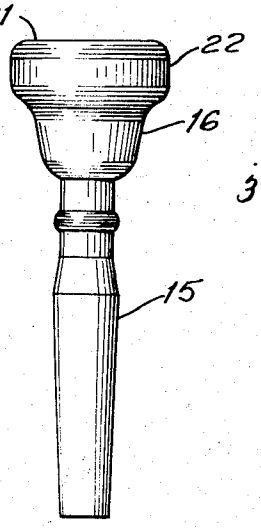
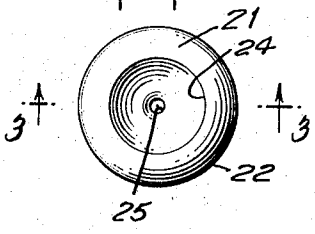


Fig. 2.



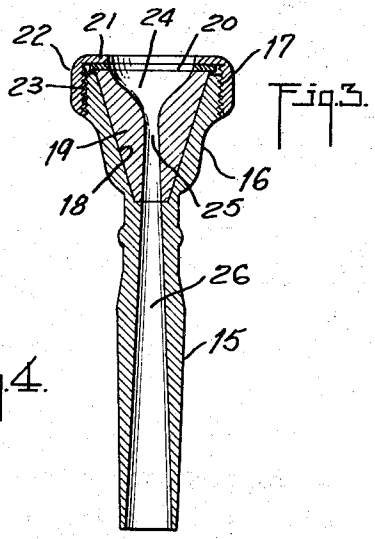


Fig. 3.

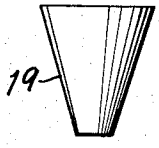


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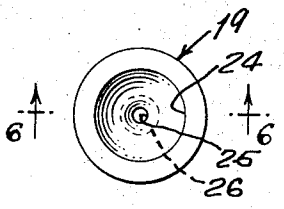


Fig. 5.

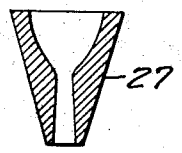


Fig. 6.

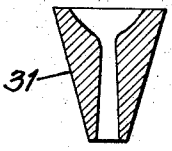


Fig. 10.

Fig. 9.

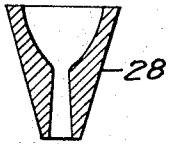
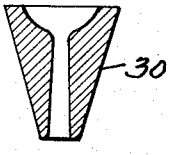


Fig. 7.



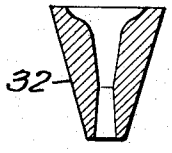


Fig. 11.

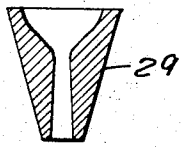


Fig. 8.

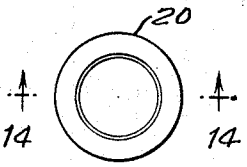


Fig. 13.

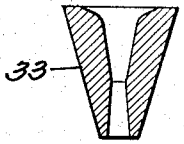


Fig. 12.

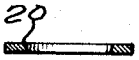


Fig. 14.

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MOUTHPIECE FOR BRASS MUSICAL INSTRUMENTS

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1 Claim. (Cl. 84—398)

The invention herein disclosed relates to the construction of mouthpieces for brass musical instruments.

Objects of the invention have been to provide a mouthpiece which would enable musicians to produce desired tone effects and with normal, equal lung pressure and to accomplish these results in a simple, practical and entirely desirable form of instrument.

The foregoing and other desirable objects have been attained by a novel combination and arrangements of parts, including the combination of a body member or conus, externally screw threaded and having a conical socket in the screw threaded end of the same, with correspondingly shaped conical cups of different tonal configurations, interchangeably seated in said socket and a tone creating ring seated on the outer end of a conical cup engaged in the socket and held in place by an annular flange on an internally threaded mouth ring or rim screwed over the end of the conus.

Other novel features of the invention and objects accomplished are set forth and will appear in the course of the following specification.

The drawing accompanying and forming part of the specification is illustrative of a presently preferred embodiment of the invention. Actual structure, however, may be modified and changed as regards the immediate illustration, all within the true intent and scope of the invention as hereinafter defined and claimed.

FIG. 1 in the drawing is a side elevation of one of the new mouthpieces.

FIG. 2 is an end view of the same.

FIG. 3 is a longitudinal sectional view on substantially the plane of line 3—3 of FIG. 2.

FIG. 4 is a side view of one of the tone establishing cups interchangeably used in the mouthpiece.

FIG. 5 is a plan view of the cup.

FIG. 6 is a sectional view of the cup on substantially the plane of line 6—6 of FIG. 5.

FIGS. 7, 8, 9, 10, 11 and 12 are sectional views of different tone cups usable in the instrument.

FIG. 13 is a plan view of the tone ring used in the instrument.

FIG. 14 is a cross-sectional detail of the ring on substantially the plane of line 14—14 of FIG. 13.

As shown in FIGS. 1 and 3, the completely assembled mouthpiece is made up of a body member or conus **15**, of a tapered form to fit the particular musical instruments with which it is to be used, this body member having an enlarged head **16**, externally screw-threaded as indicated at **17**, and having a deep conical socket **18**, receiving a correspondingly shaped conical cup **19**, held in place by a ring **20**, which in turn is held in place by the overstanding annular flange **21**, of the rim or mouth ring **22**, internally threaded at **23**, to fit over the screw-threaded head.

It has been found practical to provide a set of eight different cups, all the same external conical shape but having passages shaped to produce different tone effects.

In the illustration, FIGS. 2, 3, 4 and 5, the first cup **19** is formed with a relatively shallow cavity **24**, opening into a fine but gradually enlarging passage **25**, lining up with the longer gradually enlarging passage **26**, in the conus to produce a soft tone, as for concert work.

The cup **27**, FIG. 6, has a somewhat deeper cavity and larger through passage for producing deep tones as for symphony music; Wagner-Strauss, and Tschaikowski.

The cup **28**, FIG. 7, has a larger and deeper cavity for opera music.

The cup **29**, shown in FIG. 8, has a less deep cavity and wide passage for producing clear, smooth, high music for B, C, and D trumpets.

The cup **30**, shown in FIG. 9, has a shallow cavity and long passage for light operetta work.

The cup **31** in FIG. 10 has a shallow rounded cavity and long passage for sharper tones, sueh as in circus music, marches, etc.

The cups **32** and **33**, illustrated in FIGS. 11 and 12, with shallow end cavities and combined tapering and enlarging passages are designed for jazz and dance music.

The ring **20**, used with any one of these cups, provides a perfect fit between the rim **22**, and the cup to which it is held by the rim.

Additionally, the ring adds a desirable tone quality, providing a slight tone space within the rim or mouth ring.

While a single ring may be used with different rims, it is contemplated that different rings may be substituted with a gain of different tone values and with possible advantage to different musicians.

In service, these rings provide equality of tone and lung pressure enabling different musicians to get the same tone values without strain and with the same lung pressure.

The invention enables musical instruments, such as various kinds of horns, cornets, trumpets, tubas and trombones to be instantly changed from one type of music to another and to suit the lips and lung power of the player.

The rings produce tones which are more mellifluous, harmonious and generally pleasing to the ears as contrasted with the brassy, screechy and sharp tones produced by average musicians.

The mouth rims **22** may be of different sizes, such as 16½, 17 and 17½ millimeters in diameter for small lipped, medium and large lipped musicians.

The invention enables adjustments to suit the conformation, lips and teeth of the individual musician and accommodation of the music for marching, jazz, operetta, etc.

What is claimed is:

1. A selective tone mouthpiece for brass musical instruments comprising

a body member having a tapered tubular stem at one end, to fit a musical instrument and an enlarged head at the opposite end having an externally screw threaded outer end portion and an internal deep conical socket within the boundary of the screw threads thereon,

a set of cups of different tone configurations and of the same external conical shape as said conical socket to interchangeably fit into said conical socket,

a tone ring of the same diameter as the outer ends of said externally conical cups,

said ring resting on the outer end of a conical cup seated in said socket, and

a rim in the form of an open mouth ring having an inwardly extended annular flange engaged over said tone ring and internally screw threaded in adjustable, removable engagement over said screw threaded end portion of the body member.

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