April 18, 1950 H. V. KLECZKA 2,504,336

MOUTHPIECE FOR MUSICAL INSTRUMENTS

Filed May 7, 1947

FIG. 1

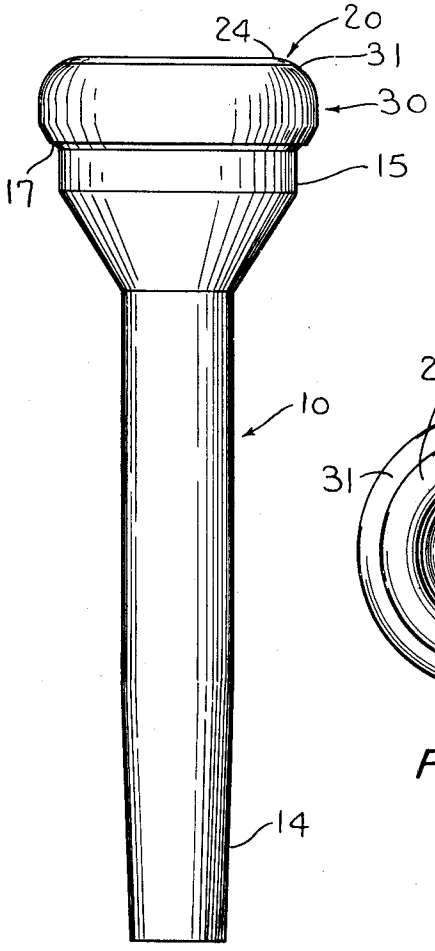
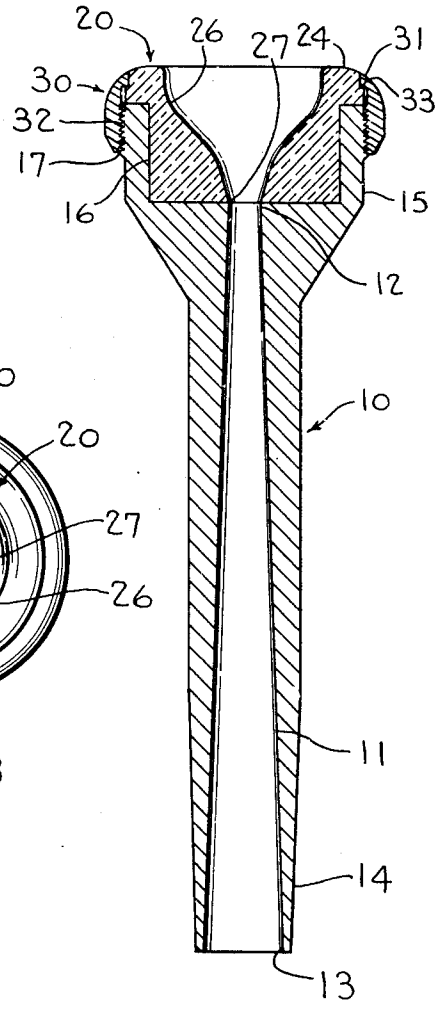


FIG. 2



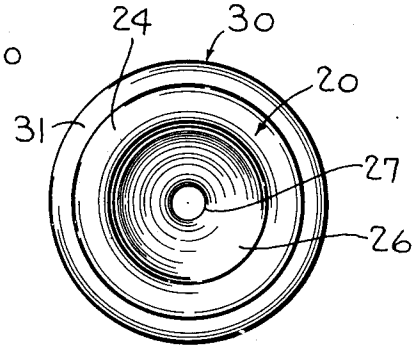


FIG. 3

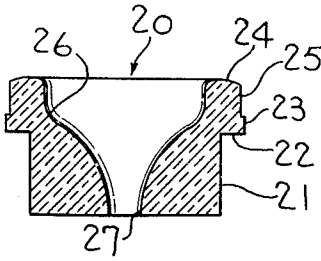


FIG. 4

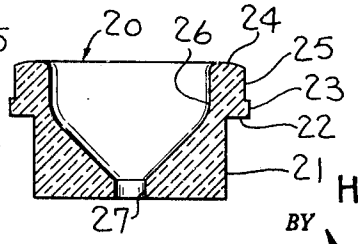


FIG. 5

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MOUTHPIECE FOR MUSICAL INSTRUMENTS

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1 Claim. (Cl. 84—398)

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This invention relates to improvements in mouthpieces for musical instruments classified as brasses.

Players of instruments in this class each have an embouchure which has individual characteristics. For best results, each player must have a mouth-piece especially adapted for his own particular embouchure. It is also desirable that a single mouth-piece be variable in the contour and depth of the bowl in order to effect the type of tone obtainable and control the range and flexibility of the player. Attempts have been made to devise mouth-pieces in which the cups or stems are interchangeable so that the mouth-piece may be selectively used with different instruments in the brass section. Non-metallic mouth-pieces mounted on metal stems have also been used in an attempt to improve tone and to protect the mouth of the player from infection. However, these attempts have been deficient in certain respects and have not had wide acceptance. The non-metallic cup and rim do not hold well on the embouchure. It readily slips along the lips and will not remain properly centered on the player's embouchure. When the bowl is non-metallic, and the rim made of metal, the player has enough contact with the metal to become infected as easily as with the all metal mouth-piece.

It is the object of this invention, therefore, to provide a mouth-piece having interchangeable bowls which will stay positioned on the player's embouchure and will lessen the opportunity of infection from metal contact.

This object is obtained by providing a stem with a socket into which is fitted a non-metallic bowl. The bowl is held in place by a metallic rim which engages the stem. The lip of the rim is curved and blends in with the rim of the bowl so as to contact the lips of the players an amount sufficient to keep the bowl from slipping to one side of the embouchure. However, the metallic lip of the rim presents only a small area of metal which so contacts the lips of the player; hence, the opportunity for infection, such as verdigris poisoning, is substantially eliminated.

The novel features, which are considered characteristic of the invention, are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and its method of operation, together with additional objects and advantages thereof, will best be understood from the following description of a specific embodiment when read in connection with the accompanying drawing, in which:

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Fig. 1 is a view in side elevation of a mouth-piece embodying the invention;

Fig. 2 is a view in vertical section of the mouth-piece illustrated in Fig. 1;

Fig. 3 is a top plan view of the mouth-piece viewed in Fig. 1; and

Figs. 4 and 5 are views in vertical section of non-metallic bowls each having cups of different contours and depths but each being of the same outside dimensions and interchangeable with the mouth-piece.

Referring to the drawing by reference numerals, the mouth-piece comprises a metallic stem 10 and a non-metallic bowl 20 secured to the stem by a metallic rim 30. The stem 10 is tubular and has a tapered bore 11, the small upper end of which constitutes a throat 12 and the large lower end of which constitutes an opening 13. The lower outer wall of the stem 10 is tapered, as indicated at 14, to adapt the stem to be telescoped in the mouth-pipe of an instrument. The upper end of the stem 10 is enlarged, as indicated at 15, and contains a cylindrically shaped socket 16 arranged coaxially with the stem 10. The outer walls of the socket 16 are provided with external threads 17 to detachably hold the rim 30 in place.

Non-metallic mouth-pieces are readily provided with smooth surfaces on their cup portions to produce better tone. It has been found preferable, therefore, to form the bowl 20 of a plastic material. In the present embodiment the bowl 20 is machined from round stock bars of methyl methacrylate resin, such as Plexiglas manufactured by Rohm and Haas, or Lucite manufactured by du Pont. The exterior of each bowl 20 is identical in shape and size. There is a cylindrical portion 21 which has a sliding fit in the cylindrical socket 16. A shoulder 22 rests against the top edge of the socket 16 and a small circumferential flange 23 is engaged by the rim 30 to hold the bowl 20 in place in the socket 16. The bowl 20 is provided with a rim portion 24 which is curved as indicated. A cylindrical portion 25 extends from the rim 24 to the flange 23 in order to accommodate the lip of the rim 30. The curved rim 24 blends into the cup 26. The cup 26 terminates in a throat 27 which corresponds to the throat 12 of the stem and is in axial alinement therewith to form a smooth continuous passage when the bowl 20 is inserted in the socket 16. However, the shape of the cup 26 is varied depending upon the type of tone required and upon the particular embouchure of a player. Some players require bowls which have cups which are

shallow, such as shown in Fig. 4. Other players may find bowls which have deep cups, such as indicated in Fig. 5, more satisfactory. It has been found practical to provide the bowls 20 in sets of six different cup characteristics varying from shallow to deep. As the bowls are relatively inexpensive compared to the other parts of the mouth-piece, a player may purchase and try a number of such varying bowls until he has found a bowl which is satisfactory. The expense of such trial and error procedure is very little compared to the expense which would be involved if the player had to purchase a number of complete mouth-pieces before finding one which was suitable. It is contemplated that the bowls will be numbered or otherwise identified to distinguish them in accordance to their cup characteristics.

One of the difficulties, however, with a plastic or non-metallic mouth-piece is that it slips on the lips of the player and does not keep the cup properly centered on the embouchure. The metal mouth-pieces do not slip. However, they have a tendency to infect the lips of the player and cause sores and the like. An important feature of this invention is that the rim of the cup which is engaged by the lips of the player is comprised partly of the curved section 24 of the non-metallic bowl and partly from the curved lip 31 of the metallic rim 30. The rim of the mouth-piece contacted by the lips of the player includes the curved metallic portion 31 and the curved non-metallic portion 24. However, the metallic portion 31 which is contacted by the lips is relatively small in area and greatly diminishes the chance of the player from getting lip infections from contact therewith. Such metallic portion of the rim, however, is sufficient to resist slipping. Thus the rim 30 is made of brass or other suitable metal and has an internal thread 32 engageable with the exterior threads 17 of the stem. The lip portion 31 has a smooth internal shoulder 33 which engages the flange 23 to hold the bowl 20 in place.

Another feature of the mouth-piece constructed as so described is the fact that the non-metallic bowl is substantially encased in metal. This sufficiently retards the loss of heat so that during rest periods the mouth-piece will not lose the heat imparted to it during playing. The metal also distributes the heat evenly throughout the bowl. These characteristics tend to make the tone more stable and do away with prolonged warming up procedure after a rest period.

With the mouth-piece so constructed, the player purchases a unit comprising the stem 10 and the rim 30. Then from a set of bowls of

varying cup characteristics, he selects one which he believes is most suitable. By substantial use of the mouth-piece with the bowl selected, he will determine empirically whether the characteristics of the cup are satisfactory. If they are not, that particular bowl is discarded and the player purchases a bowl of different cup characteristics. Experienced musicians can usually tell whether the next bowl to try should have a shallower or deeper cup. As each bowl is interchangeable with the stem and rim, the player will experience no difficulty in selecting and trying bowls of different cup characteristics. It is only necessary to unscrew the rim 30 in order to remove a bowl and insert another bowl.

Although only one embodiment of the invention is shown and described herein, it will be understood that this application is intended to cover such changes or modifications as come within the spirit of the invention or scope of the following claim:

I claim:

In a mouth-piece for brasses, a metallic stem provided with a cylindrical socket the inner face of the wall thereof being smooth and extending from the bottom of the socket to the upper end of said stem and a throat having its upper end terminating at the bottom of said socket, a metallic rim threadedly engageable with the outer periphery of said socket and having a curved lip forming a metallic outer portion of the rim of said mouth-piece, and a plastic bowl having an outer cylindrical portion removably fitting in said socket, said bowl having a curved rim blending with said curved lip to form the inner portion of the rim and the bowl of said mouth-piece when said bowl is seated in said socket and secured in place by said rim, said bowl having a cup communicating with the top of said throat when said bowl is held in place in said socket, whereby said bowl may be readily removed, and a bowl of like outer dimensions and differently shaped cup may be readily substituted in said mouth-piece.

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