

H. L. LENHERR.
 CORNET MOUTHPIECE.
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949,021.

Patented Feb. 15, 1910.

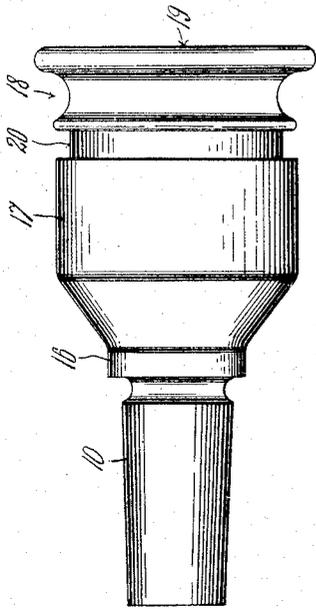


Fig. 1

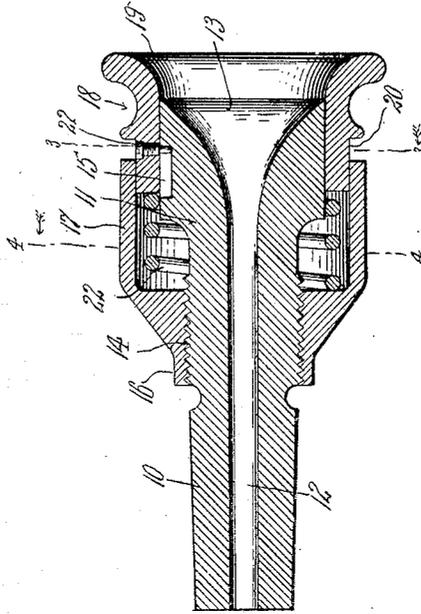


Fig. 2

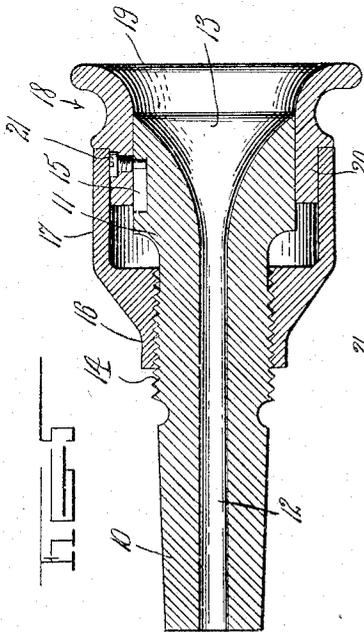


Fig. 3

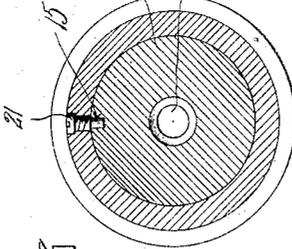


Fig. 4

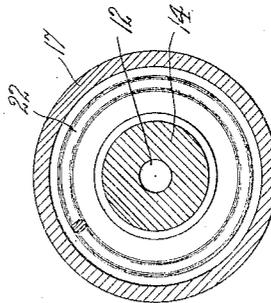


Fig. 5

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CORNET-MOUTHPIECE.

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To all whom it may concern:

Be it known that I, HARRY L. LENHERR, a citizen of the United States, residing at Mercersburg, in the county of Franklin, State of Pennsylvania, have invented certain new and useful Improvements in Cornet-Mouthpieces; and I do hereby 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.

This invention relates to improvements in the mouth pieces of wind instruments, such as cornets and the like, which are sounded by blowing into the same, and has for one of its objects to produce a mouth piece whereby the tones are controlled by the pressure of the lips against the mouth piece to thereby increase or decrease the depth of the "bowl" or the flaring outer end of the mouth piece.

Another object of the invention is to produce a simply constructed device whereby the adjustment of the mouth piece is accomplished entirely by the pressure of the lips of the performer and without removing the lips from the mouth piece, so that the operation may be as "light" or as "hard" as desired.

Another object of the invention is to produce a simply constructed device whereby the movement of the mouth piece is accomplished entirely by the pressure of the lips of the performer to enable a "hard" or "soft" tone to be produced and without removing the lips from the lip cup portion of the mouth piece.

With these and other objects in view the invention consists in certain novel features of construction as hereafter shown and described and then specifically pointed out in the claim, and in the drawings illustrative of the preferred embodiment of the invention,

Figure 1 is a side elevation of the improved device. Fig. 2 is a longitudinal section of the same. Fig. 3 is a transverse section on the line 3—3 of Fig. 2. Fig. 4 is a transverse section on the line 4—4 of Fig. 2. Fig. 5 is a sectional view, similar to Fig. 2, illustrating the manner of arranging the device as a rigid mouth piece.

The improved device comprises a stem formed with a shank 10 adapted to be coupled to the instrument in the ordinary manner and provided with a cylindrical portion 11 at the other end and with a longitudinal

bore 12 flaring outwardly at the cylindrical end as shown at 13, and provided with an intermediate threaded portion 14, the cylindrical portion 11 likewise provided with an external longitudinal slot 15.

Fitting over the stem is a sleeve formed with a reduced portion 16 at one end and a flaring portion 17 at the other end, the reduced portion being internally threaded to engage over the threaded portion 14 of the stem. The enlarged portion 17 of the sleeve thus provides a relatively large space between the sleeve and the stem opposite the inner part of the cylindrical portion 11 as shown.

Slidably engaging over the cylindrical portion 11 of the stem is a lip cup represented as a whole at 18, with the flaring outer end 19 conforming to and merging into the flaring portion 13 of the stem, and reduced at the other end, as shown at 20, to fit closely into the space between the enlarged portion 17 of the sleeve and the cylindrical portion of the stem.

Fitting through the reduced portion 20 of the lip cup is a threaded pin 21, the inner end of the pin fitting in the slot 15 of the stem, the pin and slot coacting to limit the outward movement of the lip cup but permitting the inward movement of the same. Located within the enlarged portion 17 of the sleeve and surrounding the stem is a spring 22, the spring bearing at one end upon the reduced portion 16 of the sleeve and at the other end against the inner end of the reduced portion 20 of the lip cup, the spring thus operating to maintain the lip cup yieldably in its outward position.

It will be obvious that by rotating the sleeve 16—17, the latter may be adjusted longitudinally of the stem to increase or decrease the tension of the spring 22, and thus render the movement of the lip cup "light" or "hard" as desired, and this adjustment may be readily accomplished by the operator without removing the lip cup from his lips. By this simple arrangement it will be noted that a very simply constructed device is produced whereby the performer may vary the tones simply by increasing or decreasing the pressure of the lips upon the lip cup to thereby increase or decrease the size of the "bowl" at the outer end of the device. It will be observed that the flaring portions 13—19 combine to produce the usual "air-cup", the size of the air-cup being thus

readily changeable by the pressure of the lips of the performer. By increasing the pressure of the lips upon the lip cup against the tension of the spring 22, the length of the air-cup is decreased, the column of air correspondingly reduced and the pitch raised. Then by decreasing the pressure of the lips upon the lip cup, the spring 22 automatically moves the lip cup outwardly and increases the length of the air-cup and likewise increases the column of air and lowers the pitch.

The improved device is simple in construction, can be inexpensively manufactured, and applied without material increase in the cost to the various classes of instruments to which it is attached.

The adjustment of the lip cup 18 is accomplished without extra exertion on the part of the operator as the adjustments are accomplished by the natural pressure that is required while playing an instrument of this character, and thereby materially aids the performer in producing the required sound.

The sleeve 17 and its reduced portion 16 it will be noted are so connected to the shank and its stem that the parts are immovably coupled except for the slight rotary movement necessary to adjust the tension of the spring 22, but as this adjustment occurs only at long intervals, the sleeve 16—17 is substantially stationary relative to the stem, while the lip cup 18 only is movable during the playing.

With the particular construction shown, it will be understood that when walking over rough ground, or playing under similar

adverse conditions, the performer may steady the mouth piece against his lips by holding the sleeve 17 between his index and middle finger, without interfering in any way with the manipulation of the mouth piece.

If an immovable or rigid lip cup is required the parts are uncoupled and the spring 22 is removed and the sleeve 16—17 screwed to cause the upper edge to bear against the shoulder of the lip cup 18, as shown in Fig. 5. By this arrangement the improved device embraces in one an adjustable mouth piece and a rigid mouth piece, as will be obvious, and without structural changes in the device.

What is claimed, is:

A mouth piece for wind instruments comprising a stem externally threaded intermediate its ends and having a longitudinal bore flaring outwardly at one end and with an external longitudinal slot in one side, a sleeve internally threaded at one end to engage the threaded portion of said stem and enlarged at the other end, a lip cup slidable over said stem and with a reduced inner end extending between the stem and the sleeve, a spring within the sleeve and bearing against said lip cup, and a stop carried by said lip cup and engaging in the slot of said stem.

In testimony whereof, I affix my signature, in presence of two witnesses.

HARRY L. LENHERR.

Witnesses:

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