United States Patent [19]

Kordula

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[45] **July 10, 1973**

[54] **MOUTHPIECE FOR WIND MUSICAL INSTRUMENT**

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[52] **U.S. Cl.** **84/330**, 84/380, 84/453

[51] **Int. Cl.** **G10d 7/00**

[58] **Field of Search** 84/330, 380, 384, 84/398, 399, 453

[56] **References Cited**

UNITED STATES PATENTS

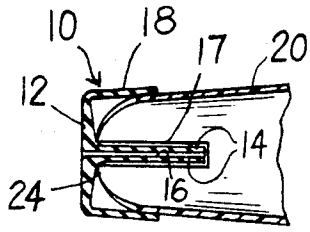
3,339,444	9/1967	Brooks	84/398
628,670	7/1899	McNamara	84/380
1,513,950	11/1924	Widmayer	84/399
2,570,816	10/1951	Kimple	84/330

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Assistant Examiner—Lawrence R. Franklin
Attorney—William L. Fisher

[57] **ABSTRACT**

In a wind musical instrument having a mouthpiece having an elastic air tunnel formed of elastic means in sheet form, a method of varying the pitch of the sound produced by said instrument comprising widthwise stretching said elastic means by applying lip pressure to said mouthpiece and varying said stretching by varying said lip pressure.

3 Claims, 7 Drawing Figures



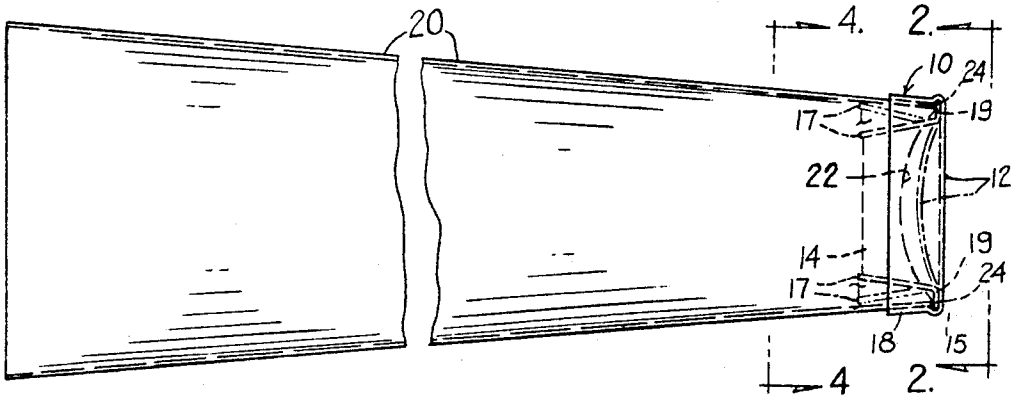


Fig. 1

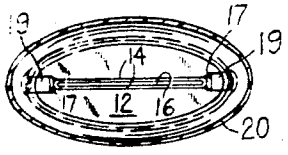


Fig. 4

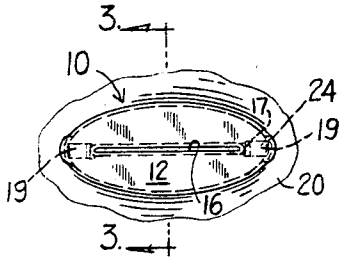


Fig. 2

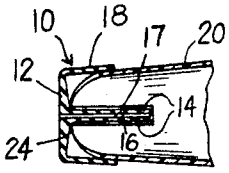


Fig. 3

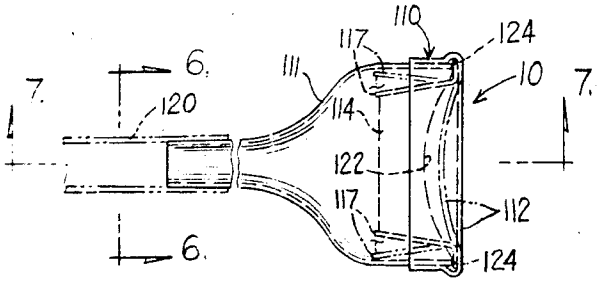


Fig. 5

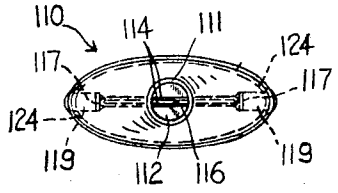


Fig. 6

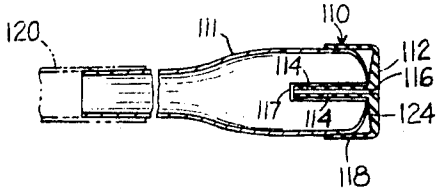


Fig. 7

MOUTHPIECE FOR WIND MUSICAL INSTRUMENT

My invention relates to wind musical instruments.

The principal object of my invention is to provide a mouthpiece for wind musical instruments having an elastic air tunnel which is stretchable widthwise in accordance with the pressure of the player's lips upon said mouthpiece, whereby to vary the pitch of the sound produced by the particular musical instrument.

The foregoing object of my invention and the advantages thereof will become apparent during the course of the following description, taken in conjunction with the accompanying drawings, in which:

FIGS. **1–4** are, respectively, top plan, end elevational, and sectional views of a trumpet mouthpiece embodying my invention; and

FIGS. **5–7** are, respectively, similar views of another embodiment of my invention useful with brass wind instruments.

Referring to the drawings in greater detail and first to FIGS. **1–4, 10** generally designates said embodiment shown therein which comprises an elastic body, being generally elliptical in front elevation and preferably formed of rubber, having a substantially vertical wall **12** and an elastic tunnel formed therein of vertically spaced apart elastic sheets **14** which project inwardly of said rear wall **12** and form an air passage **16** therebetween. Opposite sides of said sheets **14** are suitably bonded to posts **17**, preferably made of metal, having outwardly bent inner ends **19** which bear against the inside surface of said rear wall **12.** An inwardly projecting elastic peripheral flange **18** is integrally formed with said body around the outer edges of said rear wall **12** for holding the mouthpiece **10** in place on the inner end of a trumpet **20** which has a tapered body, generally elliptical in cross-section and preferably formed of plastic. Said inner trumpet end is concave in plan view as indicated at **22** and has high points or peaks **24** at opposite sides thereof upon which rockably rest said bent inner ends **19** when said mouthpiece **10** is assembled on the trumpet **20.**

In operation of said mouthpiece **10** the player blows the trumpet **20** by pressing his lips against the rear wall **12** and while doing this he is able to variably apply lip pressure to said rear wall **12** which, by virtue of the concave structure **22,** causes said rear wall **12** to assume an inwardly concave shape as shown in FIG. **1** which in turn pushes inwardly upon such inner ends **19** and causes them to rock on the ridges **24** and to spread apart the outer ends of said posts **17** which stretches the sheets **14** and narrows the air passage **16,** thereby increasing the pitch of the sound produced in proportion to the amount of lip pressure applied to the rear wall **12.**

Referring to FIGS. **5–7,** the embodiment shown therein is designated **110** and like parts thereof in respect to the embodiment **10** are similarly designated with reference numerals prefaced with numerals in the **100** series. The mouthpiece **110** is assembled on a mouthpiece part **111** which has a cylindrical inner end for slidably fitting with conventional brass wind instruments. The inner end of said mouthpiece part **111** is constructed like the inner end of said trumpet **20** so as to have peaks **124** at opposite sides thereof upon which rockably rest the bent inner ends **119** when the mouthpiece **110** is assembled on the mouthpiece part **111.** Said mouthpiece **110** operates substantially the same as the mouthpiece **10** except that the pitch variation produced thereby is available for each tone position of the particular brass wind instrument.

It will thus be seen that there has been provided by my invention a mouthpiece for wind musical instruments in which the object hereinabove set forth, together with many thoroughly practical advantages, has been successfully achieved. For example, a simple wind instrument such as the trumpet **20** and the mouthpiece **10** can be constructed which will enable the user both to produce a wide variation of tones over the musical scale and to become very adept at producing consonant tones with very little effort or wind power and without requiring continual practice to harden or condition the lips. While preferred embodiments of my invention have been shown and described, it is to be understood that variations and changes may be resorted to without departing from the spirit of my invention as defined by the appended claims.

What I claim is:

1. A mouthpiece for a wind musical instrument comprising,

a body having an end having a concave recess therein with peaks at opposite sides thereof,

a mouthpiece part comprising a peripheral flange for mounting said mouthpiece part on said body end, said mouthpiece part having a wall connected to said flange, said wall having a slit therein, said mouthpiece part having elastic sheet means projecting from said wall and defining therein a tunnel aligned with said slit, said mouthpiece part having means connected to said elastic sheet means having bent portions which rest on said peaks when said mouthpiece part is mounted on said body end whereby said bent portions rock on said peaks in response to changes in pressure on said wall so as to widthwise stretch said elastic sheet means and thereby vary the cross-section of said tunnel.

2. A mouthpiece as in claim **1** wherein said body is a flared tube tapering outwardly from said body end.

3. A mouthpiece as in claim **1** wherein said body is a part of a removable mouthpiece of a brass wind musical instrument.

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