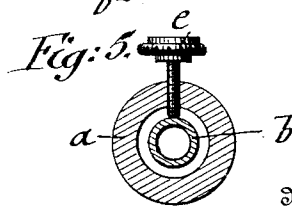
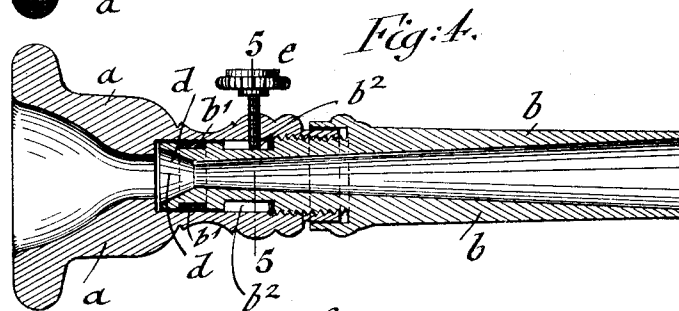
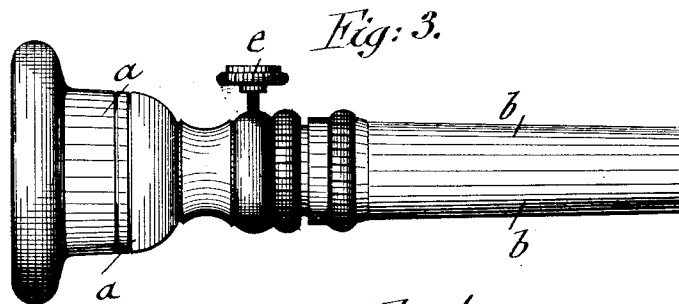
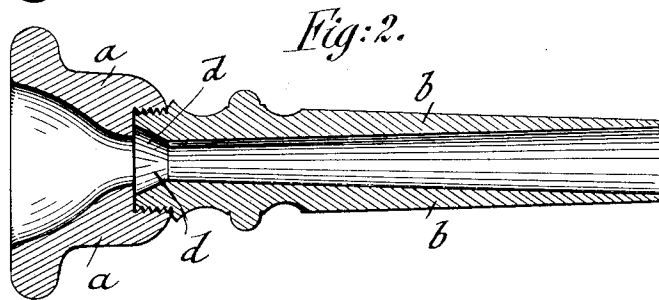
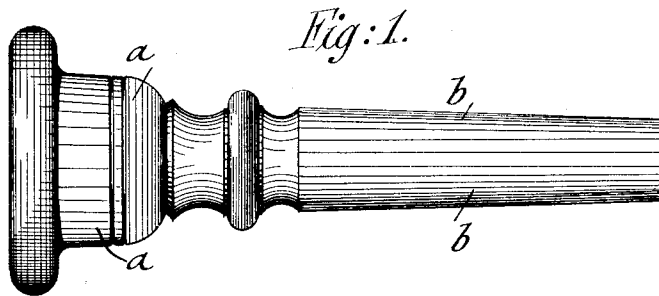


1,095,188.

Patented May 5, 1914.



Witnesses:  
*John Murtagh*  
*L. J. Murphy*

Inventor  
*Frederick Busch*  
By his Attorneys  
*Joseph Cooper*

# UNITED STATES PATENT OFFICE.

FREDERICK BUSCH, OF HOBOKEN, NEW JERSEY.

MOUTHPIECE FOR MUSICAL BRASS INSTRUMENTS.

1,095,188.

Specification of Letters Patent.

Patented May 5, 1914.

Application filed February 8, 1912. Serial No. 676,360.

*To all whom it may concern:*

Be it known that I, FREDERICK BUSCH, a citizen of the United States of America, residing in Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Mouthpieces for Musical Brass Instruments, of which the following is a specification.

This invention relates to an improved mouthpiece for musical instruments, such as cornets, trombones and other brass instruments.

For this purpose the invention consists of certain novel features and combinations of parts which will be more fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side-elevation, Fig. 2 a vertical longitudinal section of my improved mouth-piece for musical brass instruments, Figs. 3 and 4 are respectively, a side-elevation and a vertical longitudinal section of my improved mouth-piece and the means applied thereto for adjusting the size of the auxiliary air-cavity, and Fig. 5 is a vertical transverse section on line 5-5, Fig. 3.

Similar letters of reference indicate corresponding parts throughout the several figures of the drawings.

My improved mouthpiece, in which the cup-shaped portion *a* is made separable from the tubular-piece *b* and in its simplest form connected therewith by providing the tubular shank *a'* of the cup with an internal screw thread and the adjacent end of the tubular portion *b* with an exterior screw-thread, is shown in one embodiment in Fig. 2. In the adjacent end of the tubular portion *b* an auxiliary cavity *d* of conical shape is formed which is of larger diameter than the opening at the adjacent end of the cup, the inner end of the cup being of smaller diameter than the diameter of the adjacent end of the intermediate chamber. The auxiliary cavity *d* serves for facilitating the playing of the instrument and for equalizing the supply of wind to the same, the cavity acting in the nature of an equalizing wind-chamber. The cooperation of the cup, stem and auxiliary cavity is brought about by having the diameter of the end of the intermediate cavity, which is adjacent to the inner smaller end of the cup, larger than the diameter of the inner end of the cup. For larger mouth-

pieces, such as are required for trombones, the auxiliary cavity is proportionately larger than in the mouth-pieces of the smaller brass-instruments, such as bugles, cornets, French horns, and the like.

In place of connecting the two sections of the mouth-piece by a screw-connection, the auxiliary cavity can also be made adjustable in size, that is to say, somewhat larger or smaller so that the mouth-piece can be fitted to the special requirements of the tone to be produced, either louder or softer. For this purpose the cup-shaped mouth-piece *a* is arranged to be adjusted on the tubular-piece *b*, the latter sliding within the former by means of an adjustable screw-connection, in which case the tubular interior portion within the shank of the cup and its auxiliary cavity *d* can be adjusted relatively to the outlet-opening of the cup; the tubular portion *b* has to be provided with a suitable packing *b<sup>1</sup>* for producing a tight connection between the parts. In this case a clamping-screw *e* is necessary for holding the parts firmly in position after adjustment, the inner end of said clamping-screw engaging an annular groove *b<sup>2</sup>*. When the auxiliary cavity is adjusted to its smallest size a louder and more forcible tone of the instrument is obtained, while when the auxiliary cavity is enlarged by the outward adjustment of the tubular portion relatively to the mouth-piece, a softer tone of the instrument is obtained.

In place of the clamping-screw by which the parts are held together, other means of holding the parts in their relative positions may be employed, as I do not desire to confine myself to the special clamping-screw shown.

I have shown several embodiments of my invention, but changes may be made therein without departing from the spirit of the same as defined in the appended claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A mouthpiece for musical brass instruments, comprising a portion provided with a mouthpiece-cup having an outer end and an inner end of smaller diameter than the outer end, a stem-portion provided with a bore, and a cavity intermediate the mouth-piece-cup and bore, the inner end of the cup being of smaller diameter than the di-

iameter of the adjacent end of the intermediate cavity.

2. A mouthpiece for musical brass instruments, comprising a portion provided with a mouthpiece-cup having an outer end and an inner end of smaller diameter, a stem-portion provided with a bore, a cavity intermediate the mouthpiece-cup and bore, the diameter of the end of the intermediate cavity, which is adjacent to the inner smaller end of the cup, being larger than the diameter of the inner end of the cup, and means for varying the size of the intermediate cavity.
3. In a mouthpiece for musical brass instruments, the combination, with a mouthpiece-cup, of a stem adjacent said cup and provided with a tapering bore and having a cavity intermediate the mouthpiece-cup and bore, the outlet-opening of the bore being smaller than the diameter of the opening of the cavity in the stem, adjacent thereto, and the said cavity having walls

tapering from this opening to an opening of substantially the same size as the smaller opening of the bore of the stem. 25

4. A mouthpiece for musical brass instruments, comprising a portion provided with a cup, a stem provided with a bore, and means for adjusting the stem relatively to the outlet-opening of the cup-shaped portion so as to form an auxiliary cavity adjacent to said outlet-opening, the diameter of the cavity adjacent to the outlet-opening of the cup-shaped portion being larger than the diameter of said outlet-opening, said cavity forming a chamber intermediate the cup and the bore of the stem. 30 35

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses. 40

FREDERICK BUSCH.

Witnesses:

GEORGE W. FAGER,  
JOHN MURTAGH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."