

(No Model.)

A. P. TYLER.

MUTE FOR WIND MUSICAL INSTRUMENTS.

No. 285,183.

Patented Sept. 18, 1883.

Fig. 1.

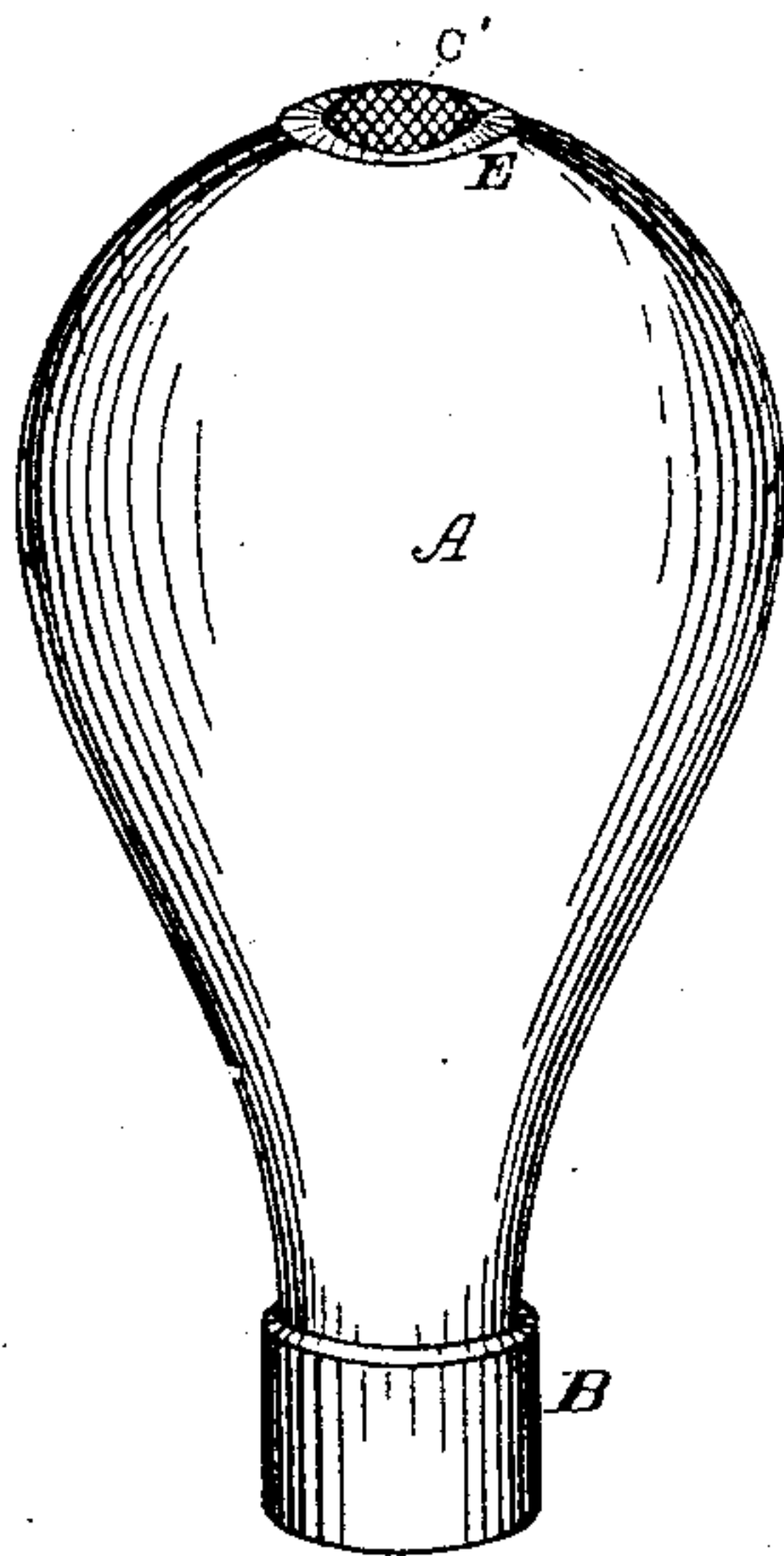
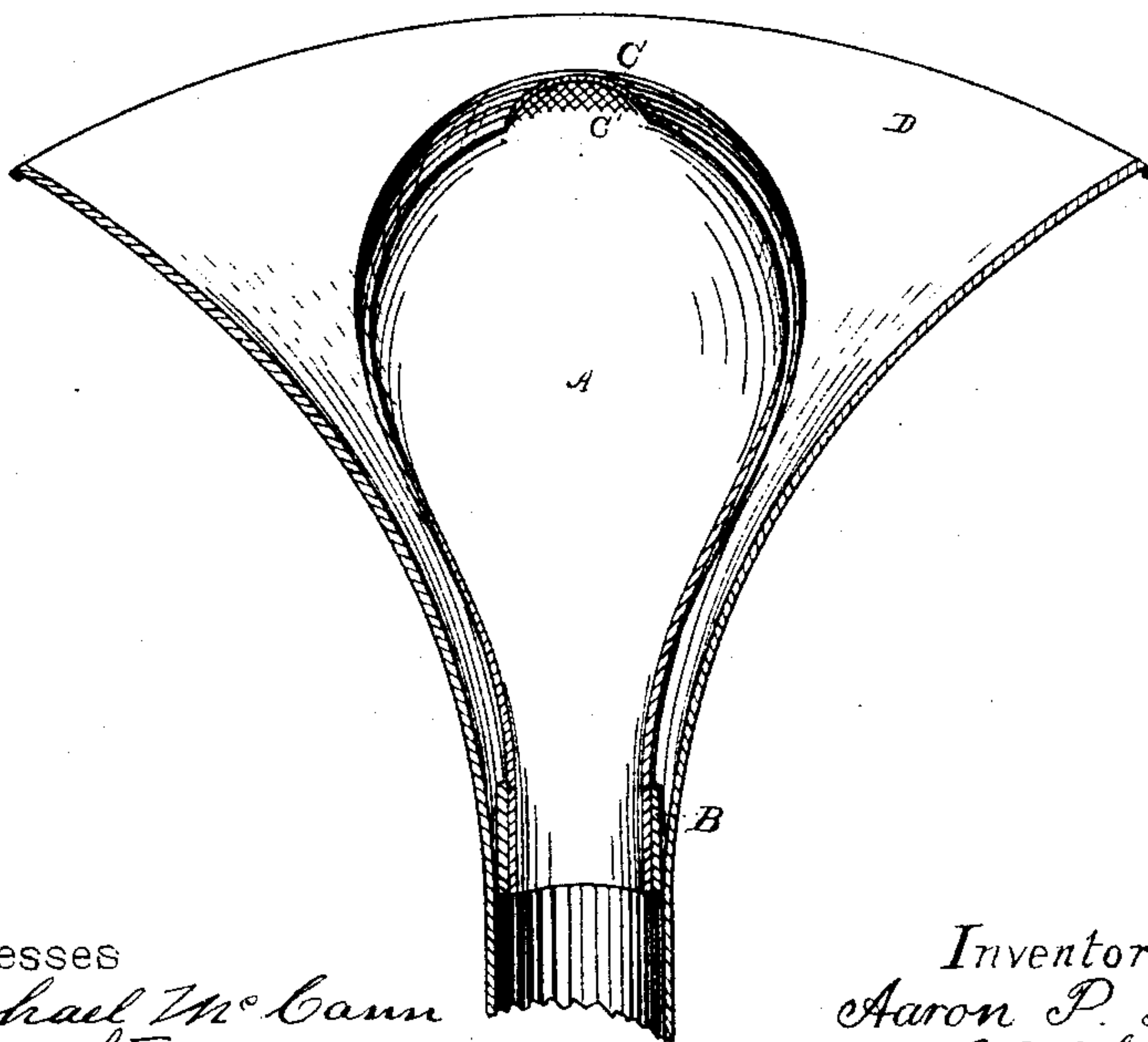


Fig. 3.



Fig. 2.



Witnesses
Michael McCann
Rufus Stevens

Inventor.
Aaron P. Tyler
By G. L. Chapin. Atty.

UNITED STATES PATENT OFFICE.

AARON P. TYLER, OF CHICAGO, ILLINOIS, ASSIGNOR TO J. HOWARD
FOOTE, OF NEW YORK, N. Y.

MUTE FOR WIND MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 285,183, dated September 18, 1883.

Application filed November 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, AARON P. TYLER, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Mutes for Wind Musical Instruments, of which the following is a specification.

The object of my invention is to produce a mute for a wind musical instrument which shall subdue the tone of the instrument without injuring its quality or changing its pitch.

In the accompanying drawings, Figure 1 is a perspective view of the mute ready for use. Fig. 2 is a perspective view of a half-section of the mute inserted in a half-section of a cornet, showing its peculiar construction and adjustment; and Fig. 3, a thimble.

An ordinary bulb-mute has only one opening, which is at its neck. When inserted in the bell of the instrument, the exit of air is stopped off, except that which passes through grooves made in the sides of the packing, which surrounds the neck and holds the bulb in place in the bell. The pitch of a cornet or similar wind-instrument is determined by the length of the vibrating column of air which produces the tone. The quality of tone is determined by the form of the bell and way of exit for the vibrating air. Anything, therefore, that will change the length of the vibrating column of air will change the pitch of the tone, and anything that will break the circumference of the column of air will impair the quality of the tone. The character of the tone of the instrument is determined by the form of the bell. The more flaring the more expressive or trumpet-like the tone. If the bell turns inward instead of outward, the greater the contraction the rounder the tone.

A music-instrument should have the round tone or "vox humana" tone. With the ordinary bulb-mute the column of air is simply more or less stopped off and broken up, and the tone is impaired as to quality, for to produce a pure tone the entire circumference of the column must be unbroken. It will be

readily seen that in the use of the ordinary bulb-mute a portion of the column of air is changed from the original length of the instrument on account of the return in the bulb, which equals the length of the bulb. With my improved mute I stop off entirely the exit of air through the ordinary flaring bell of the instrument by means of the packing B, which entirely surrounds the neck of the bulb A, tightly fitting the inside of the instrument. I make a hole, C, in the end of the bulb for the exit of air, thus preserving the length of the column of air, and therefore not disturbing the pitch. The curved construction of the opening of the bulb gives the desired round and pure tone, which is subdued according to the size of the opening C. The smaller the opening the more subdued the tone. In order to adjust the bulb to produce different degrees of power of the depressed tone, I provide the opening C with thimbles E, having openings of different sizes, or I make the rim of the opening C otherwise adjustable as to dimensions. To further depress the tone, I place over or within the opening C, or the opening at the neck of the bulb, or both, a sieve of perforated or porous material, as shown at C'. When it is desirable to destroy the metallic tone of the bell, I line it with leather, cloth, or other suitable material.

What I claim as my invention is—

1. A bulb-mute to be used in the bell of a wind musical instrument for subduing the tone, having an opening at each extremity of the bulb, the opening at one extremity to receive the vibrating column of air, and the opening at the other extremity for emitting the tone, substantially as set forth.

2. The bulb-mute with one or both openings provided with a sieve of perforated or porous material, substantially as specified.

AARON PARKER TYLER.

Witnesses:

G. L. CHAPIN,

W. B. THOMPSON.