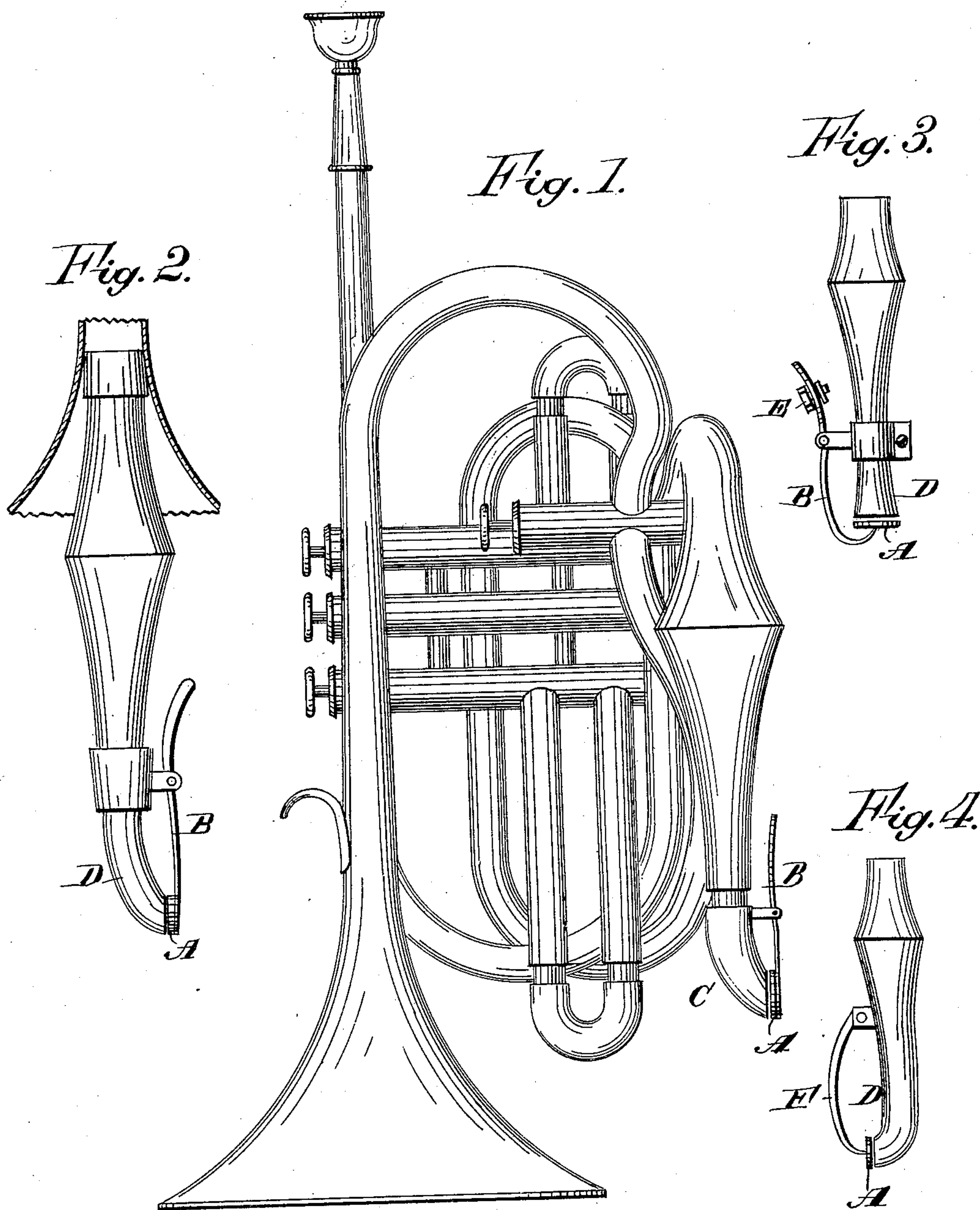


(No Model.)

W. S. DITTERLINE.  
TREMOLO ATTACHMENT FOR CORNETS.

No. 282,448.

Patented July 31, 1883.



WITNESSES:  
*W. S. Ditterline*  
*C. Sedgwick*

INVENTOR:  
*W. S. Ditterline*  
BY *Mum & Co*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

WILLIAM S. DITTERLINE, OF MAUCH CHUNK, PENNSYLVANIA.

## TREMOLO ATTACHMENT FOR CORNETS.

SPECIFICATION forming part of Letters Patent No. 282,448, dated July 31, 1883.

Application filed February 24, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. DITTERLINE, of Mauch Chunk, in the county of Carbon and State of Pennsylvania, have invented  
5 a new and Improved Tremolo Attachment for Cornets and other like Wind-Instruments, of which the following is a full, clear, and exact description.

The object of my invention is to provide a  
10 new and improved attachment for cornets and other like musical instruments operated by the mouth, whereby the tone produced is made vibratory.

The invention consists of a tube adapted to  
15 constitute the echo-tube of the cornet, or a mute-tube to be applied to the bell of the instrument, said tube having a valve or disk connected thereto by a spring or lever, and arranged to vibrate on the outer end of said tube,  
20 essentially as hereinafter more fully set forth and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal elevation of a cornet provided with my improved tremolo, showing it applied on the echo-tube. Fig. 2  
30 is a longitudinal elevation of a mute-tube provided with my tremolo, the mute-tube being held in the bell of the instrument. Figs. 3 and 4 show modifications of my improved tremolo attachment.

A disk, A, covered with leather, rubber, or  
35 other suitable material on one side, is attached to one end of a lever, B, pivoted to the echo-tube C of a cornet in such a manner that the weight of the lever B holds the covered side of the disk against the opening of the downwardly-  
40 bent end of the said tube. The wind issuing from the end of the said tube swings the disk a short distance from the end of the tube, the weight of the lever throws it back again, and so on, whereby the tone will be vibrated or

made tremulous. The same device can also be  
45 attached to the end of a mute-tube, D, which is inserted in the bell of the instrument, as shown, so that the wind that would otherwise issue from the bell must pass through the tube D.

If desired, the lever B can be provided with  
50 an adjustable weight, E, which can be adjusted a greater or less distance from the end of the lever, whereby the disk A will be pressed against the end of the tube with greater or less  
55 pressure. The end of the tube can also be made straight, as shown in Fig. 3. In place of the lever B a spring, F, may be used to press the disk against the end of the tube. The disk can be attached to a cross-piece slid-  
60 ing in longitudinally-slotted guides, and held against the end of the tube by a spring. The disk must be covered, so as to fit closely against the end of the tube.

By means of my tremolo attachment a very  
65 good effect can be produced in different kinds of music—such as sacred music, dirges, and all other music of a slow and mild nature.

The disk can be made of metal, rubber, bone,  
70 ivory, wood, &c.

The attachment is very inexpensive, and can  
be attached to all cornets or like wind-instruments.

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

The tube adapted to be held in the bell of the instrument, and to also serve as the echo-tube, and having a valve or disk connected thereto, adapted to be operated by the pulsa-  
80 tions of the wind escaping from the tube, essentially as shown and described, and for the purpose set forth.

WILLIAM S. DITTERLINE.

Witnesses:

W. F. YARINGTON,  
L. H. BARBER.