

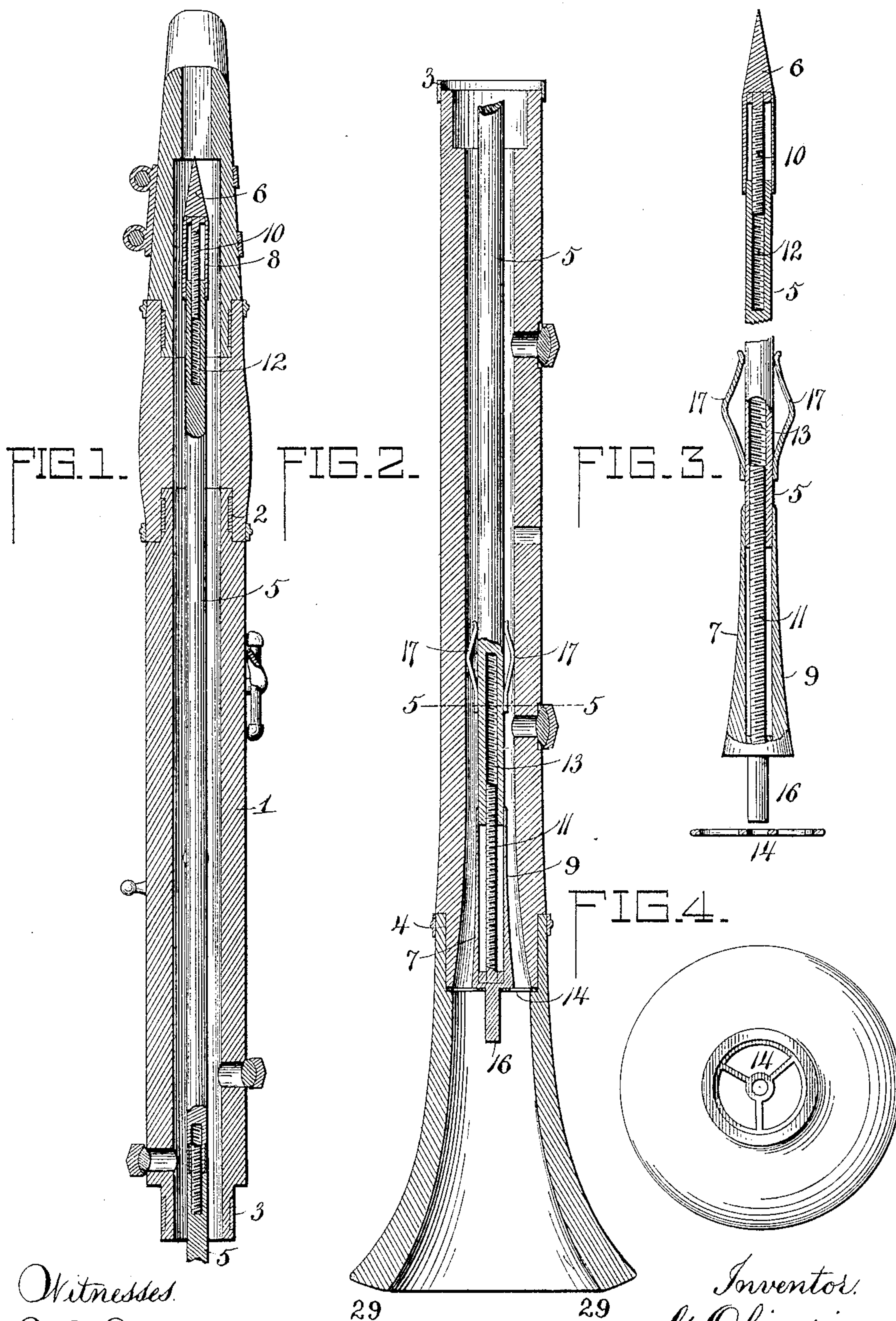
(No Model.)

3 Sheets—Sheet 1.

G. OLIVERI.
WIND INSTRUMENT.

No. 583,077.

Patented May 25, 1897.



Witnesses.
W. E. Allen.
Jas. W. White.

Inventor.
G. Oliveri.
By Knight & Boattys.

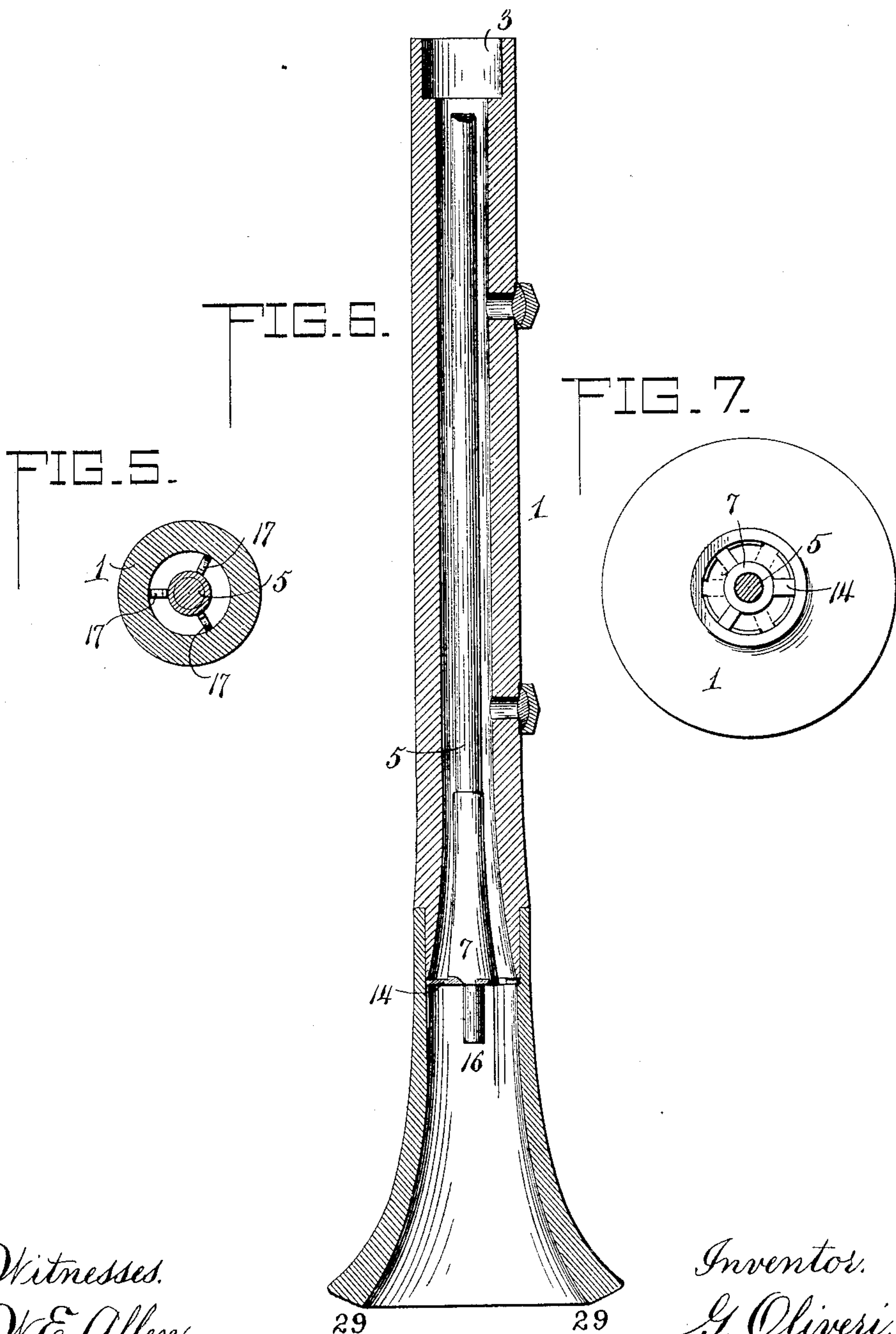
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G. Oliveri.
By Knight Bros. Attys.

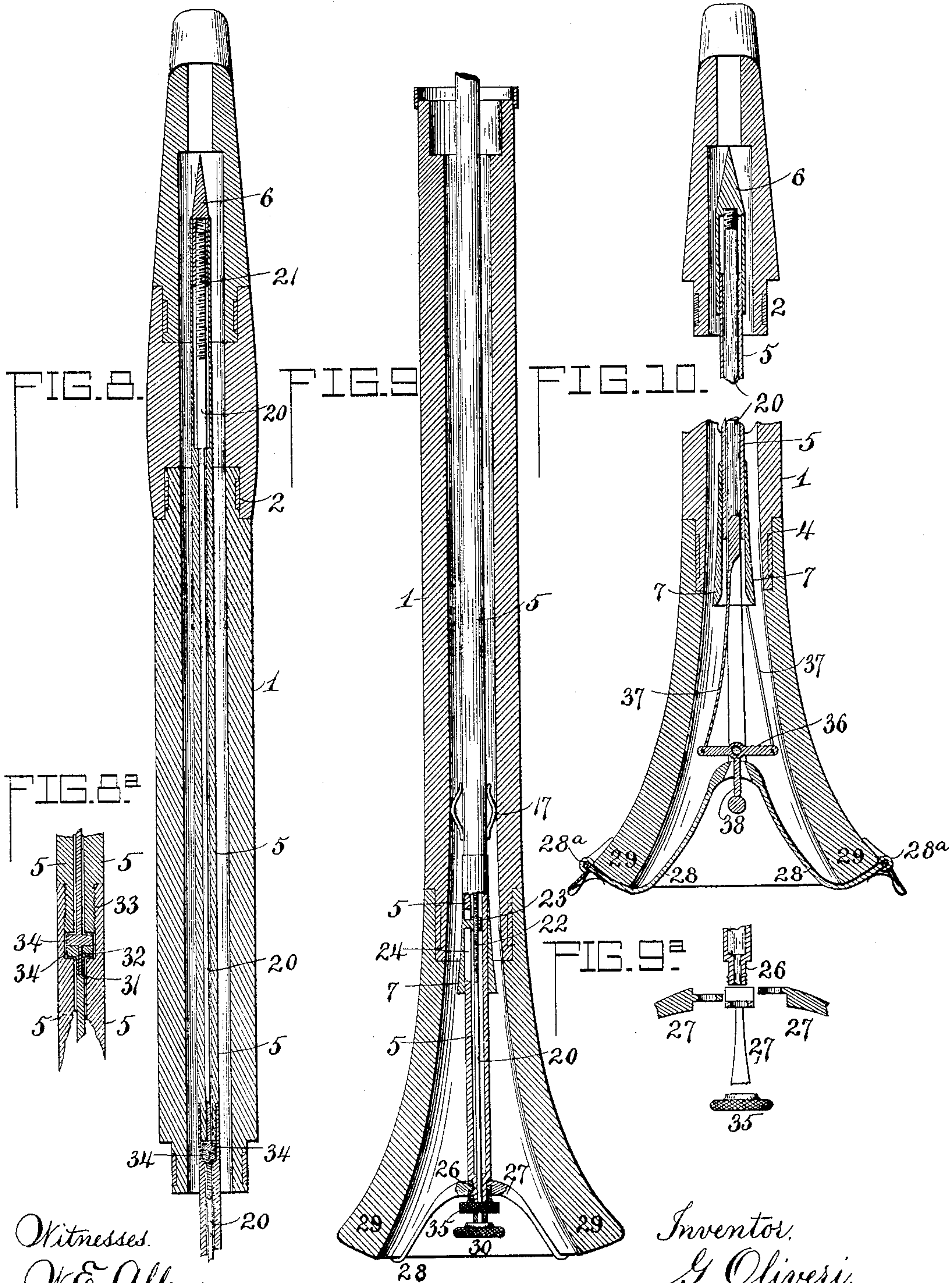
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G. Oliveri.
By *Knight Bros*
Attys.

UNITED STATES PATENT OFFICE.

GIUSEPPE OLIVERI, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR
TO C. G. CONN, OF SAME PLACE.

WIND INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 583,077, dated May 25, 1897.

Application filed April 24, 1896. Serial No. 588,854. (No model.)

To all whom it may concern:

Be it known that I, GIUSEPPE OLIVERI, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Wind Instruments, of which the following is a specification.

My invention relates to tuning attachments for wind instruments; and it consists of an extensible core or rod with means for holding it centrally within the instrument, the same being adapted by changing the interior dimensions of the air-space to change the tone of the instrument either for the purpose of changing it from one key to another or for merely harmonizing the instrument with others.

In the accompanying drawings, Figure 1 represents a longitudinal section of the upper half, and Fig. 2 a similar section of the lower half, of a clarinet which is selected for the purpose of illustrating my invention, such instrument having one form of my invention applied to it. Fig. 3 is a sectional detail view illustrating the form of attachment which is used in Figs. 1 and 2; and Fig. 4 is an end view of the instrument, showing the support which is employed for the form of attachment shown in Figs. 1, 2, and 3. Fig. 5 is a section on the line 5 5 of Fig. 2. Figs. 6 and 7 are respectively an axial section and an end view of the lower portion of an instrument having the attachment applied in slightly-modified form. Figs. 8 and 9 are axial sections of the upper and lower parts of an instrument having applied thereto an attachment embodying my present invention and having means for adjusting the ends of the core or rod simultaneously and symmetrically. Figs. 8^a and 9^a are detail views, on an enlarged scale, showing, respectively, the detachable connection or joint in the core or filling-piece and the manner of supporting the lower end of the same and rendering it adjustable without removal from the instrument as well as readily removable in case of necessity. Fig. 10 is a fragmentary view of the upper and lower ends, showing a still further modification of the construction.

1 represents a musical instrument which for purpose of illustration is shown to be in

the form of a clarinet, jointed at 2, 3, and 4. Mounted axially in the instrument is a core or rod 5, which has at its upper or lower or both ends extension-pieces 6 and 7. The upper extension-piece 6 is carried adjacent to the mouthpiece, while the lower extension-piece 7 is preferably located at the point where the bore of the instrument begins to swell to form the bell. To render these pieces 6 and 7 evenly extensible, they may be provided with telescoping sleeves 8 and 9 and axial screw-threaded pins 10 and 11, entering, respectively, into correspondingly-threaded sockets 12 and 13, formed in the core or rod as shown.

14 represents a disk or spider mounted in the lower end of the instrument and adapted to receive a stud 16, which projects from the lower extension-piece 7.

17 represents spring centering-arms carried at a point on the core or rod sufficiently above the supporting-spider 14 to center the core in the instrument and yet sufficiently low down in the instrument to avoid interference with the sound-waves which determine the tone of the instrument.

From Figs. 6 and 7 it will be observed that the disk or spider 14 may be formed integral with the lower extension-piece 7, and, if desired, suitable means may be provided to enable it to be removed, with the core, from the instrument.

In Figs. 8 and 9 I have shown a shaft running through the core and having at its upper end a right-handed thread 21, which engages in the extension 6, and near its lower end a left-handed thread 22, working in a nut 23, which projects inwardly from the lower extension 7 through a slot 24, formed in the tube 5 of the core. The tube 5 of the core is extended and has a reduced neck 26, which passes through brackets 27, having curved ends 28, which pass down over and grip the lower edge of the bell 29 of the instrument. The shaft 20 carries a turning head 30 on its lower end, and by turning this head the extensions 6 and 7 are moved on the core 5 simultaneously and symmetrically in opposite directions. To provide for separating the instrument, the shaft 20 is divided at the joint midway of the instrument, and one portion

carries a socket 31, while the other has a squared pin 32, which fits in said socket and establishes turning connection between the parts of a shaft when the instrument is put together. The parts of the core are secured together by an ordinary screw-joint 33, and in order to prevent displacement of the shaft 20 its parts may be provided with the heads 34, fitting in an enlargement in the cavity of the core.

As will be seen by reference to Fig. 9^a, the brackets 27 are made separate and are adapted to be secured together by the nut 35, which screws on the extension 26 after the brackets have been passed over said extension. The parts are so constructed that when the brackets 27 are arranged symmetrically around the bell of the instrument they will form a rigid support for the whole attachment, but they may readily be slid around until they come together, at which time their hooks will be all on one side of the bell, and they will readily disengage and permit the whole attachment to be removed from the instrument.

According to Fig. 10 simultaneous movement of the extension-pieces 6 and 7 is effected through the medium of a lever 36, having its respective ends connected through straps 37, of rigid metal, to the respective extensions 6 and 7. By applying the finger to the rocking lever 38 it may be moved in either direction and cause a corresponding simultaneous and uniform adjustment of the extensions 6 and 7.

As will be observed, in all the forms of my invention the object is to change the cavity in the instrument, so as to alter its period of vibration and consequently its tone. The attachment is found in practice to be effective in changing the instrument from one key to another—as, for instance, from B-flat to A. This may be done by moving the extensions or one of them to a sufficient degree, or the parts may be so adjusted that changes in the key may be effected by inserting and removing the entire attachment. On the other hand, by more gradual changes in the length of the attachment, it is very convenient to change the tone of the instrument in such slight degrees as to bring it into harmony with other instruments of slightly-different pitch.

While I have described and prefer to use

the double extension, I desire it understood that my invention is not thus limited, as it is possible to obtain the desired results by extending at one end only or by any other method of changing the length of the core. Furthermore, I desire it understood that my invention is not limited in scope to an extensible core for the reason that, as previously explained, the desired ends may be obtained in changing from one key to another by inserting and removing the attachment.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. A pitch-adjuster for clarinets, flutes, and other similar wind instruments, consisting of a rod and means whereby it may be held within the bore of the tube of the instrument.

2. In combination with a tubular wind instrument; a core or filling-piece of smaller diameter than the internal diameter of the instrument, and having means for supporting it within the instrument as and for the purpose explained.

3. In combination with a musical instrument, the herein-described removable core or filling-piece mounted axially in the instrument in substantially the manner and for the purposes set forth.

4. In combination with a musical instrument, the herein-described filling-piece or core, mounted axially within the instrument and provided with means for changing its dimensions, substantially as and for the purpose set forth.

5. In combination with a musical instrument, the herein-described filling-piece or core, having means for mounting it axially within the instrument, and having an extensible end, substantially as and for the purpose set forth.

6. In combination with a musical instrument, the herein-described filling-piece or core provided with means for mounting it axially within the instrument, and having both its ends extensible substantially in the manner and for the purpose set forth.

GIUSEPPE OLIVERI.

Witnesses:

H. S. KNIGHT,
H. M. STERLING.