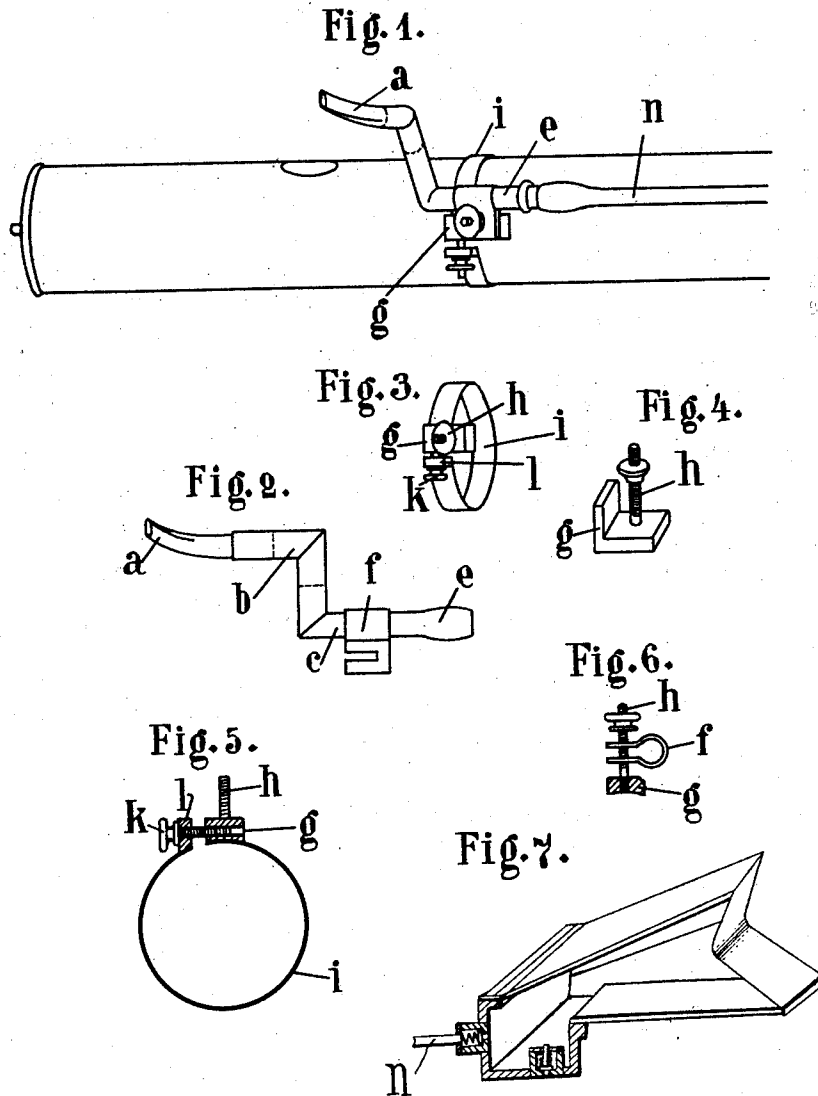


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 APPARATUS FOR PLAYING WIND MUSICAL INSTRUMENTS.
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To all whom it may concern.

Be it known that I, BERNARD SAMUELS, a citizen of the Netherlands, residing at Schwerin, in the Grand Duchy of Mecklenburg, Germany, have invented certain new and useful Improvements in Apparatus for Playing Wind Musical Instruments, of which the following is a specification.

This invention has for its object to provide means whereby a mouth wind musical instrument can be played without the interruptions hitherto caused by the player having to take breath so that the sound can be sustained for any desired length of time or be repeated indefinitely as with a string musical instrument.

The invention has also for its object to provide means for relieving the lungs and the body in a hitherto unattained manner.

According to the present invention means is provided whereby a supply of air from a special air supplying device is admitted into the cavity of the mouth of the player in addition to the air which is breathed in the usual manner by the lungs. This is effected by the provision of one or more small tubes used as a mouthpiece. One form of apparatus designed to carry out this process is illustrated by way of example in the accompanying drawings in which:—

Figure 1 shows the apparatus according to this invention attached to a flute. Fig. 2 is a view of a mouth tube and its appurtenance for a flautist, Fig. 3 is a view of a mouth tube holder for a flute, Figs. 4, 5 and 6 show certain details separately on an enlarged scale and Fig. 7 is a view of a bellows for the special air supply.

As shown in Fig. 1, a small mouth tube *a* is attached to a flute in such a manner that it can enter the mouth of the player as it were automatically immediately on the instrument being held in position for playing. For this purpose the mouth tube *a* is adjusted specially in position for each player so that it will enter his mouth exactly at the proper place. The shape, size, number and position of the mouth tube or tubes depends on the player, the instrument, on the player's mouth, teeth, palate, etc., and its material may vary also in each individual case. The diameter of the mouth tube or tubes should be suited to the nature of the instrument; for instance a hautboy needs a mouth tube of smaller diameter because less air is consumed by it than a tuba.

In the case of a tuba the diameter would be so great as to distort the lips of the player from their proper position, and therefore such an instrument requires two mouth tubes, namely, one at each side of the mouth. A flute requires a mouth tube of about 5 millimeters in diameter.

The complete additional air supplying apparatus consists of the mouth tube, the mouth tube holder and the air supplying device with a flexible pipe. In some cases, more than one additional air-supplying apparatus may be required, as already stated.

Fig. 2 is a view of a mouth tube for a flautist, adapted to the horizontal position of the flute in playing. This mouth tube is composed of a number of sections, for instance three sections *a*, *b*, *c* fitted one into another and connected together either by means of hinges and springs, or by means of flexible pipe sections so as to enable the tube to be adjusted into any desired position. The tube is intended to be held with a gentle pressure against the roof of the mouth while at the same time it can follow the ever changing position of the lips and mouth. *e* is a bulb for the attachment of the flexible supply pipe *n* (Figs. 1 and 7). The metal strip which is bent around the tube and has a slot in each end, serves for the attachment of the apparatus to the instrument and for facilitating its adjustment thereon. The middle part of the mouth tube *b* and the lower part *c* are of round cross section. The upper part *a* is of pronounced elliptical cross section and is bent in such a manner as to be able to discharge the air naturally and without constraint through the lips and teeth directly along the roof of the mouth and over the tongue.

The mouth tube holder proper shown in Fig. 3, which is suitably constructed for each instrument, consists in the case of a flute, of a metal part *g* with a screw *h* which may either be fixed directly to the instrument by means of screws, or as shown, be fixed on a metal strap *i* so that it can be removed as a whole from the instrument. The strap *i* which is about 5 millimeters broad and 1 millimeter thick may after adjustment, be clamped firmly around the instrument by means of a screw *k* through the lug *l* and the screw thread in the part *g*. When it is desired to use the mouth tube the slotted strip *f* is slipped over the screw *h* and the latter is then screwed tight.

The bellows (Fig. 7) employed for supplying the additional supply of air is provided with a non-return valve to prevent air being blown by the lungs into the bellows during the playing of the instrument. One end of the flexible pipe *n* is fixed on a bulb on the bellows and the other end is fixed on a bulb *e*. The bellows is usually placed in front of the seat of the player so works it with his feet. The player is thus enabled to regulate the quantity and pressure of the air as well as the duration of the air supply. In this manner the hereinbefore stated advantages are obtained. Instead of using a bellows the air may be supplied continuously, for instance by a small motor fitted with air regulating mechanism. In such a case the player need not blow at all, but need only to set his lips properly to the instrument. He then breathes through his nose.

The flexible pipe *n* may be conveniently held in the recess between the thumb and forefinger of the left hand and passes thence along the left arm to the ground so that it is not at all conspicuous.

It is to be clearly understood that this invention is not restricted to a flute but that it is also applicable with suitable modifications to other mouth wind instruments, such as trumpets, horns, trombones, tubas, hautboys, bassoons, clarinets, saxhorns and the like, without departing from the nature of the invention, so long as air is admitted into the mouth of the player from a special source of supply.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1. An attachment for a flute or similar instrument, comprising in combination, a

mouth-piece adapted to be inserted in the player's mouth, means to adjustably attach said mouth-piece to the instrument in position to have its end adjacent to the blow-opening and sufficiently removed from the instrument to extend into the player's mouth when the instrument is being played, and means to supply air under pressure to said mouth-piece.

2. An attachment for a flute or similar instrument, comprising in combination, a tube located beside the flute or other instrument, an offset mouth-piece carried by said tube and adapted to be inserted in the player's mouth to one side of the blow opening, means to adjustably attach said tube to the instrument in position to bring said mouth piece adjacent the blow-opening, and means to supply air under pressure to said mouth-piece through said tube.

3. An attachment for a flute or similar instrument, comprising in combination, a mouth-piece adapted to be inserted in the player's mouth, means to adjustably attach said mouth-piece to the instrument in position to have its end adjacent to the blow-opening, and means for supplying air under pressure to said mouth-piece, said adjustable attaching means consisting of strap surrounding the mouth-piece, a second strap surrounding the instrument, a block connecting said straps, and screws for tightening said straps on the mouth-piece and instrument respectively.

In testimony whereof I affix my signature in presence of two witnesses.

BERNARD SAMUELS.

Witnesses:

ELISABETH HELLMUTH,
FOPRUN FEUERLEIN.