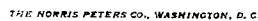


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UNITED STATES PATENT OFFICE.

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MUSICAL INSTRUMENT.

1,133,741.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HARMON R. OSBORN, a citizen of the United States, residing at Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Musical Instruments, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to new and useful improvements in musical instruments and more particularly to a combined instrument which may be known as a flute trombone and my object is to provide a device of this
15 character wherein a plurality of tones may be sounded individually and collectively.

A further object of the invention resides in providing a device which in tone resembles a flute and which from a portion of
20 its design resembles a trombone and a still further object resides in providing a device which is simple and durable in construction and one which will be very efficient and useful in operation.

25 With the above and other objects in view, the invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the
30 specification and claims.

In the accompanying drawings forming a part of this application, Figure 1 is a plan view of the device completed. Fig. 2 is a longitudinal sectional view of the outer end
35 of the device; Fig. 3 is a sectional view taken on a plane at right angles to the plane of Fig. 2; Fig. 4 is a plan view of the disk; Fig. 5 is a plan view of the plug; Fig. 6 is a vertical section through the plug.

40 In describing my invention, I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views and in which—

1 indicates a tubular member or cylinder
45 forming the body of the device, the one end of which has a sleeve-like member 2 therein, said sleeve having an annular projection 3 formed thereon to limit the movement of the same in the member 1 and permit
50 a portion of the sleeve to project therebeyond. Applied to the projecting portion of the sleeve 2, is an end piece or horn 20 and arranged in the cylinder or body 1, against the inner peripheral edge of the
55 sleeve 2, is a band or ring 5 which is pref-

erably formed of cork or other suitable material.

The cylinder or body 1 is provided with a blow-hole 6 at a point adjacent the end having the end piece 4 mounted thereon
60 and applied over the member 1, at the point having the blow-hole therein, is a metallic plate 7 which is also provided with an opening 8 registering with the aforesaid blow-hole 6. This plate 7 is arcuate in cross
65 section to fit snugly on the cylindrical body 1 and the same is held in position on said body by means of the clamping member 9, which is carried on a mouth-piece 10. From
70 this construction, it will be seen that the air which is blown through the mouth-piece, also directed across the blow-hole, will contact with the metal plate 7, thus having the desired effect.

The cylindrical body 1 is provided at a
75 point adjacent the end opposite that having the end piece 4 thereon with a handle grip 11 and said last mentioned end is internally threaded, as shown at 12. A plug 13 is provided with a threaded portion to engage
80 the threaded portion 12 of the member 1 and this plug 13 has a reduced bore 14 extending completely therethrough. A stem 15 is slidably disposed through the bore of the plug 13 to extend within the body 1
85 and the inner end of said stem has a plunger head 16 secured thereto to fit snugly within the walls of said member 1. This plunger head with the stem 15 thereon forms substantially an operating valve and the outer
90 end of said stem is compoundly curved, as shown at 17, whereby to be readily engaged by the one hand of the blower.

The horn or end piece 20 of bell-shaped design is held to the one end of the member
95 1, through the medium of the sleeve 2 but this horn, or bell-shaped member is applied in such a manner as to form a substantial T-head on the end of the member 1. This application is accomplished by providing
100 an opening 22 in the wall of the member 20, intermediate of its ends, through which the projecting portion of the sleeve 2 is disposed. At a point diametrically opposite the opening 22, a reduced opening 23 is provided to admit of the air and sound passing
105 therethrough. Disposed in the flaring end of the bell-shaped horn or member 20, is a cork plug 24, the inner end of which projects a slight distance over the opening 23. 110

The last mentioned end of the plug 24 is beveled, as shown at 25, this beveled face being disposed toward the sleeve 21 and a lengthwise groove 26 formed on said plug to permit sounds to pass therethrough. The opposite or reduced end of the member 20 has a disk 27 mounted therein, the peripheral edge of which is provided with V-shaped notches 28. This disk 27 is provided with a central opening 29 over which is applied a diaphragm 30 formed of paper or other suitable material, this diaphragm being applied through the medium of any desired adhesive. This form of the device is, otherwise identical to the form above described and it will be seen that as this instrument is applied, certain of the tones will pass directly from the body 1 through the opening 23 in the side of the bell-shaped end 20, while certain other of the tones will be directed against the beveled end 25 of the plug 24 and deflect in an opposite direction against the diaphragm 30. The sounds passing through this paper diaphragm 30 will be quite like those of a violin or cello. These sounds are promulgated through the provision of the V-shaped notches 28 in the peripheral edge of the disk 27 which allow the air and tone to pass therethrough in proper manner as well as through the diaphragm. These V-shaped notches also act as vents, eliminating a tightness of the chamber and obviating the congestion of the tone and dead air, thus giving a chance for the desired tone to be sounded. It will be appreciated that these sounds which pass through this diaphragm are distinct but simultaneous with the sounds which pass directly through the opening 23. It will also be seen that a certain amount of sound will be passed through the longitudinal or lengthwise groove 20 of the plug 24. The tones in this form of the device may, of course, be changed by the actuation of the plunger in the member 18.

From the foregoing description of the construction of my improved device, it will be seen that I have provided an improved instrument of the combined type which resembles a flute on one hand and a trombone on the other hand, and certain varied sounds may be blown therefrom individually and collectively. It will further be seen that through my improved instrument sounds similar to those of various instruments may be blown and tones blended together through the medium of the plunger used in connection with the device. The pitch of the tone blown from the instrument being determined by the position of the plunger within the cylinder, it will be seen that it requires considerable skill to blow a variety of sounds in coordinate succession to produce a melody. By providing the plurality of openings in the end piece 20 shown in

Fig. 5 of the drawing, it will be seen that it is possible to provide either a muffled tone by partially closing a portion of the openings, or clear emphatic tones may be blown from the instrument by removing the plug 24 whereby the opening 23 and the flaring end of the end piece are unobstructed. It is also possible to regulate the volume of tone by the attachment of the plug 24 to project any desired distance over the opening 23. It will still further be seen that the device is one which is simple and durable in construction, inexpensive to manufacture and one which will be very efficient and useful in operation.

While I have particularly described the elements best adapted to perform the functions set forth, it is obvious that various changes in form, proportion and in the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the principles of the invention.

What I claim is:

1. In a musical instrument of the class described, a tubular body having an end piece removably connected to one end thereof, said body having a blow opening therein adjacent said removable end piece, a mouth piece applied to said body in connection with the blow opening therein, said end piece being provided with an opening therein in alinement with the bore of said tubular body, means mounted within the end piece adapted to close a portion of said opening in the end piece, and a plunger mounted in the body operable from the opposite end thereof.

2. In a combined musical instrument of the class described, a cylindrical body having a blow opening therein adjacent one end of the same, an end piece removably applied to the last mentioned end of the body at substantially right angles thereto, said end piece being provided with openings for the admission of sounds therethrough, one of the openings in said end piece having a paper covering disposed thereover, a mouth piece mounted on the body in connection with the blow opening thereof, and a plunger mounted in the body operable from the opposite end of the latter.

3. In a combined musical instrument of the class described, a cylindrical member having a blow opening adjacent one end thereof, an end piece removably attached to the last mentioned end of said body, said end piece being disposed at right angles to the body and having an opening in the side thereof and in alinement with the body, means applicable to the ends of said end piece to form substantial closures therefor and having openings therein to permit certain sounds therethrough, a mouth piece mounted on the body in connection with the

blow opening thereof, and a plunger mounted in said body and operable from the opposite end thereof.

4. A musical instrument of the class described comprising a tubular body, a tubular end piece detachably connected to one end of said body, said body having a blow opening therein adjacent said end piece, said end piece being disposed at right angles to the longitudinal plane of the body and having an opening in the side thereof in alinement with the bore of said body, means mounted in the opposite ends of said end piece to partially close the same, a mouth piece mounted on the body in connection with the blow opening therein, and a plunger mounted in said body and operable from the opposite end thereof.

5. A musical instrument of the class described comprising a tubular body, a tubular end piece removably connected to one end of the body and disposed at right angles to the longitudinal plane thereof, said body having a blow opening therein adjacent said end piece, a mouth piece mounted on the body in connection with the blow opening therein, said end piece having an opening therein in alinement with the bore of said body, a plug disposed in one end of the tubular end piece and having its inner end partially closing the opening in said

end piece, said plug having a longitudinal groove formed in its periphery, means for partially closing the other end of said tubular end piece, and a plunger mounted in said body and operable from the opposite end thereof.

6. A musical instrument of the class described comprising a tubular body having a tubular end piece connected to one end thereof and disposed at right angles to the longitudinal plane of the body, said body having a blow opening therein adjacent said end piece, a mouth piece mounted on the body in connection with the blow opening therein, a plug mounted in one end of said end piece, said plug having a longitudinal groove formed in its periphery, a ring mounted in the opposite end of said end piece, said ring having a plurality of grooves formed in its outer periphery, a flexible diaphragm disposed over the opening in said ring, and a plunger mounted in said body and operable from the opposite end thereof, as and for the purpose described.

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

HARMON R. OSBORN.

Witnesses:

J. P. MOSHER,

ALEX. S. SCOVELL.

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