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A.D. 1862, 29th APRIL. N° 1245.

Valves for Wind Musical Instruments.

LETTERS PATENT to George Robert Samson, of No. 8, Old Chapel Row, Kentish Town, in the County of Middlesex, for the Invention of "IMPROVEMENTS IN VALVES OR CYLINDERS FOR WIND MUSICAL INSTRUMENTS."

Sealed the 12th September 1862, and dated the 29th April 1862.

PROVISIONAL SPECIFICATION left by the said George Robert Samson at the Office of the Commissioners of Patents, with his Petition, on the 29th April 1862.

I, GEORGE ROBERT SAMSON, of 8, Old Chapel Row, Kentish Town, in the County of Middlesex, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN VALVES OR CYLINDERS FOR WIND MUSICAL INSTRUMENTS," to be as follows:—

My Invention consists of a new and improved system of valves for wind musical instruments. These valves form a part of the main tubing of the instrument to which they are attached or applied in lieu of the ordinary systems hitherto used (which are at all times additional material added to the instrument, and form no portion of the same). The air enters vertically at the top or horizontally in the middle of these valves and comes out at the bottom, or vice versa, in a direct passage with the main tubing. The air passes at all times through these valves, whether pressed down or not. In ordinary valves the air only passes horizontally through them when pressed

Samson's Improvements in Valves or Cylinders for Wind Musical Instruments.

down or opened. By the application of my system of valves all musical instruments are improved in their tone and intonation, the bore of the instrument never being interfered with, the valve being at all times the same size as the part of the tubing to which it is applied.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed 5 by the said George Robert Samson in the Great Seal Patent Office on the 28th October 1862.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, GEORGE ROBERT SAMSON, of No. 8, Old Chapel Row, Kentish Town, in the County of Middlesex, send greeting. 10

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-ninth day of April, in the year of our Lord One thousand eight hundred and sixty-two, in the twenty-fifth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said George Robert Samson, Her special licence, that I, the said George Robert 15 Samson, my executors, administrators, and assigns, or such others as I, the said George Robert Samson, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, 20 the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN VALVES OR CYLINDERS FOR WIND MUSICAL INSTRUMENTS**," upon the condition (amongst others) that I, the said George Robert Samson, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of 25 the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said George Robert Samson, do hereby declare the nature of my said Invention, and in what manner the same is to be 30 performed, to be particularly described and ascertained in and by the following statement and accompanying Drawings (that is to say):—

This Invention consists of a new and improved system of pistons or valves, made out of and forming a portion of the main and added tubing of each instrument, and is measured and calculated as a portion of the sounding part 35 of the same.

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In my system of pistons or valves the air enters into them vertically at the top or bottom, or horizontally in the middle on one side of the piston only, coming out at the top or bottom, but never going through them from one side to the other, as in ordinary systems. The air passes through one end of my
 5 piston at all times, whether it is pressed down by means of a rod or not, and when the same is pressed down, bringing the added tubing into use, then the air passes through both ends of the piston.

By the application of my system of pistons, instruments are improved in their tone and intonation. This arises from the bore of the tubing being
 10 always preserved entire, that is, it is not contracted to enable the air to pass through the pistons as in the old systems hitherto used; the improvement is also derived from the pistons being of different sizes, according to the part of the instrument in which they are placed.

The piston for bringing on the half-tone added tube is situated nearest the
 15 mouth-piece, or small end of the tube, the whole tone next, and so on, each piston used increasing in size as it approaches near the bell or large end of tube.

DESCRIPTION OF THE DRAWINGS.

Fig. 1 represents a front view of an instrument constructed according to
 20 my Invention. Fig. 2 back view, and Fig. 3 a sectional view, of an instrument constructed according to my Invention, and shewing the interior arrangement thereof, the parts colored red representing the moving parts of tubing made to act as pistons or valves. The same letters of reference denote similar parts in all the Figs. The letters A shew arrangement of main tubing; letters B arrangement of added tubing; C, C, C, shews end of piston forming
 25 part of and joining main tubing A¹, A¹, A¹; D, D, D, shews end of piston, joining and forming part of added tubing B¹, B¹, B¹; E, E, E, shews slots cut in outer casing, which allow the pins or screws F, F, F, to move up or down as required; F, F, F, pins or screws inserted in back of piston, the
 30 heads F¹ of which pins or screws are brought under rods G, G, G, these rods are attached to heads of pins F¹, F¹, F¹, shewn more clearly on Fig. 1; H, H, H, are spring boxes through which rods G, G, G, pass, and these rods are made by means of a spring h in the said box to return to their original position after being pressed down; one of the rods G¹, Fig. 3, attached to
 35 piston D¹, is represented down, the other two rods being represented up; I, mouth-piece end of tubing or instrument.

In performing on this instrument, or any wind instrument made on this principle, the air passes from mouth-piece I, and takes the direction through

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main tubing A, as indicated by the arrows, and when the added tubing is brought into use the air passes through the added tubing B, where piston D¹ is shewn pressed down as before described.

Having thus described the nature of my Invention and the manner in which the same is or may be carried into effect, I wish it to be understood that I do not confine myself to the instrument shewn on Drawing, or to the shape or configuration thereof, as the principle is equally applicable to all kinds of wind instruments, such as the cornet-a-piston, trumpet, horn, euphonion, bombardon, trombone, and all other instruments acted upon by pistons; but what I claim and desire to be secured by the herein-before in part recited Letters Patent is,— 10

1st, the system of internal pistons or valves open at both ends, made out of and forming a portion of the main tubing and added tubing of wind musical instruments, to be measured and calculated as a portion of the sounding part of the same, substantially as herein-before described.

2nd, the introducing or attaching of the added tubing to main tubing in wind musical instruments by means of a single internal piston or valve, shewn on Drawing, Fig. 3, and herein-before described.

And, 3rd, the general arrangement and combination of parts, substantially as herein-before described and illustrated on Drawings, or any mere modification thereof. 20

In witness whereof, I, the said George Robert Samson, have hereunto set my hand and seal, this Eighteenth day of October, in the year of our Lord One thousand eight hundred and sixty-two.

GEORGE ROBERT SAMSON. (L.S.)

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FIG. 1.

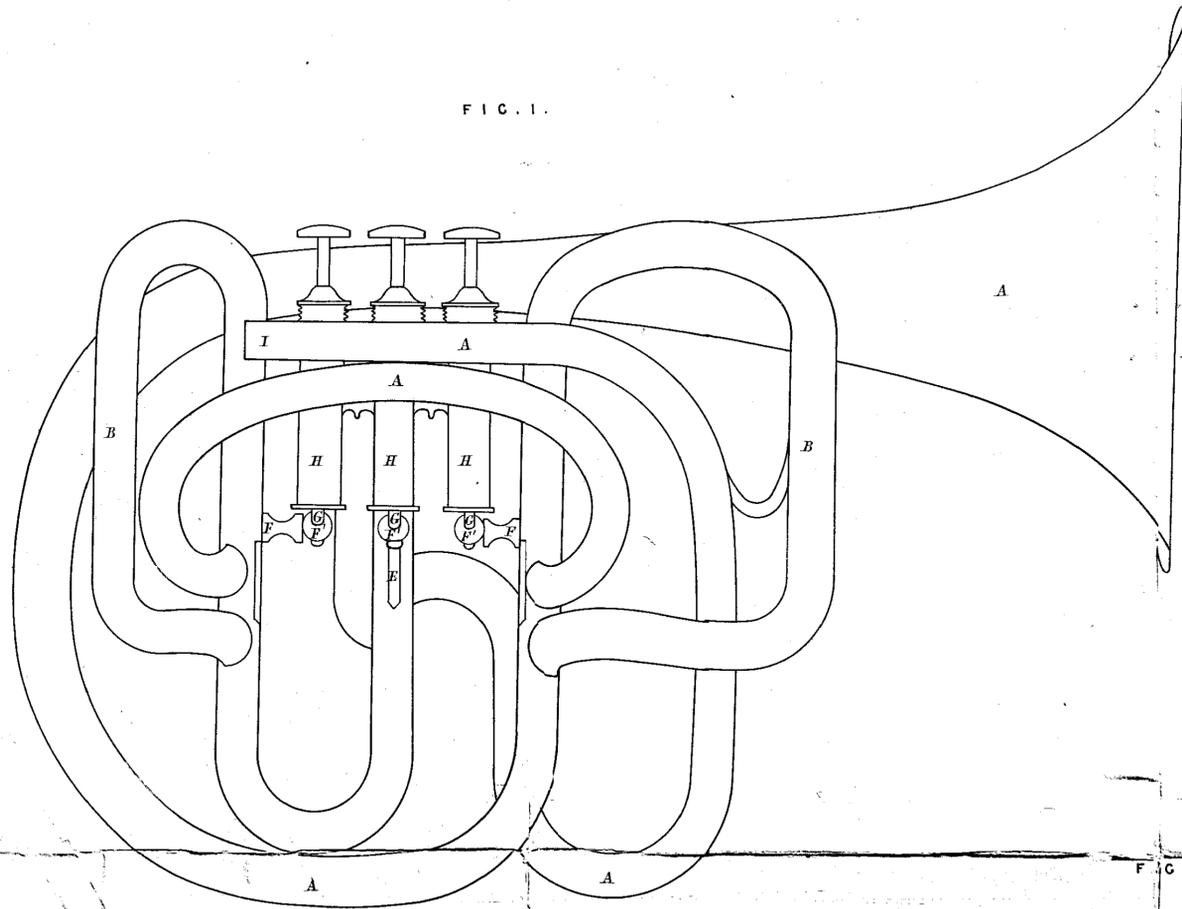


FIG. 2.

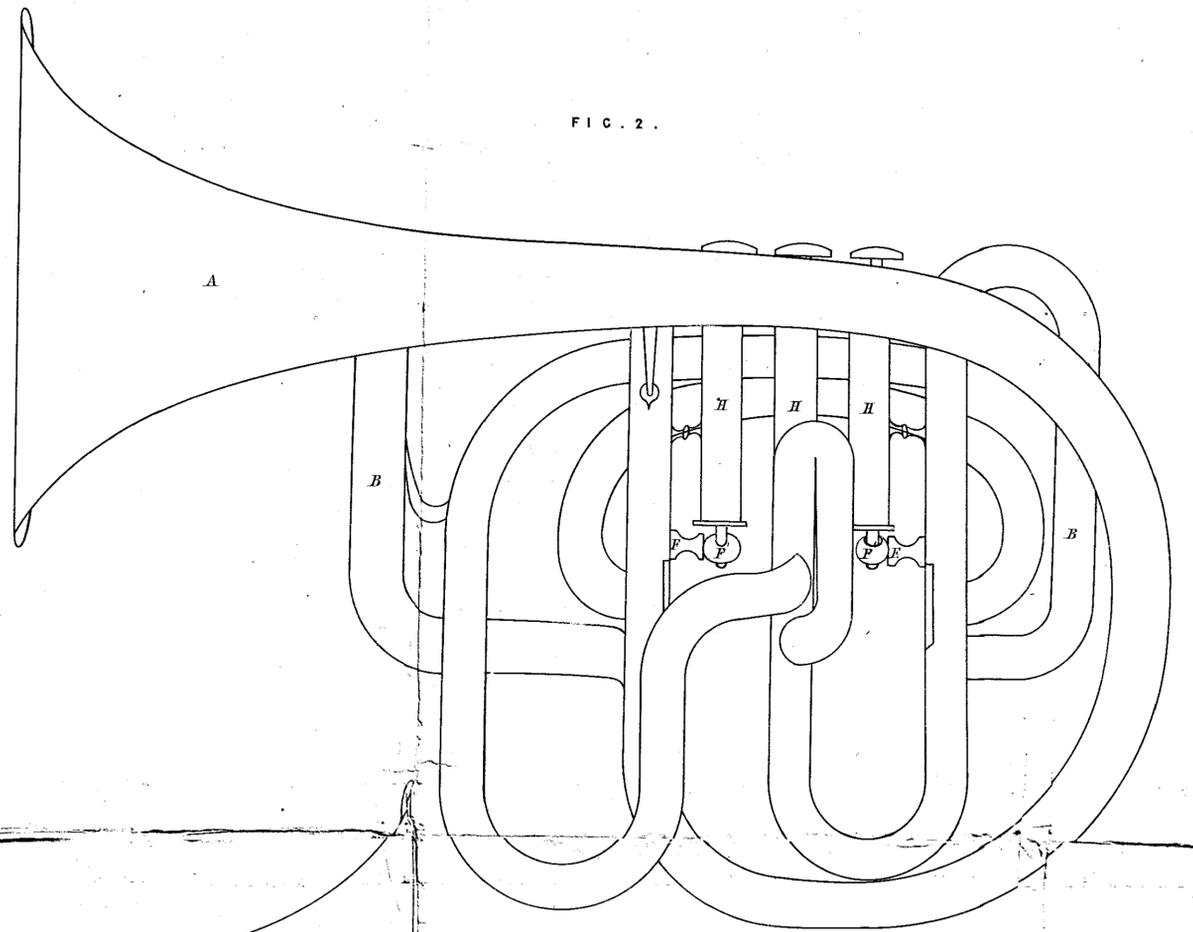
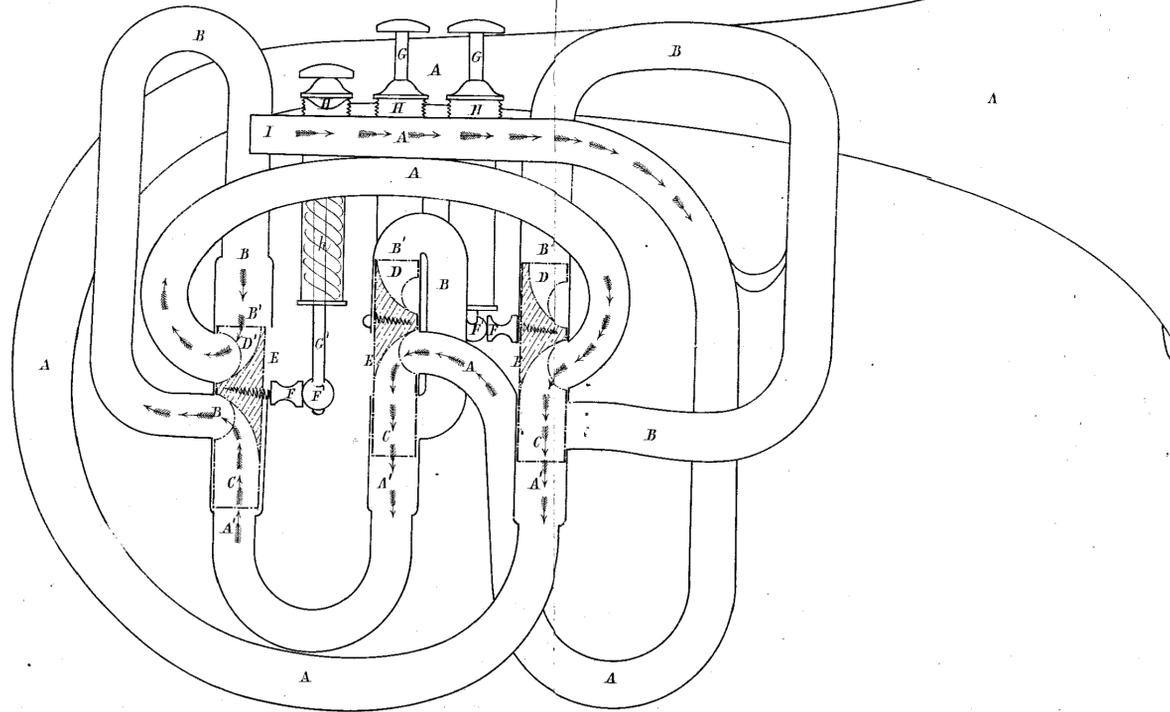


FIG. 3.



The filed drawing is partly colored.

Drawn on Stone by Malby & Sons.