## ESERVE

## SPECIFICATION PATENT



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COMPLETE SPECIFICATION.

## Improvements in and relating to Wind Musical Instruments.

We, CARL LEHMANN, a German citizen, of 12, Schaferstrasse, Hamburg, Germany, and Erdmann Chemnitzer, a German citizen, of 82, Innocentiastrasse, Hamburg, Germany, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:

This invention relates to brass and like wind musical instruments provided with valve means adapted to throw into operation a main extension tube, and compensating tubes whereby the wind passages are lengthened or shortened and the instrument enabled to play in two different keys.

According to the present invention we provide a valve formed as a quadruple two way valve connected, for example to a French horn, by means of the six sounding tubes to three single key valves and having four extension tubes which can be switched in or cut out according 25 to the position of the valve for the key of F or B.

Drawings are appended showing a form of valve according to this invention as applied to a French horn.

In the appended drawings:-Figs. 1 and 2 show a front and back view of the essential parts of the instrument, and Fig. 3 a side view.

Fig. 4 shows the valve casing and the 35 valve.

Figs. 5 and 6 show a front view of the positions of the valve in F and B key.

Referring to the drawings the valve casing is marked 1 and its inner rotatable part 2. The part 2 has eight channels; the valve 1, 2 can therefore be termed a fourfold two-way valve. 3 is a thumb

lever for turning the part 2 of the valve.
The three single key valves are marked
4, 5 and 6. 7 indicates the air inlet
tube and 8 the air outlet tube. 9 to 14 indicate the six sounding tubes between the valve 1 and the three single key valves 4, 5 and 6, the tubes 9, 10 and 11 being on the front side and the tubes 12, 50 13 and 14 on the rear side of the instrument. 15 and 16 indicate the usual connecting tubes between the key valves 4, 5 The tube 17 forms the main slide of the B-key, it lies on the rear side and 55 forms the connection between the valve 1 and the key valve 4. The slide tube 18, both ends of which join on to the valve 1, forms the prolongation of the main system of tubes for the F-key, whilst 60 the bow tubes 19, 20 and 21, which are also connected to the valve 1, serve to enable the various notes for the F-key to be produced. The worl

the invention 65 working  $\mathbf{of}$ described is easily understood with the aid of the drawing. When the inner part 2 of the valve 1 is in the position shown by dotted lines in Fig. 5 and the key valves 4, 5 and 6 are also in the positions shown by dotted lines, the instrument is an F instrument the whole system of tubes being employed, the individual motor being abbring of the system of tubes being employed. individual notes being obtained in the familiar manner by means of the key valves 4, 5 and 6. On the other hand, valves 4, 5 and 6. when used as a B instrument, the inner part 2 of the valve 1 is brought by means of the thumb lever 3 into the position indicated by dotted lines in Fig. 6 thus cutting out the tubes 18, 19 20 and 21.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to 85

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be performed, we declare that what we claim is:—

A valve for metal wind instruments playing in two different keys formed as a quadruple two-way valve and connected for example to a French horn by means of the six sounding tubes (9 to 14) to three single key valves (4 to 6) and hav-

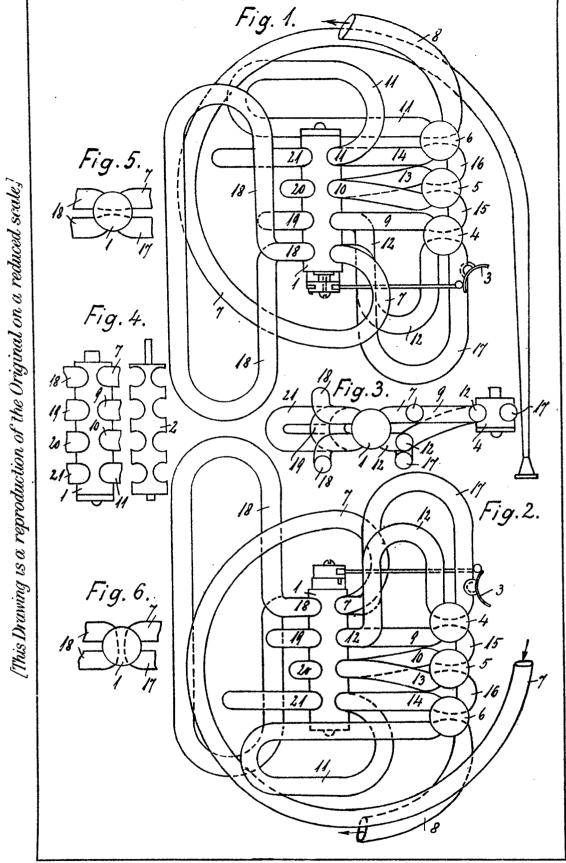
ing four extension tubes (18 to 21) which can be switched in or cut out according 10 to the position of the valve (1, 2) for the key of F or of B.

Dated this 2nd day of October, 1926.

J. E. EVANS-JACKSON & Co., Agents for the Applicants.

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