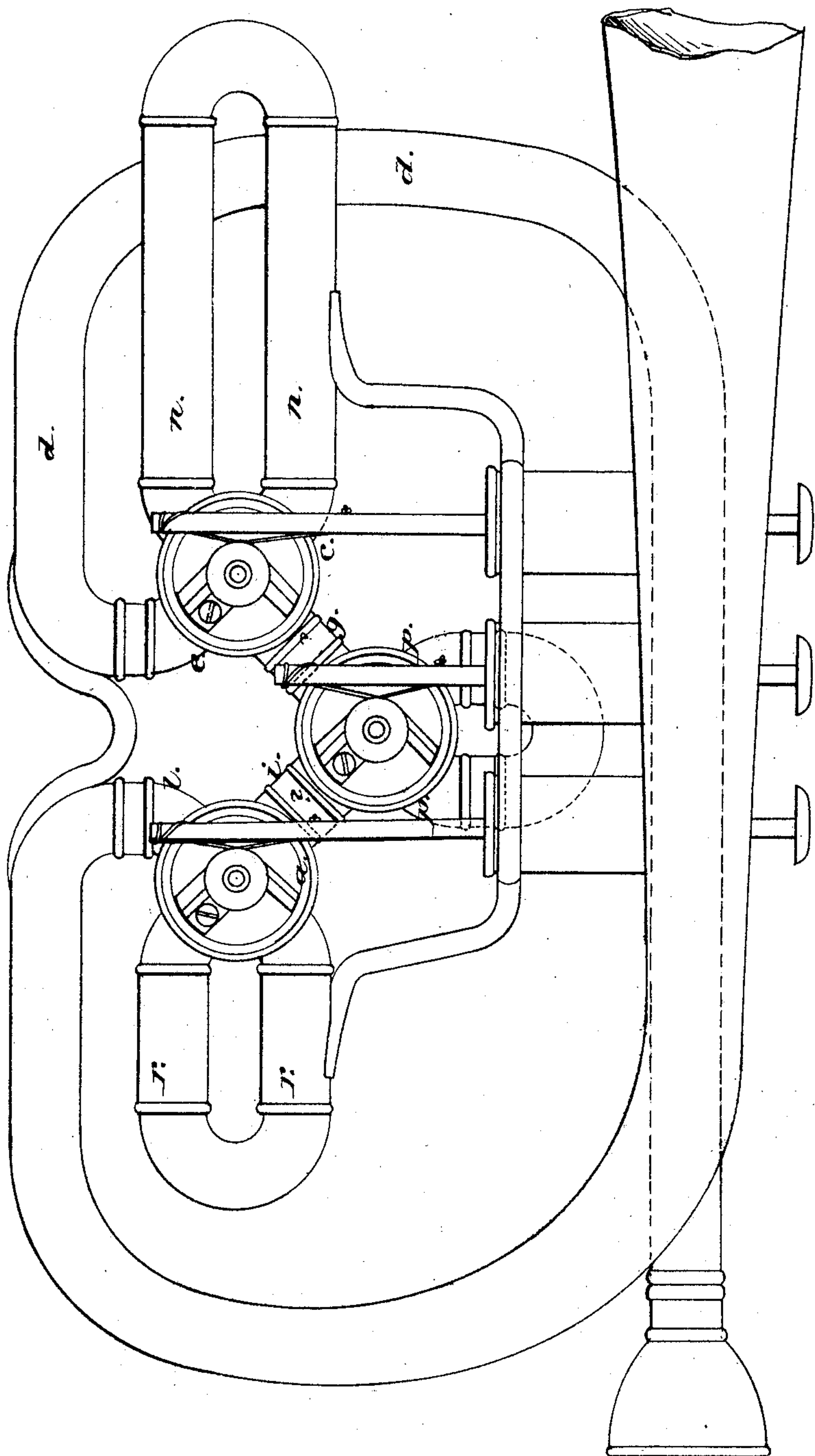


I. FISKE.  
Musical Wind Instruments.

No. 143,134.

Patented September 23, 1873.

Fig. 1.



Witnesses.  
Ab. W. Frothingham.  
L. H. Catimer.

Inventor.  
Isaac Fiske,  
By his Attys.  
Crosby & Gould.

I. FISKE.

Musical Wind Instruments.

No. 143,134.

Patented September 23, 1873.

Fig. 3.

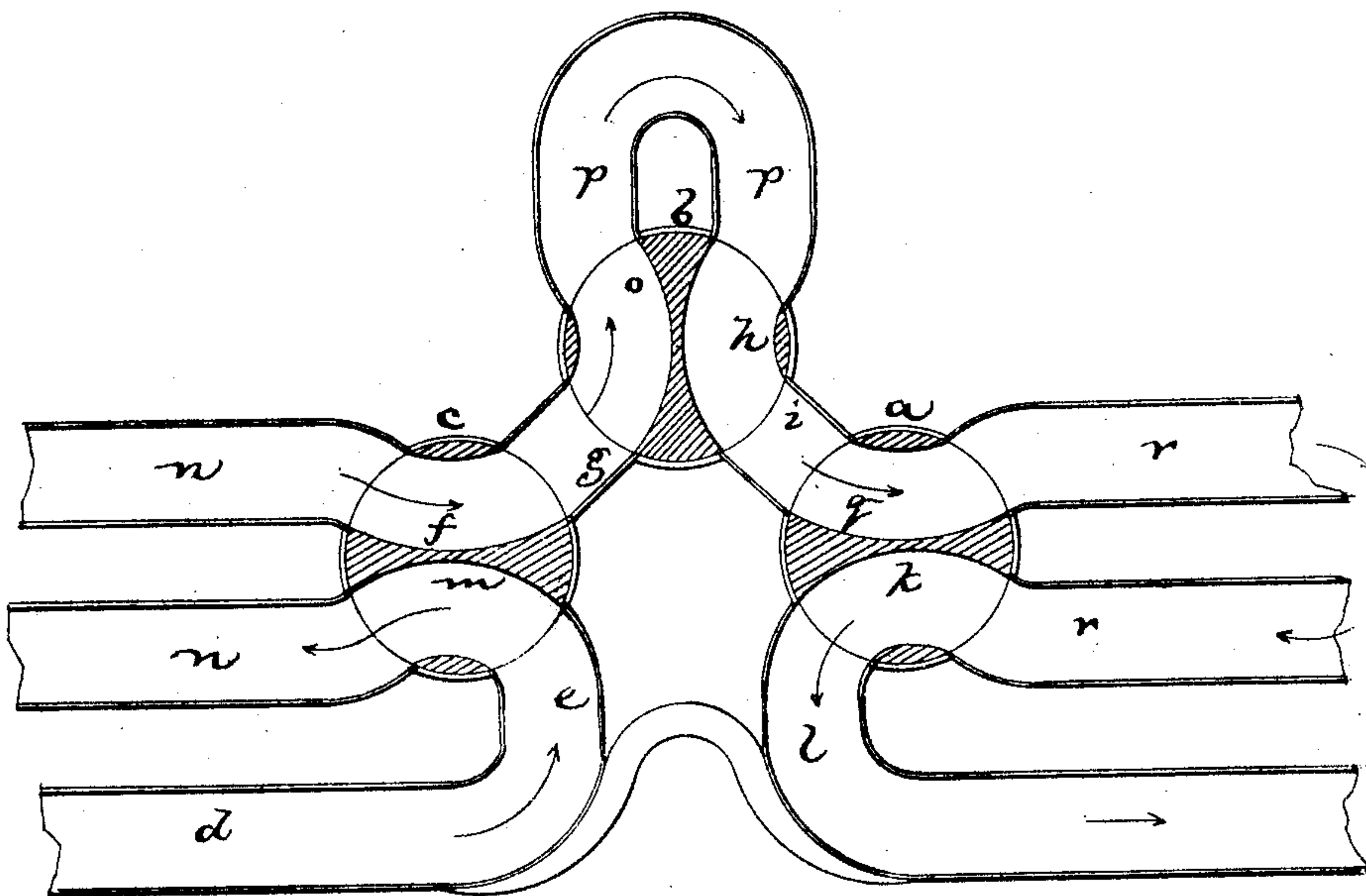
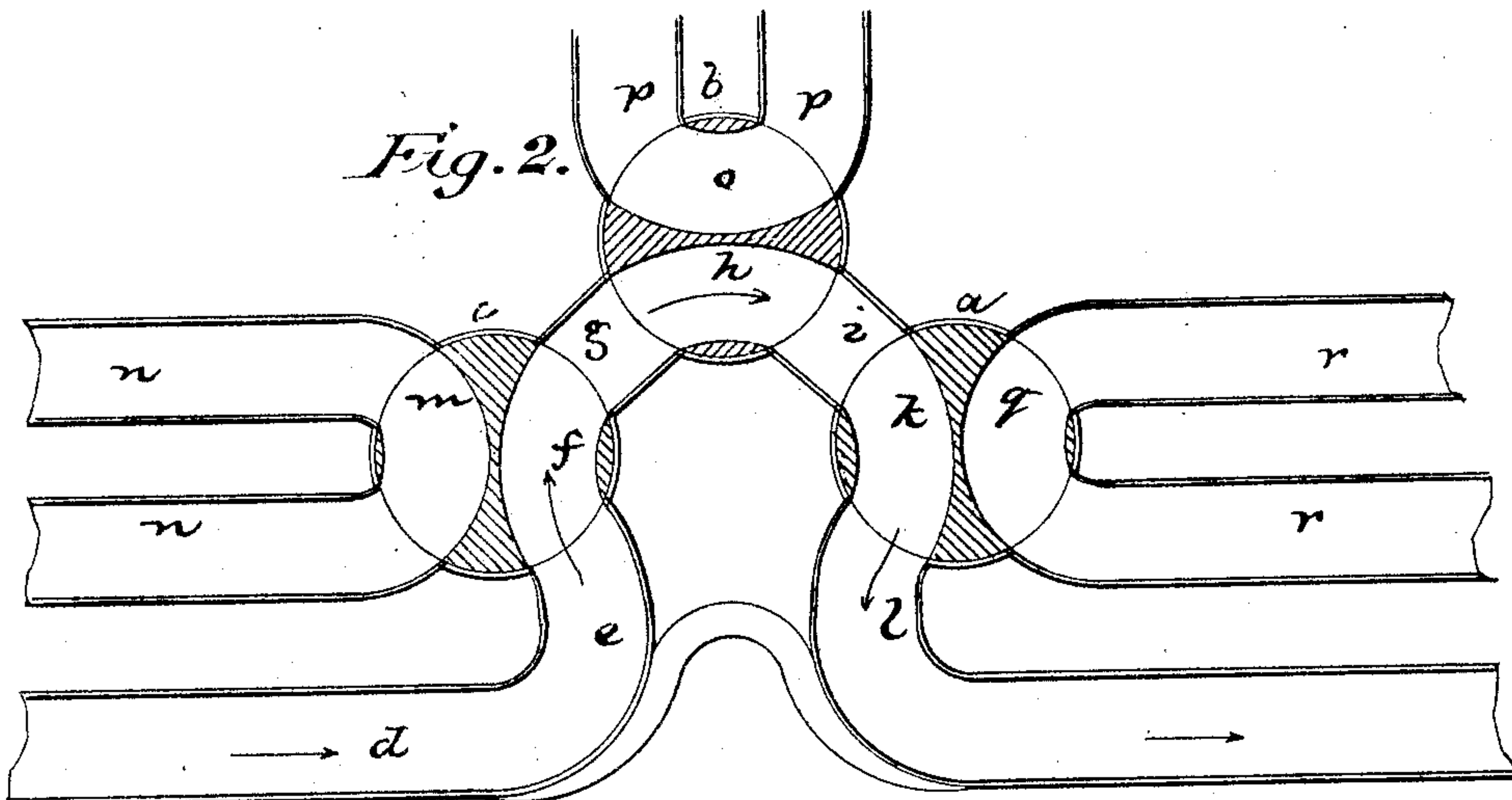


Fig. 2.



Witnesses.  
M. W. Frothingham.  
L. H. Ratimer.

Inventor.  
Isaac Fiske.  
By his Atty.  
Crosby & Gould.



# UNITED STATES PATENT OFFICE.

ISAAC FISKE, OF WORCESTER, MASSACHUSETTS.

## IMPROVEMENT IN MUSICAL WIND-INSTRUMENTS.

Specification forming part of Letters Patent No. **143,134**, dated September 23, 1873; application filed June 18, 1873.

*To all whom it may concern:*

Be it known that I, ISAAC FISKE, of Worcester, in the county of Worcester and State of Massachusetts, have invented an Improvement in Musical Instruments; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates to a new disposition or arrangement of the valves of that class of cornets, or like musical instruments, in which rotary valves are employed, said valves being worked in one direction by key-pistons, and in the opposite direction by springs connected with said pistons.

In my present or new disposition of the valves, I so arrange each valve-case that the wind-passage, both for the open and valve tones, is substantially in a curve concentric with curves formed by the respective pipes connecting therewith; and my invention consists in this disposition of the respective valve-cases with relation to the respective connections of the pipes therewith for the open and valve tones.

The drawing represents a construction embodying my arrangement.

Figure 1 shows the valve-cases in side elevation. Figs. 2 and 3 are sectional elevations through the valves.

*a* denotes the first valve-case; *b*, the second valve-case; and *c*, the third valve-case. The third valve-case *c* is placed at the end opposite to the mouth-piece, but has the mouth-piece tube *d* leading directly into its bottom side, as seen at *e*. The third valve-case is in the same plane with the first, and the second is placed centrally above the first and third. The arrangement of the valve-passages is shown in Figs. 2 and 3, Fig. 2 showing all the valves in their normal or open-tone position, and Fig. 3 showing all the valves in valve-tone

position. From inspection of Fig. 2 it will be seen that the valve-passage *f* of the third valve is in concentric line with the terminal connections of the pipes *e g*, the valve-passage *h* of the second valve in concentric position with relation to the terminal connections of the pipes *g i*, and the valve-passage *k* of the first valve is in concentric position with relation to the terminal connections of the pipes *i l*, while by changing the positions of the respective valves for the valve-tones the valve-passage *m* of the third valve is brought into concentric position with relation to the connection of the pipe *e* and the passage into the extension *n*, the valve-passage *f* of the same valve being brought into concentric position with the opposite end of the extension *n* and the pipe *g*. In like manner, the valve-passages *o h* of the second valve are in concentric position relative to the connections of the extension *p*, and the valve-passages *q k* of the first valve into concentric position with relation to the connections of the extension *r*, the extensions *r n* for the first and third valves being from the outer sides of the valve-cases *c a*, and the extension *p* from the upper side of the valve-case *b*.

By this arrangement, the connections are compacted and simplified, and the passages of wind from valve to valve, and for valve tones as well as open tones, are unobstructed, and have such regular course as to enable the instrument to be easily operated, equalizing the volume and quality of the tone between the open and valve tones, and making a more perfect scale than is attainable by any other construction.

I claim—

The arrangement of the valve-cases *a b c*, extensions *n p r*, and connections *g i*, substantially as shown and described.

Witnesses: ISAAC FISKE.

FRANCIS GOULD,

M. W. FROTHINGHAM.