(No Model.)

# G. W. L. SCHWEICH.

## CORNET.

No. 284,492. Patented Sept. 4, 1883.

Fig. 1.

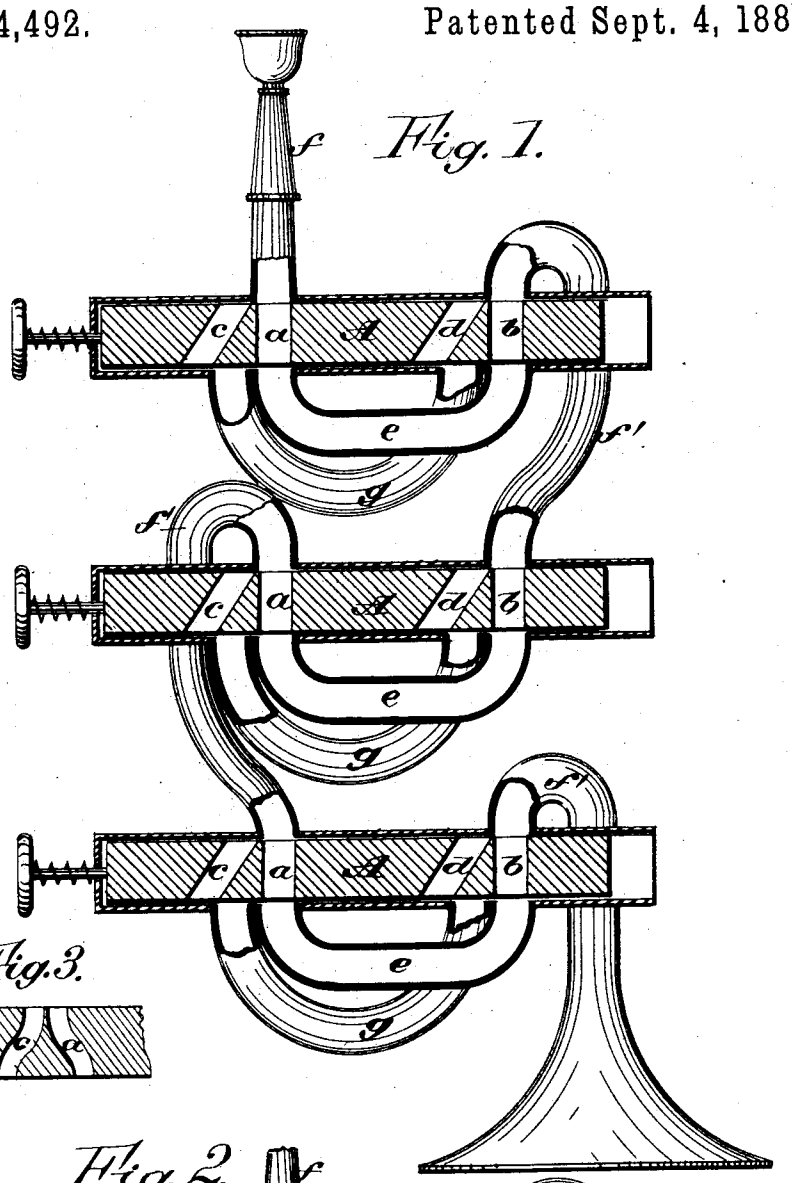
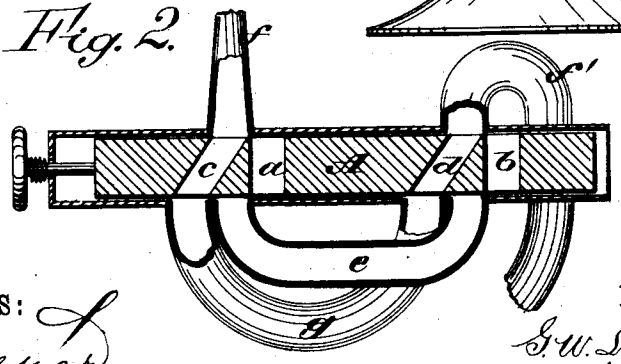



Fig. 3.




Fig. 2.




WITNESSES:

A. Huberger

C. Sedgwick

INVENTOR:

G. W. L. Schweich

BY Munn & Co.

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

# UNITED STATES PATENT OFFICE.

GEORGE W. L. SCHWEICH, OF RICHMOND, MISSOURI.

## CORNET.

SPECIFICATION forming part of Letters Patent No. 284,492, dated September 4, 1883.

Application filed March 15, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. L. SCHWEICH, of Richmond, in the county of Ray and State of Missouri, have invented a new and Improved Valve for a Cornet-a-Piston or other Valve-Instrument, of which the following is a full, clear, and exact description.

The object of this invention is to contrive the valves of cornets, bassoons, or any instrument of the valve kind for shorter action or stroke and smaller size than as now arranged, at the same time preserving the requisite full, clear bore of the passages for the production of perfect tones. By my invention I secure a full, clear bore wind-passage with shorter action than in any instrument heretofore made, with plenty of room to secure perfect curves in the wind-passages, as hereinafter fully described.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of an instrument having valves and passages contrived according to the principle of my invention, the valves being up in the positions for producing the open tones. Fig. 2 is a section of one of the valves, the piston being depressed for producing the valve-tones. Fig. 3 is a part of a piston, showing a curved arrangement of the air-passages.

A represents the piston, which I make with four apertures, *a*, *b*, *c*, and *d*, two of which, *a* and *b*, extend directly or by a curve through the piston, and, when the piston is up, connect with air-pipe *e*, so that the air from the mouth-pipe *f* passes through the piston at *a*, then back through the same piston at *b* into main pipe *f'*, by which it goes to the next piston, and so on through them all to the bell-mouth, for the open tones. The other passages, *c d*, range diagonally, either straight or curved, through the piston, making connection, when the piston is depressed, between the valve-pipe *g* and the mouth-pipe *f* and main pipe *f'*, so that the air then passes through the piston at *c* into valve-pipe *g*, then back through the piston at *d* into main pipe *f'*, as shown in Fig. 2, and so on through all the other pistons and valve-pipes to the bell-mouth when the pistons are down. Now, this construction cuts off the air-pipe *e*, and consequently the valve-pipe must be made as much longer as the part cut off, to preserve the correct length of the instrument.

It is to be noticed that by the diagonal arrangement, whether straight or curved, of the apertures *c* and *d*, by which the openings into pipes *f* and *f'* are brought as close to apertures *a b* as is consistent with a proper thickness of metal for separating them, while the openings at the other side are sufficiently wide apart to allow of the proper connection of the pipes *e g* side by side, the pistons have only to be depressed the width of one aperture and the thickness of the metal between them to effect this change of the air-currents, thereby diminishing the length of the action, the apparatus being at the same time full and clear, and there being only two together in any one place, thus enabling the pistons to be made smaller as well as shorter, by which they work with less friction, which is of great importance in these instruments.

It will be seen that the air passes all through the open or valve pipes, according to the combinations or changes of the valves, each valve-pipe being lengthened on account of the cut-off to preserve the required length of the instrument for producing the required tones of the musical scale.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The piston A, for a cornet or other valve-instrument, having direct passages *a* and *b* and diagonal passages *c d*, whether straight or curved, in combination with the air-pipe *e* and valve-pipe *g*, substantially as described.

GEORGE W. L. SCHWEICH.

Witnesses:
JAMES A. DAVIS,
W. S. CONNOR.