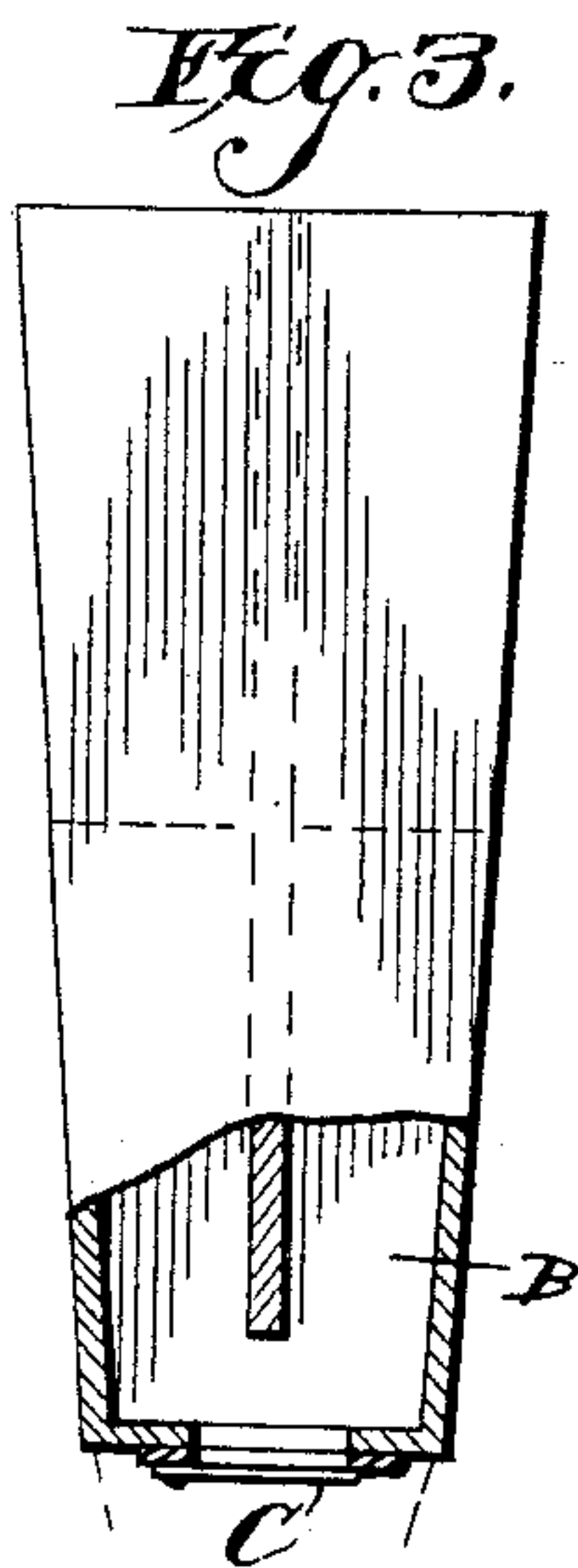
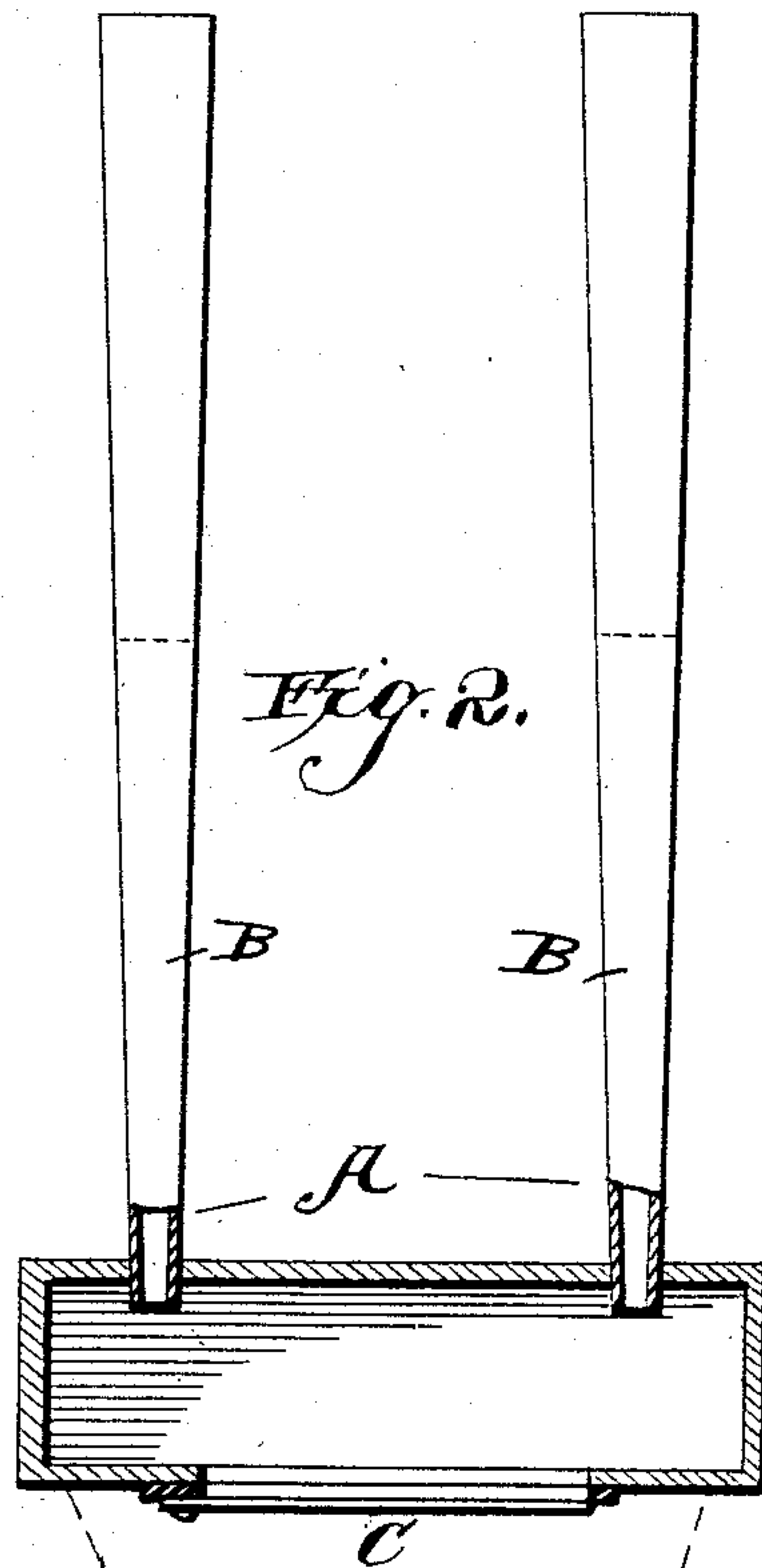
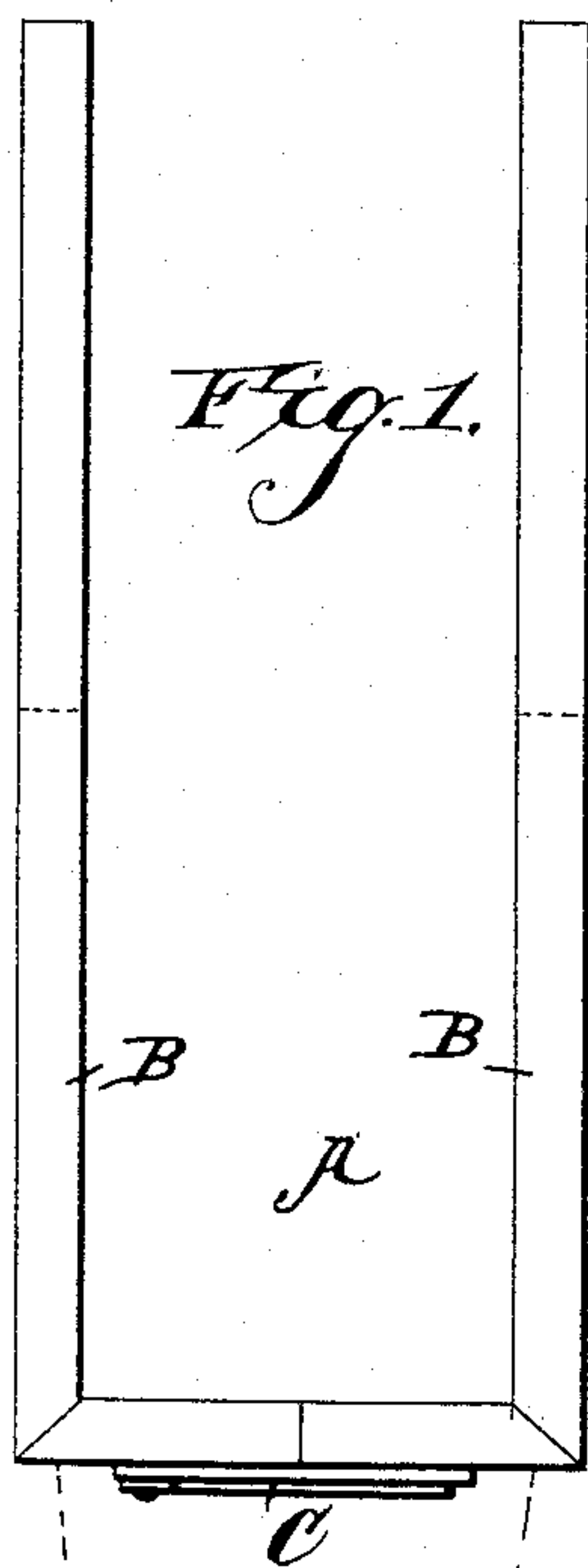


(No Model.)

J. STAFFORD.  
REED AND FLUE PIPE FOR ORGANS.

No. 411,135.

Patented Sept. 17, 1889.



Witnesses  
*Henry S. Dutrich*  
*C. E. Dwyer*

Inventor  
*John Stafford*

By *H. S. Attorneys*

*C. Snow*

# UNITED STATES PATENT OFFICE.

JOHN STAFFORD, OF LOWER COVE, NOVA SCOTIA, CANADA.

## REED AND FLUE PIPE FOR ORGANS.

SPECIFICATION forming part of Letters Patent No. 411,135, dated September 17, 1889.

Application filed March 14, 1889. Serial No. 303,302. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN STAFFORD, a citizen of the United States, residing at Lower Cove, in the county of Cumberland and Province of Nova Scotia, Canada, have invented new and useful Improvements in Reed and Flue Pipes for Organs, of which the following is a specification.

The invention relates to improvements in reed and flue pipes for organs; and it consists in a certain novel construction and combination of devices, fully described hereinafter in connection with the accompanying drawings and specifically pointed out in the claims.

Heretofore it has been the practice to place the sound-producing device, whether reed or lip, at the end of the pipe or flue, and therefore the column of air in the latter must be set in motion from one end.

My invention consists in arranging the reed or lip at the center of the pipe or flue—that is, at the central node of the vibrating column of air—and thereby operating directly on the two portions of the said column.

In the drawings, Figure 1 is a side view of a metallic reed-pipe embodying my invention. Fig. 2 is a view of a pipe which is provided with a foot-tube. Fig. 3 is a view of a wooden pipe embodying the invention.

Referring by letter to the drawings, A designates the pipe or flue, which, for convenience and to bring the free ends thereof close together, is bent near its center to form the two parallel portions B B. The nodes of the vibrating column of air in the flue or pipe occur at the center, at the extremities thereof, and at points midway between the center and the extremities of the same, as shown by transverse dotted lines in the figures.

The reed C is arranged at the central node,

so that its vibration acts equally upon the columns of air in both portions of the pipe or flue.

In the wooden pipe shown in Fig. 3 the vertical pipe is provided with a central longitudinal partition, which divides the interior of the pipe into two flues, which are only connected at their lower ends adjacent to the reed.

In Fig. 2 is shown a foot-tube, which connects the lower ends of the two portions of the pipe, and corresponds with the horizontal portion of the pipe, which is shown in Fig. 1, but is preferable from the fact that a larger body of air is vibrated when the foot-tube is used, and therefore greater power of tone is produced.

The advantage of the improved pipe or flue is, that as the vibration of the reed acts on both portions of the column of air simultaneously the said column is more quickly set in motion, and therefore the tone is more promptly produced, and is firmer and at the same time stronger.

Having thus described the invention, I claim—

In a pipe or flue for wind-instruments, the combination of the foot-tube having the sound-producing agent arranged without the same and the parallel imperforate tubes B B, of equal length, communicating at one end with the said foot-tube, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN STAFFORD.

Witnesses:

H. R. WILMOT,  
WILLIAM BAIRD.