(No Model.)

J. O. ASTENIUS.

REED.

No. 572,286. Patented Dec. 1, 1896.

Fig. 1.

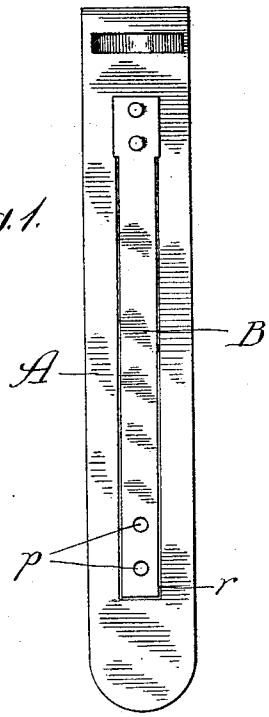


Fig. 2.

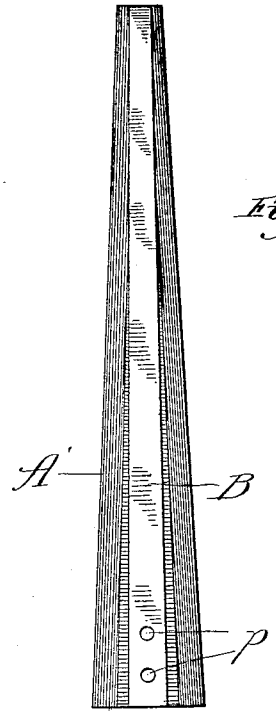
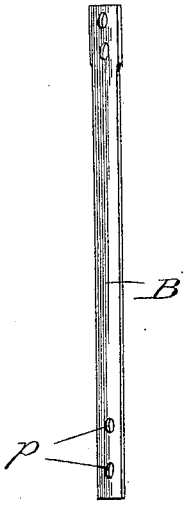


Fig. 3.



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UNITED STATES PATENT OFFICE.

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REED.

SPECIFICATION forming part of Letters Patent No. 572,286, dated December 1, 1896.

Application filed June 9, 1896. Serial No. 594,822. (No model.)

To all whom it may concern:

Be it known that I, JOHN O. ASTENIUS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Reeds, of which the following is a specification.

My invention relates to an improvement in the class of reeds for wind instruments generally, thus including reed-organs, mouth-organs, accordions, and the like; and the object of my invention is to effect by a slight structural change in the ordinary reed a very material improvement in the quality of its tone in the way of sonorousness and mellowness due to modification of the metallic sound of the reed.

Another important advantage resulting from my construction is that of preventing the reed-tongue from "blocking" or binding in the reed-block, and it affords the further advantage of enhancing the desirable instantaneous responsiveness of the reed to the vibratory action upon it of the air and thus, accordingly, the instantaneous "speaking" quality of the reed.

My improvement, to which the various advantages thus outlined are attributable, consists in providing in the vibratory end portion of the reed proper or reed-tongue one or more holes.

In the accompanying drawings, Figure 1 shows by a plan view my improvement applied to a reed of the variety involving a flat reed-block having a metallic reed or reed-tongue fastened at one end to extend lengthwise along the slot in the block through which the air passes to vibrate the tongue. Fig. 2 shows my improved reed applied to a slotted tubular reed-block for insertion into an organ-pipe, the tubular block being in elevation; and Fig. 3 is a perspective view of my reed-tongue detached.

A is a reed-block containing the longitudinal slot *r*, at one end of which is fastened the reed or reed-tongue B, extending thence lengthwise along the slot to be vibrated toward its free end by air forced past it through the slot, all in a usual manner. In the free end portion of the tongue B are shown two minute holes *p*, extending through it and in alinement with each other lengthwise of the tongue. I find in practice that two holes *p* produce better results than a greater number thereof or than only one hole. The diameter of the hole, which is necessarily minute, should vary within narrow limits according to the size of the reed, being greater for the larger than for the smaller sizes of reeds.

There is no difference in the function of my improved construction of reed whether it be applied to a flat reed-block A, as described and shown in Fig. 1, or to a tubular reed-block A′, as shown in Fig. 2. In either situation it changes the metallic quality of the tone to one of more mellow and sonorous quality, and when the tongue B tends to bind in its slot, so that the wind for actuating it is obstructed from passing by the edges, the back pressure of the wind, which may always pass by the tongue through its opening or openings *p*, tends to release it, so that the blocked condition of the reed can never be of more than momentary duration. Moreover, it is to the increase of the vibratory action on the tongue of the wind passing through its contained opening or openings *p* that the enhancement of its responsiveness or speaking quality is attributable.

What I claim as new, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a reed having one or more holes *p* in its free end portion, substantially as and for the purpose set forth.

2. As a new article of manufacture, a reed having holes *p* in alinement with each other lengthwise of the tongue in its free end portion, substantially as and for the purpose set forth.

JOHN O. ASTENIUS.

In presence of—
A. O. T. ASTENIUS,
J. H. LEE.