Sept. 22, 1942. W. M. PETERSON 2,296,737

REED

Filed Aug. 29, 1941

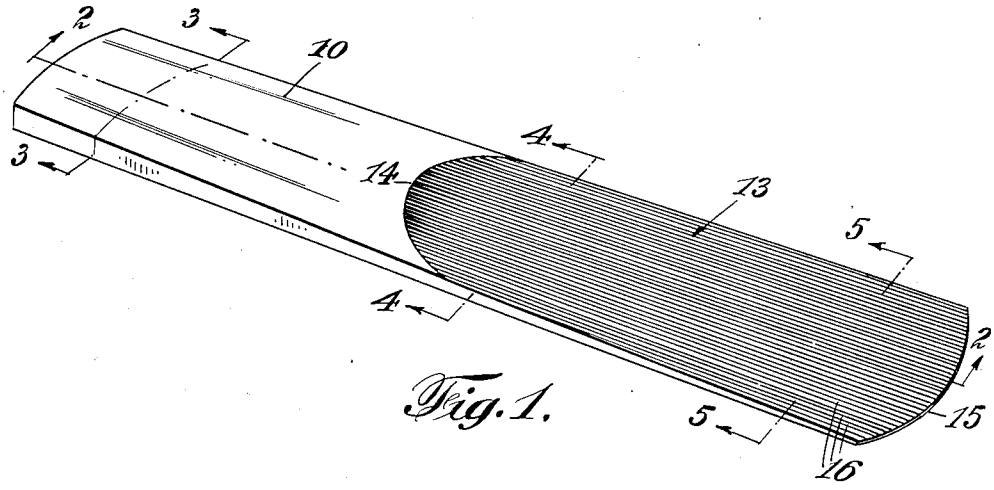


Fig. 1.

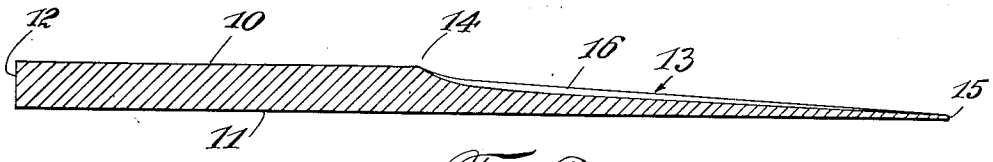


Fig. 2.

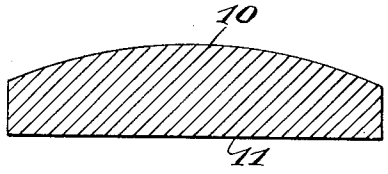


Fig. 3.

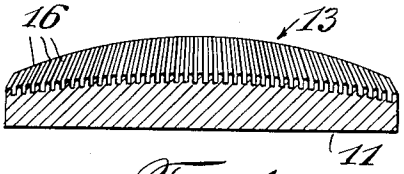


Fig. 4.

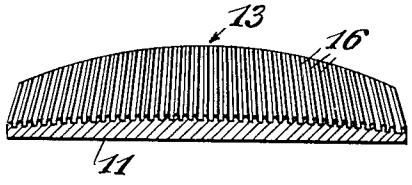


Fig. 5.

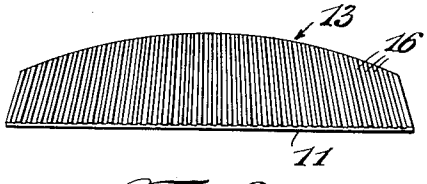


Fig. 6.

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UNITED STATES PATENT OFFICE

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REED

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Application August 29, 1941, Serial No. 408,741

3 Claims. (Cl. 84—383)

This invention relates to reeds and more particularly to improvements in reeds made of plastics, or the like.

The sound producing quality of the bamboo reed is largely due to the fineness of the tip of the reed, and due also to the fibrous character of the longitudinal cell formation of the reed. The fineness of the tip of the bamboo reed can be duplicated in a plastic reed. However, such extreme fineness causes the tip to lose its air-resisting qualities and upon contact with saliva it becomes flabby and of no further useful life.

The object of this invention is to provide a reed of plastic material which will have a fineness at the tip to respond to the most delicate tones intended to be played, but to have such strength longitudinally as to resist longitudinal buckling.

The invention consists of an artificial reed of plastic material having a body portion with a flat underside and with a curved top adapted to be fastened to the mouthpiece of musical instruments using reeds, and tapering to one end from its top middle portion to the thinnest fraction possible, and providing transversely of the top tapering surface, longitudinally parallel rills of the smallest possible radius of curvature closely adjacent to each other, extending from the top of the reed to the ridge of the vamp, the bottom of the reed being flat in the manner well known. These closely adjacent rills merge laterally into each other and the top surfaces appearing as cylindrical configurations serve as strengthening ribs, their continuity from tip to ridge serving to conduct the vibrations which become transposed to air, vibrations upon the use of the reed.

The invention will be more fully described hereinafter, with embodiments thereof shown in the drawing, and the invention will be finally pointed out in the claims.

In the accompanying drawing:

Fig. 1 is a perspective view of an embodiment of my invention.

Fig. 2 is a longitudinal section taken on line 2—2 of Figure 1.

Fig. 3 is a transverse section taken on line 3—3 of Figure 1.

Fig. 4 is a transverse section taken on line 4—4 of Fig. 1;

Fig. 5 is a transverse section taken on line 5—5 of Fig. 1, and

Fig. 6 is an end view.

Similar characters of reference indicate corresponding parts.

Referring to the drawing, there is shown a reed made of plastic material; such reeds being now used to a considerable extent in place of reeds made from bamboo cane. The plastic used is polystyrene.

The rearward top surface 10 is rounded or curved; the entire bottom surface 11 is flat; the rearward lateral surface 12 is straight, and the vamp 13 tapers from the ridge 14 to the tip 15. So far as described, the structure of the reed is known with the tip of paper thinness.

The very thin tip, particularly upon moisture yields to wind pressure as applied to the mouthpiece and tip, and to resist such action, the rills 16 are provided. These rills extend from the very tip to the ridge and are laterally closely adjacent to each other along the entire width of the vamp. The bottom of the rills may be said to merge into each other, so as to allow uppermost cylindrical, continuous, rigid, vibrative, conducting rod-like members from tip to ridge.

The radii of the curvatures are the smallest possible. Theoretically they approach to plus zero, but as this cannot be accomplished practically, they are as small as a machine is capable of making them. By the extension of the rills from the tip to ridge longitudinally parallel and as close together as possible, the reed is strong, pliable, flexible and responds without wabbling, and the vibrations are conducted from tip to ridge without transportation thereof to the air.

The improved reed with longitudinal strengthening rills from tip to ridge closely adjacent, has solved problems attendant the use of such reeds, and is inexpensive in its manufacture.

One reed which has given satisfaction has the following dimensions:

	Inch
Alto width at tip	21/32
Tenor width at tip	22/32
Clarinet width at tip	17/32

Corrugation average:

Tenor and alto .002'' to .003'', depending on the strength.

Clarinet .001'' to .002'', depending on the strength desired.

By corrugation average is meant that the corrugations are averaged according to the size and width and thickness of each reed, but the general average width and depth would be 1/64'' width and .72½ thousandth inch deep.

I have shown an embodiment of my invention but I do not desire to be limited to the details thereof, the principle of my invention finding a structural embodiment in the appended claims.

I claim:

1. A reed of plastic material having mouthpiece gripping portion of rounded top rearward, and a tapering front with a flat bottom throughout, the tapering front having a tip of paper-like thinness and having rills extending from the tip to the rearward top, for strengthening the thinned front top; said rills extending to the extreme end of the tip, and having a depth substantially equal to the width, each contiguous to the other.

2. A reed of plastic material having mouthpiece gripping portion of rounded top rearward, and a tapering front with a flat bottom throughout, the tapering front having a tip of paper-like thinness and having rills extending from the tip to the rearward top, for strengthening the thinned front top; said rills extending to the extreme end of the tip, said rills extending laterally of the reed in closely adjacent relationship, said rills having a top surface configuration of a cylinder, and having a depth substantially equal to the width, each contiguous to the other.

3. A reed of plastic material having mouthpiece gripping portion of rounded top rearward, and a tapering front with a flat bottom throughout the tapering front having a tip of paper-like thinness and having rills extending from the tip to the rearward top, for strengthening the thinned front top; said rills extending to the extreme end of the tip, said rills extending laterally of the reed in closely adjacent relationship, said rills having a top surface configuration of a cylinder, with the bottoms of said rills merging, and the tops of cylindrical curvature of the smallest possible diameter, said cylindrical rills extending to the extreme edge of the tip of the reed, and having a depth substantially equal to the width, each contiguous to the other.

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