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J. BOYLSTON

1,914,072

SOUND DIFFRACTOR

Filed Aug. 26, 1931

Fig. 1.

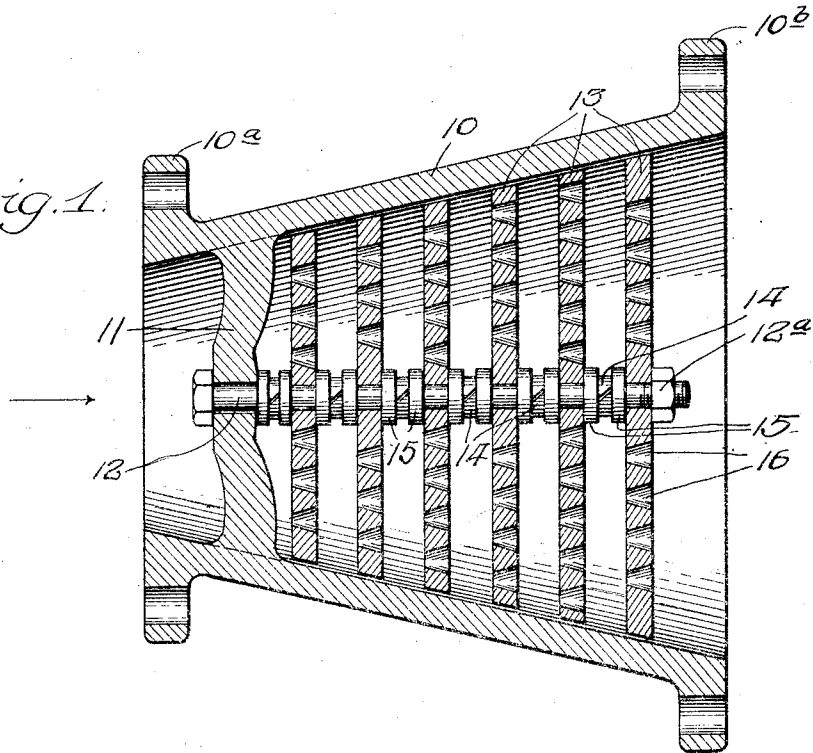
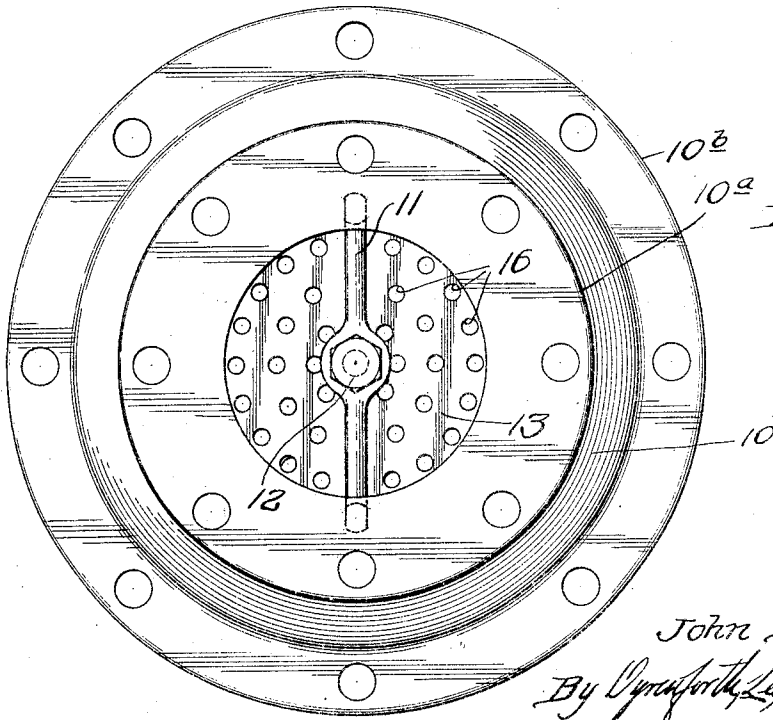


Fig. 2.

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UNITED STATES PATENT OFFICE

JOHN BOYLSTON, OF CHICAGO, ILLINOIS

SOUND DIFFRACTOR

Application filed August 26, 1931. Serial No. 559,585.

This invention relates to improvements in sound diffractors or sound-deadening or lessening mechanism.

My device is especially applicable in connection with devices from which gases are issuing. For example, in connection with reducing valves, the issuance of gases therefrom, such as steam, will cause a hissing noise. By the use of my improved device, this may be considerably lessened or deadened by permitting gases to escape from the reducing valve directly through my sound diffractor entering at the smaller end and leaving at the larger end.

My improved device is simple in construction and operation and also strong, rigid and effective.

Other features and advantages of my invention will appear more fully as I proceed with my specification.

In that form of device embodying the features of my invention shown in the accompanying drawing—

Figure 1 is a vertical sectional view; and Fig. 2 is a view in end elevation looking at the smaller end.

As shown in the drawing, the device includes a tapered cylindrical or frusto-conical casing 10 provided with a bridging member 11 at the smaller end.

Numeral 12 indicates a centrally arranged supporting bolt in said casing with one end attached to the bridging member 11. Numerals 13, 13 indicate a plurality of perforated diaphragms on said bolt. Numerals 14, 14 indicate spacing members, in the form of spring washers, between the diaphragms and 15, 15, suitable washers adjacent said spacing members. The holes in the diaphragms 13 are preferably tapered, as indicated by 16, with the smaller ends toward the smaller end of the casing 10. The diameters of the diaphragms are respectively smaller toward the smaller end of the casing so that when the nut 12^a on the bolt is tightened up, the diaphragms will all seat more or less in the casing 10.

The ends of the casing 10 are provided with perforated flanges 10^a and 10^b to assist in mounting the device.

While I have shown and described certain embodiments of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims, in which it is my intention to claim all novelty inherent in my invention as broadly as permissible, in view of the prior art.

What I regard as new, and desire to secure by Letters Patent, is:

A sound diffractor, including; a frusto-conical casing open at each end and provided at each end with an external perforated flange; a bridging member inside of the casing at the smaller end thereof; a centrally arranged supporting bolt in said casing with one end attached to said bridging member; a plurality of diaphragms on said bolt, said diaphragms being provided with tapered perforations, the smaller ends of said perforations being toward the smaller end of the casing; and spacing members between said diaphragms.

In witness whereof, I have hereunto set my hand this 17th day of August, 1931.

JOHN BOYLSTON.