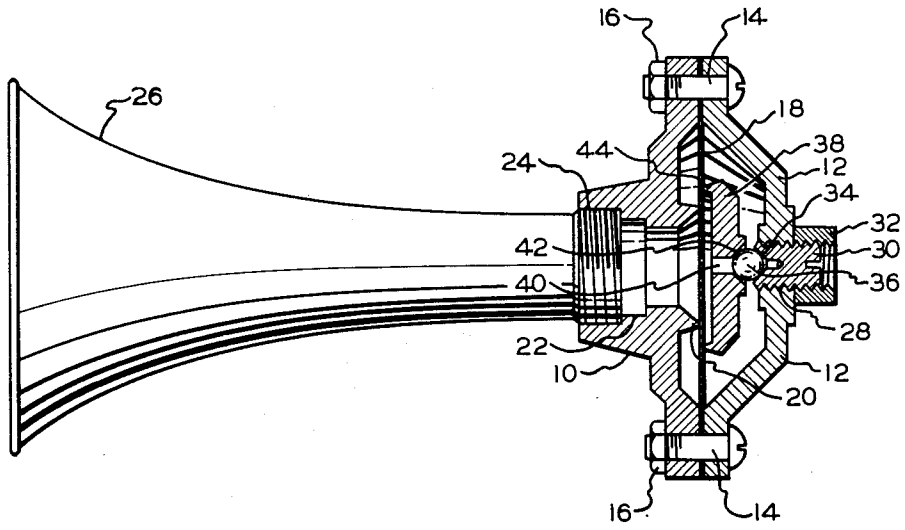
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UNIVERSAL MOUNTING FOR TENSION DISK FOR AIR HORNS

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UNIVERSAL MOUNTING FOR TENSION DISK FOR AIR HORNS

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1 Claim. (Cl. 116—142)

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This invention relates to sound emitting horns, and in particular to horns which employ a tension disc in association with an air vibrated diaphragm in order to insure that the correct amount of tension is maintained upon the thus vibrated diaphragm.

In connection with these diaphragm tension adjusted air horns it is necessary that the tension be evenly applied to the diaphragm if the best results are to be obtained.

It is an object of the invention to provide a tension adjusted diaphragm horn in which the tension disc is held with even pressure against the diaphragm.

It is a further object of the invention to provide a tension adjusted diaphragm horn in which the tension disc is held adjustably supported against the diaphragm with a universal floating action which insures that the pressure of the disc is evenly applied against the diaphragm.

These, and further objects and advantages of the invention will appear clear from consideration of the following description of one form of the invention chosen by way of example and illustrated in the accompanying drawings, which is a vertical section of the diaphragm head of the exemplified horn, the horn projector being shown broken away.

Referring to the drawing there is illustrated an air horn comprising a diaphragm casing composed of two cup parts 10, 12 held secured together by screws 14 and nuts 16 in clamping relation to the peripheral edge portion of a diaphragm 18.

The casing part 10 is formed on its interior to present an annular seat 20 defined at the inner end of a central axial passage 22, the outer end of which is shown screw-threaded at 24 for the attachment of a conventional tubular projector horn 26.

The other casing part 12 has a central screw-threaded opening 28 in which a screw stud 30 is adjustably secured and held locked in position by the lock nut 32.

The inner end of the screw stud is formed with a hemispherical socket-like seat 34 in which a ball element 36 engages to hold a tension disc 38 against the diaphragm 18, the ball being also held seated in an annular hemispherical socket-like seat 42 formed in the center of the tension disc 38 at one end of the central relief port 40.

The tension disc is shown formed with an outer peripheral annular flange 44 facing the diaphragm 18 and held against the diaphragm in surrounding concentric relationship to the seat

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20 by the action of the ball element 36 and screw stud 30.

The ball element mounting forms, in effect, a universal floating mounting which allows the tension disc to partake of a certain degree of self-adjustment to locate itself in a plane parallel with that of the diaphragm and in even tension applying relationship to the diaphragm.

The entire construction is simple and easy to assemble yet provides a most satisfactory diaphragm and tension disc assembly from which a highly desirable diaphragm action is possible.

I claim:

In combination with an air horn having a flat flexible vibrated diaphragm, peripheral supporting structure for said diaphragm including a central portion having a threaded aperture defined therein, an annular seat disposed in a plane parallel to said diaphragm and concentric with said supporting structure and said aperture and located on one side of said diaphragm and contiguous thereto, of a tension disc for said diaphragm having an annular flange, said disc being located on the opposite side of said diaphragm from said annular seat and contiguous thereto, a socket seat defined on the opposite side of said disc from said flange and concentric therewith, an adjustment screw supported for axial movement in said aperture along an axis normal to said plane and concentric with said annular seat and having a socket seat at one end, and a ball of a size to pass through said aperture and disposed between said socket seats to define therewith a ball and socket joint and to axially and concentrically align said disc flange and annular seat, said disc floating upon said ball whereby said flange uniformly engages and tensions said diaphragm with respect to said annular seat.

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