H. SEIBEL.

PNEUMATIC SUPPORT.

APPLICATION FILED DEC. 4, 1917.

1,288,447. Patented Dec. 17, 1918.

Fig. 1.

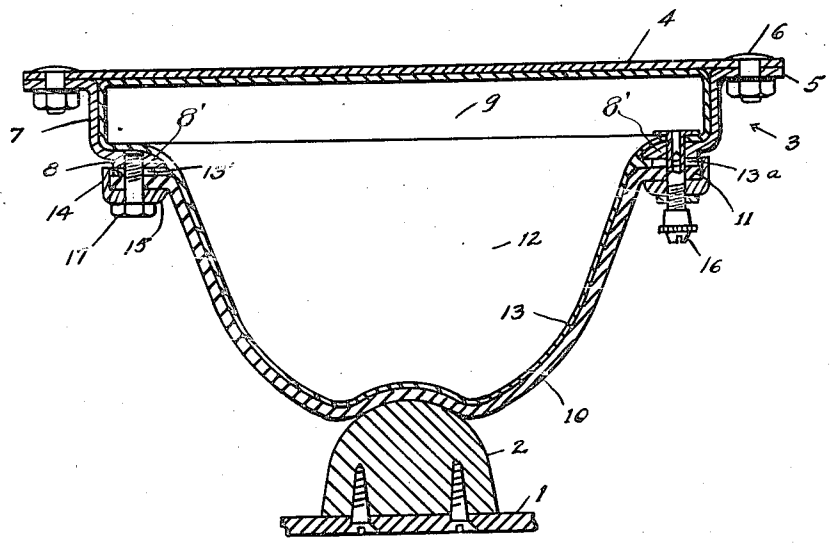
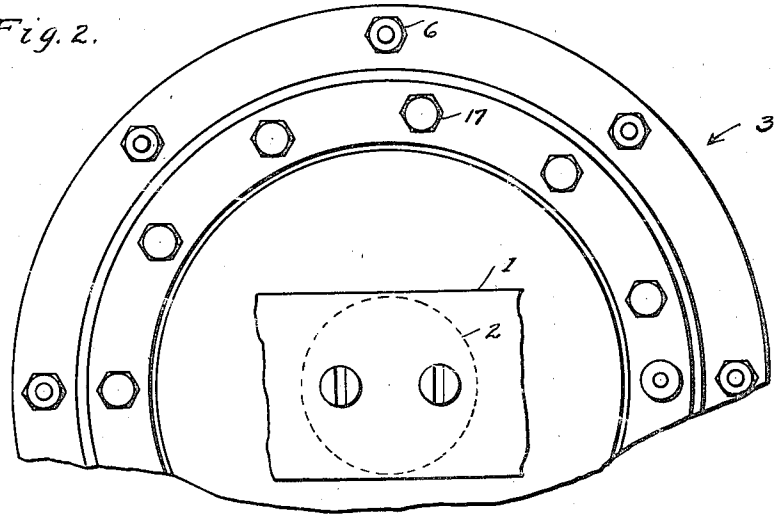


Fig. 2.



Inventor:
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UNITED STATES PATENT OFFICE.

HENRY SEIBEL, OF LOS ANGELES, CALIFORNIA, ASSIGNOR TO UNITED AIR SPRING COMPANY OF ARIZONA, OF PHOENIX, ARIZONA, A CORPORATION OF ARIZONA.

PNEUMATIC SUPPORT.

1,288,447. Specification of Letters Patent. Patented Dec. 17, 1918.

Application filed December 4, 1917. Serial No. 205,443.

To all whom it may concern:

Be it known that I, HENRY SEIBEL, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Pneumatic Supports, of which the following is a specification.

My object is to make a pneumatic support adaptable for various uses, and my invention consists in the novel features herein shown, described and claimed.

Figure 1 is a vertical central section.

Fig. 2 is a fragmentary bottom plan view.

The supporting frame 1 has a hemispherical working surface 2.

The supported frame 3 comprises an upper plate 4, which is here shown as circular, but which may be of any other suitable configuration, an annular ring 5 secured to the supporting plate 4 by bolts 6, an annular band 7 extending from the inner edge of the ring 5 at right angles to the plate, and an annular flange 8 extending inwardly from the lower edge of the band 7 parallel with the plate 4 so as to form a chamber 9 within the band 7 between the plate 4 and the flange 8. The flange 8 has a beveled inner edge 8′.

The supporting flexible casing 10 is constructed of fabric and rubber similar to a pneumatic tire casing and is substantially hemispherical on its lower part and has a flange 11 opposing the flange 8 so as to form an inner tube extension chamber 12 communicating with the chamber 9, the upper part of the casing 10 being flaring or funnel-shaped. The inner tube 13 is adapted to fit within this chamber 9 and 12 and the central portion of the casing 10 rests upon the hemispherical working surface 2. The inner tube 13 has a soft flange 13′ extending horizontally all the way around and fitting between the lower face of the frame flange 8 and the upper face of the casing flange 11, said soft flange having a slot 13ª to pass the air valve. A binding ring, consisting of the annular band 14 and the flange 15 extending inwardly from the lower edge of the band, is placed in position with the band 14 encircling the edge of the vulcanized flange 11 and the flange 15 fitting against the lower face of the vulcanized flange 11. An air valve 16 connected to the inner tube is inserted through the frame flange 8, the inner tube flange 13′, the casing flange 11, and the binding ring flange 15. Cap screws 17 are inserted upwardly through the flange 15, through the flange 11, through the flange 13′, and screw-seated in the flange 8, so as to make a tight joint between the casing 10 and the metal frame-work.

When the inner tube is inflated and pressure is applied to the supported frame 3, the apex of the casing 10 bears upon the apex of the working surface 2 of the supporting frame and the working surface 2 dents into the casing more or less, according to the air pressure and weight.

The supported frame 3 has a chamber 9 opening downwardly, the casing 10 covers the opening and forms an extension chamber 12, and the air pressure in the inner tube 13 holds the casing 10 extended to form a cushion for the supported frame. The supporting frame 1 may have any sort of surface suitable for being engaged by the pneumatic casing. The form of this casing may be any sort of protuberance.

The air reservoir communicating with the pneumatic cushion is of sufficient size to prevent a perceptible increase of pressure under action of the said cushion.

In a companion application for pneumatic seats, filed May 7th, 1917, Serial No. 167,026, I have shown, described and claimed my pneumatic support pecifically applied to a motor cycle seat.

Various changes may be made in the details of construction without departing from the spirit of my invention as set up in the following claims.

I claim:

1. In a pneumatic support, a supported frame comprising a plate, an annular ring fitting the plate, bolts securing the ring to the plate, an annular band extending downwardly from the inner edge of the ring, and an annular flange extending inwardly from the lower edge of the band, a hemispherical pneumatic casing having a flange opposing the annular frame flange, bolts securing the casing in position, and an inner tube mounted in the chamber within the frame and casing.

2. In a pneumatic support, a supported frame comprising a plate, an annular ring fitting the plate, bolts securing the ring to the plate, an annular band extending downwardly from the inner edge of the ring, and

an annular flange extending inwardly from the lower edge of the band, a pneumatic casing having a flange opposing the annular frame flange, a binding ring fitting the casing flange, bolts inserted through the binding ring, through the casing flange and screw-seated in the frame flange, and an inner tube mounted in the chamber within the frame and casing.

3. A closed frame open at one side, a flange around the opening, a pneumatic inner tube in the frame and having a soft flange fitting the frame flange, a pneumatic casing having a flange fitting the inner tube flange, and bolts securing the flanges together.

4. A closed frame open at one side, a flange around the opening, a pneumatic inner tube in the frame and having a soft flange fitting the frame flange, a pneumatic casing having a flange fitting the inner tube flange, a binding having a flange fitting the casing flange, and bolts securing the flanges together.

5. In a pneumatic support, a supported frame comprising a plate, an annular ring fitting the plate, bolts securing the ring to the plate, an annular band extending downwardly from the inner edge of the ring, and an annular flange extending inwardly from the lower edge of the band, a hemispherical pneumatic casing having a flange opposing the annular frame flange, and bolts securing the casing in position.

6. In a pneumatic support, a supported frame comprising a plate, an annular ring fitting the plate, bolts securing the ring to the plate, an annular band extending downwardly from the inner edge of the ring, and an annular flange extending inwardly from the lower edge of the band, a pneumatic casing having a flange opposing the annular frame flange, a binding ring fitting the casing flange, and bolts inserted through the binding ring, through the casing flange, and screw-seated in the frame flange.

In testimony whereof I have signed my name to this specification.

HENRY SEIBEL.