

N. T. WOODS.
AIR STRAINER.
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1,062,942.

Patented May 27, 1913.

Fig. 1

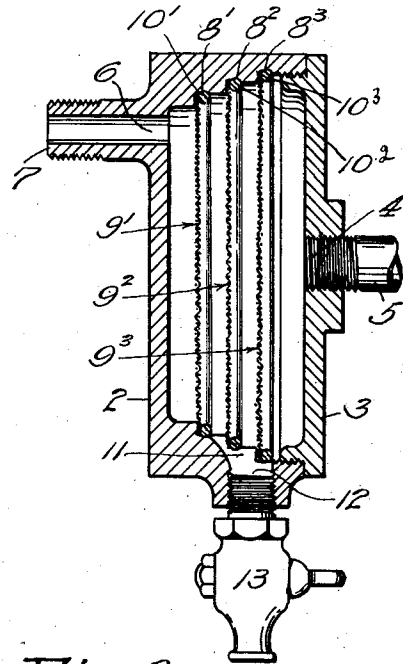
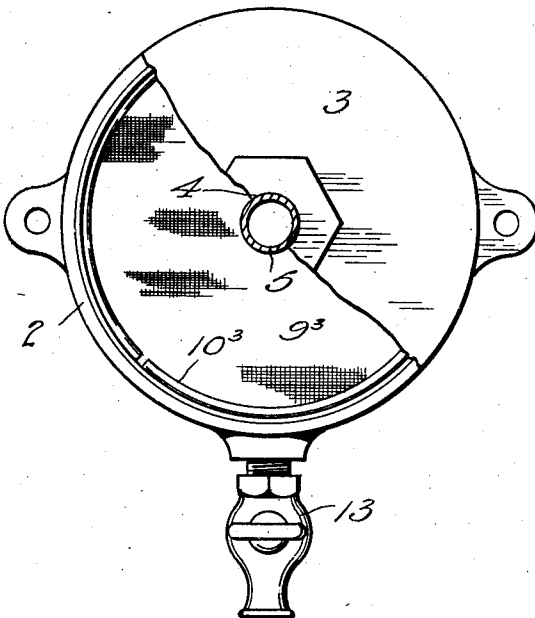


Fig. 2

WITNESSES:

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NELSON T. WOODS, OF PORTLAND, OREGON, ASSIGNOR TO ROBERT W. MURRAY McNAIR,
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AIR-STRAINER.

1,062,942.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, NELSON T. WOODS, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Air-Strainers, of which the following is a specification.

This invention relates to devices for separating oils or other foreign substances from air, and is particularly designed for use in the conduit wherethrough air is delivered under pressure to pneumatic tires for distending the same.

The object of the invention is to produce a device of the character above referred to which operates efficiently and with a minimum of friction.

The invention consists essentially in the employment of a casing having oppositely disposed inlet and outlet openings and containing one or more screens which are disposed vertically and intermediate said openings; together with a valved opening at the bottom of the casing whereby liquid entrained by the screen may be withdrawn.

The invention also consists in certain details of construction and organization, as hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a front elevation of a separating device constructed in accordance with the present invention, with a portion of the casing cap broken away. Fig. 2 is a vertical longitudinal section of the same.

In said drawings, 2 represents a casing which is desirably of a cylindrical form and is provided with a removable cap 3 at the front. Axially of said cap it is provided with a screw threaded hole 4 whereinto is engaged the end of a pipe 5 through which the air to be purified is supplied under pressure. In the rear end of the casing and in proximity to the top is an opening 6 wherethrough the air is discharged after being cleaned. This opening advantageously extends through a nipple 7 adapted to be connected by a tube with a pneumatic tire, or other air receptacle.

Provided in the inner face of the peripheral wall of the casing is a plurality of annular grooves 8', 8² and 8³ whereof the rear one, 8', is of less diameter than the ad-

jacent groove, 8², while the latter is of less diameter than the front groove 8³. To the rear of each of said grooves is a shoulder 55 which respectively serves as a support for a foraminous partition or screen 9', 9² and 9³. The screens are removably retained against such shoulders by metal rings 10', 10² and 10³, which are sprung into the respective 60 grooves. At the bottom of the chamber within the casing 2, is a gutter 11 which extends longitudinally between the end screens 9' and 9³, as shown in Fig. 2, and communicates with an opening 12 therebelow in the 65 casing wall. Provided for the opening 12 is a draw-off cock 13.

In operation, the air to be cleaned is driven through the pipe 5 and against the front screen 9³ with the result that the 70 greater portion of the oil is arrested by the screen, while the air thus relieved of a portion of the oil, passes between the meshes of this screen and is similarly subjected to a straining operation by the second screen, 9², 75 and ultimately by the rear screen 9' so that when the air escapes through the outlet 6 it is clear of oil. The oil or other substances deposited upon the screens flows downwardly into the gutter 11 and may be drawn 80 off through the cock 13.

What I claim as my invention is—

An oil separator of the class described, comprising a casing provided with an inlet opening in the front thereof, an outlet open- 85 ing in the rear and disposed at a higher elevation than said inlet opening, said casing being provided interiorly with a plurality of stepped shoulders of progressively larger sizes from the front end of the cas- 90 ing toward the rear, screens adapted to fit against the respective shoulders, means for removably securing said screens in place, said casing having a drain opening in the bottom thereof located below the shoulder 95 of largest diameter, and a draw-off cock for the drain opening.

Signed at Portland, Oregon, this 13th day of March 1912.

NELSON T. WOODS.

Witnesses:

J. W. WIEDRICK,
E. J. LOWE.