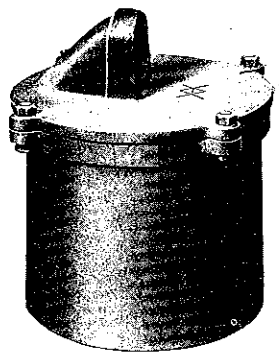
2422

Westinghouse Traction Brake Company

Pittsburgh, Pa.



8-INCH SUCTION STRAINER

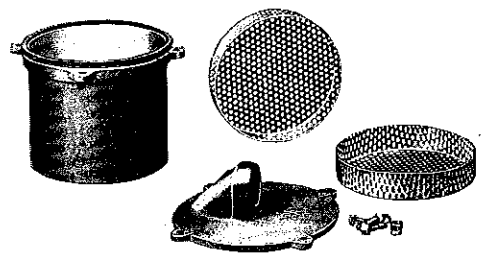
Descriptive Leaflet No. 2422

MAY, 1920

8-INCH SUCTION STRAINER

CLEANLINESS is essential to long and efficient life of air compressors, reducing maintenance expense by permitting the lubricating oil to perform its intended function, instead of becoming a gritty compound which quickly cuts away the working surfaces. Adequate protection against dirt being drawn into the compressor cylinders along with the suction air is, therefore, one of the prime requisites of satisfactory compressor performance.

The points on the car from which the air for the compressor may be obtained in street railway practice may be classified, in order of the relative cleanliness of the air available, into three general locations, as follows:



(1)—On the roof of the car.

(2)—Inside of the car. (The further away from the floor the installation can be made, the more desirable this location becomes.)

(3)—Underneath the car.

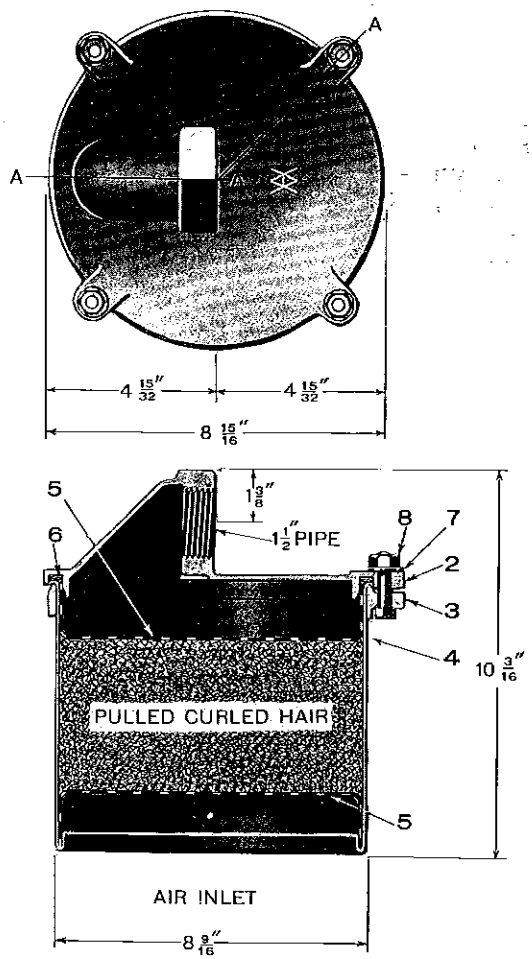
Convenience of installation varies inversely with the desirability of location on the above basis; that is to say, the most desirable location is the least accessible, and vice versa. In fact, installation of the suction strainer on the roof of the car is often impossible, while almost invariably the most convenient location is underneath the car.

Taking the suction air from inside of the car involves an undesirable feature, aside from the possibility of the entrance of dirt. In cold weather, when it is most desirable to keep the amount of water drawn into the air brake system at a minimum, due to the possibility of freezing taking place in the piping and air operated devices, the air inside of the car, being at a temperature considerably higher than that of the atmosphere, rapidly takes up the additional moisture introduced by the presence of passengers. An idea of the increased moisture carrying capacity of warm over cold air may be obtained from the statement that the possible moisture content of air is about doubled with each 20° F. increase in temperature. That is to say, air at 70° F. can hold about four times as much water as air at 30° F. The increased possibility of dangerous freezing in the brake system, which may result under such conditions, is so obvious that no further comment is required.

To summarize then, taking the suction from the roof of the car is desirable but often impracticable; air from the inside of the car is objectionable, because the location usually chosen for the strainer (under the seats close to the floor) gives access to a great deal of dirt and dust, and also because of the increased moisture content of air in the car compared with the outside air, particularly objectionable during freezing weather; while the most convenient (and sometimes necessary) location for the suction strainer, underneath the car floor, has not been recommended in the past, due to the excessive

amount of dirt and dust present tending to pack into and work through or completely clog strainers of relatively small size and capacity. Keeping these strainers clean involves almost prohibitive maintenance expense when installed under the car. As a result, the strainer is not given frequent enough cleanings and its efficiency as a dust catcher becomes impaired, to say nothing of the reduced compressor efficiency and consequently increased operating time required to supply the air for brake operation, induced by partial or complete stoppage of the inlet to the compressor.

The 8-inch suction strainer has been developed to meet these conditions and when installed (under the car floor) with compressors having displacement not exceeding 38-cubic feet per minute will provide adequate and continued protection against the entrance of dirt to the compressor. The ample cross-sectional area provides a slow rate of flow into and through the strainer, together with sufficient capacity to retain dirt and dust drawn into it without noticeable restriction to the flow of air. The barrel of the strainer extends two inches below the outer screen and protects it from the direct splash of mud or water, and installed with the opening downward, any dirt or dust which might be drawn into it when the compressor is running tends to be shaken out by the jolting of the moving car after the compressor stops. A compact layer of pulled curled hair prevents the passage through it of even the fine dust. The construction is such that all the air must filter through the entire thickness of the bed of hair. Simplicity and durability of construction and lightness of weight are other attractive features of this design.



SECTION A-A-A

This size of strainer (8-inches diameter) is recommended for use with compressors having a rated displacement of 38 cubic feet per minute and less, and will prove a valuable asset in reducing compressor maintenance expense where the strainer must be installed under the car on account of the convenience of such installation.

The 8-inch Suction Strainer is covered by complete Pc. No. 67900.

Westinghouse Traction Brake Company,

Pittsburgh, Pa., U. S. A.

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CHICAGO	Railway Exchange Building
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HOUSTON, TEX.	4802 Main Street
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MEXICO CITY, MEXICO	4a Puente de Alvarado, No. 100
NEW YORK	City Investing Building
PITTSBURGH	Westinghouse Building
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SALT LAKE CITY	McIntyre Building
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