Dec. 23, 1952 E. N. ROSENBERG 2,622,264

CLEANER TOWAGE DIRECTION CONTROLS

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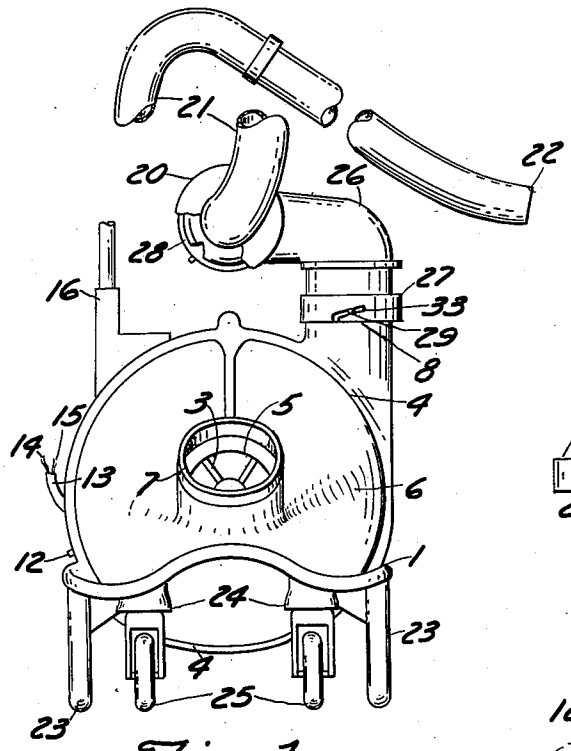


Fig. 1

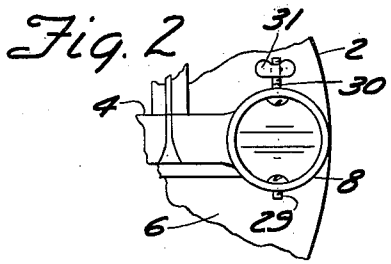


Fig. 2

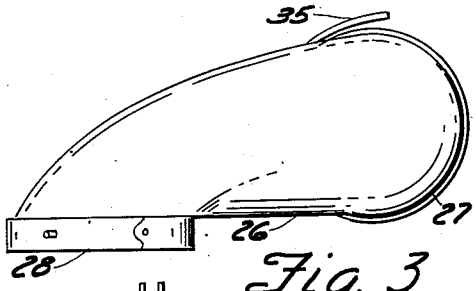


Fig. 3

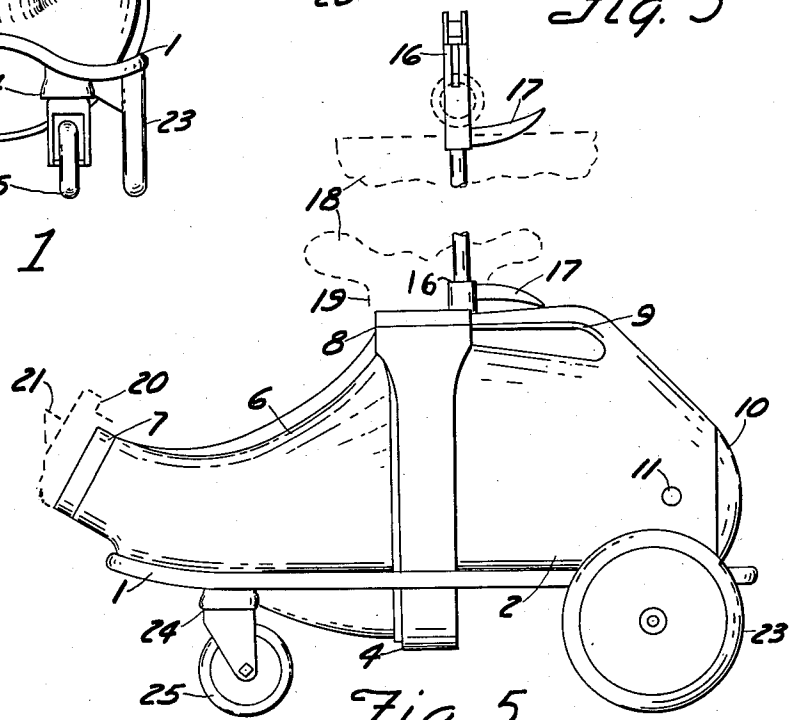


Fig. 5

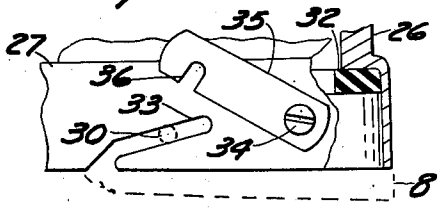


Fig. 4

Inventor

Edward N. Rosenberg

By

Attorney

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CLEANER TOWAGE DIRECTION CONTROL

Edward N. Rosenberg, Toledo, Ohio

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1 Claim. (Cl. 15—327)

1

This invention relates to pneumatic cleaners of the towage portable type, wherein the cleaner duct is the tow transmission means, and has to do with maintenance of proper towage connection whether the cleaner be used as a suction or blowing type of tool.

This invention has utility when incorporated for a swivel-ended truck type of pneumatic cleaner normally having a flexible duct in towage connection centrally from the swivel end of the cleaner truck. Conversion means is provided in the form of an offset duct adapting a different duct or port to have the flexible duct alternatively connected thereto and still having the flexible duct provide proper towage direction for the truck.

Referring to the drawings:

Fig. 1 is a front end elevation of a pneumatic cleaner truck having the conversion offset or duct extension connected thereto, assembled for blowing operation, portions of the flexible duct or blowing tool being broken away; the flexible duct being in towage relation for shifting the truck;

Fig. 2 is a fragmentary plan view of the upwardly directed or tangential outlet port for the blower, upon which the duct offset of Fig. 1 is mounted;

Fig. 3 is a plan view on an enlarged scale of the duct offset or extension, assembled on the cleaner housing in Fig. 1;

Fig. 4 is a fragmentary view, still further enlarged, showing details of the tight fitting assembly for the offset on the vertical or upwardly directed blower port, with the angular lock feature to take towage pull without swinging on the housing port; and

Fig. 5 is a side elevation of the cleaner truck, from the right of Fig. 1, showing in dotted lines, and partly broken away, the duct and bag assembly for normal vacuum or suction cleaning operations.

A truck 1 comprises a motor housing section 2, a medial centrifugal blower or fan 3 in a housing portion 4. An axial intake 5 to the fan 3 is from a coarse or heavy particle accumulating chamber in a forwardly extending housing section 6 having centrally therefrom beyond the truck end, an opening or port 7 in a general direction axially from the fan 3. Tangentially and upwardly from the horizontal axis fan 3, as a blower or discharge port or opening 8, as distinguished from the suction or intake port 7.

The motor housing section 2 has a lift or grip handle 9, a motor access lid or closure 10, motor

2

brush adjustment ports 11, motor cut-in toggle switch 12. A conduit 13 has therein electric current supply lines 14, 15, extending into the housing of the truck for the motor. A bracket column 16 provides electric conduit or cord mounting means 17 as well as suspension for a dirt collecting bag or filter 18 having connection 19 with the housing discharge tangential port 8. A connection 20 at the port 7 is for a flexible duct 21 which may extend to a terminal port or tool fixture 22.

The truck 1 is shown as provided with a pair of aft or rear wheels 23, while forwardly, swivel mounting means 24 locate turn-wheels or casters 25 as a pair centrally upward from which is the draft or haulage line direction transmitted from the duct 21 in its normal directing and pulling about in the area undergoing the cleaning processes. Accordingly it is to be seen that the duct 21 may be likened somewhat to a flexible tongue whereby the truck 1 may tag along in the wake of the operator or workman. The course thus taken by the truck 1 is not erratic but definitely controlled and maintained in the draft direction, for the forward swivel mounting at once takes the direction of pull, and the after wheels follow to the extent the cord 13 will permit.

It is to be noted that the additional or vertically directed opening 8 is to one side or off the direction line for towage, in the event there be purpose to change-over from suction use of the tool 22 connected to the opening 7, to blowing use of such tool 22 by connection to the port 8 in substitution for the bag 18. Were the operator to seek so to use the pneumatic cleaner, effective towage would be disturbed, for any pulling upon the duct 21 away from the port 8, causes the front end of the truck 1 to swing to the right, or away from the left side from which rises the way to the port 8. With the duct 21 connected to the truck 1 and pulling the truck 1 by pulling on the duct 21, the truck 1 tends to wobble. This devious course taken by the cleaner, aggravated by the haulage pull instead of being controlled, detracts materially from the efficiency of the workman especially in auditoriums where there be fixed seats and rather narrow aisles.

This towage difficulty is eliminated through the invention herein of a duct extension or offset 26 having a down opening or connection 27 for mounting at the port 8, and therefrom through a double elbow course of the duct in the body of the converter or fitting 26 to a horizontally directed opening 28 forwardly of the fan housing 4 top region, and accordingly from

medially of the truck 1 it is in a line centrally of over the port 7 and the swivel axis or mountings 24.

For engagement with the connection 19, there is at the port 8 a projecting pin or screw 29 (Fig. 2), and diametrically therefrom an additional, somewhat longer screw 30 having a wing nut 31 thereon. The dual elbow rigid duct extension 26 has in its connection 27 a packing or compressible washer 32 (Fig. 4). This connection 27 has a bayonet joint type slot 33 into which may ride the pin 29 (Fig. 1). Looking at this fitting from the rear or the portion 2 of the housing, the connection 27 of the extension 26 has an additional similar bayonet joint type slot 33 to ride upon the screw 30 (Fig. 4).

As the arm portion 26 from the connection is swung clockwise, in looking down on the port 8, the connection 27 compresses the washer 32. At the position for the opening 28 to align for the medial central direction of the truck 1, on a pivot 34, an arm 35 may be swung down to have its notch 36 ride on the screw 30. The flexing of the arm 35 thru the operation of the wing nut 31, provides an effective anchor or lock for the duct offset 26, as a substitute fitting or converter, with rigid holding therefor, so that as the fitting 20 for the flexible duct 21, be connected at the opening 28, haulage strains do not shift the offset 26 relatively to the truck 1. This means that the truck is as definitely directed in the duct 21 tongue-like towing of the truck 1 from the port 8 through the offset 26 as from the port 7. There is thus achieved facility for blowing debris, say downward along the sloping floor of an auditorium and from between the seats, as well as along the aisles. In some operations, blowing has effective dirt removal access beyond that of suction. Through the medium of this duct accessory or offset 26, there is thus readily a broadened range for efficient use of the pneumatic cleaner, as readily controlled and directed in the blowing field, as for suction. Should there be purpose to pick-up from an accumulation of blown debris, or occasion for the vacuum operation, the bag 18 may be replaced as the extension fitting 26 is removed,

and the duct 21 disconnected from the connection 28 and reconnected at the port 7.

What is claimed and it is desired to secure by Letters Patent is:

An air cleaner rotary fan, a housing for the fan providing an axial horizontally-directed intake thereto and a tangential vertically-directed outlet therefrom, swivel wheel forward support means for the housing in the region of the intake port, a pair of fixed axially-aligned wheels supporting the housing aft of the fan, a flexible duct having an attachable suction connection for the housing intake and for towage course control, and a double elbow fitting providing a vertical elbow connection to the outlet, said fitting including a horizontal connection extending from the vertical elbow connection to a position centrally over the fan and a forwardly extending elbow approximately co-planar vertically of the intake, the latter elbow providing the duct with a blowing connection and towage course control similar to the course control from towing through the duct connected to the intake, said housing reacting through the swivel support means readily to swing into alignment along the towage course of the duct.

EDWARD N. ROSENBERG.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
Re. 16,763	Hoover	Oct. 4, 1927
612,137	Pulhemus et al.	Oct. 11, 1898
814,837	Fenton	Mar. 13, 1906
1,405,924	Lanning	Feb. 7, 1922
2,024,367	Eriksson-Jones	Dec. 17, 1935
2,099,377	Smellie	Nov. 16, 1937
2,155,669	Lofgren	Apr. 25, 1939
2,280,350	Pardee	Apr. 21, 1942
2,306,605	Helsing	Dec. 29, 1942

FOREIGN PATENTS

Number	Country	Date
283,173	Great Britain	Jan. 31, 1929