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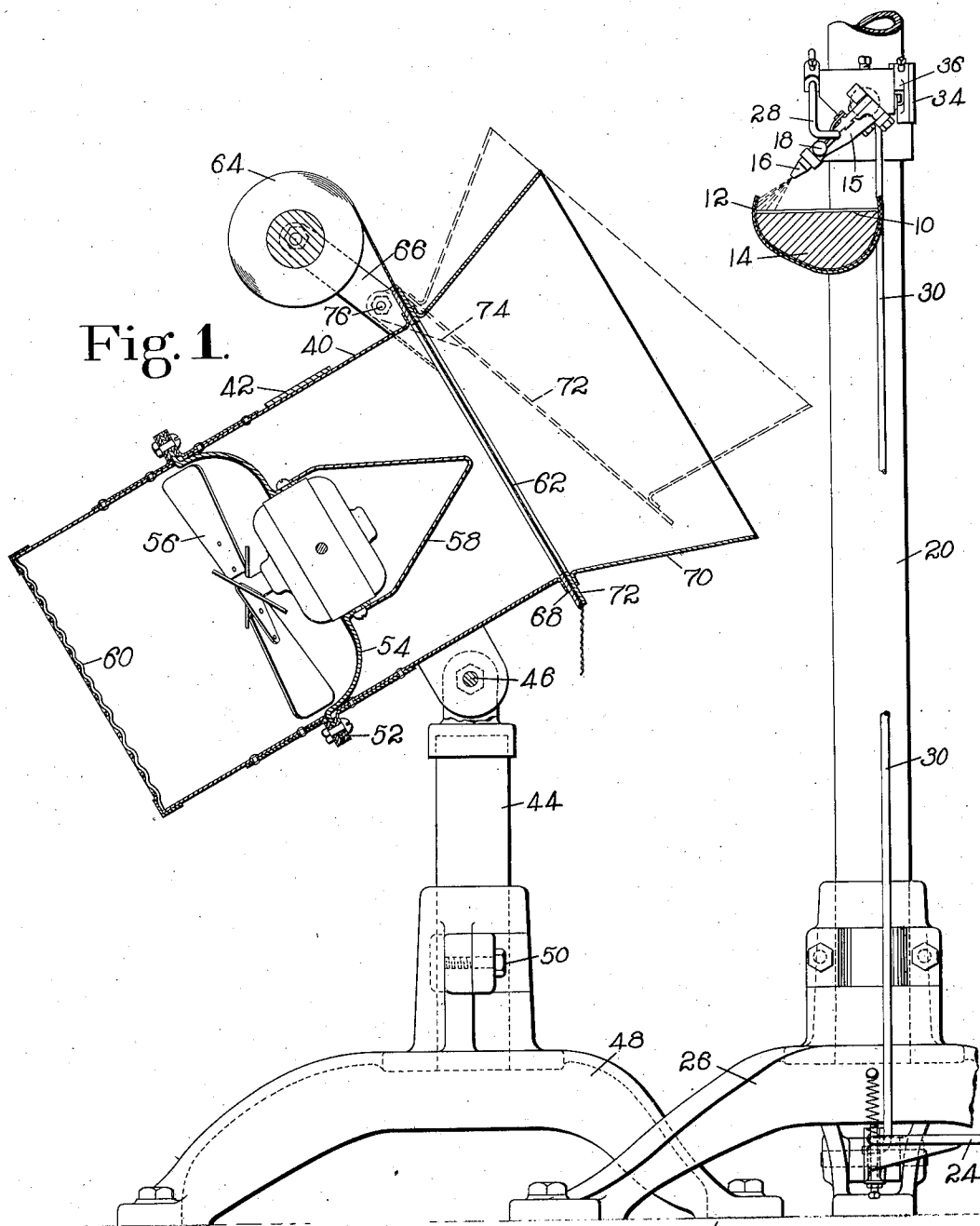
W. E. NAUGLER

2,040,758

SPRAY COLLECTOR

Filed April 3, 1935

2 Sheets-Sheet 1



INVENTOR-
Walter E. Naugler
By his Attorney
Harlow M. Davis

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2 Sheets-Sheet 2

Fig. 2.

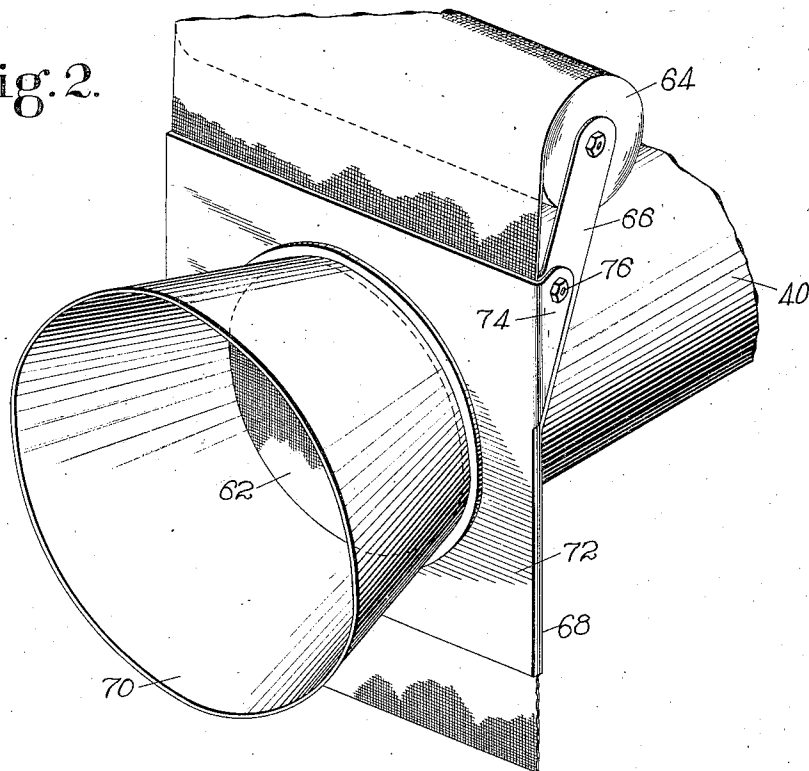
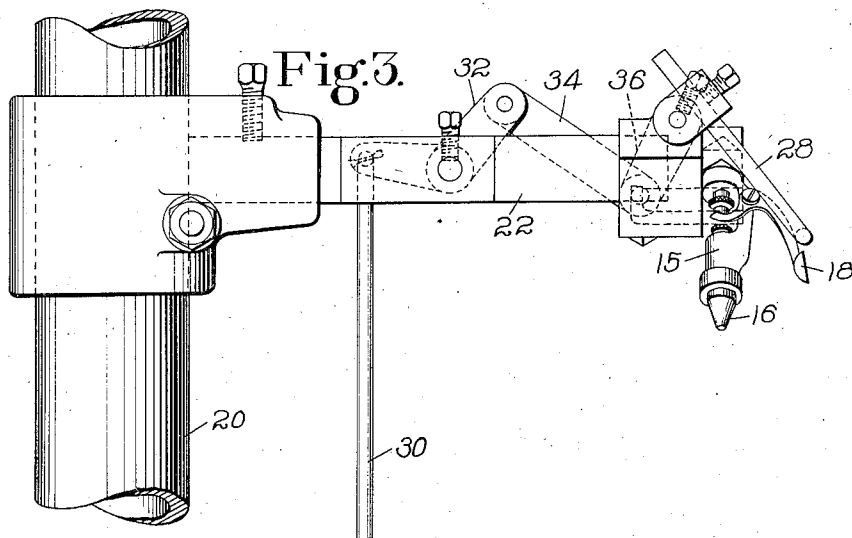


Fig. 3.



INVENTOR
Walter E. Naugler
By his Attorney
Harlow M. Davis

UNITED STATES PATENT OFFICE

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SPRAY COLLECTOR

Walter E. Naugler, Beverly, Mass., assignor to
United Shoe Machinery Corporation, Paterson,
N. J., a corporation of New Jersey

Application April 3, 1935, Serial No. 14,540

10 Claims. (Cl. 183—62)

This invention relates to spray collectors adapted to be used in connection with a spray gun to collect excess spray and to avoid its dissemination through the air of the room.

5 In the manufacture of shoes, adhesive is sometimes applied to the shoe parts by means of a spray gun. Since, as a practical matter, it is not easy to have all the spray issuing from a gun strike the part to be coated, it has been found
10 that a great deal of the spray gets into the atmosphere of the room and is scattered over floors, walls and other objects in the neighborhood. It is well understood that difficulties of this general nature arising during spraying operations may
15 be somewhat alleviated by the use of spray collectors forming passages through which a current of air is induced. Such collectors may be provided with baffles or filters to separate the solid material from the air and textile material, such
20 as cheesecloth, has been employed to form the filter.

To avoid this difficulty, an object of the invention is to provide an improved spray collector having a filter or separator and in front of which
25 the work may be held during the spraying operation.

An important feature of the invention resides in the provision, in connection with a spray collector having a passage, of means for supporting
30 a supply roll of sheet filter material in strip form, this strip of filter material being positioned transversely of the passage between the ends thereof, and in providing means to hold the sheet material in transverse relation to the passage whereby,
35 when said means is released, the free end of the strip may be pulled away from the roll at intervals, to draw a fresh portion of the strip into filtering position.

Still another feature of the invention resides
40 in an arrangement for gripping the margin of the sheet filter material, such as cheesecloth, between the adjacent ends of two passage-forming members. As illustrated, one of these members is pivotally mounted upon the other and is
45 so balanced that gravity holds this member against the cloth filter. Also as illustrated, an electric fan is mounted in one of the tubular members to create a current of air.

These and other features of the invention will
50 be apparent from the following specification, taken in connection with the accompanying drawings, in which

Fig. 1 is an elevation, partly in vertical section, of my improved spray collector, and also showing
55 a spray gun supported in position to apply coat-

ing material to a shoe held in front of the spray collector;

Fig. 2 is an angular view of the entrance end of the spray collector, showing the pivotal connection of the two parts thereof and the support
5 for the supply roll of filter material, and

Fig. 3 is a fragmentary view showing a support for a spray gun and a connection of the treadle rod for operating the trigger of the gun.

In the manufacture of shoes, it is frequently
10 desired to apply a small quantity of adhesive, such as water dispersed latex, to the margin of an insole 10 and to the inside of the upper or lining 12 of a partially completed shoe mounted on a last 14 in order that the shoe may be lasted and
15 the upper secured to the insole by the adhesive. For the sake of illustration, there has been shown herein a spray gun having a nozzle 16 and a trigger 18, and which is rigidly supported upon a standard 20. It will be understood, however, that the
20 spray collector forming the subject of my invention is equally useful with a hand manipulated spray gun. As shown, the spray gun 15 is clamped in position at the outer end of an arm 22 adjustably secured to the standard 20 and provision is
25 made for operating the gun by depression of a treadle 24 pivoted upon a pedestal 26, by means of which the standard 20 is supported. This treadle 24 is connected by a treadle rod 30 and other parts to a finger 28 overlying the trigger 18. The other parts of the connection include a bell crank 32, a link 34 and an arm 36. Inas-
30 much as it may be desired to apply the latex along a considerable portion of the two sides of the shoe, the latter is held in the hands of the operator, and moved back and forth as may be necessary. It will be evident, therefore, that it is
35 not always easy to hold the shoe in such a position that the whole of the spray is applied to the shoe, with the result that a substantial portion
40 may be dispersed in the air of the room.

To avoid this difficulty and to remove particles of the sprayed material from the atmosphere, I have provided a spray collector comprising a tubular two-part passage-forming device. One part
45 is a member 40 supported by means of a band 42 upon a column 44. Provision is made for tilting adjustment of the member 40 about the axis of a clamp bolt 46 in order that the passage formed by the tubular member may be brought substantially into spray-catching relation to the axis of
50 the spray gun 15. The column 44 is mounted on a pedestal 48, being clamped in the desired heightwise relation thereto by a bolt 50. Ears 52 upon the tubular member 40 furnish means
55

for securing brackets 54 in which an electric fan 56 is carried for setting up a current of air through the collector to draw in the spray. A conical guard member 58 is provided by which friction between the current of air and the body of the motor is lessened. A guard screen 60 at the outlet end of the tubular member 40 prevents accidental contact with the moving blades of the fan 56.

The removal of the particles of solid material from the spray is effected by means of a filter provided by a transverse curtain of porous sheet material, such as cheesecloth, 62 which extends through openings in the sides of the passage and across the passage of the spray collector between the ends thereof. When the exposed portion of the filter has become clogged with the collected material, it may be drawn across the passage and fresh material substituted from a supply roll 54, which is held in brackets 66 integral with an apertured transverse plate 68 secured to the end of the tubular member 40. As illustrated, the opening in the transverse plate is substantially coextensive with the opening of the passage in the tubular member 40. Associated with the tubular member 40 and forming a second part of the passage of the spray collector, is another tubular member 70 which is frusto-conical or funnel-shaped to catch as much as possible of the spattered or scattered spray. This tubular member is provided with an apertured transverse plate 72 having ears 74 by which the member 70 is pivotally secured to the brackets 66 on the tubular member 40 by a pivot 76. The pivot 76 is located above the center of gravity of this tubular member 70 with the result that the action of gravity holds the meeting edges of the two tubular members or, in the arrangement herein shown, the plates 68 and 72 in frictional engagement with the filter 62 so that the latter is kept in position spread across the passage of the spray collector thereby to intercept the solid particles drawn therethrough. The members 40 and 70, described as tubular, need not necessarily have a circular cross-section.

The mode of operation of the device will be apparent from the preceding description. When the filter 62 becomes clogged with material, the funnel-shaped member 70 will be lifted and a fresh portion drawn across the passage.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a spray collector, a support, tubular members carried thereby and coacting to provide a passage, a supply of sheet filter material in the form of a strip a portion of which is formed into a supply roll, said passage-providing members being positioned in end-to-end relation upon opposite sides of said strip, and means near the adjacent ends of said tubular members for supporting said supply roll whereby the strip may be moved transversely of the passage at intervals thereby drawing a fresh portion of the strip from the supply roll into the passage.

2. In a spray collector, a funnel-shaped entrance member, a tubular passage-forming member coacting therewith to provide an extended passage, a pedestal supporting one of said members, a supply of sheet filter material in the form of a strip a portion of which is formed into a supply roll, and means on one of said coacting members for pivotally supporting said supply roll and serving also as a connection to the other coacting member whereby the free end of said

strip may be positioned transversely of the passage between the ends of said members and may be pulled away from the roll at intervals thereby to draw a fresh portion of the strip into filtering position.

3. In a spray collector, a hood comprising two coating portions interconnected and together forming a passage, and means on said hood for supporting a supply roll of sheet filter material with a portion of said sheet filter extending transversely of the passage, said interconnected, passage-forming members gripping said filter to hold it in position.

4. In a spray collector, a support, a passage-forming member mounted on said support, another member providing a continuation of said passage, movably associated therewith and adapted to be separated from the first to permit a strip of filter material to be drawn across the passage between the members, means for supporting a roll of filter material upon said collector, the marginal portions of adjacent ends of said associated members coacting to engage and to hold frictionally portions of said filter material in position across said passage, and means for creating a current of air through said passage.

5. In a spray collector, a passage-forming portion, a passage-forming entrance portion coacting with said first portion, a pedestal carrying one of said portions, a piece of porous sheet filter material extending transversely of said passage, means for creating a current of air through said collector, and means for pivotally interconnecting the upper edges of said portions to hold them in end-to-end relation whereby, upon displacement of that portion which is not carried by the pedestal in order to gain access to said filter material, said latter portion will be returned by gravity.

6. In a spray collector, a pedestal, a tubular passage-forming member supported thereon, brackets for supporting a supply roll of sheet filter material adjacent to an end opening of said tubular member, another tubular passage-forming member pivotally supported on said brackets and adapted to be moved by gravity to hold the filter between the meeting edges of said passage-forming members, an electric fan, and means for supporting said fan in the passage formed by said members.

7. In a spray collector, a pedestal including a column, a tubular passage-forming member, means for tiltably supporting said member on said column for movement about a horizontal axis thereby permitting angular adjustment of the axis of said passage, means permitting adjustment of said member heightwise with respect to the pedestal, means for clamping said supporting means in adjusted position, a filter extending transversely of said passage-forming member, and means for inducing a current of air through the passage and the filter.

8. In a spray collector, tubular members positioned end to end and coacting to form a passage and having their meeting edges in a plane inclined to the vertical, means for supporting one of said tubular members, said members being pivotally connected above the center of gravity of one of said members, brackets upon one of said members for supporting a supply roll of porous sheet material adjacent to the meeting edges of said members whereby said sheet material may be drawn across the passage to form a filter therein, the relation between the connecting pivot and the other of said members being

such that gravity holds the latter in engagement with the filter, and a fan supported in position to create a current of air through said collector.

5 9. In a spray collector, a pedestal, a passage-forming tubular member supported on said pedestal and having laterally extending ears, a supply roll of filter sheet material supported on said ears with the filter sheet extended across the passage, another tubular member hinged to the
10 ears on said first mentioned member in end-to-end relation thereto and adapted to coact therewith in forming an extension of said passage, means to hold said filter extended across said passage, and means for creating a current of air
15 through said passage and said filter.

10. In a spray collector, a tubular member hav-

ing an apertured transverse plate secured to one end, a filter of sheet material overlying said plate, another tubular member pivotally connected to said first member and adapted to coact therewith in forming a passage, said second member having an apertured transverse plate secured to the end adjacent to the filter and adapted to coact with said first mentioned plate to grip said filter in transverse relation to said passage, brackets upon one of said plates for supporting a supply roll of filter material, ears upon the other plate overlapping said brackets and pivoted thereto, and a fan supported in one of said tubular members.

WALTER E. NAUGLER.