Sept. 14, 1948. A. R. CLARK ET AL 2,449,203

SPRAY BOOTH

Filed Jan. 1, 1944 2 Sheets-Sheet 1

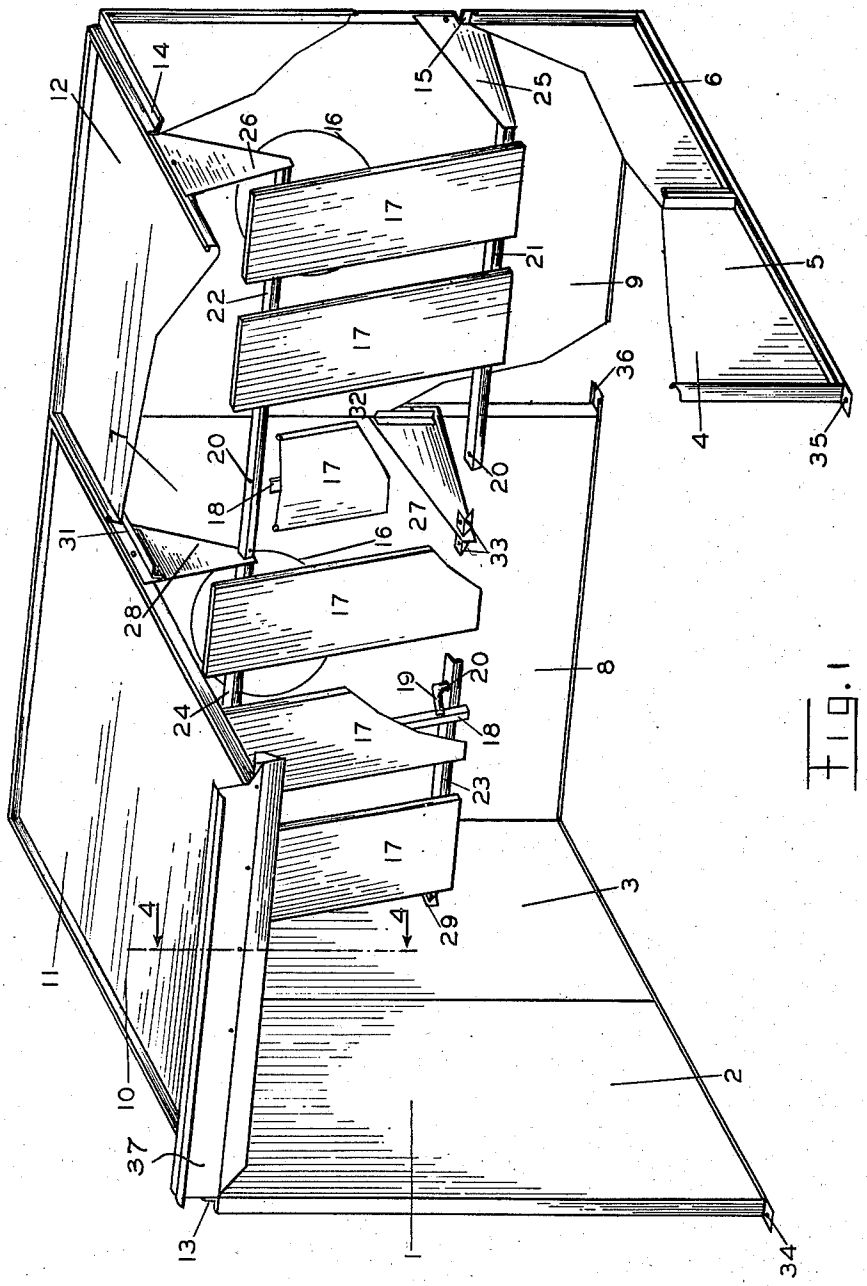


FIG. 1

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SPRAY BOOTH

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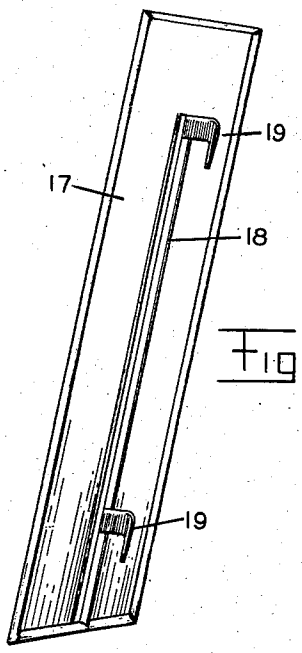


Fig. 2

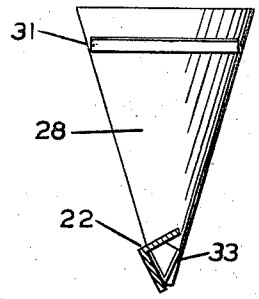


Fig. 3

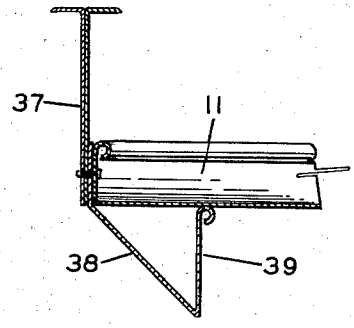


Fig. 4

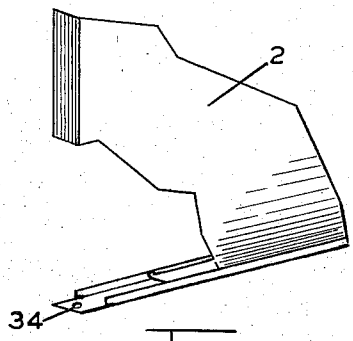


Fig. 5

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2,449,203

SPRAY BOOTH

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Application January 1, 1944, Serial No. 516,684

1 Claim. (Cl. 91—60)

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This invention relates to a spray booth in which spray coating operations are carried on and with which are associated means for drawing off the fumes and overspray arising from the operations, and has reference particularly to such a spray booth for use with coating materials, the overspray of which is inclined to be dry and does not readily adhere to the surfaces of the spray booth or of the exhaust piping.

A principal object of the invention is the provision of baffles for creating a uniform flow of air through the spray booth.

A further object is the provision of baffles which may be easily and quickly removed for cleaning purposes.

A still further object is the provision of simple but effective means for supporting and locating the baffles.

Another object is the provision of means for increasing the rigidity and sturdiness of the spray booth.

Additional objects and advantages of the invention will become apparent through a reading of the following description in conjunction with the drawings in which:

Figure 1 is a perspective view with parts broken away of a spray booth embodying the invention;

Figure 2 is a rear perspective view of a baffle forming a part of the spray booth;

Figure 3 is a rear elevation of a triangular hanger for the baffle supporting bars;

Figure 4 is a vertical section of the forward edge of the top of the spray booth taken on the line 4—4 of Figure 1; and

Figure 5 is a perspective view with parts broken away of the bottom forward corner of the left side of the spray booth.

Referring more in detail to the drawings, particularly to Figure 1, the spray booth embodying the invention has a left side wall 1 composed of panels or sections 2 and 3; a right side wall 4 composed of sections 5 and 6; rear wall 7 composed of sections 8 and 9; and roof 10 composed of sections 11 and 12.

The sections of each wall and roof are bolted directly together through adjoining upturned edges.

Left side wall 1 is fastened to the roof 10 through angle iron 13 to which each is bolted. The right side wall 4 is similarly fastened to the roof 10 by an angle iron 14. In like manner the rear edge of the right side wall is fastened to the rear wall by angle iron 15. The angle irons connecting the rear wall with the roof and the left side wall are not shown.

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The article to be spray coated is generally placed within the spray booth upon a turntable and the spray operator stands slightly outside of the booth facing the object and directing the spray gun toward the object and the rear of the booth. The spray fumes and overspray are drawn away from the operator and prevented from escaping into the surrounding atmosphere by a strong movement of air into the spray booth and out an exhaust opening or openings in the rear which may be in the rear wall as shown at 16 or in the rear portions of the side walls or roof, whichever may be more practical. An exhaust fan or blower may be set directly in the opening or in the exhaust piping some distance from the booth. Without baffles for distributing or spreading the air flow across the booth before entering the exhaust outlet there would be a concentrated flow of air going directly to the exhaust outlet with back eddies in the corners and along the sides carrying spray residue out the front of the booth.

In this invention baffles 17 are utilized to distribute the flow of air across the booth. The forward face of each baffle is flat with the edges rolled to the back. Along the center of the back is welded an angle iron strut 18 to which are welded two spaced downwardly-directed hooks 19. Each baffle 17 is supported in position by placing hooks 19 into holes 20 in angle iron supporting bars 21, 22, 23, and 24 supported transversely across the booth upon triangular hangers 25, 26, 27, 28, 29, and 30. The hanger 28 which supports the center ends of upper bars 22 and 24, is held by one of the bolts fastening together the roof panels or sections 11 and 12. To prevent hanger 28 from pivoting upon the bolt a short angle iron brace 31 is welded to the hanger. The upper side of the brace 31 bears against the under edge of section 12.

Likewise, triangular hanger 27 is held by a bolt between the sections 8 and 9 of the rear wall of the booth and is prevented from turning through the contact against section 9 of brace piece 32.

The hanger 26 is suspended from a bolt between the edge of roof section 12 and angle iron 14. The hanger 25 is supported upon a bolt between back section 9 and angle iron 15. Both hangers 25 and 26 have an inwardly extending brace member contacting the adjoining section to prevent the hanger from turning. Similarly triangular hangers 29 and 30 (the latter is not shown in drawing) extend respectively from between back section 8 and the angle iron connecting back

section 8 and side section 3 and the roof section 11 and angle iron 13.

Integral with each triangular hanger supporting the outer ends of transverse bars 21, 22, 23, and 24, is a V shaped lateral member 33 to which the transverse bar is bolted.

The triangular hangers in the center of the booth have a V shaped member 33 extending from both sides to support the center ends of the angle bars.

To keep the sections of each side wall and of the rear wall properly aligned and also to provide a means of anchoring each wall to the floor, a U shaped channel iron is slipped over the bottom ends of the sections. Each channel iron has protruding ends with holes through which it may be bolted to the floor. The channel iron under side wall 1 is indicated at 34 while channel 35 supports wall 4 and channel 36 anchors rear wall 7.

In Figure 4 is shown a vertical section of the forward edge of the top of the spray booth. The T shaped beam 37 runs across the full width of the spray booth providing strength and rigidity to the roof. It is held in place by being bolted to the forward upturned edges of roof panels or sections 11 and 12. Inserted between the beam 37 and the panel edges is a water curtain 38 which serves to form a sheet of water down across the booth opening in case a fire is started in the booth and water sprinklers, which are normally set through spaced openings in the booth roof, are thus put into operation. Water from the sprinklers strikes the rearwardly facing shoulder 39 of the curtain 38 and falling therefrom forms the downward flowing sheet of water.

While a particular embodiment of the invention has been shown, it should be understood, of course, that many modifications may be made without departing from the spirit of the invention.

We claim:

In a spray booth having an open front end, a rear end for the exhaust outlet and a roof with a number of sections fastened to each other along adjoining sides extending from the rear and toward the front of the booth, a supporting beam of T-shaped cross section; extending across the full width of the booth with the vertical portion fastened to the forward edges of the roof sections, and a water deflecting curtain held between the vertical portion of the beam and the forward edges of the roof sections and extending downwardly a short distance into the spray booth.

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