March 30, 1926. 1,578,950

H. G. BARTLING

SPRAY BOOTH

Filed Dec. 3, 1923 2 Sheets-Sheet 1

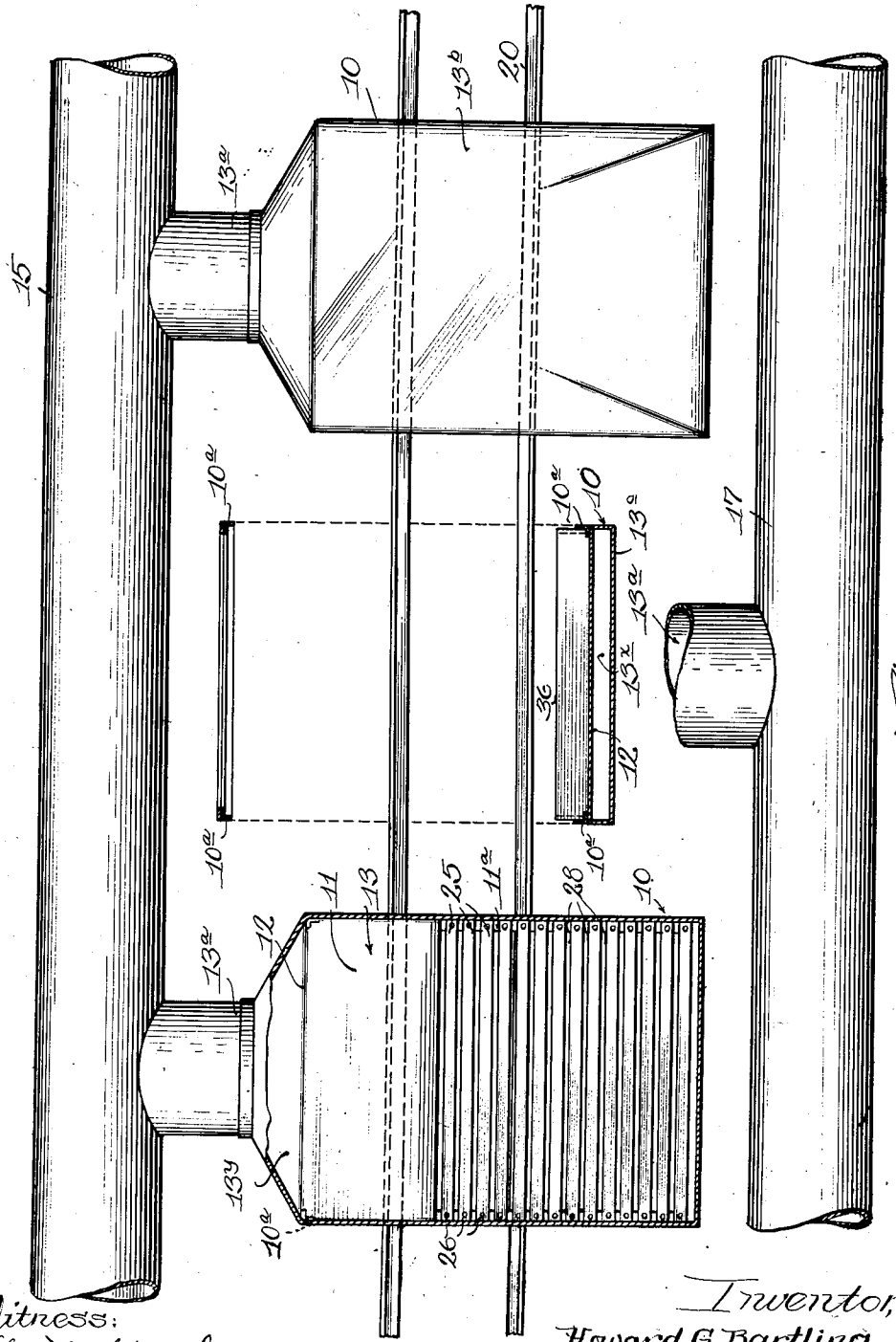


Fig. 1

Witness:
Chas. R. Kourse.

Inventor,
Howard G. Bartling.
By Sheridan, Jones and Sheridan Attys.

March 30, 1926. 1,578,950

H. G. BARTLING

SPRAY BOOTH

Filed Dec. 3, 1923 2 Sheets-Sheet 2

Fig. 2

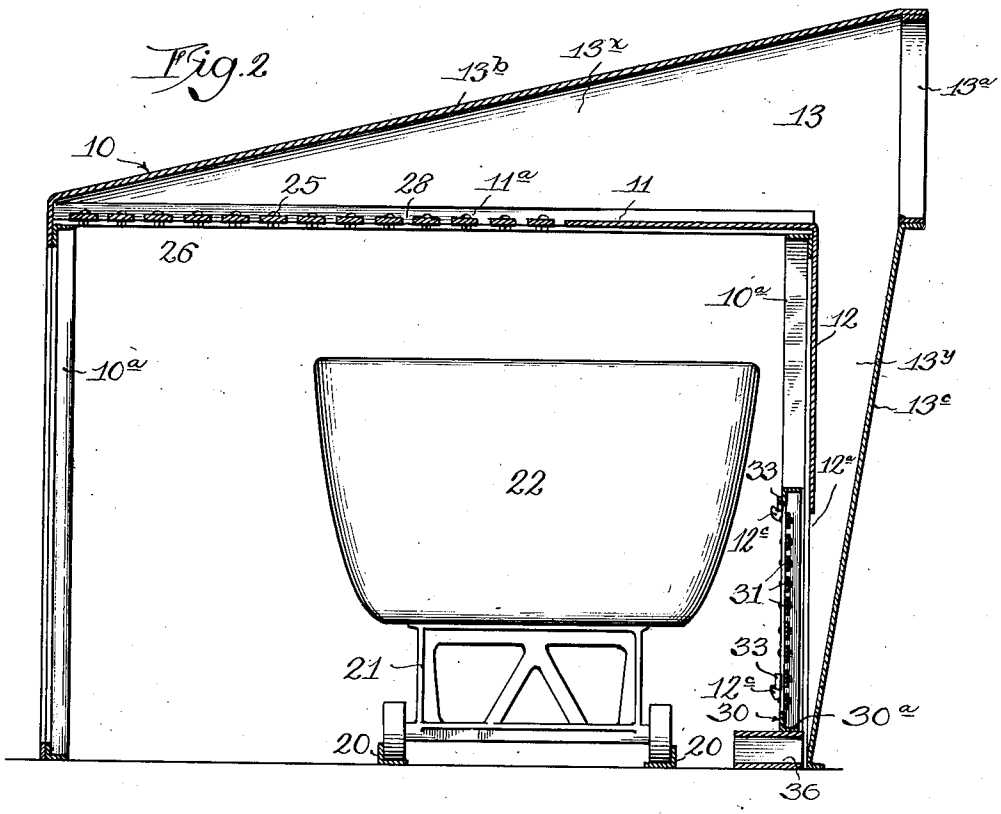
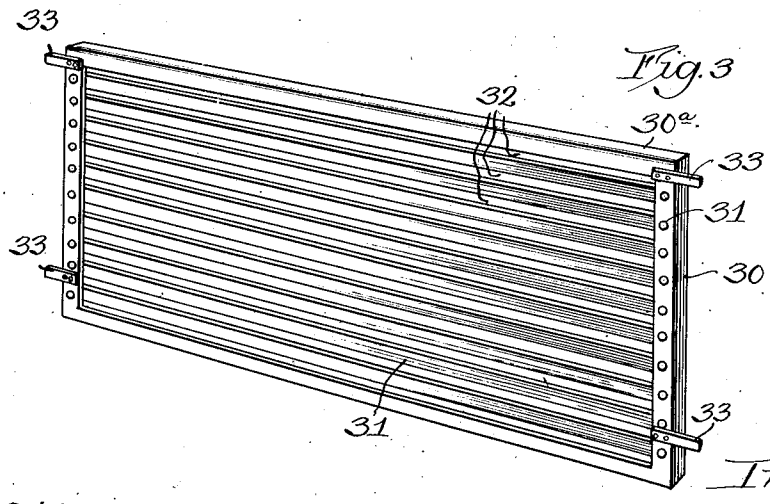


Fig. 3



Witness:
Chas. R. Fourish.

Inventor,
Howard G. Bartling,
By Sheridan, Jones and Sheridan
Attys.

Patented Mar. 30, 1926. 1,578,950

UNITED STATES PATENT OFFICE.

HOWARD G. BARTLING, OF CHICAGO, ILLINOIS, ASSIGNOR TO BINKS SPRAY EQUIPMENT COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SPRAY BOOTH.

Application filed December 3, 1923. Serial No. 678,104.

To all whom it may concern:

Be it known that I, HOWARD G. BARTLING, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Spray Booth, of which the following is a specification.

This invention relates to improvements in spray booths and has for its object to provide a plurality of booths or cabinets in conjunction with a continuous track way, the alternate cabinets being reversed with respect to the intermediate cabinets to permit successive operators to work on opposite sides of articles to be sprayed. In the embodiment shown the exhaust from alternate booths is at one end thereof while the exhaust from intermediate cabinets is at the opposite end.

Another object consists in the provision of an improved spray booth which is open at the sides and front and is provided with over-lying exhaust chambers at the top and rear with exhaust slots in the top and rear walls which slots may be varied in size and position to accommodate various conditions.

Another object consists in the provision of a removable slotted frame in the rear wall to permit access to the rear wall of the exhaust chamber for cleaning and other purposes.

Another object consists in the provision of a permanent exhaust or duct at the bottom of the rear wall projecting into the booth to create a circulation or exhaust draft beneath and at the rear of articles being sprayed.

These and other objects will be more fully set forth and described in the following specification and shown in the accompanying drawings in which

Figure 1 is a plan view of an arrangement of spray booths or cabinets constructed according to my present invention, the top wall of the exhaust chamber being shown as removed from one cabinet and another cabinet shown in horizontal section.

Fig. 2 is a vertical section through one of the cabinets.

Fig. 3 is a perspective of the frame and slats attachable to the rear wall of the cabinet.

Like numerals refer to like elements throughout the drawings, in which

10 designates, generally, a spray cabinet and booth having the corner posts 10^a at each of the four corners and being open at the sides and front. A top wall 11 is provided and also a rear wall 12. Overlying the top and rear of the cabinet is the exhaust chamber, generally indicated by numeral 13 having the outlet port or duct 13^a for attachment to a main exhaust pipe 15 or for accommodation of an exhaust fan.

The exhaust chamber is formed by the wall 13^b diverging from the top wall 11 of the cabinet at the front thereof and the wall 13^c diverging from the rear wall 12 of the cabinet at the bottom thereof, thus providing a gradually increasing top exhaust chamber 13^x and an upwardly increasing exhaust chamber 13^y at the rear thereof.

Alternate of these booths when arranged in battery may be arranged for communication with exhaust pipe 15 while intermediate of the booths are arranged for communication with the opposed exhaust pipe 17, the intermediate booths being reversed in position, i. e., with the fronts thereof opposed to the fronts of the alternating cabinets. An endless trackway, generally indicated by numeral 20, extends through one of the booths to permit travel throughout of a track 21, or the like, upon which is mounted the article to be sprayed, indicated in Fig. 2 by numeral 22 representing in outline, an automobile body. The open sides of the cabinet 10 permit the passage therethrough of the article or object to be sprayed. With the arrangement shown in Fig. 1, for example, the operator in one cabinet may spray one side of the object, after which it is moved to the suceeeding cabinet and sprayed by an operator on the opposite side. For convenience I have located the booths with the rear walls thereof adjacent the track way and with an exhaust or spray at the bottom to permit free movement and operation of the operator.

Extending between the angle bars 11^a at the sides of the top wall 11 are the slats 25 removably secured by bolts 26 to the flanges of the angles 11^a these slats being spaced to provide exhaust ports or ducts communicating with the exhaust chamber 13^x. The rear portion of the top wall 11 is preferably solid in the embodiment shown, thereby enhancing the draft or exhaust action at the front of the cabinet where the operator is spraying, and where, obviously, the fumes

are created. These slats 25 may be removed, replaced by others of different sizes, or relocated to vary the size or location of the exhaust slots 28 to correspondingly vary the exhaust or draft action to accord with the different conditions met with.

The rear wall 12 of each cabinet is provided with a cut out opening 12^a in the lower portion thereof and at the side of such openings are provided the hooks or brackets 12^c projecting forwardly of the rear corner posts. A frame 30 is provided, preferably formed of angle members 30^a each with a flange inturned. Between the side angles extend slats 31 removably secured by bolts 31^a to the side angles, these slats being spaced in the arrangement shown to form exhaust slots 32. Supporting pins 33 project outwardly from the side angles whereby the frame 30 may be mounted upon the bracket 12^c, as shown in Fig. 2, controlling the exhaust through opening 12^a through the slot 32. These slats 31 may be removed, replaced or varied similarly to the slats 25, described above, to vary the size and position of the slots 32. By this construction may be had control of the exhaust draft at the rear of the cabinet, preferably the lower portion thereof to remove such fumes, spray or the like which are not removed by the slots 28. The tapering of the exhaust chambers 13^z and 13^y permits the maintenance of a substantially uniform draft effect at all of the slots. By positioning the draft slots or ducts at the front of the top wall and at the bottom of the rear wall, the draft currents tend to carry the fumes and paint or varnish particles away from the article to be sprayed, thus reducing or eliminating the deposit on portions of the article other than the surfaces being sprayed.

Below the draft opening 12^a in the rear wall 12 is a transverse duct 36 in the bottom of the booth and extending across the rear thereof. This duct projects inwardly of the spray chamber to a point adjacent the trackway and assists in the creation of a draft beneath the article being sprayed and serves to remove the fumes or spray from the bottom of the cabinet. The particles of coloring, varnish or the like, carried by the draft passing into chamber 13^y impinge upon the rear wall 13^c and may be readily removed or cleaned off by removal of the frame 30 as will be obvious.

In use of the spray booth assuming a car body 22 would be passing therethrough, an operator will spray one side of the same in one booth, after which it will pass to the next booth and be sprayed on the opposite side by another operator. As explained above the exhaust draft will remove the excess paint and fumes from the booth and the location and size of the draft slots may be varied as desired and as necessary.

It will be apparent that my invention is susceptible of modification and I do not wish to be restricted to the form shown and described, except as defined in the appended claims.

What I claim:—

1. In combination, the plurality of spray booths arranged side by side and having open sides, alternate of said booths being provided with means to exhaust the air therefrom in one direction and the intermediate of said booths being provided with means to exhaust the air therefrom in the opposite direction.

2. In combination, a plurality of spray booths having open sides and open fronts, said booths being arranged side by side, alternate of said booths having their fronts reversed with respect to the fronts of the intermediate booths.

3. In combination, a plurality of spray booths having open sides and open fronts, said booths being arranged side by side, alternate of said booths having their fronts reversed with respect to the fronts of the intermediate booths, and a continuous trackway extending through all of said booths.

4. In combination, a plurality of spray booths arranged side by side, a continuous trackway extending through said booths, the sides of the latter being constructed to permit passage therethrough on said track of articles to be sprayed.

5. In combination, a trackway, a plurality of spray booths disposed consecutively along the trackway and all having open sides through which the trackway extends, each booth having an open front disposed at a considerable distance from the trackway and a back relatively nearer to the trackway, the fronts of consecutive booths being respectively at opposite sides of the trackway.

6. In combination, a trackway, a plurality of spray booths disposed consecutively along the trackway and all having open sides through which the trackway extends, each booth having an open front disposed at a considerable distance from the trackway and a back relatively nearer to the trackway, the fronts of consecutive booths being respectively at opposite sides of the trackway.

7. A spray booth, and an exhaust duct overhanging the top and rear walls of the booth, the said walls being provided with openings affording communication from the interior of the booth to the exhaust duct through forward portion of the top wall and the lower portion of the rear wall.

8. A spray booth having a top wall, a second wall located thereabove to form therewith an exhaust chamber, said chamber increasing in capacity from the front to the rear of said booth.

9. A spray booth, and an exhaust duct freely housing the top and rear walls of the

booth and connected to the booth respectively at the front of the top wall and at the bottom of the rear wall, the top wall being apertured in its forward portion and a rear wall being apertured in its lower portion, the rearward portion of the top wall and the upper portion of the rear wall being imperforate.

10. A spray booth having a top and a rear wall, and an exhaust duct having a top wall sloping upward rearwardly from the front of the top of the booth and having a rear wall sloping rearwardly from the bottom of the rear booth wall, the top of the booth being perforate in its forward portion and the rear booth wall being perforate in its lower portion.

11. A spray booth having a top wall and an exhaust chamber located thereabove, said top wall being provided with an exhaust duct therein, and means to vary said duct.

12. A spray booth having a top wall and an exhaust chamber located thereabove, said top wall being provided with an exhaust duct therein, and means to vary said duct, said means comprising removable slats.

13. A spray booth having a top and a rear wall member and having open sides, a trackway extending transversely through the booth adjacent to the rear wall for enabling objects to be disposed in the rear portion of the booth, the top of the booth being imperforate in its rear portion and provided in its forward portion with perforations, the rear wall member having its upper portion imperforate and being provided in its lower portion with perforations; and an exhaust duct into which the said perforations in the top and the rear wall member all open.

14. A spray booth having a rear wall and an exhaust chamber outwardly thereof, said wall having an opening therethrough, a frame mounted adjacent said opening and provided with variable exhaust supports therethrough.

15. A spray booth having a rear wall and an exhaust chamber outwardly thereof, said wall having an opening therethrough, a frame mounted adjacent said opening and a plurality of slats removably attached to said frame.

16. A spray booth having a rear wall and an exhaust chamber outwardly thereof, said wall having an opening therethrough, a frame mounted adjacent said opening and provided with variable exhaust supports therethrough, said frame being mounted for quick attachment to or detachment from said wall.

17. A spray booth and an exhaust chamber outwardly of the rear wall of the booth, and extending to the bottom of the booth, the said rear wall terminating above the bottom of the exhaust chamber to afford an opening between the booth and the said chamber and means for adjustably controlling the passage of exhaust from the booth through the upper portion of the said opening without modifying the passage of exhaust through the lower portion of the opening.

18. A spray booth having a rear wall and an exhaust chamber outwardly thereof, said wall having an opening connecting the booth with the exhaust chamber, an exhaust controlling member adjacent to the said opening, and a member supporting the exhaust controlling member in a raised position and constructed for permitting the uncontrolled passage of exhaust from the booth to the exhaust chamber below the said exhaust controlling member.

19. A spray booth having a top and rear wall, an exhaust chamber located outwardly of said walls, said top and rear walls being provided with exhaust ports communicating with said chamber, means to vary the size and position of said ports.

20. A spray booth having a rear wall and an exhaust chamber outwardly thereof, said wall having an opening connecting the booth with the exhaust chamber, a duct extending across the bottom of the booth adjacent to the said opening for affording free passage of exhaust from the bottom of the booth to the exhaust chamber, and exhaust controlling means extending across the part of the said opening above the duct, the duct extending forwardly beyond the exhaust controlling means.

21. A spray booth having a top and rear wall, an exhaust chamber located outwardly of said walls, said top and rear walls being provided with exhaust ports communicating with said chamber, means to vary the size and position of said ports, said exhaust chamber increasing in size rearwardly from the front of said booth and upwardly from the bottom thereof.

In testimony whereof, I have subscribed my name.

HOWARD G. BARTLING.