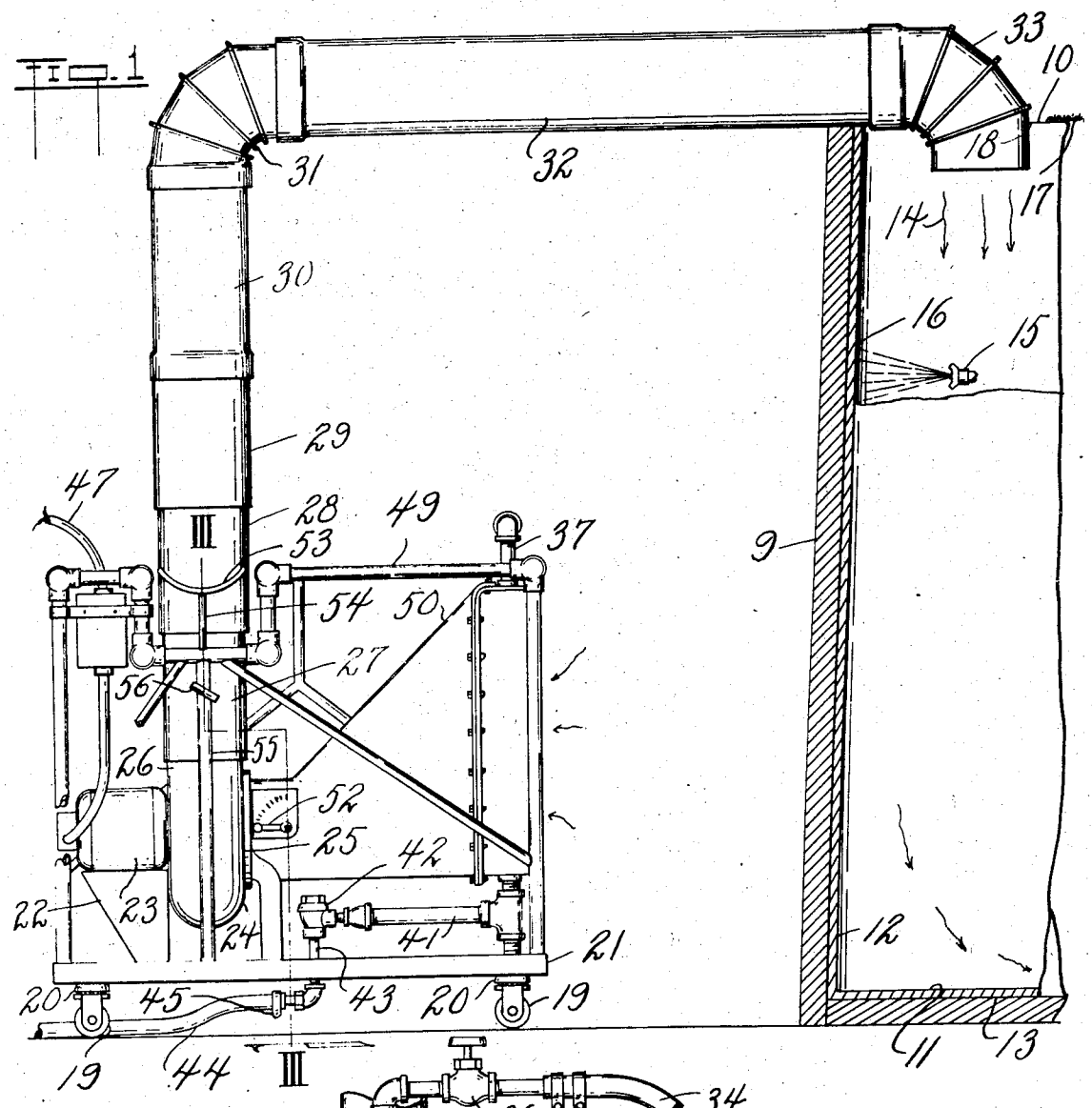
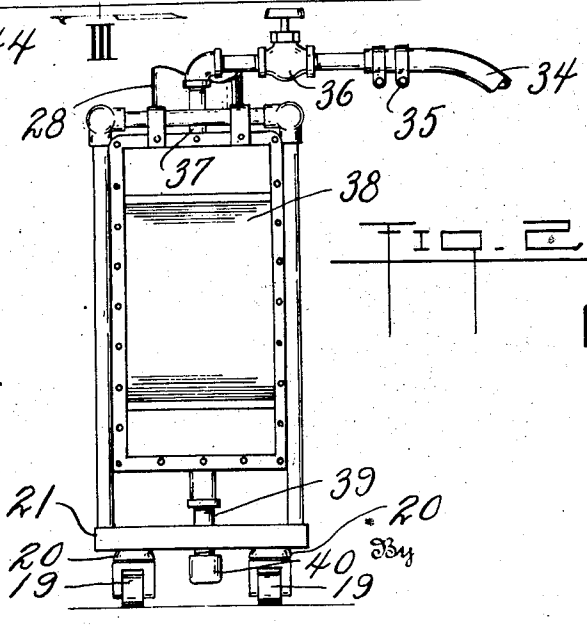
Jan. 9, 1940. P. KAISER 2,186,383

COATING CONTAINER

Filed March 14, 1938 2 Sheets-Sheet 1





Paul Kaiser

Inventor

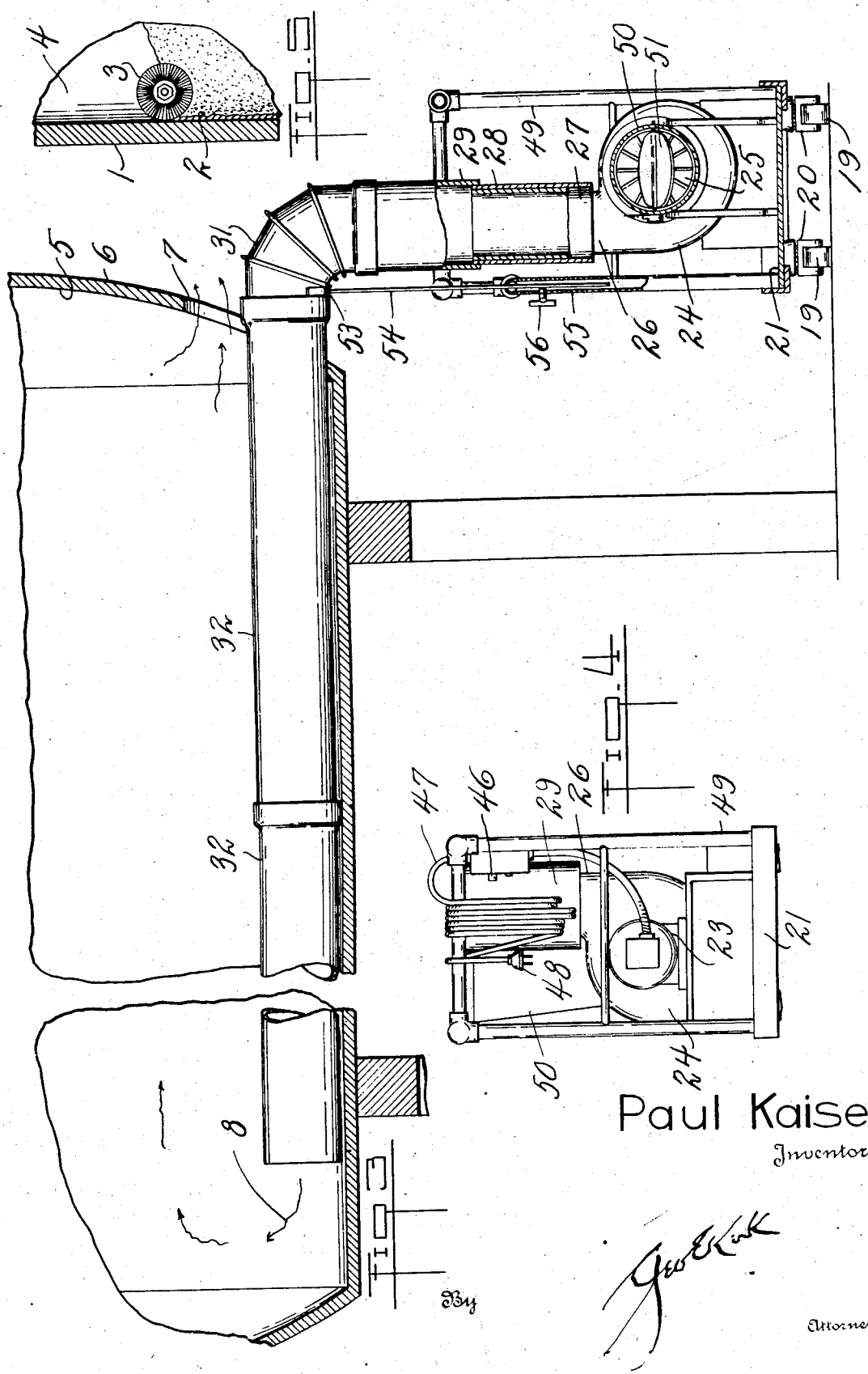
By

Attorney

Jan. 9, 1940. P. KAISER 2,186,383

COATING CONTAINER

Filed March 14, 1938 2 Sheets-Sheet 2



Paul Kaiser

Inventor

By

Attorney

Patented Jan. 9, 1940 2,186,383

UNITED STATES PATENT OFFICE

2,186,383

COATING CONTAINER

Paul Kaiser, Toledo, Ohio

Application March 14, 1938, Serial No. 195,813

1 Claim. (Cl. 91—70)

This invention relates to preparing and effecting coating and re-coating of receptacles and containers, especially to be resistant to attack.

This invention has utility when incorporated in clearing and cleaning of surfaces and the atmosphere thereabout, with coating at a controlled atmospheric condition for coating adherence and coating uniformity even as against pitting or presweating.

Referring to the drawings:

Fig. 1 is a fragmentary view of an embodiment of the invention in which apparatus therefor is in working or operative position;

Fig. 2 is a view from the left of the truck in Fig. 1;

Fig. 3 is a view of equipment in container working condition, wherein the equipment showing as to the truck portion is on the line III—III, Fig. 1;

Fig. 4 is a fragmentary view of the truck with a portion of the equipment collapsed therewith; and

Fig. 5 is a fragmentary view of a container wall undergoing cleaning.

Container wall 1 (Fig. 5), say of rigid material whether masonry, wood, plastic, or metal, before use or after use, may have its interior face carry foreign matter 2 as a roughness or irregularity. This condition in the handling of certain liquids as in the instance of brewing, malting, canning, foodstuffs, or other substances, tends to react with a primary coating over the wall; and it is in order, effectively to carry out the ends herein, to have such removed as by power driven wire brush 3 to provide clear inner surface 4.

With a cleaned inner surface 5, container 6 (Fig. 3) is shown provided with manhole 7, having atmosphere therein exposed to draft blast 8 for carrying from such container any particles removed from the inner surface 5 by cleaning and to effect an atmospheric condition and temperature therein suitable for applying coating. With this blast 8 effecting a continuity of change of atmosphere and removal of particles in suspension, the container is forthwith in condition for coating attention to the extent of initial coating, re-coating, or patching.

In the instance of container 9 (Fig. 1) with open top 10 and bottom 11, there is lining 12 for the side wall and lining 13 for such bottom continuous. In carrying out the invention, blast 14 may control any air volume and temperature so that spray gun 15 may be effective to apply coating 16 on the linings 12, 13, in the desired degree. In practice, as herein disclosed, the temperature of the blast 14, its effectiveness, and humidity, are such as to promote congealing of the coating 16 against cracking or pitting. To this end, there is a fluidity in the material as delivered from the nozzle 15 for impinging and cohering in a smooth surface. To insure this flow condition for the spray, it is usually the experience in practice that there be a volatile solvent for the pigment or coating. The gas or vapor from this solvent is forthwith diluted and dissipated by the incoming blast 14, which supplies an atmosphere acceptable for respiration by the operator.

Furthermore, this incoming volume blast as dispersing throughout the container to avoid any pockets or trap regions as thoroughly directed by the supply, has a moving direction and volume sufficient against disturbance from external humidity or any incoming tendency for temperature or draft disturbance. This control is, in the instance of container 9 which may be generally open top, further brought within control by temporary covering or blanket, say of fabric 17 localizing region against air inflow while still leaving passage for draft exit 18. At once the coating is completed, say with varnish, phenol condensation product, or cellulose derivative of the coating class as Duco, the exit orifice may be closed by the blanket 17 on the container 9 or by replacing manhole cover at entrance opening 7 in container 6, thereby to shield or shut off the coating from exposure. This course is adopted in such sequence and position for draft continuity that the blast is delivered into the container continuously up to the effective placing of the closure and the sealing thereof against seepage for sweating or pitting to occur.

These coatings may be effected even in cellars of considerable humidity as well as at times of low temperature in the surroundings for the container. This means that efficient operation is possible regardless of season and for full protection of the container.

In carrying out the functioning hereunder rollers 19 on swivel casters 20 mount deck 21 of truck having base 22 mounting motor 23 to which is directly connected multi-blade blower 24 having intake side 25 and upwardly extending delivery 26 on which are successive telescopic sections 27, 28, 29, to attachable duct section 30 with attachable elbow 31, supplemental duct sections 32, and supplemental elbow 33. These duct sections may be assembled in such number and relationship as may be suitable for the working to occur and as may be convenient in positioning the narrow shiftable truck. To this shiftable truck extends flexible steam hose 34 having attachable cou-

pling 35. Flow of the steam is controlled by steam valve 36 for flow by duct 37 into steam radiator 38 having dirt trap 39 with removable cap 40 therefor. From this trap 39 extends duct 41 past steam condensation trap 42 for condensation to flow off by duct 43 and flexible water waste line 44 having clamp connection 45 with the line 43.

Power for the motor 23 is controlled by switch 46. Electric current supply lines to this switch are in flexible duct 47 from plug fitting 48. In out of use position, the flexible line may be wrapped on pipe frame 49 carried by the truck and with the hose lines disconnected. As placed, it is in order to plug in for electric power, to connect the steam line for control at the valve 36 and the waste line 44 for flow-off, say to a sewer. The valve 36 may be adjusted for the volume of steam and thereby effect the desired temperature.

On operating the switch 46, the blower is effective to draw in air through the radiator and housing 50 past damper 51 which may be adjusted by arm 52 into desired open position. This incoming air, as thus volume-controlled by the damper and controlled as to temperature by the steam in the adjustment of the valve 36, is conducted by way of the duct, adjusted for the height desired by the telescopic sections and for the directions and lengths by the elbow or elbows. This blast from the duct is so effected that the region of working in the receptacle or container is assured of the control atmosphere and temperature by the blast. Supplementally, this is comfort condition for the workmen and has meant in practice that the refitting of a container of say several hundred barrels capacity may be efficiently and economically, as well as safely conducted in a brief interval of time. There is superior result from the efforts, which efforts may be continuously undertaken by the operator over a series of containers.

In adjusting this range for the ducts, should the position not be one wherein the ducts are to be sustained for height directly at the tank or container, saddle 53 may be adjusted to engage under the horizontal range or elbow, thereby controlling the height for the telescopic sections, which telescopic sections are normally self-sustaining due to the friction thereof. At this adjusted height for the saddle 53, its depending stem 54 in tubular portion 55 is locked by set screw 56.

In practice hereunder containers, tanks, or vats have been given attention in capacity from one hundred to say six or seven hundred barrels. In these operations, a desirable drying temperature may be in the neighborhood of 130° F., while the working temperature for the character of coating may be as much as 80° to 100° F. The volatiles and rate of drying are controlled in blast from say a cubic foot to five cubic feet per minute per barrel for the capacity of the container.

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

The herein described process of providing effective surface protective coverage against attack from contents of a container in which a workman may cooperate in steps of the process to be undertaken before the container is charged, which includes establishing an incoming preheated hot air draft, at a volume per minute in excess of natural draft, of respirable air supply at normal atmospheric pressure, thoroughly to provide a working condition region and condition in the container, controlling temperature for congealing the coating by adjusting the temperature of the draft, applying at the working region a coating containing volatile solvent by spraying through an atmosphere of 80° to 100° F. to deliver the coating on the surface of the container in said working region there to congeal as the coating is applied, removing volatiles from proximity to the coating as congealing by directing said draft at a temperature of approximately 130° F. to pervade the interior of the container to an extent to carry away volatiles therefrom in promoting said congealing of the coating while continuously maintaining the atmosphere in respirable condition, and shielding the congealing coating against humidity precipitation thereon for the coating to set against pitting or sweating, said shielding being effected by shutting off entrance of air to the container and simultaneously discontinuing said draft.

PAUL KAISER.