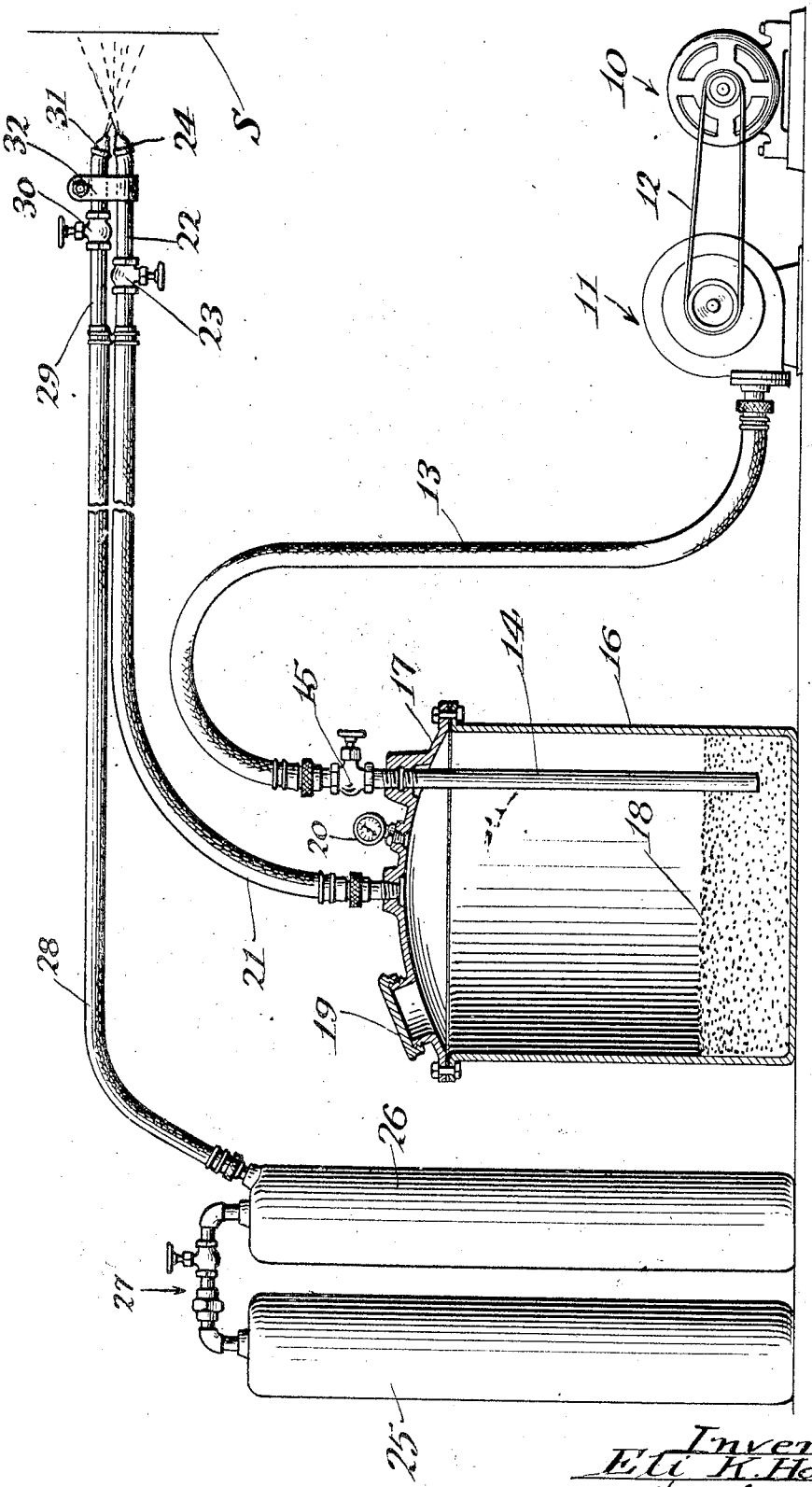
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E. K. HOUGHTON

APPARATUS FOR COATING WITH GLASS OR ENAMEL

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Witness:
Wm. Hall

Inventor:
Eli K. Houghton
By Hazard and Miller
Attorneys.

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ELI K. HOUGHTON, OF LOS ANGELES, CALIFORNIA.

APPARATUS FOR COATING WITH GLASS OR ENAMEL.

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This invention relates to improvements in methods for applying coatings.

It is an object of this invention to provide a method and apparatus for applying a coating to a surface in which the coating is to be formed of a fusible material.

The invention primarily consists of directing an air stream which carries a comminuted or powdered fusible material, of which the coating is to be formed, and directing a flame into the air stream so that the particles of the coating material are fused while being projected against the surface.

With the foregoing and other objects in view which will be made manifest in the following detailed description and pointed out in the appended claim, reference is had to the accompanying drawing for an illustrative embodiment of the invention, wherein:

The figure is a diagrammatic view of the apparatus by which the improved method of applying the coating is performed.

Referring to the accompanying drawing wherein similar reference characters designate similar parts throughout, the apparatus consists of a motor designated at 10, which may be of any conventional construction and may be an electric motor or otherwise as desired, which is connected by any suitable means to a fan or air compressor designated at 11 and which is shown as being driven by means of a belt 12. A hose 13 has one end connected to the fan or air compressor 11 and has its other end connected to a pipe section 14, which pipe section may carry a valve 15.

A suitable tank 16 having a cover 17 is partially filled with a comminuted or powdered fusible material 18. The pipe 14 extends through the cover 17 and preferably has its lower end disposed beneath the comminuted material 18. The cover 17 is provided with a removable closure 19 which may be removed to replenish the comminuted material 18 within the tank 16. If desired, a pressure gauge 20 may be mounted upon the cover for indicating the pressure within the tank 16. A second hose section 21 is connected to the top 17 of the tank 16 and to a pipe section 22, which may carry a valve 23, regulating the flow therethrough. The pipe section 22 is provided with a nozzle 24.

As a means for providing a flame for fusing the comminuted material 18, a pair of tanks 25 and 26 may be provided, one of which may be filled with oxygen and the other of which may be filled with acetylene, which tanks are connected as indicated at 27. A hose 28 conducts the intermixed oxygen and acetylene gases to a pipe section 29 which may be provided with a valve 30 regulating the flow therethrough and which is provided with a nozzle 31. The pipe sections 22 and 29 may be secured together as by a bracket 32.

The operation of the device is as follows: Air is forced through the hose 13 into the tank 16 and through the comminuted material 18 in the bottom of the tank. This causes the fine powdered material to be picked up by the air and to be carried thereby through the hose 21 and to be discharged through the pipe 22 and the nozzle 24. The oxygen and acetylene gases are at the same time passed through the hose 28 and are discharged through the nozzle 31, it being understood that the discharging oxygen and acetylene gases have been previously ignited so as to produce an oxy-acetylene flame. It will be noted that the nozzles 24 and 31 are directed toward each other so that the flame passes through the air stream carrying the comminuted material 18. The flame therefore fuses the powdered material 18 before striking the surface S, which surface is to be coated. In this manner the coating material is applied while in its liquid state, and while it is very hot. Obviously, by holding the nozzles 24 and 31 very close to the surface S, the flame will tend to heat the surface S and thereby aid in depositing the coating. On the other hand if the nozzles 24 and 31 are held a slight distance away from the surface S, the surface will not be heated greatly by the flame, but will only have the fused coating material deposited thereon.

Any suitable material may be employed for the powdered material 18, such as powdered glass or powdered enamel and such substances as are adapted to be fused and to be hardened in situ.

As will readily be appreciated, the improved method and apparatus eliminates the necessity of applying a coating and afterwards heating or baking the body to which the coating was applied in order to obtain a baked, enameled surface.

It will be understood that various changes in the detail of construction may be made without departing from the spirit or scope of the invention as defined by the appended claim.

I claim:

An apparatus for applying coatings which consists of a pair of flexible conduits, nozzles mounted on the ends of the conduits, means for fastening the nozzles together in such a manner that the streams discharged therefrom intersect, valves mounted upon the nozzles, a fuel supply to which one of said flexible conduits is connected, a container containing a fusible comminuted material to which the other flexible conduit is connected, a conduit extending into said container for supplying compressed air thereto, and a valve upon the last mentioned conduit controlling the supply of compressed air to the container.

In testimony whereof I have signed my name to this specification.

ELI K. HOUGHTON.