No. 872,561. PATENTED DEC. 3, 1907.

C. J. FESS.

PROCESS OF REMOVING PAINT AND VARNISH.

APPLICATION FILED JUNE 26, 1907.

Fig. 1.

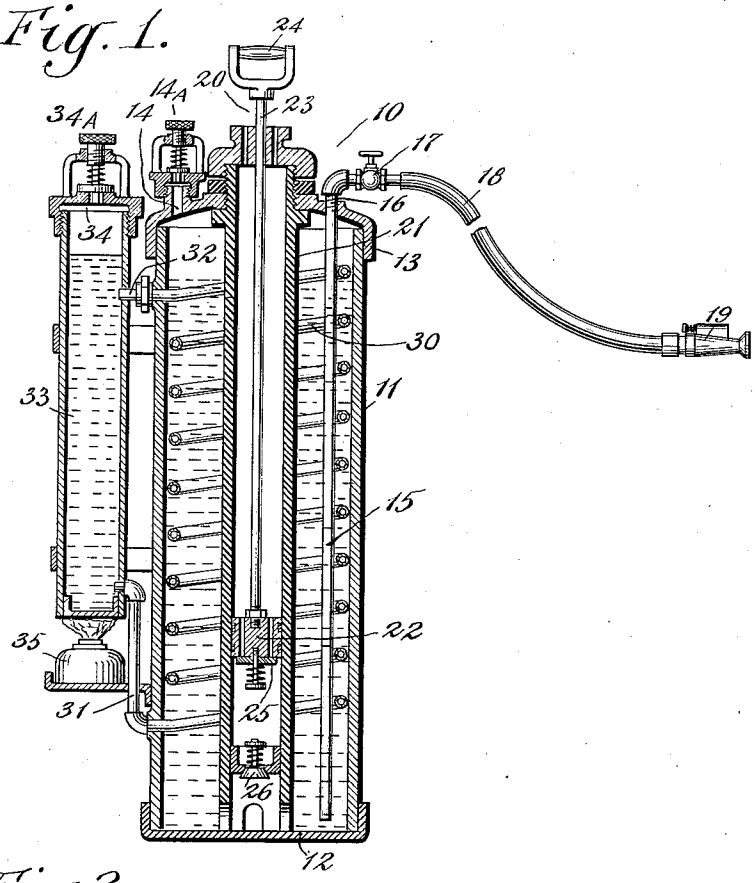
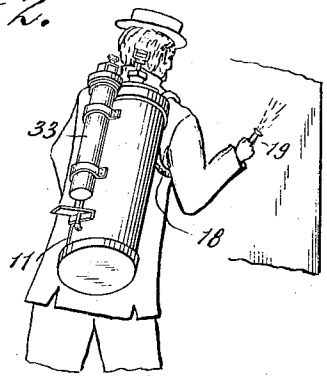


Fig. 2.



WITNESSES:

H. L. Crocheron

Ella L. Fuchs

INVENTOR.

Charles J. Fess

BY E. W. Marshall

ATTORNEY.

UNITED STATES PATENT OFFICE.

CHARLES J. FESS, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE PALMER-PRICE COMPANY, A CORPORATION OF NEW JERSEY.

PROCESS OF REMOVING PAINT AND VARNISH.

No. 872,561. Specification of Letters Patent. Patented Dec. 3, 1907.

Application filed June 26, 1907. Serial No. 380,868.

To all whom it may concern:

Be it known that I, CHARLES J. FESS, a citizen of the United States, and a resident of the city of Newark, in the county of Essex and State of New Jersey, United States of America, have invented certain new and useful Improvements in Processes of Removing Paint and Varnish, of which the following is a specification.

My invention relates to a process for removing paint and varnish and especially to a new and useful method of applying liquid or semi-paste detergent or chemical varnish removers to painted or varnished surfaces.

I will describe my invention in the following specification and point out the novel features thereof in claims.

Referring to the drawings, Figure 1 is a sectional side elevation of one form of apparatus which may be used to carry out my invention. Fig. 2 is a perspective view showing such an apparatus as is illustrated in Fig. 1 in use.

Like characters of reference designate corresponding parts in both of the figures.

10 designates a sprayer which may be of any of the well known forms of construction.

For the purpose of illustrating one means by which my invention may be carried into effect I have shown a cylindrical sprayer which comprises an inclosed cylinder 11 in combination with which is an air-pump 20. 12 is the bottom of this cylinder and 13 its top. The latter is provided with an opening at 14 through which the cylinder may be filled with the desired chemical composition. This opening is provided with a threaded cap in which a safety-valve 14^{A} may be placed. A discharge pipe 15 is carried from a point near the bottom of the cylinder 11 up through its top 13 as shown at 16.

17 is a valve in the discharge pipe 15, and 18 is a flexible tube at the end of which is a spray-nozzle 19 by means of which the spray may be directed onto the desired surfaces.

The air-pump 20 comprises a cylinder 21 within which is a piston 22 connected with a piston rod 23 on the upper end of which is a handle 24 by means of which the pump may be operated. In the piston 22 is a check-valve 25, and at a point near the lower end of the pump cylinder 21 another check-valve 26 is placed.

As will appear later, an important part of my improved process for removing varnish is the raising of the temperature of the varnish dissolving chemicals, and I have shown in the drawings means whereby this material may be heated. These means comprise in this case a heater-pipe-coil 30 placed within the cylinder 11 and connected by pipes 31 and 32 with an auxiliary cylinder 33. This auxiliary cylinder may be filled with water through its top which may be sealed by a cover 34 in the top of which a safety valve 34^{A} may be placed. Below the auxiliary cylinder 33 a lamp or burner 35 is placed by means of which the liquid in the axiliuary cylinder may be heated and the heated water which is obtained thereby will circulate through heater-pipe-coil 30 in the well known manner.

It is my purpose to use in connection with some such apparatus as I have just pointed out a composition for removing paint and varnish of the class which combine with a varnish dissolving material a waxy body which is used for the purpose of preventing evaporation of the solvent materials. Such a composition is described and disclosed in Letters Patent Number 714,880 issued to Carleton Ellis December 2nd, 1902. In using a composition of this character the composition is applied to the varnished surface with a brush or similar means and the wax which is held in solution at first congeals on the surface and thereby prevents evaporation of the solvent agents which are generally benzol or alcoholic bodies of a highly volatile nature.

It has been found in practice that it is impossible to hold a very large amount of waxy bodies in solution, but in using my process I am able to use a removing composition with a larger percentage of wax than is possible to apply in liquid form with a brush, and to hold this waxy body in solution during the process of applying the composition to a given surface I raise the temperature of the composition. This not only makes it possible to hold a larger percentage of wax in solution if desired but it increases the chemical activity of the other substances and increases the efficacy of the composition.

In removing varnish from a given surface according to my improved method the composition is first heated and then sprayed upon the surface. The heated chemical composition may be placed within the cylinder 11, after which sufficient internal pres-

sure may be obtained by means of the pump 20, or the composition may be placed within the cylinder at its normal temperature and heated within the cylinder by any desired means, such, for example, as that which I have illustrated in the drawings. A high temperature is not necessary to make this process effective, and therefore a convenient method of obtaining the required heat is to immerse the filled sprayer-cylinder 11 in hot water. Heating the composition in the inclosed cylinder will, of course, generate pressure within the cylinder and the pressure thus generated may be used to force the composition out through the spraying nozzle. If, however, this pressure is not sufficient, additional pressure may be obtained by means of the air-pump 20 by reciprocating its piston 22. This will cause air to be drawn in at the top of cylinder 21 and it will be forced down through check-valves 25 and 26 and through the bottom of cylinder 21 which, for this purpose, is left open as shown, into the main cylinder 11.

It is desirable to have the temperature of the composition above the melting point of the wax which it contains and to have it above the temperature of the surface to which it is to be applied. As soon as the removing composition strikes the surface its dissolving agents attack the paint or varnish upon the surface and cause them to roughen; at the same time, the wax in solution congeals upon the surface on account of the change of temperature, and the waxy body thus produced, together with the roughened paint or varnish form a rough surface to which the spray adheres. Thus a considerable body of removing composition may be built up upon the painted or varnished surface quickly.

It has heretofore been difficult to hold a sufficient quantity of dissolving agents upon certain surfaces, but by this process a considerable amount of removing composition may be applied to a given surface, and the quantity thus applied may be sufficient to thoroughly dissolve the paint or varnish. The fact that the attacking chemicals are raised in temperature increases their action so that they perform their work more quickly and more thoroughly. By this process it is also possible to apply the removing composition to surfaces which are difficult of access with a brush. A greater surface may be covered with the removing composition in a given time than by former methods. This method is especially available for use on vertical surfaces or ceilings. By former methods it has been very difficult to apply a sufficient amount of the removing composition to such surfaces effectively to loosen the varnish.

My improved process of applying a paint and varnish removing composition is economical for the material may be readily directed to the desired surfaces and, as all of the material adheres to the surface to which it is applied, there is no waste. After the paint or varnish has been loosened it may be readily removed in any desired manner.

The apparatus which I have described forms no part of the present invention as many other devices may be used for performing the different steps of my improved process.

What I claim is—

1. The herein-described process of removing paint or varnish which consists in heating a removing composition containing wax and spraying such heated composition upon a desired surface.

2. The herein-described process of removing paint or varnish which consists in heating a removing composition containing wax above the melting point of the wax and spraying said heated composition upon a desired surface.

3. The herein-described process of removing paint or varnish which consists in heating a removing composition containing wax above the melting point of the wax to a temperature greater than that of the surface to which it is to be applied and spraying said heated composition under pressure upon a desired surface.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES J. FESS.

In the presence of witnesses:
CYRUS P. JONES,
ELLA TUCH.