C. J. FESS.

APPARATUS FOR REMOVING PAINT AND VARNISH.

APPLICATION FILED JUNE 27, 1907.

945,505. Patented Jan. 4, 1910.

Fig. 1.

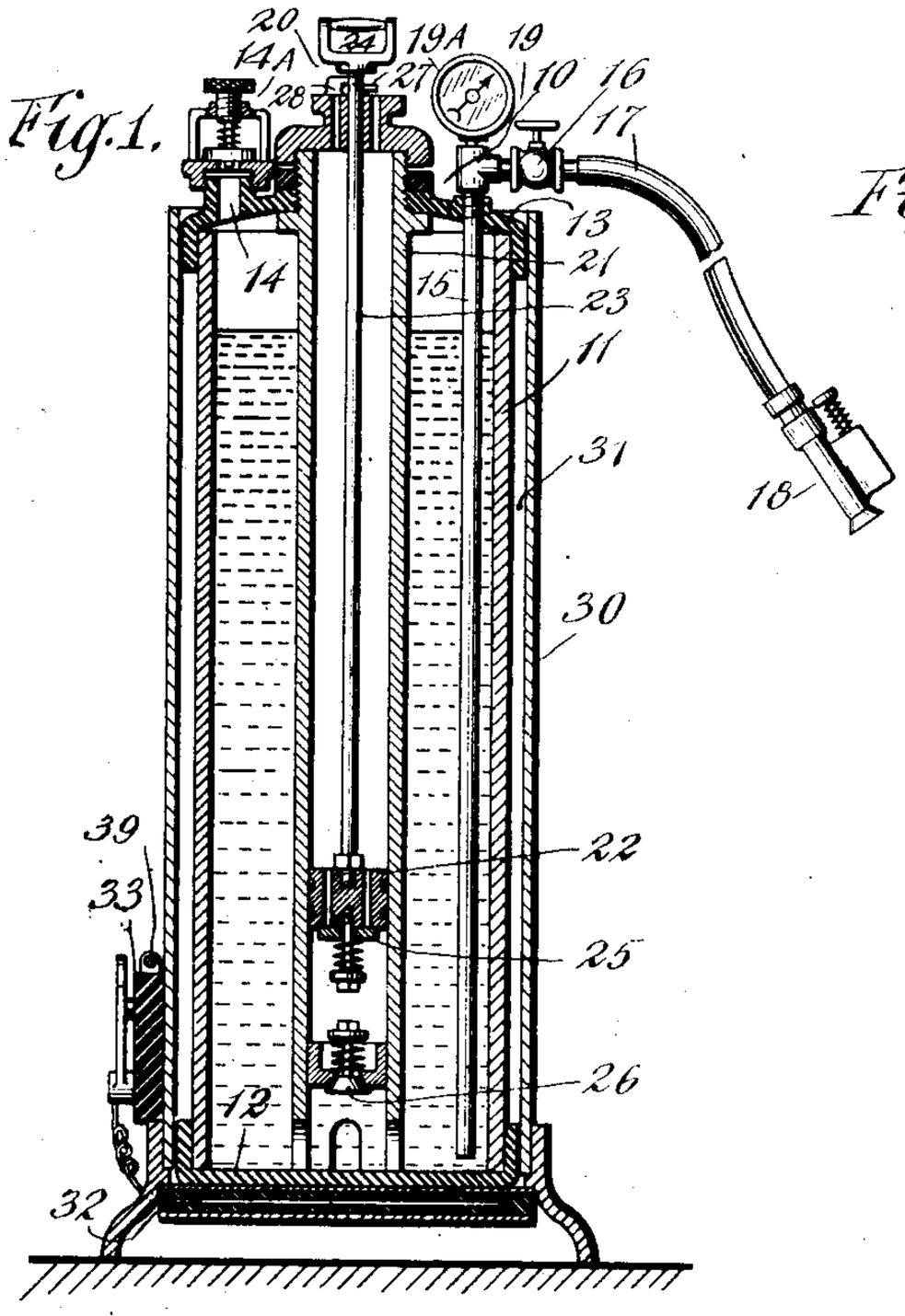


Fig. 2.

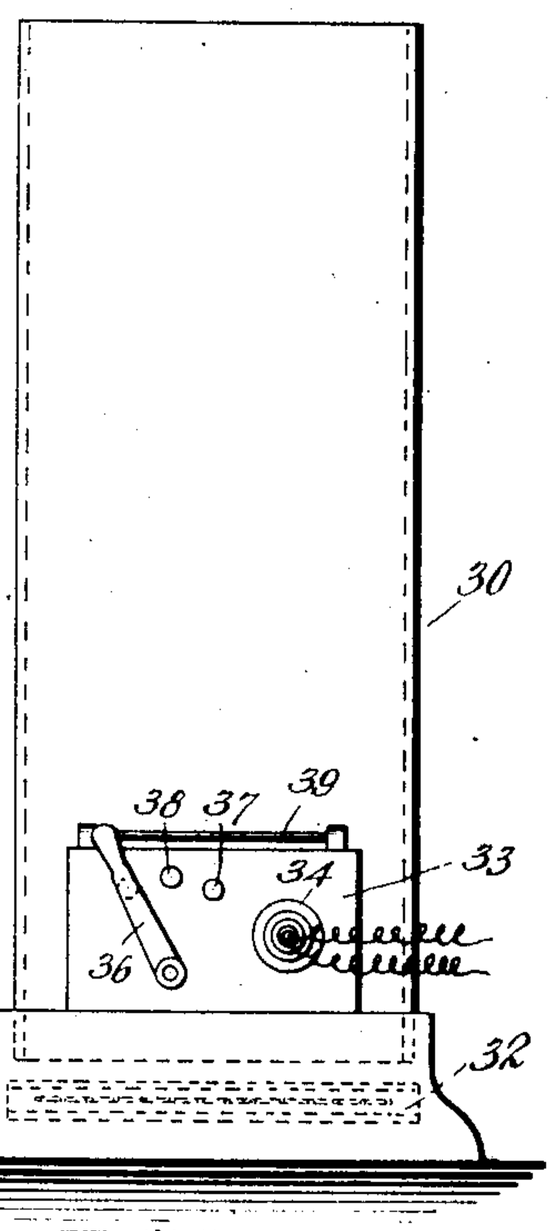


Fig. 4

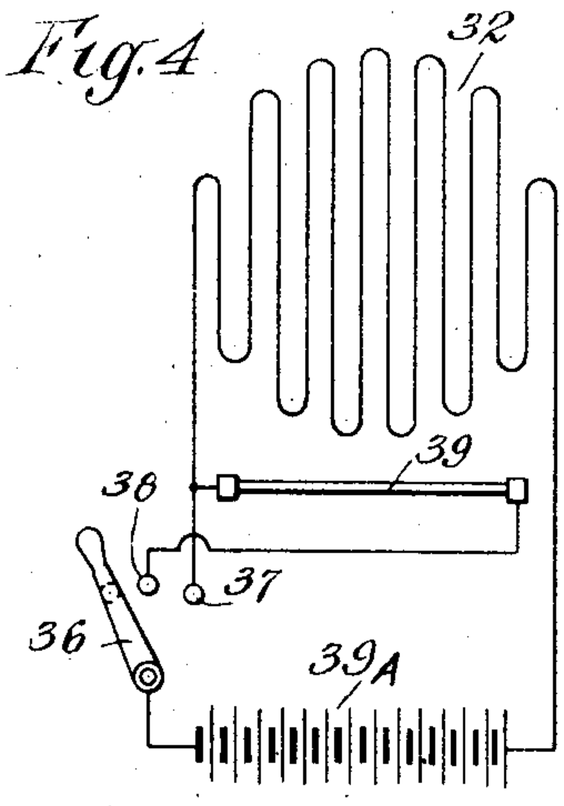


Fig. 5.

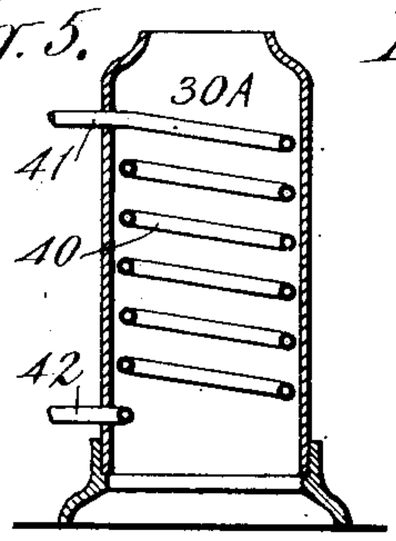


Fig. 6.

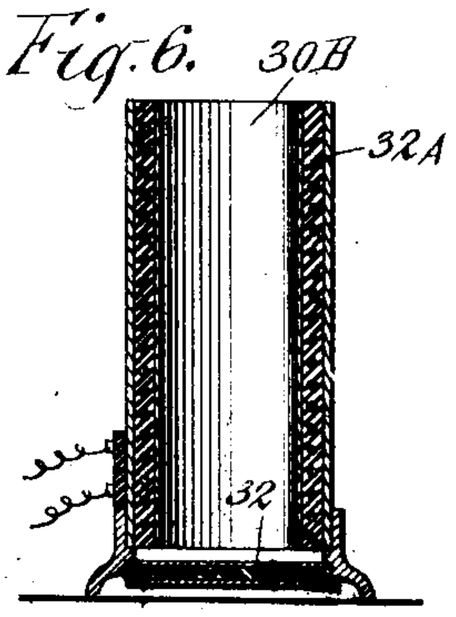
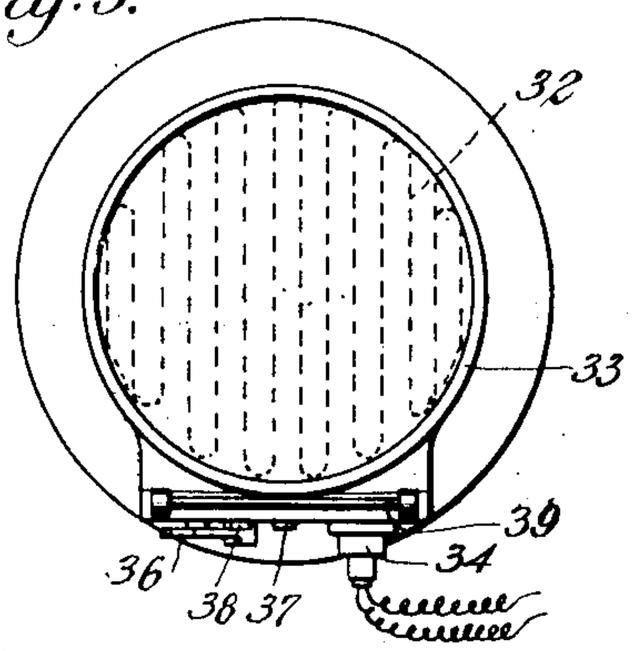


Fig. 3.



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APPARATUS FOR REMOVING PAINT AND VARNISH.

945,505. Specification of Letters Patent. Patented Jan. 4, 1910.

Application filed June 27, 1907. Serial No. 381,086.

To all whom it may concern:

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

My invention relates to an apparatus for removing paint and varnish, and its object is to provide a simple and efficient arrangement for heating paint and varnish removing compositions and for applying them to the desired 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 vertical section of an apparatus constructed according to my invention. Fig. 2 is a front elevation of a portion of the apparatus shown in Fig. 1. Fig. 3 is a plan view of the part of the apparatus which is shown in Fig. 2. Fig. 4 is a wiring diagram showing one manner in which the electric circuits may be connected. Fig. 5 is a sectional side elevation of a modification of my invention, and Fig. 6 is a vertical section of another modification, these two figures showing different forms of constructing heater receptacles and shields.

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

10 designates a spraying device which comprises a closed cylinder 11 which forms a pressure chamber, and an air-pump 20 for obtaining pressure within the cylinder. 12 is the bottom of this cylinder and 13 its top. The latter is provided at 14 with an opening through which the cylinder may be filled with the desired chemical composition. This opening may be closed by 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 through its top 13. 16 is a valve in this discharge pipe 15, and 17 is a flexible tube. 18 is a nozzle on the end of this tube by means of which the spray may be directed onto the desired surfaces.

As this apparatus is for use on all kinds and sizes of surfaces several nozzles of different sizes and forms may be furnished with each machine in order to increase its adaptability.

The air-pump 20 comprises a cylinder 21 within which is a piston 22 connected with the piston rod 23 on the upper end of which is a handle 24 by means of which handle 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. The pump piston rod may be locked in its lower position by turning it a part of a revolution so that the pin 27 will pass under a hook 28 and be engaged thereby.

This apparatus is especially designed for the purpose of removing paint and varnish from the surfaces to which they are applied by spraying upon such surfaces a chemical composition of the class which combines with a varnish dissolving material a waxy body which is used for the purpose of preventing evaporation of the solvent materials which are generally benzol or alcoholic bodies of highly volatile nature. 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 kind it is usually applied 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 volatile solvent agents.

I have found that by heating such a composition and applying it to a surface by means of a sprayer its effectiveness is greatly increased. By this method it is possible to cover a greater surface in a given time, and the heat increases the chemical activity of the composition and causes the wax to gelatinize upon the surface better on account of its quick change of temperature upon striking the surface. Other advantages are gained which I have fully set forth in a companion application for Letters Patent which I have filed and which has been given Serial Number 380,868 and filed in the Patent Office June 26th, 1907.

The purpose of the present invention is to provide a simple and efficient apparatus for applying a paint and varnish removing composition according to the above method. To this end I construct a heating device for use in conjunction with the sprayer 10. In a preferred form this heating device comprises

a receptacle 30 into which the cylinder 11 may be placed after it has been filled with the desired composition. The sides of this receptacle form a shield which forms an air-space 31 about the sides of the cylinder 11. In the base of the receptacle is an electrical heater which may be formed of a rheostat or high resistance wire 32.

33 designates a base of non-conducting material which is attached to the heater receptacle and upon this base is mounted a socket 34 for connecting the receptacle with a suitable source of electrical supply. A manually operated switch lever 36 is also mounted upon the base 33.

37 and 38 designate contact points upon which the switch lever 36 may be moved to close a circuit through the rheostat 32.

39 designates a high resistance element which is connected as shown between the contact points 37 and 38.

Referring to Fig. 4 it may be seen that when the switch lever 36 is in its left-hand position no circuit is closed through the rheostat 32. When, however, this switch lever is moved over onto contact 37 the rheostat is connected directly across the mains from the source of electrical supply which is designated in this case by 39A. The heat generated by the electrical current will be transmitted to the cylinder 11 and its contents, and the shield 30 will prevent the radiation of this heat so that it will be retained within the cylinder 11. The heat thus obtained will produce pressure within the pressure chamber, and the amount of pressure may be seen from the pressure gage 19. The safety valve 14 will prevent the pressure from becoming excessive. If greater pressure is desired it may be obtained by means of the pump 20 in the usual manner.

The temperature required for the proper working of this apparatus is above the melting point of the wax in the composition and greater than that of the surface to which the composition is to be applied. Rheostat 32 when connected as above, is designed and proportioned to raise this composition quickly to the required temperature. If the electrical current is allowed to continue through the rheostat 32 the temperature will become greater than is necessary. For this reason the high resistance element 39 may be provided so that after the composition has been raised to the required temperature the switch lever 36 may be moved back onto contact point 38. A current will then flow through the high resistance 39 and the rheostat 32, and these parts are so proportioned that they will maintain the composition within the cylinder 11 at the desired temperature. The apparatus is then ready for use, and the composition may be sprayed onto the painted or varnished surfaces, after which the paint or varnish may be readily removed.

If desired the sprayer 10 may be removed from the heater receptacle after its contents has been sufficiently heated, or it may be used with the heater receptacle on it.

In Fig. 5 I have shown the heater receptacle 30A with a pipe-coil 40 within it. 41 and 42 designate the inlet and outlet pipes connected with this heater-pipe-coil. Steam or hot water may be passed through the heater-pipe-coil to give the contents of the cylinder 11 the desired temperature.

In Fig. 6 I have illustrated a still further modification of the heater receptacle. In this case the heater receptacle 30B is constructed with a rheostat 32 in its base, similar to that previously described, and in addition to this rheostat the side walls of the receptacle are constructed to contain other high resistance wires designated by 32A, so that an electric current may be passed through the resistance wires in the base and in the sides of the receptacle.

I have illustrated several forms of my invention in order to show that I do not limit myself to any one construction and arrangement of parts.

What I claim is.—

1. An apparatus for heating and spraying varnish remover comprising an inclosed cylinder, a pump within the cylinder, a removable receptacle adapted to surround the cylinder, and a heater associated with said receptacle.

2. An apparatus for heating and spraying varnish remover comprising an inclosed cylinder, a pump within the cylinder, a removable receptacle adapted to surround the cylinder, and electrical means associated with said receptacle for producing heat.

3. An apparatus for heating and spraying varnish remover comprising an inclosed cylinder, a pressure pump associated therewith, a removable receptacle adapted to surround the cylinder, and a rheostat in the base of the receptacle.

4. An apparatus for heating and spraying varnish remover comprising an inclosed cylinder, a pump associated therewith, a removable receptacle adapted to surround the cylinder, a rheostat in the base of the receptacle, and a switch for connecting said rheostat with a source of electrical supply and for regulating the amount of current in the rheostat.

5. An apparatus for heating and spraying varnish remover comprising an inclosed cylinder, an air-pump associated therewith, a removable receptacle adapted to surround the cylinder and to form an air-space about the sides of the cylinder, a rheostat in the receptacle, a high resistance element, and a manually operated switch arranged to connect the rheostat directly across the mains

from a suitable source of electrical supply, or to connect the rheostat and a high resistance element in series across said mains.

6. An apparatus for heating and spraying varnish remover comprising an inclosed cylinder, an air-pump within the cylinder, a removable receptacle adapted to surround the cylinder and to form an air-space about the sides of the cylinder, a rheostat in the base of the receptacle, a high resistance element, and a manually operated switch arranged to connect the rheostat directly across the mains from a source of electrical supply, or to connect the rheostat and the high resistance element in series across said mains.

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

CHARLES J. FESS.

Witnesses:
ERNEST W. MARSHALL,
ELLA TUCH.