Dec. 1, 1936. R. O. PETERSON 2,062,998

SCRAPING TOOL

Filed June 24, 1931

Fig. 1

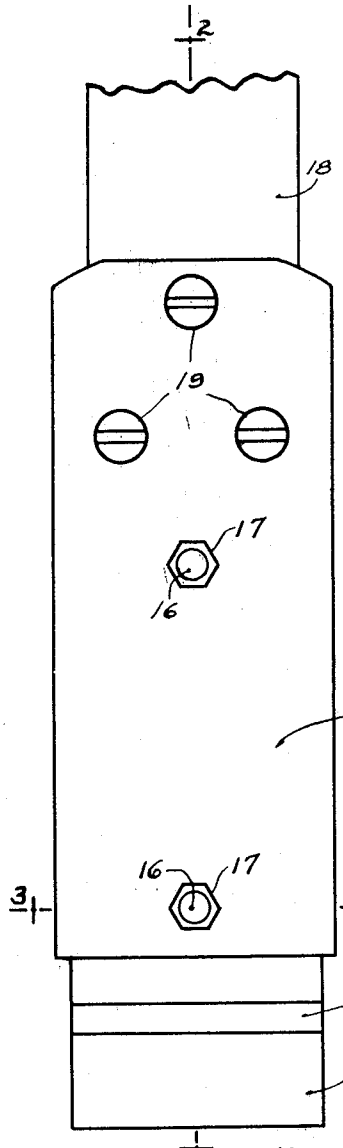


Fig. 2

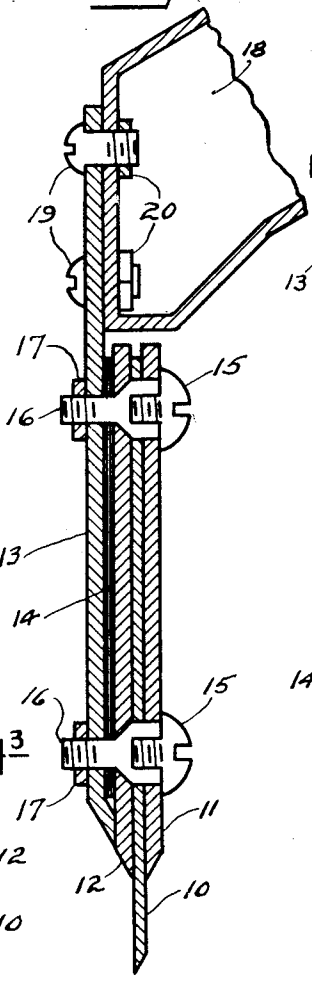


Fig. 4

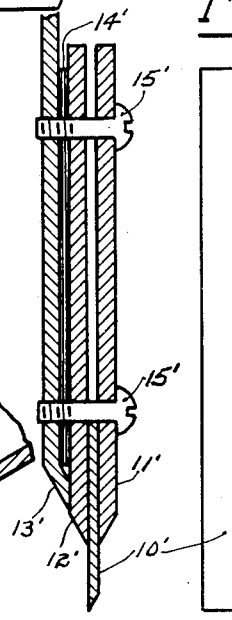
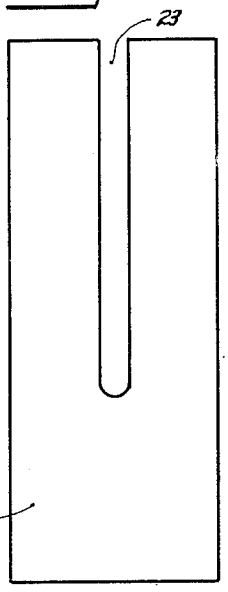


Fig. 5



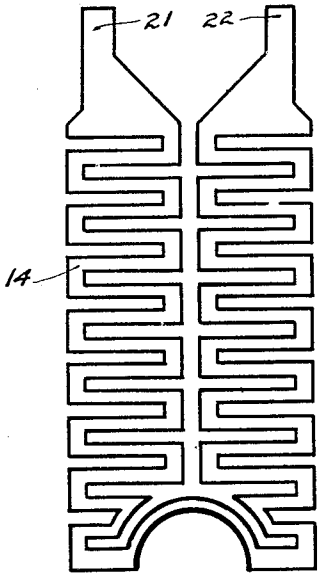


Fig. 6

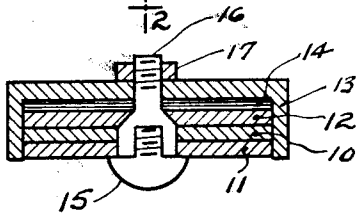


Fig. 3

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SCRAPING TOOL

Ruben O. Peterson, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a corporation of Illinois

Application June 24, 1931, Serial No. 546,551

5 Claims. (Cl. 219—21)

My invention relates to scraping tools, and more particularly to those tools which are used to remove heavy coats of paint and varnish from wood or other materials.

The removal of heavy coatings of paint or varnish requires much tedious labor and often large quantities of expensive solvents. Sanding machines are used to a certain extent, but are very unsatisfactory when the surface is slightly soft, or "tacky".

The object of my invention is to provide a tool which will remove heavy coats of varnish or paint, or both, quickly, easily, and cheaply.

A feature of my invention is the provision of a scraper having a heated blade, which softens the paint or varnish to be removed, and permits it to be easily scraped off.

Another feature of my invention is the provision of a blade which may be easily removed and replaced with a blade which has a different style of cutting edge, for different types of work.

A further feature of my invention is the provision of a flat electrical heating element, which occupies a minimum of space and distributes the heat equally over a large surface.

A still further feature of my invention is the placing of plates of metal having a high heat conductivity, such as brass, copper, or aluminum, adjacent to the blade, which provides quicker and more efficient heating of the blade.

Other features and advantages will be more fully described in the ensuing specification and appended claims.

It is believed that my invention will be best understood from a detailed explanation thereof taken in connection with the accompanying drawing, in which like reference characters refer to the same parts in the several views, and in which

Fig. 1 is a front elevation of a scraper manufactured according to my invention,

Fig. 2 is a sectional view taken along the line 2—2 of Fig. 1,

Fig. 3 is a sectional view taken along the line 3—3 of Fig. 1,

Fig. 4 is a view similar to Fig. 2, but showing an optional method of assembling the various parts,

Fig. 5 is a plan view of the blade used in the embodiment illustrated in Fig. 4, and

Fig. 6 is a plan view of one type of heating element which may be used.

Referring now to the drawing, 10 is a removable blade, which may have any desired form of edge. On opposite sides of the blade 10 are plates 11 and 12, which are of a material having a high degree of heat conductivity, such as brass or copper. A cover plate 13 is provided, and between the plate 12 and the cover plate 13 is the flat heating element 14, which is electrically insulated from the plates 12 and 13 by thin sheets of mica or other suitable insulating material. The various parts are maintained in their proper relationship by any convenient means as by the screws 15 and 16 and the nuts 17. A handle 18, which may be of any desired size and shape, is provided, and may be attached to the scraper by any convenient means, such as the screws 19 and nuts 20. Electrical conductors (not shown) extend preferably through the handle 18 and are attached to the terminals 21 and 22 of the element 14.

The outer surfaces of cover plate 13 and heat conducting plate 11, are highly polished, as by chromium or nickel plating or other suitable means, and the inner surfaces are left unpolished. This polish on the outer surface serves to reflect the heat inward in a manner well understood in the art, and obtain a maximum amount of heat at the blade.

When paint or varnish is to be removed, the scraper is attached to a convenient source of electrical current and allowed to become hot. The plates 11 and 12, being of a material having a high degree of heat conductivity, convey the heat from the element 14 to the blade 10 quickly and with little loss. When the blade has become sufficiently hot, it is operated in the same manner as the ordinary hand scraper. The hot blade softens the paint and allows it to be removed quickly and with a minimum of physical effort on the part of the operator.

When it is desired to remove the blade for sharpening or for replacement with another blade having a different type of edge, screws 15, which engage screw-threaded orifices in the heads of screws 16, are removed, and the plate 11 and blade 10 may be removed. If it is desired to entirely disassemble the scraper for inspection, repairs or replacement of the heating element, nuts 17 are unscrewed, after which all the parts are easily separated.

In Figs. 4 and 5 I have shown an optional method of assembling the various parts. In this embodiment of the invention, the blade 10' is provided with a longitudinal slot 23. The entire assembly is held in position by the screw 15' in threaded engagement with orifices in the cover plate 13'. To remove the blade, the screws 15' are slightly loosened and the blade slipped out

through the bottom of the scraper. The scraper can be disassembled by removing the screws 15' entirely.

While I have illustrated and described a preferred embodiment of my invention, it is to be understood that changes and modifications will readily suggest themselves to those skilled in the art, and I, therefore, desire to be limited only by the spirit and scope of the appended claims.

Having described my invention, what I claim, as new, and desire to secure by United States Letters Patent is:

1. A scraping tool comprising a blade, a cover plate, a plate of high heat conductivity on one side of said blade, a second plate of high heat conductivity on the other side of said blade, means including a flat electrical resistance element extending over the greater portion of said plates for heating said plates and said blade, other means including a member, having an enlarged head portion, extending through said cover plate, said resistance element and one of said plates for removably holding said resistance element and said plates in a unit structure, and a member engaging said enlarged head and cooperating therewith to removably hold said blade and said other plate to said unit structure.

2. A scraping tool including a blade, a plate composed of material having high heat conductivity on one side of said blade, a second plate having high heat conductivity on the other side of said blade, an electrical heating element extending substantially the length of said blade for heating said plates and said blade, means for removably holding said first plate and said heating element in a unit structure and other means engaging said first means for securing said blade and said second plate thereto.

3. A scraping tool including a blade, a flat electrical heating element extending substantially the length of said blade, a plate of high heat conductivity between said heating element and said blade, a second plate on the opposite side of said blade, means for removably holding said heating element and said first plate in a unit structure, and other means engaging said first means for removably securing said blade and said second plate to said unit structure.

4. In a scraping tool, a cover plate, a pair of plates having a high degree of heat conductivity, an electrical heating element between said cover plate and one of said pair of plates and extending over the greater portion of said one of said pair of plates, a blade between said pair of plates, means extending thru said cover plate, said heating element and said one of said pair of plates for removably holding said cover plate, said heating element and said one of said pair of plates in adjacent relationship as a unit structure and other means engaging said first means for removably securing said blade and said other of said pair of plates to said unit structure.

5. A device of the character described including a cover plate, a heating element, a blade, a pair of plates composed of material having a high degree of heat conductivity, means removably securing said cover plate, said heating element and one of said pair of plates together as a unit, and other means engaging said first means removably securing said plate and said other of said pair of plates to said unit.

RUBEN O. PETERSON.