H. E. SMITH.

DEVICE FOR POLISHING VARNISHED AND HARD FINISH SURFACES.

APPLICATION FILED NOV. 14, 1917.

1,287,487. Patented Dec. 10, 1918.

Fig. 1.

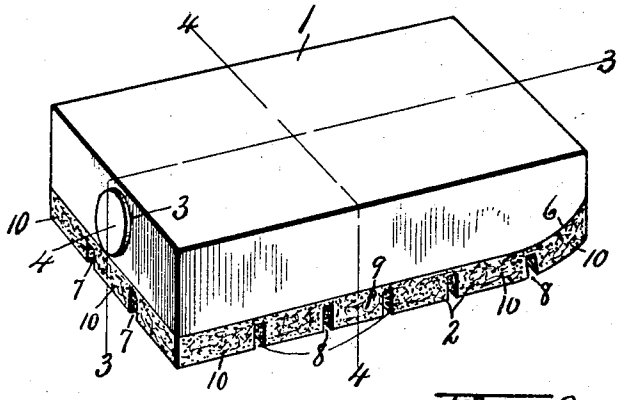


Fig. 2.

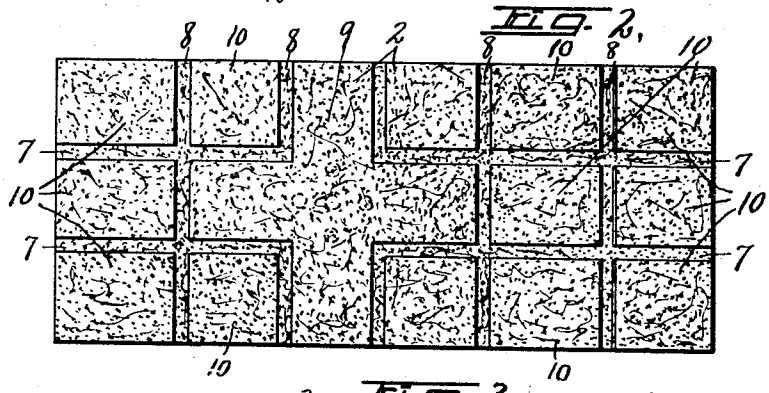


Fig. 3.

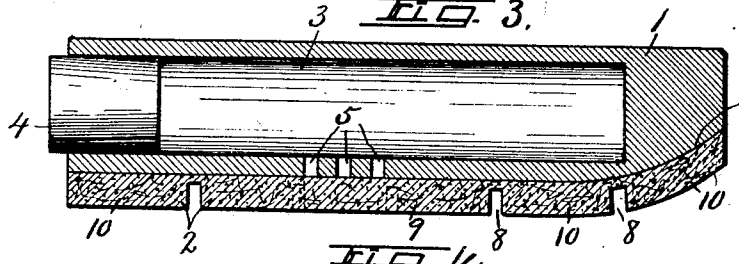
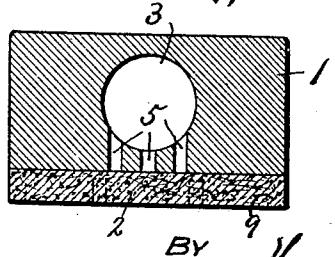


Fig. 4.



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THE NORRIS PETERS CO. PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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DEVICE FOR POLISHING VARNISHED AND HARD-FINISH SURFACES.

1,287,487. Specification of Letters Patent. Patented Dec. 10, 1918.

Application filed November 14, 1917. Serial No. 201,907.

To all whom it may concern:

Be it known that I, HORACE E. SMITH, a citizen of the United States of America, and resident of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Devices for Polishing Varnished and Hard-Finish Surfaces, of which the following taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to a device for applying a liquid polish to highly varnished and other "hard finish" or polished surfaces, and while it is particularly adapted for restoring the luster of the highly finished parts of automobiles and other vehicles, it may be used for restoring the gloss or luster of polished furniture and in other analogous relations.

The primary object is to provide a simple, efficient and comparatively inexpensive device for supplying a polishing liquid to the surface to be polished and simultaneously distributing and working such liquid into the pores or interstices of said surface by rubbing contact.

Another object is to enable the operator to regulate the feed of the polishing liquid by the degree of pressure.

A further object is to limit the distribution of the polishing liquid to a relatively small area of the polishing surface of the device so that the remaining portions of said polishing surface may be utilized for dry polishing.

A still further object is to divide the polishing surface into sections separated by channels to enable said surface to conform more readily to varying contours operated upon, and also for preventing the transmission of the polishing liquid from one section to another, and at the same time allowing any liquid which may be transmitted from the object operated upon to the dry surface of the polishing surface to dry out or evaporate by exposure to the air which is allowed to circulate through the channels during the polishing operation.

Other objects and uses relating to specific parts of the device will be brought out in the following description.

In the drawings—

Figure 1 is a perspective view of a polishing implement embodying the various features of my invention.

Fig. 2 is an enlarged inverted plan of the same.

Figs. 3 and 4 are enlarged sectional views taken, respectively, on lines 3—3 and 4—4, Fig. 1.

As illustrated, this device comprises an elongated substantially rectangular block or back-piece —1—, preferably of wood, and a body —2— of absorbent material, such as felt, of sufficient firmness to retain its form and integrity when partially saturated with a polishing liquid or subjected to pressure by rubbing contact with the surface to be polished.

The block or back-piece —1— is of such width as to be easily gripped in the hand of the operator, but is somewhat longer in the direction of its grain and is provided with a central lengthwise chamber —3— extending from one end to a point in proximity to, but short of, the opposite end so that the latter end will be closed by the material forming the block, the open end being normally closed by a stopper —4—.

This chamber —3— preferably consists of a circular bore which may be easily made by a boring tool and constitutes a reservoir for the reception and retention of a quantity of the polishing liquid designed to be used for producing or renewing the luster of varnished or finished surfaces in a manner presently described.

The central portion of the bottom of the chamber or reservoir —3— is provided with a series of relatively small openings —5— therethrough for the transmission of the polishing fluid from the reservoir —3— to the adjacent underlying portion of the absorbent body —2—.

This absorbent body is coextensive with the area of and is adhesively secured to the bottom of the block or back —1— so as to extend from end to end and from side to side thereof, and is preferably made from a flat piece of felt of uniform thickness and firmness throughout its area.

The greater portion of the area of the bottom of the block —1— and also of the felt pad —2— is substantially flat, although the forward end thereof is curved upwardly at —6— to enable the polishing device to be used more effectively on concave surfaces,

such as the longitudinally concave portions of automobile fenders and certain concave parts of the body, and also to allow it to ride more freely along the plane or convex surfaces during the polishing operation.

The polishing surface of the felt body —2— is divided by lengthwise channels —7— and cross channels —8— into a relatively large central section —9— and smaller rectangular sections —10—, the larger central section —9— being X-shape and covers the entire series of apertures —5—, while the smaller sections —10— cover the remaining imperforate portions of the bottom of the block.

It is, therefore, evident that the polishing liquid in the reservoir —3— is transmitted only to the central portion of the larger section —9— which may be termed the absorbent or saturated section, while the other smaller sections may be termed the dry sections.

This absorbent body, while sufficiently firm to maintain its shape under saturated conditions or when under pressure, is sufficiently pliable to conform to slight irregularities in the surface being polished, the channels —7— and —8— serving to increase its flexibility and also to prevent excessive transmission of the polishing liquid from the center section —9— to the drier sections —10—.

The direct transmission of the polishing liquid from the reservoir —3— to the larger absorbent section —9— of the pad causes the latter to slightly expand in thickness by reason of its saturation, thus slightly increasing its elasticity, while the remaining drier sections retain more closely their original form and size.

This condition is particularly desirable for the reason that when the pad is brought down upon the work, the saturated section is first to contact therewith and the hand pressure upon the block necessary to produce the polish naturally compresses the saturated section —9—, thereby expelling the liquid polish therefrom to the surface of the work, and at the same time bringing the surface of the larger section into substantially the same plane as that of the adjacent drier sections so that when the pad is moved along and upon the work with a rubbing motion, the central section —9— supplies the polishing liquid, while the other sections work it into the pores of the varnished or finished surface under treatment without liability of transmitting an oversupply of the polishing liquid to said surface or in any way wasting such liquid.

It is, of course, true that the drier sections —10— will take up a small amount of the liquid during the polishing operation, but it is almost negligible and is readily evaporated or dried out by reason of the freedom of circulation of the air through the channels and around all of the drier sections.

It is also obvious that the amount of polishing liquid supplied to the work through the saturated absorbent section —9— will depend somewhat upon the amount of pressure with which the absorbent body is brought into contact with said work; that is, the greater the pressure, the more liquid will be supplied, and vice versa.

In filling the reservoir the entire device may be placed in an upright position with its closed end at the bottom and the stopper removed, after which the stopper is tightly replaced and the polisher brought to its operative position upon the surface to be polished and moved back and forth thereon with rubbing contact under whatever pressure may be desired according to the nature of such surface and amount of polishing liquid to be supplied thereto, the operation being continued with gradually diminishing pressure until the liquid is worked sufficiently into the pores to produce the desired luster.

What I claim is:

A device for polishing varnished and "hard-finish" surfaces comprising an elongated hand block having a central lengthwise bore extending from its rear end forwardly parallel with the underlying portion of the bottom for retaining a polishing fluid, said bottom having a substantial central outlet leading from said bore, in combination with a layer of felt having a plurality of cross channels in its lower face extending only partway therethrough and located some distance to the front and to the rear of the outlets so as to form a substantially central polish-receiving and transmitting surface registering with the outlet while the portions beyond the channels toward the ends of the felt may remain drier than the central portion by reason of the channels for polishing purposes.

In witness whereof I have hereunto set my hand this 5th day of November, 1917.

HORACE E. SMITH.

Witnesses:

H. E. CHASE,

ALICE M. CANNON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."