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BUFFING COMPOUND

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This invention is directed to a buffing compound which is particularly adapted for the buffing of chromium plated surfaces to remove stains, cloudiness and other defects, and bring out the color of the plating to its best advantage. The buffing composition is particularly directed, and has for its primary object and purpose, the production of a composition which, after a chromium plated surface has been buffed, is very quickly and easily cleaned, that is, the deposit left from the buffing composition on the chromium surface is fully removable in a very easy and quick manner by washing or rinsing it in hot water in which such deposit is readily soluble; and it can be removed by mere washing likewise in various spirits, such as kerosene, gasoline, benzine, and the like.

Heretofore, so far as known, the buffing compositions used with chromium plating have left a deposit on the plating which has been costly to remove, requiring considerable labor to rack the plated articles and subjecting them to a suitable solution which will remove the deposit, such solution being required to surround each of the articles for successful removal of the deposits. This requires a racking of the plated articles to properly separate them one from the other. With the buffing composition of our invention, racking is not required, the labor thereof is eliminated and the deposit is readily removed by subjecting the plated articles in the mass to water at a proper temperature. Such deposit removal is required, particularly in conjunction with chromium plated articles upon the plated surface of which lacquer or enamel is to be thereafter applied, usually over only parts of the surface, in accordance with surface designs which combine chromium plating and enamel in any of an indefinite number of forms. Our invention, after thorough test and trial has been particularly successful in connection with such work; and the treatment of chromium plated surfaces, including their buffing and the subsequent cleaning of their surfaces, and the removal of the deposit left thereon from the buffing composition is greatly facilitated and reduced in cost.

In the buffing composition which we have produced, in addition to abrasive which forms one ingredient of the composition is azelaic acid which is a dibasic aliphatic acid and solid polyethylene glycol (known in the trade as carbowax 4000 or carbowaxes 1000 to 7000) used in proper critical proportions with reference to each other to serve as a carrier and binder for the abrasive

material. Such material has a melting point approximately 129 degrees Fahrenheit which on the centigrade scale is substantially 54 degrees. The azelaic acid has a melting point of substantially 90 degrees centigrade. The two are mixed together usually, by weight for the best results which have been obtained, in proportions of 34.9 to 34.95 percent of the polyethylene glycol in 100 percent of the binder composition which consists of azelaic acid and solid polyethylene glycol. Such substantially 35 percent polyethylene glycol, with a melting point of 54 degrees centigrade, and the remainder or 65 percent substantially of azelaic acid is the optimum which we have found. The invention, however, is of value and will serve its purposes with success, though not quite as well, upon a variation of the percentages of the ingredients, approximately 3 percent either way from the 35 percent optimum of polyethylene glycol. That is, the range of the polyethylene glycol in general should be between 32 percent to 38 percent with 68 percent to 62 percent azelaic acid.

The binding ingredients, namely solid polyethylene glycol and azelaic acid in melted form are thoroughly and homogeneously intermixed and therewith the abrasive material is disseminated throughout. The best abrasive material for chrome plating for economy consists of aluminum oxide. Chrome green oxide may also be used and is successful so far as results are concerned but is more costly than the aluminum oxide. The aluminum oxide in a very finely divided form is thoroughly interspersed through its carrier or binder. We used preferably in weight 3.22 parts of the abrasive to one of the carrier or binder. The invention, however, is not dependent upon any close approximation of such abrasive to binder or carrier. A less amount of the abrasive may be used, involving some sacrifice of efficiency as the removal of stains, cloudiness and other things to bring out the color of chromium plating is a function of the abrasive, and the more thereof which can be practically and successfully utilized in any given quantity of the buffing composition, the greater will be its effectiveness. Therefore the invention is not to be controlled in its scope and limited to the particularly specific proportion of the abrasive to its binder or carrier which have, thus far, been found the best.

With the buffing composition described, the melting point of azelaic acid used in the proportions stated, with the lower melting point polyethylene glycol ingredient provides a compo-

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sition carrier or binder for the abrasive which is neither too soft nor too hard, and in which the abrasive carried thereby and spread on a buffing wheel, is effective in bringing out the color in chromium plating without scratching and doing it very rapidly. The deposit left upon the buffed plated surface is water soluble so that the application of hot water to the plated surfaces quickly cleanses the surfaces from the deposit leaving them wholly clean.

Clean surfaces are required for the subsequent applying of lacquer or enamels of different colors. The buffing composition which we have produced is very effective and its deposit is so readily removed by mere hot water washing that the expense of cleaning the surfaces is reduced to a minimum.

Having thus described our invention, what we claim and desire to secure by Letters Patent is as follows:

1. A buffing composition comprising, azelaic acid, solid polyethylene glycol and an abrasive substantially uniformly mixed together.

2. A buffing composition comprising, a binder of substantially 35 percent solid polyethylene glycol and 65 percent of azelaic acid in weight and an abrasive substantially uniformly interspersed therethrough.

3. A buffing compound comprising, a carrier of substantially 35 percent of solid polyethylene glycol and 65 percent azelaic acid by weight, and an abrasive substantially uniformly interspersed throughout the carrier, in the proportions of $3\frac{1}{4}$ parts by weight of the abrasive to one part of the carrier.

4. A buffing composition comprising, an abrasive carrier of azelaic acid and solid polyethylene glycol in proportions by weight varying between approximately 32 to 38 percent of polyethylene

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glycol and 68 to 62 percent of the azelaic acid, and an abrasive thoroughly and substantially uniformly interspersed throughout said carrier.

5. A buffing composition comprising, a carrier for an abrasive consisting of azelaic acid having a melting point of substantially 90 degrees C., and solid polyethylene glycol in proportions by weight of substantially $\frac{1}{3}$ polyethylene glycol and $\frac{2}{3}$ azelaic acid, and an abrasive disseminated throughout said carrier in proportions approximately by weight, of three parts abrasive to one of the carrier.

6. A buffing composition comprising, a binder of a homogeneous intermixture of azelaic acid and solid polyethylene glycol in proportions by weight of $\frac{1}{3}$ of the polyethylene glycol and $\frac{2}{3}$ of azelaic acid, and finely divided aluminum oxide substantially uniformly interspersed through said binder in approximate proportions by weight of three parts of the aluminum oxide to one of the binder.

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