

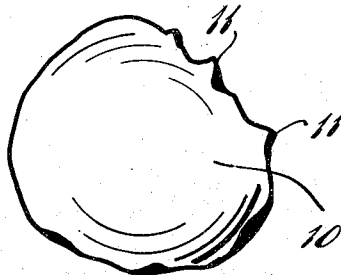
March 13, 1951

J. LUPO

2,545,291

POLISHING COMPOUND AND CARRIER THEREFOR

Filed Oct. 28, 1948



INVENTOR.

JOSEPH LUPO

BY

Clark & Att
ATTORNEYS

UNITED STATES PATENT OFFICE

2,545,291

POLISHING COMPOUND AND CARRIER
THEREFOR

Joseph Lupo, Mount Vernon, N. Y.

Application October 28, 1948, Serial No. 57,119

1 Claim. (Cl. 51-164.5)

1

This invention relates to the finishing of articles to remove the rough exterior thereof by tumbling the same with an abrasive or polishing carrier.

In this art it has been the practice to employ sawdust or granular fibrous carriers of irregular shape having angulated faces to which carriers an abrasive or polishing compound is applied and the same tumbled with the articles to be finished. In the tumbling operation to finish the surface of the articles the abrasive or polishing compound soon pulverizes the sawdust and wears away the sharp edges and corners of the irregular shaped carrier as well as the rough surfaces of the articles. This wearing away of the carrier produces a fine powder or dust which is emitted from the tumbling apparatus in a dense cloud when the cover of the apparatus is opened to remove or inspect the articles being tumbled. The dust laden air soon fills the room in which the operation is being carried out so as to result in an occupational hazard for the operator and necessitating the wearing of a respirator or some means of removing the dust from the air.

The present invention seeks to avoid the aforesaid occupational hazard and to provide a fibrous carrier of generally rounded formation which does not wear away or disintegrate into dust by the action of the abrasive or polishing compound thereon during the tumbling operation.

Still another object of the invention is to provide a fibrous carrier which does not cake with the abrasive or polishing compound so as to fill crevices or openings in the articles which is one of the objections to carriers of irregular formation and which also eliminates pitting of the articles.

Still another object of the invention is to provide an abrasive or polishing compound of pasty consistency which adheres to the surface of the carrier and retains the abrasive material in a moistened condition in the mixture so as to prevent the same from disintegrating and forming into a powder or dust.

In the drawings:

Fig. 1 illustrates a view in elevation greatly enlarged of a fibrous carrier employed in the polishing compound.

In carrying out the invention use is made of a fibrous carrier 10 such as wooden pellets, corn cob granules and the like which are of generally rounded formation and formed with one or more projections 11 on one side thereof, the rounded portion of the carrier functioning when coated with the abrasive and polishing compound to produce an abrasive and polishing action on the plane and outer surfaces of the parts being tumbled while the projections produce an abrasive and polishing action on creviced and re-

2

cessed surfaces and the like. The carrier being of generally rounded formation possesses a distinct advantage since the same does not wear away or disintegrate and form obnoxious dust which results when employing sawdust, wooden pegs, chips and the like having sharp angular edges which readily wear away. The carrier is coated with the compound for abrading and polishing the articles when tumbled with the carrier in the usual tumbling barrel and due to the generally rounded formation of the carrier any desired thickness of coating of the abrasive and polishing compound may be applied thereto. This is accomplished by tumbling the carrier with the compound which includes a vehicle for bonding the abrasive material to the outer surface of the carrier and which maintains the articles being tumbled in a moistened and lubricated condition during the cutting down, abrading and polishing thereof.

The finishing of the articles is preferably carried out in three operations consisting of a cutting down operation to remove tool marks and rough outer surfaces of the articles, a burnishing operation to provide a smooth surface thereon, and a polishing operation to impart a high luster to the articles. In the cutting down operation a relatively large proportion of coarse abrasive is employed together with a finer abrasive and the proportion thereof to the adhesive and lubricating vehicle in the paste is greater in the cutting down operation than in the burnishing and polishing operations. The adhesive and lubricating vehicle in the abrasive compound for the cutting down operation may consist of tallow, lanolin, glycerin, petrolatum, kerosene and oleic acid and the proportion of the abrasive to the adhesive and lubricating vehicle is approximately 42 parts of the abrasive to approximately 58 parts of the adhesive and lubricating vehicle. It has been found that the following ingredients produce satisfactory results for cutting down or removing the rough exterior on metal articles produced in the manufacture thereof:

Cutting down operation

	Per cent
Lanolin -----	24
Glycerin -----	8
Kerosene -----	14
Oleic acid -----	12
Coarse mesh abrasive—150 grit -----	25
Medium mesh abrasive—240 grit -----	9
Fine mesh abrasive—320 grit -----	8

After the articles have been treated to remove the rough exterior in the cutting down operation they may be treated by an abrasive mixture con-

3

taining the following ingredients in the proportions listed:

Smoothing operation

	Per cent
Tallow or lanolin-----	29
Glycerin -----	13
Oleic acid -----	12
Stearic acid -----	10
Tripoli or other abrasive—320 to 400 mesh--	12
Chalk, aluminum oxide or other fine polishing powder—420 to 600 mesh-----	24

After the articles have been burnished to provide a smooth face or surface, the same may be treated to impart a high luster to plastic articles and to protect the surface of metallic articles by utilizing a mixture consisting of the following ingredients in the approximate proportions listed:

High luster operation

	Per cent
Oleic acid -----	6
Stearic acid -----	5
Shellack wax -----	15
Carnauba wax -----	31
Turpentine -----	35
Chalk or any fine polishing powder-----	8

A relatively small amount of the paste consisting of the aforesaid ingredients is required in the operation for imparting a high luster to plastic articles. A teaspoonful of the aforesaid quantity may be applied to approximately 600,000 of

4

the fibrous carrier. Metallic articles burnished with the aforesaid mixture produces a high polish thereon and applies a thin film of the wax vehicle to the surface thereof which covers and seals the surface and prevents oxidation of the metal.

What is claimed is:

In a polishing compound for processing articles, a fibrous carrier of generally rounded formation having projections extending outwardly from one portion thereof, and an abrasive bonded to the surface of the carrier by an adhesive and lubricating vehicle including lanolin, glycerin and kerosene of normally solid consistency and which liquefies under the heat generated in the processing of the articles.

JOSEPH LUPO.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,352,598	Hart -----	Sept. 14, 1920
1,750,499	Truax -----	Mar. 11, 1930
1,887,026	Lach -----	Nov. 8, 1932
2,062,671	Lupo -----	Dec. 1, 1936
2,185,262	Lupo -----	Jan. 2, 1940
2,318,578	Balz -----	May 11, 1943
2,440,656	Huntington -----	Apr. 27, 1948