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BUFFING COMPOSITION

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This invention relates to an improved buffing process and composition therefor and, more particularly, to an improved process for machine-operated cloth-buffing of suitably pre-treated woodwork or furniture to impart thereto a lustrous finish, and to an improved buffing composition for use in such process.

In the preparation of woodwork or furniture such as television cabinets, for example, the cabinet is fabricated of suitable wood and is usually then treated by the application of a lacquer coating or finish. The surface is usually also "wet-sanded" to remove roughness and irregularities of a coarse nature. Then, the surface is buffed to impart thereto the desired lustre.

Heretofore, it has been necessary generally to carry out the buffing operation by hand, because machine buffing resulted almost invariably in burning the finish and even the wood, by reasons of the harsh action of the machine. Machine buffing, usually by means of a rotary rubbing motion of a suitably supported buffing cloth urging an abrasive rubbing compound against the surface to be buffed, is relatively inflexible to the extent that the machine cannot sense overheating at the buffing surface. Accordingly, such cabinet buffing operations as were necessary were carried out by hand, using the usual pumice rubbing compounds ordinarily employed for such purposes.

In essence, the buffing operation involves fine smoothing, by moderate abrasive action, so as to obtain a sufficiently smooth finish surface to impart thereto a lustrous appearance. Manual buffing, of course, is tedious and time consuming. But, as just mentioned, it was heretofore not possible to exploit the advantages of speed, uniformity and facility of operation afforded by machine buffing, because overheating or burning invariably resulted using those available buffing or rubbing compounds which were suitably active abrasives for practical operation.

The instant invention relates to a machine buffing operation wherein a suitably compounded rubbing composition improves the general inflexible character of machine buffing by cooperating with the buffing cloth at the buffing surface to cool, lubricate or otherwise dissipate friction-created heat to permit suitably swift and effective abrasive action without burning. Also, the instant invention relates to a buffing composition uniquely adapted to carry out such functions during machine buffing.

It is therefore an important object of the instant invention to provide an improved buffing process and rubbing compound therefor.

It is a further object of the instant invention to provide an improved machine buffing operation, and buffing composition therefor, which may be employed in the buffing of suitably pre-treated or finished woodwork to obtain a brilliant lustre without danger of burning the buffed surface.

It is another object of the instant invention to provide an improved machine buffing process, and buffing composition therefor, which may be employed for the purpose of very rapidly imparting a lustre to lacquer-finished wood surfaces without damaging, for example by overheating, either the lacquer finish or the wood surface.

It is still another object of the instant invention to provide an improved machine buffing process, and buffing composition therefor, whereby rapid but uniquely-cooled abrasive, lustre-imparting action is obtained by the use of a machine operated buffing cloth in conjunction with a suitable abrasive, such as tripoli, in an oil-in-soap solu-

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tion emulsion, wherein the weight ratio of tripoli to soft soap is about 1:1, and the total water present is about 4-20 times the solid soap content.

It is yet a further object of the instant invention to provide an improved machine buffing process, and buffing composition therefor, for use in obtaining superior results in the buffing of lacquered cabinet work, wherein the buffing operation is accomplished by cooperative action between a suitable buffing cloth and a composition comprising tripoli, soft soap, kerosene and water in approximately a 2:2:1:5 weight ratio.

Other objects, features and advantages of the present invention will become apparent to one skilled in the art from the following description of preferred embodiments thereof.

The present invention relates to an improved machine-buffing operation of the type described, and the buffing composition therefor, wherein a suitable abrasive such as tripoli is used in the composition in conjunction with about an equal amount of soft soap, a volatile oil such as kerosene in about one-half that amount, and water in amounts ranging from about 4 to 20 times the soap solids content.

Most preferably, the buffing composition of the invention is obtained by mixing three compounds according to the following Schedule I:

Schedule I

(a) 3-5 parts of a rubbing compound having the formula:

Ingredient	Proportions	
	Preferred, percent	Optimum, percent
(1) Soft green soap (60% solids).....	12-20	16.5
(2) Tripoli (Rose tripoli).....	35-55	45.5
(3) Volatile Oil (Kerosene).....	15-25	21.5
(4) Water.....	15-25	16.5

Prepared by dissolving soap (1) in water (4), then adding kerosene (3), and finally adding tripoli (2), with agitation.

(b) 3 parts of a soap compound having the formula:

Ingredient	Proportions	
	Preferred, percent	Optimum, percent
(5) Soft soap (40% solids).....	30-45	36
(6) Volatile Oil (Steam distilled Pine Oil).....	up to 2	1
(7) Water.....	55-70	63

and (c), as a diluent, 1-5 parts of water. (As used herein, and terms "parts," "percent" and "%" means parts or percent by weight, unless otherwise designated.)

It has been found, by repeated operations, that machine operated cloth-buffing of lacquered television cabinets, for example, may be carried out in a uniquely satisfactory manner so as to obtain optimum results by the use of the foregoing proportions above designated.

The particular abrasive material found to be most satisfactory is tripoli or rose tripoli. It will be appreciated, however, that certain other equivalent abrasives such as silica flour and diatomaceous earth might well be substituted in whole or in part for the tripoli.

The volatile oil (3), kerosene, found to be most suitable for use in compound (a) may, of course, be replaced in whole or in part by an equivalent mineral oil. It will be appreciated that one of the most advantageous features of kerosene is its inexpensiveness. The kerosene also has limited solvent functions, at least for cleansing purposes, and also tends to form an oil-in-water emulsion in the instant composition so as to assist in improving the uniformity and stability of the suspension of ingredients in the composition. The pine oil of compound (b) may, likewise, be replaced in whole or in part by an equivalent volatile oil.

As is well known, soaps are obtained by the interaction of fatty oils and fat with alkali metal donors to form salts. In the instant case, the soaps found to be most preferable are the high viscosity potassium soaps made from vegetable oils. Soap-water systems are capable of exhibiting a variety of physical forms or phases. For example, true soap solutions (called nigre phase) occur ordinarily when the proportion of soap to water is under about 30%. Another phase, is the middle soap or so called "soft soap" phase which normally occurs in soap concentrations ranging from 40 to 60% solids in water. In commercial practice, aqueous soap compositions are ordinarily supplied as soft soap (in the concentration just mentioned) and, accordingly, the proportions of ingredients used herein have been referred to on the basis of the soft soap proportions on certain occasions. It should be noted, however, that in the preparation of both compound (a) and compound (b), the amount of additional water that is incorporated in each is sufficient to effect a change from the soft soap phase to the nigre phase, and the water of compound (c) is substantially more than the amount necessary to accomplish that transition with respect to either compound (a) or (b) or both.

Although the exact phenomena involved in accomplishing the uniquely advantageous results of the instant invention are not fully understood, it is believed that such results are effected by the combination of several important functions including lubrication, heat dissipation and cleansing.

It has been found most preferable that the compounds (a), (b) and (c) of Schedule I be employed in the ratio of 3:3:1. The resulting proportions are as set forth in the following Schedule II:

Schedule II

Ingredient	Proportions	
	Actual, percent	Approximate, percent
Soap (As soft soap).....	(22.5)	20
Abrasive (Tripoli).....	(19.7)	20
Volatile Oil (Kerosene plus pine oil).....	(9.7)	10
Water.....	(48)	50

It will thus be seen that the preferred ratio of soft soap to tripoli to kerosene to water is about 2:2:1:5. It has been found, however, that appreciable amounts of water may be added in addition to the foregoing proportion of water without producing harmful effects; and in some instances, it is advisable to add additional water, the amount of water employed being to some extent a matter of choice in order to obtain a buffing compound of the particular consistency desired. In general, it has been found that the amounts of water incorporated in the composition may be such that the final soap solids concentration with respect to the water is about 10-20%, preferably.

As can be seen from Schedule II, the buffing composition thus described, constitutes a kerosene-in-soap solution emulsion, wherein the soft soap to tripoli ratio is about 1:1, the water is about enough to obtain a 10-20% (solids) aqueous soap solution, and the kerosene is a minor proportion with respect to the water, of about 5-20% of the water (or about 50% of the soft soap).

In carrying out the machine-operated cloth-buffing operation of the instant invention, a cloth-buffing wheel powered for rotary motion may be employed. Such a buffing wheel would ordinarily involve a suitable supporting structure having mounted on a circular face thereof, one or a plurality of layers of suitable resilient material, such as sponge rubber. The buffing cloth is wrapped over the resilient material and is supported thereby during the buffing operation, when the buffing cloth is urged

against the wood workpiece with the buffing composition applied to the surface thereof.

In general, buffing as well as cloth-buffing operations machine powered, for example, for rotary cloth-buffing motion are well understood in the art and need not here be described in further detail. The unique feature of the instant invention being the particular cooperation between the ingredients of the buffing composition when interposed between the buffing cloth and the surface to be buffed during a machine-operated buffing process.

It will, of course, be understood that various details of operation and composition may be varied through a wide range without departing from the principles of this invention, and it is, therefore, not the purpose to limit the patents granted hereon otherwise than necessitated by the scope of the appended claims.

I claim as my invention:

1. A composition suitable for use in cloth-buffing of lacquered furniture, that consists essentially of (a) 3-5 parts of a rubbing compound of 16.5 weight percent aqueous alkali metal soap of fatty acids of 60 weight percent solids content, 45.5 weight percent tripoli, 21.5 weight percent kerosene and 16.5 weight percent water; (b) 3 parts of a soap composition of 36 weight percent aqueous alkali metal soap of fatty acids of 40 weight percent solids content, 1 weight percent pine oil and 63 weight percent water; and (c), as a diluent, 1-5 parts of water.

2. A composition suitable for use in cloth-buffing of lacquered furniture, that consists essentially of (a) 3-5 parts of a rubbing compound having the formula:

	Weight percent
60% aqueous alkali metal soap of fatty acids.....	12-20
Tripoli.....	35-55
Kerosene.....	15-25
Water.....	15-25

(b) 3 parts of a soap composition having the formula:

	Weight percent
40% aqueous alkali metal soap of fatty acids.....	30-45
Pine oil.....	up to 2
Water.....	55-70

and (c) 1-5 parts of water.

3. A composition suitable for use in cloth-buffing of lacquered furniture, that consists essentially of:

	Parts
60% aqueous alkali metal soap of fatty acids.....	16.5
Tripoli.....	45.5
Kerosene.....	21.5
40% aqueous alkali metal soap of fatty acids.....	36
Pine oil.....	1
Water.....	112.5

4. A composition suitable for use in cloth-buffing of lacquered furniture that consists essentially of 40%-60% aqueous alkali metal soap of fatty acids, tripoli and kerosene in the weight ratio 2:2:1 and water in an amount 4-20 times the solids soap content obtained by combination of the following ingredients in the proportions specified:

	Parts
60% aqueous alkali metal soap of fatty acids.....	12-20
Tripoli.....	35-55
Kerosene.....	15-25
40% aqueous alkali metal soap of fatty acids.....	30-45
Remainder water.	

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