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NONSKID FLOOR WAX

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This invention relates to a novel and improved anti-skid floor wax composition, and more particularly to a self-lustering wax having anti-skid and other desirable properties which make it especially suitable for treating floors in telegraph operating rooms.

In a commercial telegraph system it is common practice to relay telegrams and other telegraph messages, incoming from various points of origin, through a message dispatching center which usually is one of the main operating rooms of the system, the messages received over the incoming trunks being distributed to the proper outgoing trunks at the dispatching center. The messages are received on automatic printers at the dispatching center and usually must be dispatched to other floors or offices by means of belt conveyors or pneumatic tubes. In order to properly distribute the received messages, routing aides are employed to collect the messages from the receiving stations and distribute them to the proper conveyors for retransmission to other cities or for delivery in local areas, as the case may be. The main operating room above referred to usually has the entire floor thereof covered with linoleum, asphalt tile or other suitable covering which is satisfactory and attractive to the eye, and is somewhat resilient so that shocks are taken up and noise diminished. In such an operating room the majority of the operatives are girls who wear leather heels which, if the floor were not provided with a covering such as that mentioned, would give rise to objectionable noise as the girls walk about the room. To reduce office lag and facilitate the distribution of the incoming messages, the routing aides are provided with roller skates, and these aides skate over the floor covering to the various outgoing positions. The use of skates also enables a smaller number of routing aides to take care of the necessary distribution than would be required if they did not wear skates, and this avoids congestion on the floor of the operating room.

In order to preserve the surface of the linoleum or other covering, it is usual to keep the surface waxed. The use of wax, however, is objectionable to the skaters since the usual commercial wax employed causes the floor to become so slippery that the skaters are unable to hold the floor with their skates, and are not able to start and stop as quickly as is required; also, they are unable to attain the desired speed. Various kinds of non-slippery floor waxes have been proposed heretofore to obviate the foregoing disadvantages, but none of these waxes has proved suc-

cessful. For instance, it has been proposed to use sand or emery mixed with the wax; this, however, produces a gritty coating which not only requires greater expenditure of energy on the part of the skaters, but mars the surface of the linoleum or floor covering to which it is applied. Waxes compounded with gums and rosin have also been tried, but no satisfactory anti-skid qualities were obtained, notwithstanding that it ordinarily would be assumed that rosin or gum would produce this desirable characteristic. It has also been proposed to use wax solutions in paste or liquid form, such as the non-aqueous type of commercial floor wax in which the wax is cut with turpentine or other solvent, or with an aqueous emulsion type of wax, and adding to these waxes raw rubber cut with turpentine, or natural latex stabilized with ammonia or other peptizing agent. These waxes, however, have not proved suitable since, for one reason, they are not self-lustering. The floor of a telegraph operating room is in use twenty-four hours each day and the operating routine cannot be interrupted a sufficient length of time to perform the buffing operation necessary with a wax which is not self-lustering. Moreover, such a wax produces a coating which is too soft, and in service the coating becomes gummy or sticky and readily mars which also detracts from the appearance of the floor. A further and most serious disadvantage is that the rubber and wax roll up and accumulate on the shoes of the operators and also on the wheels of the skates of the routing aides, thus seriously retarding the skates and constituting a hazard to the wearers and requiring that the skate wheels be frequently cleaned to remove the wax and rubber, the cleaning operation often being required every fifteen minutes or so.

One of the objects of my invention is to provide a floor wax in which the foregoing disadvantages are obviated.

Another object of the invention is a self-lustering floor wax having suitable anti-skid characteristics.

An additional object is to provide a wax comprising a colloidal suspension of wax solids in a water medium and also comprising a colloidal suspension of rubber in such form that when precipitation takes place the wax and rubber will precipitate in the correct ratio to provide a uniform homogeneous wax film over the surface coated.

A further object is a floor wax compounded with a substance to produce anti-skid properties,

which wax has a life as long or longer than the commercial floor waxes heretofore employed and appreciably longer than the life of any anti-skid waxes heretofore proposed.

5 Additional objects and advantages of the invention will be apparent from the following detailed description.

In accordance with a preferred embodiment of the invention, carnauba wax, ozokerite, Montan wax, or other suitable basic wax component is employed with or without a hardening agent such as shellac or synthetic resin, the wax (preferably carnauba wax) being melted and then being emulsified in water while in the melted state.

10 Any of the various known emulsifying agents, such as the speciality soaps commonly employed for this purpose, may be used. Upon cooling, the emulsion is converted into a colloidal suspension of wax solids in a water medium, producing what is commonly referred to in the trade as a "water wax", in contradistinction to the aqueous emulsion type of wax and the non-aqueous type of floor wax having the wax cut with turpentine or other solvent.

20 To the foregoing colloidal suspension is then added vulcanized latex which comprises colloidal particles of vulcanized rubber suspended in water, and is therefore especially compatible with the above described colloidal suspension of wax. The vulcanized latex may be added when the wax suspension has cooled thereby to prevent coagulation of the vulcanized latex. A suitable form of vulcanized latex and method of preparing the same is disclosed in Patents Nos. 1,156,184, 30 1,443,149, 1,502,686, 1,530,164, 1,534,676, 1,682,857 and 1,823,131.

The preparation of the foregoing wax composition requires only a slight stirring or shaking to effect an intimate mixture such that the suspension is homogeneous throughout.

40 The wax of the invention differs from the aqueous emulsion type of wax since the latter is an emulsion in water of a solution of wax in an organic volatile solvent, such as gasoline and turpentine, and which is not of the self-lustering type. The wax herein disclosed is a true self-lustering wax and may be applied to the floors of the main operating rooms without appreciably interfering with operating routine, since it requires no rubbing or polishing. The film of wax left is completely uniform and homogeneous because both the wax and vulcanized latex are slightly alkaline, colloidal suspensions with only water used as a suspending medium so that when 55 evaporation takes place, the wax and rubber precipitate in the correct ratio from start to finish. In contrast to this, in the heretofore proposed aqueous emulsion type of wax to which natural or raw latex has been added, the latex enters the water phase of the emulsion and when evaporation occurs, due to the different evaporation rates of organic solvents, the precipitation ratios of wax to rubber vary, resulting in a non-uniform film. A disadvantage of this non-uniform distribution of the wax and rubber is that the wax and rubber are not uniformly distributed in the film, resulting in alternate slippery and gummy areas, or that the wax will precipitate onto the floor and the rubber precipitate onto the wax in such 60 a manner that the rubber easily becomes abraded or rubbed off causing the film to lose its effectiveness. Also, under certain conditions the rubber is liable to precipitate onto the floor and the wax precipitate onto the rubber, so that the anti-skid properties of the rubber are practically lost.

By reason of the use of vulcanized latex, the film of wax of the invention is tough and resilient, in contrast to the soft and gummy characteristic of a wax embodying ordinary or raw latex, and the vulcanized latex does not roll up and does not 5 adhere to the shoes of the operators or to the wheels of the skates of the routing aides.

The wax of the present invention may be made very cheaply, and does not require experienced workmen to perform the mixing operations and requires no special equipment, so that the wax 10 may be made in either small or large quantities at a very low price relative to the anti-skid waxes heretofore proposed. The wax exhibits all the desirable qualities of the usual "water wax" while 15 also embodying the desired anti-skid properties.

The relative proportions of the vulcanized latex and the wax may vary within wide limits, depending upon the purpose for which the wax is to be used, so long as the vulcanized rubber in the 20 resulting wax film is sufficient to impart the desired anti-skid properties to the film, but insufficient to detrimentally affect the wax film for the purpose desired; for example, the wax film may contain from five to thirty percent of vulcanized 25 rubber. A preferred composition for the purpose specifically set forth above comprises 10 to 15 parts of vulcanized rubber solids and 90 to 85 parts of the wax solids employed, the particular amount of water used being in general a matter 30 of choice. With these proportions the final film left on the floor will contain approximately 10% to 15% of vulcanized rubber.

While the wax of the invention has been described in connection with use for floor coverings 35 of telegraph operating rooms, it will be appreciated that it is also well adapted for various other purposes and may be employed on various types of floors and various kinds of surfaces. For example, the wax is especially suitable for floors 40 of lobbies in telegraph offices where customers and messengers are apt to slip and fall when walking in a hurried manner, as is common in such offices. As above stated, however, the wax is suitable for general use. It will also be understood that the respective ingredients of the wax 45 composition herein disclosed may be replaced by equivalent ingredients, and that other ingredients may be added thereto, without the exercise of inventive skill, and therefore the invention is not 50 limited except as indicated by the scope of the appended claims.

I claim:

1. A non-slippery self-lustering floor wax suspension comprising an emulsion of hard floor 55 wax in water, an aqueous dispersion of vulcanized rubber, and a water-soluble emulsifying agent, said vulcanized rubber comprising approximately five to thirty percent of the solid content of said suspension, the remainder of the solid content 60 of the suspension being composed substantially of said wax and emulsifying agent.

2. A non-slippery self-lustering floor wax suspension comprising an emulsion of hard floor 65 wax in water, an aqueous dispersion of vulcanized rubber, and a water-soluble emulsifying agent, said vulcanized rubber comprising approximately ten to fifteen percent of the solid content of said suspension, the remainder of the solid content of the suspension being composed substantially of 70 said wax and emulsifying agent.

3. A non-slippery self-lustering floor wax suspension comprising an emulsion in water of hard floor wax of the group consisting of carnauba wax, ozokerite and Montan wax, an aqueous dis- 75

5. perison of vulcanized rubber, and a water-soluble emulsifying agent, said vulcanized rubber comprising approximately five to thirty percent of the solid content of said suspension, the remainder of the solid content of the suspension being composed substantially of said wax and emulsifying agent.

4. A non-slippery self-lustering floor wax suspension comprising an emulsion of hard floor

wax in water, vulcanized rubber latex, and a water-soluble emulsifying agent, the vulcanized rubber in said latex comprising approximately five to thirty percent of the solid content of said suspension, the remainder of the solid content of the suspension being composed substantially of said wax and emulsifying agent. 5

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