Patented May 31, 1932 1,860,372

# UNITED STATES PATENT OFFICE

MARK T. SUNSTROM, OF BALTIMORE, MARYLAND, ASSIGNOR TO ALPHA CHEMICAL COMPANY, INC., OF BALTIMORE, MARYLAND, A CORPORATION OF MARYLAND

## FLOOR OIL

No Drawing. Application filed April 14, 1928. Serial No. 270,161.

The practice of oiling with non-drying or non-oxidizable floor oils the floors of school rooms, factories, offices and other buildings, to keep down the dust is well known. An objection to this practice is that to make the oil effective on the surface, the wood is completely saturated with the oil, creating an important fire risk, or effecting an important increase of the existing fire risk and, further, the oil is difficult or impossible to remove and by repeated use causes gumming and blackening, permanently injuring the floor.

The object of the present invention is to overcome these difficulties, the subject of the invention being an improved floor oil and the method of producing and applying the same.

The new floor oil is a water soluble mixture or compound. It is mixed with water by the user prior to application to the floor and the water content saturates the wood, holding or supporting the oil on the surface in the form of a film. This film dries, or partially dries, and the water subsequently evaporates leaving the film of oil on and near the surface of the wood, where it forms a coating without saturating the floor in accordance with the previous practice. This coating may be removed by means of a suitable solvent or remover, leaving the floor clean and white without any oil content so that it may be treated, i. e., recoated or re-oiled after the manner of a new floor having, when so recoated or re-treated, the color of the new wood, not darkened or discolored in any way by the previous oiling.

The oil film thus applied has the further advantage that while it is not greasy it is slightly hygroscopic, maintaining a film of moisture which lays the dust fully as effectively as the previously used floor oils. Further, the coating or film thus formed on the surface of the wood is not slippery as is the coating produced by the well known floor oils and it has a germicidal effect due particularly to the presence of the pine oil, which checks the spread of disease.

The new material also has the advantage that by the substitution of water for oil as a medium for saturating the floor, supporting a film of oil on the surface, a considerable saving is effected in the quantity of oil used and hence in the expense of treating the floor.

The floor oil of the invention is for convenience at present manufactured in units of fifty-two gallons, or multiples thereof, each fifty-two gallons consisting of thirty-five gallons of mineral oil, which is preferably refined and of the grade known to the trade as straw colored oil, ten gallons of oleic acid or other free fatty acid of animal or vegetable origin, which is saponifiable with ammonia, soda, potash or other alkali to produce a soluble soap, two gallons of ammonia or equivalent alkaline solution, and five gallons of pine oil, distillate of pine sap which is slightly heavier than turpentine and for which turpentine may be substituted though to the appreciable detriment of the quality of the product.

While the foregoing formula is the preferred formula by which the product is at present being manufactured, the fifty-two gallon unit has been adopted for convenience and is in no wise essential. The preferred formula may be approximated as consisting per hundred parts of sixty-eight parts refined mineral oil, eighteen parts fatty acid, four parts alkaline solution and ten parts pine oil.

These ingredients and proportions may be varied to a considerable extent and mixed in any suitable manner, the fatty acid being saponified and the mixture thus rendered water soluble by the action of the alkaline solution, which has been referred to as ammonia.

This material, made as described or according to any obvious variation of the formula given, is packed and shipped, being, in accordance with the present practice, mixed by the user with about eighty-five percent water, the mixture thus formed being a colloidal solution which separates on application as aforesaid, the water content saturating the wood and the remainder of the compound forming a drying or partially drying filament on the surface of the wood which is hygroscopic, non-slippery and germicidal, the inflammability of the wood being not appreciably increased by the treatment. While the oil is shipped without the water

content this feature of the practice is non-essential.

I have thus described specifically and in detail a water soluble floor oil embodying the features of my invention in the preferred form in order that the nature and manner of using and producing the same may be clearly understood, however, the specific terms herein are used descriptively rather than in a limiting sense, the scope of the invention being defined in the claims.

What I claim as new and desire to secure by Letters Patent is:

1. A nondrying oil for coating unfilled wooden surfaces of floors and the like consisting approximately of sixty-eight parts mineral oil, eighteen parts fatty acid, four parts alkaline solution and ten parts pine oil.

2. A nondrying oil for coating the porous, unfilled surface of a wooden floor or other similar wooden surfaces which consists of approximately 68 parts by volume of refined mineral oil, 18 parts fatty acid, saponifiable with ammonia or caustic alkali, four parts of ammonia or caustic alkaline solution and ten parts pine oil, the same being adapted to be mixed before application with four to eight times its volume of water, the mixture thus formed being a colloidal solution which separates on application, the water content saturating the wood and the remainder of the compound forming a partially drying film on the surface of the wood which is hygroscopic and nonslippery.

3. A preparation for coating porous, unfilled wooden surfaces which consists of approximately seventeen parts by volume of mineral oil, 4.5 parts of fatty acid, one part caustic alkaline or ammonia solution and 2½ parts pine oil, the fatty acid being saponifiable, to form a soluble soap, and the compound being mixed with 4.5 times its volume of water which saturates the wood supporting the compound in the form of a non-drying filament on the surface of the wood.

Signed by me at Baltimore, Maryland, this 13 day of April, 1928.

MARK T. SUNSTROM.