

UNITED STATES PATENT OFFICE

2,165,586

CARPET CLEANING COMPOSITION

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No Drawing. Application January 13, 1936,
Serial No. 58,872

1 Claim. (Cl. 87—5)

This invention relates to improvements in carpet cleaning composition, and more particularly to a mixture of ingredients producing an effective cleansing agent in the form of a substantially dry powder adapted to be brushed or otherwise worked into the nap of a rug or carpet and thence removed, as by operating a suction cleaner over the surface thereof.

The object of the invention is to provide a cleaning composition for rugs, carpets, and like floor coverings, capable of effectively cleaning the same without necessitating their removal from the floor and without encountering the difficulties and objections which attend other cleansing methods in which soap preparations or cleaning fluids are employed. The cleaning of a rug or carpet on the floor by shampoo methods is objectionable because a thorough rinsing is quite impossible and the soap remaining in the carpet tends to destroy the life of the fibers. On the other hand, the use of cleansing fluids of the hydrocarbon type, while very satisfactory from a cleaning standpoint are nevertheless objectionable on account of the fire hazard, said fluids being extremely inflammable, and therefore can only be used with the greatest of care. Thus, a cleaning composition having the characteristics hereinabove set forth is therefore calculated to exhibit a marked advantage over other methods and means, first, because it contains no ingredients that are injurious to the material of the carpet or rug; second, that the physical character of the composition is such that it can be used effectively and safely without removing the particular covering to be cleaned from the floor; and, third, that it lends itself to effective carpet cleaning with the aid of a suction cleaner.

The characteristics and advantages of the composition embodying the invention will be more fully understood from the discussion which follows:

Bearing in mind that the composition is essentially of a substantially dry, powdered or granular texture, it follows that its base would logically be a substance having somewhat the same physical characteristics, namely, a pulverized or finely divided material and preferably having absorptive properties and a definite affinity for dirt particles. A number of substances and even groups of substances might be mentioned which exhibit the characteristics enumerated, but extensive experimentation indicates that buckwheat flour is quite superior as a base for the carpet cleaning composition herein disclosed. Buckwheat, being a cereal may be ground to different degrees of fineness, but for the present purposes the coarser grades of

buckwheat flour are more satisfactory than the extremely fine grades, this being due primarily to the fact that the very fine particles have a greater tendency to be retained in the nap of the carpet and respond less readily to the suction of the cleaner. Moreover, the preference to buckwheat flour as the base of the cleaning composition does not exclude numerous other vegetable substances as suitable substitutes thereof, such as cornmeal, other kinds of wheat flour, bran, sawdust or wood flour, and many other vegetable or cellulosic substances. It might be added in this connection that buckwheat flour alone when rubbed onto or into the surface of a soiled fabric exhibits noticeable cleansing properties, and this is true also of cornmeal and numerous other pulverized substances of an absorbent character.

However, to produce a cleaning composition which will measure up to a certain standard of cleansing efficiency, it is necessary to include other essential ingredients, which will be now considered in the order of their importance. The first of these ingredients is a liquid cleansing agent or solvent, and preferably one of several grades of oil used commercially as a cleaning oil. Thus, without specifying any particular grade any light, highly refined petroleum oil having a flash point of not less than 44° C. and a specific gravity of .80 would be quite satisfactory as a solvent to be added to the buckwheat flour base. Generally speaking, the amount of oil added to the buckwheat is just enough to dampen the mass uniformly throughout.

As buckwheat flour saturated oil would be inflammable and therefore objectionable on account of the fire hazard, it is necessary to include other ingredients in order to render the compound non-combustible. To accomplish this result various methods of fireproofing may be employed, including the use of different chemical reagents or substances, and therefore it should be properly noted that the invention contemplates the use of any ingredient capable of reducing the buckwheat flour and oil mixture to a relatively non-inflammable compound. Manifestly, some substances are more effective than others, and by the same token, certain substances found to be quite satisfactory and effective are too expensive for commercial use and therefore cannot be considered. In any case, it may be stated that it has been found by experimentation that the most satisfactory method of rendering the composition non-combustible is to add to the oil before it is mixed with the flour a metallic water-insoluble soap such as aluminum stearate, calcium oleate, or zinc

stearate. Insoluble soaps have the advantage of being comparatively inexpensive and having the capacity of forming, when mixed with oil, an emulsion of the so-called "water-in-oil" type, that is to say, an emulsion in which the globules of water are enclosed within a film of oil. Ordinarily, it would be assumed that an emulsion of the reverse phase, that is to say, an emulsion of the "oil-in-water" type would be the less combustible, but this would be true if only the emulsion were being considered. But when a mixture of oil, an insoluble soap and buckwheat flour is prepared, the flour tends to absorb the oil and with the added water proofing effect of the insoluble soap the water remains in a free state and thus available as a fire proofing agent in the sense that it is distributed over the oil saturated particles of flour as a protective film against spontaneous or incendiary combustion.

After the mixture of buckwheat flour, oil and an emulsifying agent has been prepared there is also the problem of rendering the mixture proof against fermentation and deterioration, due primarily to the fact that flour, as most food products, will spoil or ferment in the course of time if not properly preserved—and buckwheat flour is no exception. Therefore, it is necessary to add a preservative, several of which may be suitable for the purpose. One found particularly satisfactory is salicylic acid, although, as already suggested, there may be others which would be equally effective, such as sodium benzoate.

And finally, it is desirable although not essential, to deodorize the mixture by the addition of suitable pungent oils such as oil of pine, or some other equally effective aromatic substance, serving to counteract the characteristic odor of the petroleum and to give the compound a pleasant odor.

Now, a very satisfactory cleaning composition having the requisite cleaning properties, as well as adequate safety factors, would be made up as follows:

Taking 2500 grams of fairly coarse buckwheat flour, that is, flour that will pass a 100 mesh sieve but not a 325 mesh sieve, it is first treated by mixing 25 grams of salicylic acid with it and then thoroughly moistened with 750 cc. of the cleaning oil to which has been added and mixed 37½ grams of aluminum stearate, whereupon 750 cc. of water is added and the whole mixture reduced to a homogeneous mass which is finally deodorized in the manner already suggested.

Or, to state the proportions of the same ingredients by weight for a fairly large batch of the composition, the following formula may be followed:

100 lbs. buckwheat flour, mixed with
24 lbs. of a light oil containing
3 lbs. of aluminum stearate and
2 lbs. of deodorizer;
to which mixture is added
60 lbs. of water containing
2 lbs. of salicylic acid.

Needless to say, the process of compounding the several ingredients may be varied, as may also the proportions thereof entering into the

finished product, without varying the essential properties and characteristics of the compound.

If desired, a small amount of wax or paraffin may be incorporated into the composition for the purpose of giving added luster to the carpet or rug fibers in the course of the cleaning process. However, the wax is not to be regarded as an essential ingredient, inasmuch as the oils already incorporated therein have a marked luster restorative effect on carpets or rugs.

As has already been suggested, the cleaning composition is utilized by first sprinkling a generous quantity evenly over the surface of the rug or carpet to be cleaned, and then by hand or with the aid of a suitable implement, such as a long handled brush with short stiff bristles, the composition is thoroughly worked into the pile of the carpet and then removed by operating a suction cleaner over the carpet in the usual manner.

The cleansing action of the composition will perhaps be better understood when it is explained that ordinary carpet dirt consists largely of loose particles which accumulate at the base of the carpet fibers and are quite readily removed by suction cleaning. However, there is also a considerable quantity of very minute dirt particles which adhere tenaciously to the carpet fibers and therefore do not respond to ordinary or suction cleaning, but remain to give the carpet the dirty and dull appearance that takes away from its natural beauty and luster.

It is therefore the more tenacious type of dirt that the present cleaning composition is primarily intended to remove and which it does, first, by means of the cleansing action of the oil by dissolving grease and other foreign substances; second, by the absorption of the loosened particles of dirt by the solid pulverized base, and finally, the removal of both the dirt and the composition by the suction cleaner.

It is evident that the cleaning composition herein disclosed is not intended to be used merely as an aid in the removal of dirt susceptible to suction cleaner action, but primarily for performing that type of cleaning which ordinarily or otherwise would be carried on in a carpet cleaning establishment, and necessitating the removal of the rugs and carpets from the floor. The obvious advantage in the use of the cleaning composition is the ability to effectively and economically clean rugs and carpets in the home without removing the same from the floor and undergoing the discomfort and confusion incident thereto.

Having set forth a preferred embodiment of the invention, we claim:

A carpet cleaning composition consisting of a mixture of the following ingredients in substantially the following amounts by weight: buckwheat flour 100 pounds, a light petroleum cleaning oil—24 pounds, a water-insoluble soap having a stearic acid base—2 pounds, salicylic acid—2 pounds, and water—60 pounds.

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