United States Patent Office 2,907,676 Patented Oct. 6, 1959

2,907,676

PROCESS FOR SIZING GARMENTS

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No Drawing. Application November 14, 1956
Serial No. 622,026

2 Claims. (Cl. 117—66)

This invention relates to a sizing composition and method.

It has been heretofore suggested that garments may be sized through the use of materials such as corn syrups, sugar syrups, etc., which are applied to the garments and the garments then ironed. The difficulty with such practices is that while a stiffening of the garment is accomplished, there is no substantial removal of wrinkles and, in fact, wrinkles tend to remain firmly in position in the finished garment. Further, there is a tendency for the iron or press head to stick to the garment during the ironing operation, and often to discolor the garment.

A further problem in the industry has to do with the sizing processes in which the clothes, such as cotton goods, are removed from the solvent in the washing machine and placed in a dip tank where sizing is added, and thereafter the sizing is pumped to another tank, the garments being then extracted and dried. As a result of this operation, the garment is rendered stiff by the sizing material, but the wrinkles are not removed.

An object of the present invention is to provide a composition and a method whereby sizing of garments can be accomplished in a manner which effectively removes the wrinkles so as to condition the fabric and give it the look of a new garment, etc. A further object is to provide sizing compositions which penetrate the garment so that the wrinkles are eliminated while at the same time permitting ironing to be carried on without sticking and without discoloration. Yet another object is to provide a unique method in which the solvent is retained in the washing machines and a sizing added thereto while the machine is kept in operation for a period of time during which the garments become impregnated with the sizing and the solvent, free of sizing, may be drawn for reuse, the garments then being subjected to ironing so as to effectively condition them, remove the wrinkles therefrom, and to give them their original luster. Other specific objects and advantages will appear as the specification proceeds.

In one embodiment of the invention, I employ a composition consisting of a water-soluble syrup such as corn syrup, cane sugar syrup, etc., in water, which may be distilled or tap water, and preferably combined with denatured alcohol. To this material I add glycerine, and I find that the glycerine enables the product to effectively penetrate the fabrics for the removal of wrinkles, as heretofore described. The denatured alcohol cooperates with the glycerine in the penetration of the fabric and the bringing about of the new result. I prefer to employ in the composition a water-soluble wax which prevents the iron from sticking, or the press head machine from sticking, and from bringing about a discoloration of the garment.

In the above composition, blueing, such as a concentrated laundry blueing, may be added.

Specific examples of the composition may be set out as follows:

Example I

49 oz. of water (distilled or tap) is added to 1 oz. of chemically pure glycerine, 2 oz. of flake or chip Carbowax, (a compound consisting of polyethylene glycol and wax having an average molecular weight between 500 and 600), 7 oz. unflavored white corn syrup, 69 oz. of denatured alcohol, the total being 128 oz., equalling one gallon of sizing.

The foregoing sizing does not require mixing but is ready to use after the material is brought together.

Example II

38 oz. of distilled or tap water is added to 1 oz. of chemically pure glycerine, 2 oz. (flakes or chips) of Carbowax, 32 oz. of unflavored white corn syrup (1732 Corn Products Co.) and 55 oz. denatured alcohol (Solol), thus making 128 oz. or one gallon of the sizing. A small amount of laundry blueing may be added, and, if desired, a rust inhibitor may also be added.

The sizing may be formed as described above, or, if desired, the proportions and constituents may be varied substantially. It is important that glycerine and alcohol be present with the syrup material in order to bring about the penetration within the garment for the removal of wrinkles. Instead of corn syrup, it will be understood that any aqueous solution of a carbohydrate such as cane sugar, invert sugar, and like materials which produce transparent stiffening droplets while at the same time adhere firmly to the fibers after deposit, may be employed.

The sizing composition may be applied to the garments in a number of ways. For spot-sizing, the sizing material may be placed under pressure in a pressure container in which a compatable gas employed as a propellant, as, for example, butane gas, propane gas, Freon gas, or many like propellant gases, may be employed in a pressurized condition for discharging the mixture in a gaseous stream. Since such propellant devices are known, a detailed description herein is believed unnecessary. By means of the gas pressure, the composition is discharged in a gaseous stream or atomized stream upon the cloth, and it is found that the material penetrates the cloth and brings about a removal of wrinkles in the cloth.

After the spot-sizing operation, it is unnecessary to sprinkle water, and the application of steam alone in the pressing operation is found sufficient to bring about the removal of the wrinkles and permits wrinkles therein to be readily shaken out.

As an example of the process, a composition as described in Example I above was placed within a pressure can under an atmosphere consisting of butane gas under high pressure and the fluid was discharged in an atomized condition upon a garment. After a few minutes, the garment was steam pressed and at the spot where the sizing was deposited, a smooth, wrinkle-free and swirl-free area was formed. Even though a wrinkle therein was formed later by deliberate means, the wrinkle could be removed by simply shaking the garment.

Instead of spraying the sizing upon the garment, effective sizing can be accomplished so as to remove wrinkles by following the procedure outlined below:

Instead of removing the garments from the washing machine and from the solvent therein, the solvent is allowed to remain. Such solvent comprises hydrocarbons such as gasoline, etc., and synthetic solvents such as carbon tetrachloride, perchloroethylene, trichloroethylene, etc. Since such solvents are well known, a further description herein is believed unnecessary. As stated above, the solvent is retained in the wheel of the washing machine and the sizing, in a proper amount, is added to the solvent-impregnated clothes in the washing machine. The

washing machine is continued in operation for five minutes or for such time as may be necessary to bring about a complete impregnation of the clothes with the sizing. It is surprising to find that the sizing preferentially impregnates the clothes during the continued operation of the machine, and leaves the solvent free of sizing so that the solvent thereafter can be reused. In this operation, the action of the solvent, together with the sizing, brings about an effective penetration of the clothes with the solvent as the sizing seems to follow into the interior of the clothes as the solvent leaves, so that following such penetration, the wrinkles in the clothes entirely disappear. In this operation, any suitable water-soluble sizing may be employed, and the process is not limited to the compositions which have been suggested herein, although such compositions are highly effective in the above described process.

The foregoing process represents a great saving in labor and time, since the ordinary solvent cleaning process is simply continued in the same vessels or washing mechanism, the sizing being added in the proper amounts and the machine being kept in operation to bring about the effective separation of the sizing and solvent and the impregnation of the garments with the sizing.

In the foregoing operation, the garments to be cleaned are preferably weighed, each 25 lbs. to be sized as follows: Light sizing, 5 oz. to 25 lbs.; medium sizing, 7 oz. to 25 lbs.; and heavy sizing, 9 oz. to 25 lbs. The loads are cleaned and rinsed in the usual way, the filter pump being shut off or put on by-pass. The solvent is left in the machine and a proper amount of sizing per pound added. The load is then run for five minutes with the sizing, and thereafter extracted and dried in the usual way. In the case of a batch rinse, the sizing is added at the beginning of the rinse.

If there is a charge system from 1% to 4%, the pump should be shut off and the sizing added and the load then run in the charge five more minutes, the load being then extracted and dried in the usual way.

In the case where garments need to be sized as to particular spots, this may be accomplished by using the compressed spray container sizing, as described above, spraying the wet area and drying so as to leave the garments wrinkle-free.

In another operation in which a two-filter unit may be employed, the directions should be as follows: After the soap run, set the timing dial on rinse and filter four minutes longer. Set the timing dial for eight minutes, shut off the pump at the end of the first four minute rinse, add the sizing and run the balance of the time with the sizing. Then extract and dry in the usual way.

The foregoing process is effective in removing wrinkles from garments while at the same time renewing the body luster and giving a new and fresh appearance. The sizing may be employed without mixing and with no filter pressure, used in any charge system, and with synthetic and petroleum solvents. The dip tank heretofore employed is eliminated and there is a great saving in time and labor.

While, in the foregoing specification, I have set forth specific materials and process steps in considerable detail for the purpose of illustrating embodiments of the invention, it will be understood that such details of materials and procedure may be varied widely by those skilled in the art without departing from the spirit of my invention.

I claim:

1. In a process for sizing a garment with a water-soluble sugar syrup and alcohol sizing and in which the garment is agitated in a hydrocarbon cleaning solvent, the steps of adding the sizing to the hydrocarbon cleaning solvent, continuing the agitation of the garment in the bath of solvent and sizing to bring about the preferential absorption of the sizing into the garment, separating the solvent substantially free of sizing, and steam pressing the sized garment.

2. In a process for cleaning garments in a bath of volatile hydrocarbon cleaning solvent and sizing the garment with a water-soluble sizing consisting of sugar syrup, alcohol and cleanser, the steps of adding the sizing to the hydrocarbon cleaning solvent, continuing the agitation of the garments in the presence of the sizing and solvent to bring about the preferential impregnation of the garments with the sizing, leaving the solvent substantially free of sizing, separating the garments impregnated with substantially all of the sizing from the solvent, and drying the sizing-impregnated garments.

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