UNITED STATES PATENT OFFICE.

ALEXANDER WARFIELD, OF ALEXANDRIA, VIRGINIA.

IMPROVEMENT IN THE MANUFACTURE OF SOAP.

Specification forming part of Letters Patent No. 101,193, *dated March* 22, 1870.

To all whom it may concern:

Be it known that I, ALEXANDER WARFIELD, of Alexandria, in the county of Alexandria and in the State of Virginia, have invented certain new and useful Improvements in Soaps; and do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists of a "compound cold-water self-washing soap," which is composed of the following ingredients, viz: Soap, lye, pearl-ash, borax, benzine, turpentine, ammonia, a perfume, and an absorbent.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe the manner in which it may be mixed and used.

I take, first, ten pounds of olive, rosin, or common country hard bar soap, shave fine, and add two quarts of lye that will float an egg; two and a half ounces pearl-ash, No. 2; and one ounce borax. Place all over the fire, stir thoroughly until it boils and all the ingredients are dissolved. Then remove from the fire, and, when cool, add perfume, ten ounces spirits of turpentine, and six ounces benzine; stir thoroughly, and add eight ounces of aqua ammonia, 20°. After which I add one to one and a quarter pound of flour, as the compound may require; then mix again thoroughly and pour into frames or flasks for cooling, when it will be ready to cut into bars or cakes.

It will be seen that this soap is precisely the same as the soap patented by me November 16, 1869, with the addition of flour as an absorbent. This is a very important auxiliary to the compound. Without an absorbent the chemicals leak out while the soap is cooling, in a more or less degree, consequently impairing the quality of the soap as well as lessening the quantity. By adding flour, it absorbs the chemicals, which would otherwise escape, and holds them in an equally-distributed condition throughout the entire mass, rendering all portions of the soap equally effective; and not only so, but it enables the manufacturer not only to make a better article, more easily put into merchantable shape, but secures an increase of soap equal to from twenty-five to thirty per cent. in quantity, and a very much better quality.

To manufacture the soap without the aid of an absorbent, the increase on one thousand pounds is only about two hundred and fifty pounds; by adding flour as an absorbent, the increase is six hundred and sixty pounds. Manufactured without an absorbent, it costs from six and a half to seven cents per pound; by adding flour as an absorbent, it can be manufactured at a cost not exceeding four and a quarter cents, which makes a vast difference in its cost, as well as a corresponding difference in its quality.

The quality is improved by being able to retain the chemicals added, which can only be accomplished in part unless an absorbent is used. I prefer flour because, first, it accomplishes this object; second, it acts as a softener to water, and tends to correct any undue action of alkali; third, it gives to the clothes, when ironed, a better finish, especially such clothing as is not usually starched.

The directions for using the "cold-water self-washing soap" are as follows:

Take two or four tubs of water, add four gallons of cold or warm water to the first tub, six gallons in the second tub, and eight or ten to the two last. Shave up half a pound of my soap, and put it in the first tub. Put the dry clothes in this tub. Soak them from three to five minutes. Then squeeze or rub lightly the dirtiest parts of the garments. Then wring out and place in the second tub, when the washing is finished, with the exception of rinsing, which is done in the two remaining waters, when they will be ready for the line.

No bluing is required if dried in the sun, and no rubbing is required unless the garments are very much soiled, and then only light hand-rubbing is necessary.

If the washerwoman prefers, the soap may be rubbed upon the garments instead of dissolved in the water, as above set forth, as the result will be the same.

Keep four gallons of water in the first tub by adding water every time fresh clothes are added; also add soap in the proportion of one ounce to every two quarts of water, in order to keep the suds to a uniform strength.

Clothes that fade badly can be washed without injury by adding one quarter ounce of alum to the first tub.

This soap is very cheaply made, and, as no

boiling and but little or no rubbing is required, it saves time, labor, clothes, and expense. It will wash in any kind of water—cold or warm, hard or soft, fresh or salt.

I do not confine myself to the exact proportions of the ingredients above mentioned, as they may be varied slightly without materially changing the action of the soap.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a compound for soap, an absorbent, substantially for the purposes herein set forth.

2. The compound for soap above described, when made substantially of the ingredients and in the manner herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 14th day of February, 1870.

ALEXANDER WARFIELD.

Witnesses:

AMASA CHASE,

C. L. EVERT.