No. 887,683. PATENTED MAY 12, 1908.

H. C. MILLER.

METHOD OF STARCHING FABRIC.

APPLICATION FILED AUG. 3, 1905.

Fig. 1. 1st. Step.

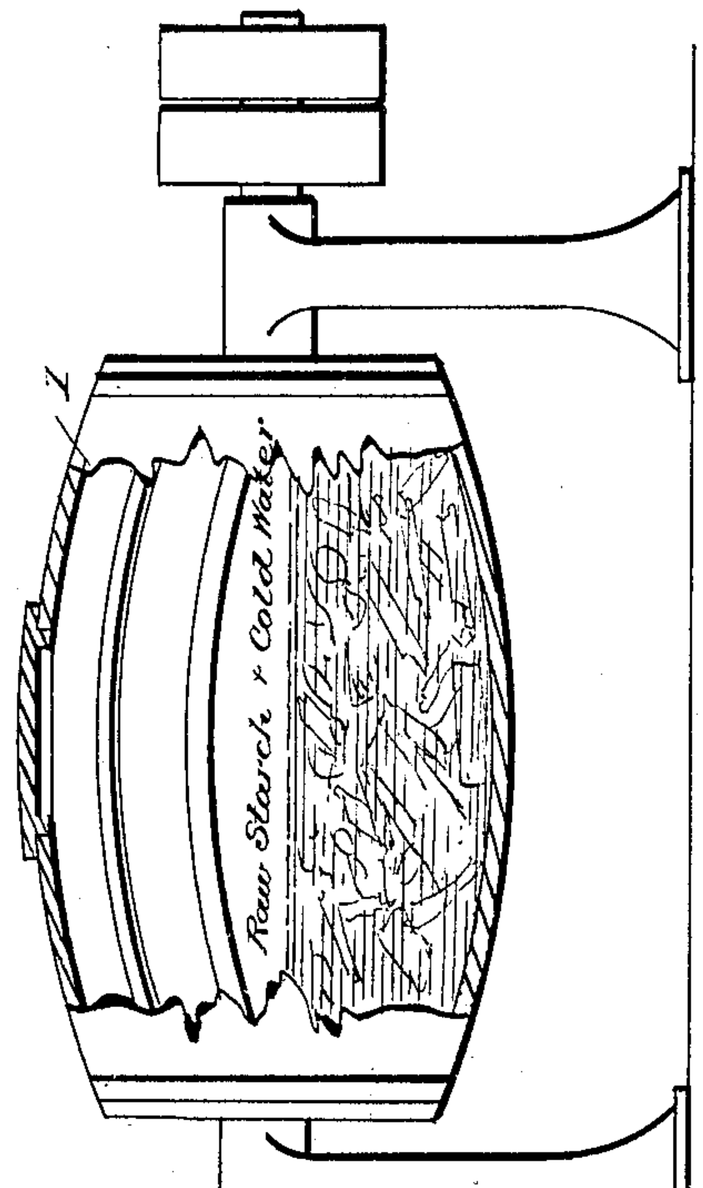


Fig. 2. 2nd. Step

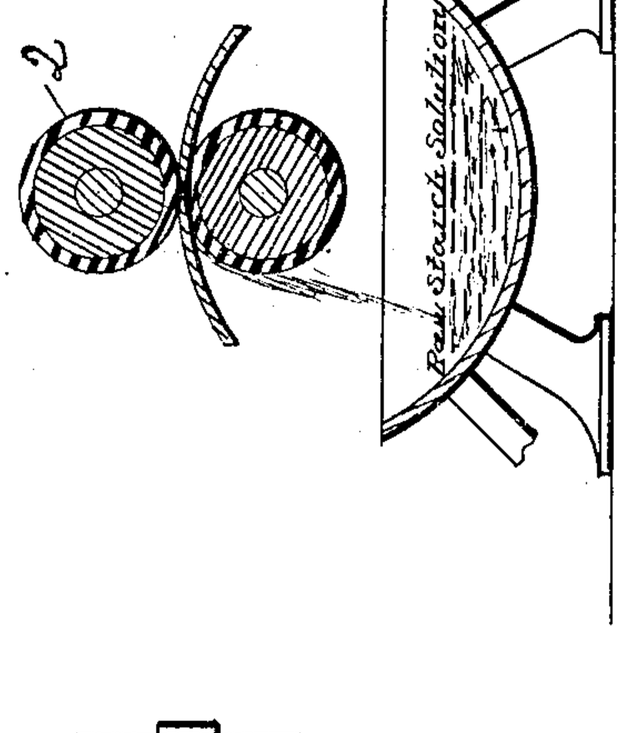


Fig. 3 3rd. Step

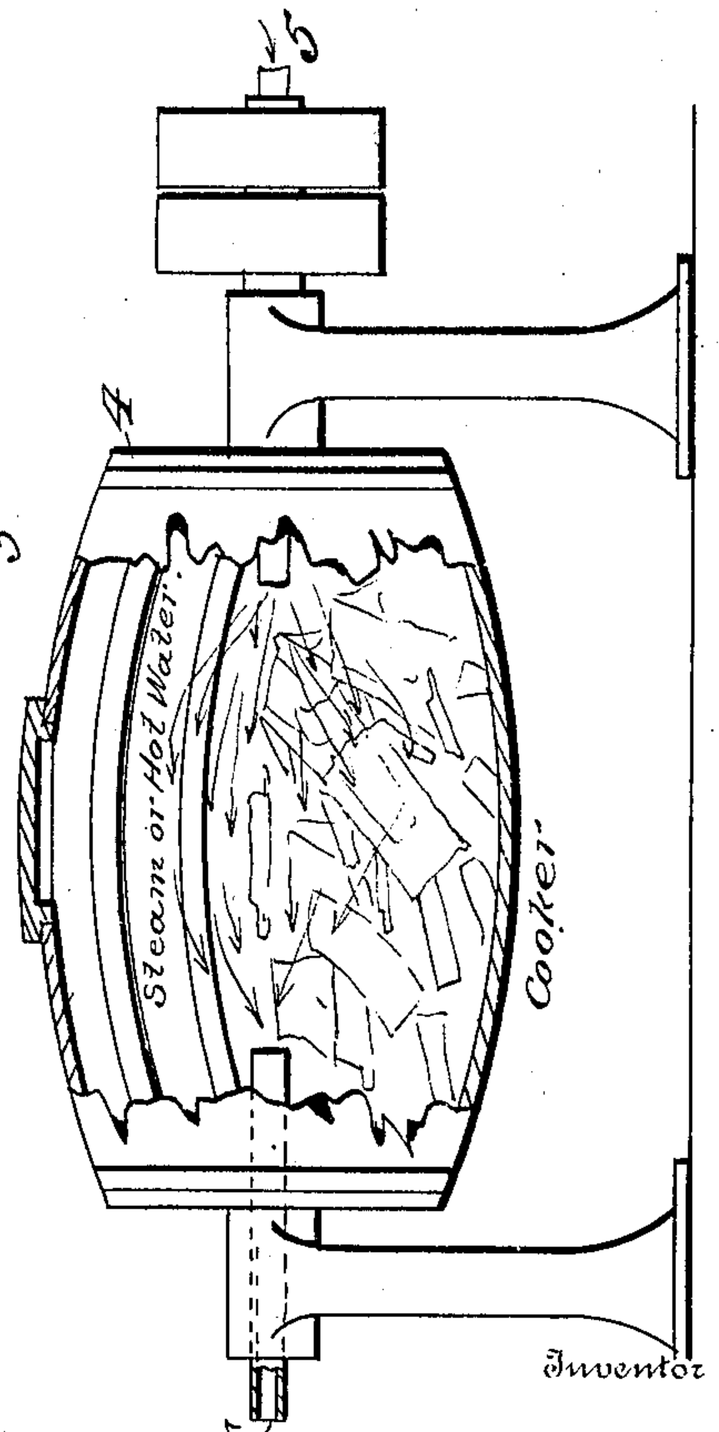
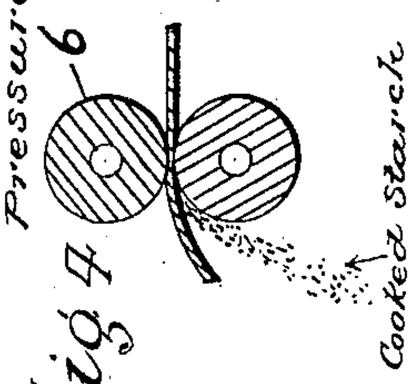


Fig. 4 4th. Step. Pressure



Witnesses
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METHOD OF STARCHING FABRIC.

No. 887,683. Specification of Letters Patent. Patented May 12, 1908.

Application filed August 3, 1905. Serial No. 272,603.

To all whom it may concern:

Be it known that I, HENRY C. MILLER, a citizen of the United States, residing at Waterford, in the county of Saratoga and State of New York, have invented new and useful Improvements in Methods of Starching Fabric, of which the following is a specification.

This invention relates to an improved method of starching fabrics before ironing.

Heretofore, fabrics have been starched in a cold solution of uncooked or raw starch and then ironed, while another method is employed which consists of first boiling the raw starch, and then rubbing the same into the fabric. In this boiled state the starch is about the consistency of jelly, and is used hot or cold, being forced into the fabric by pounding or rubbing either by special machinery or manually. The use of boiled starch is the preferred method now used for laundry work, as it is known that the cooking of the starch gives better results before ironing than is possible to obtain with raw starch, the only difficulty being in the forcing of the cooked starch through the different thicknesses of fabric.

According to my method, I first use a mixture of cold water and raw starch (with proper amount of bluing to give the fabric the proper effect when finished) which mixture penetrates the different thicknesses of fabric when the latter is immersed in it and slightly agitated. After the fabric has been thoroughly saturated with the mixture, it is then treated by boiling of the incorporated raw starch in the fabric, preferably by means of steam.

In the accompanying drawing I have shown somewhat conventionally one means for carrying out my improved method.

Figure 1 represents a tank in which the fabric is treated with a solution of cold water and raw starch. Fig. 2 is a section of a wringer to remove from the fabric surplus raw starch. Fig. 3 is a view of a cooker. Fig. 4 is a section of a device for removing surplus cooked starch from the fabric.

In carrying out my method the fabric is placed in a receptacle 1, which is agitated and contains a solution of cold water and raw starch. The agitation insures the starch being driven into the fabric and at the same time prevents the starch settling. It is not essential to treat a number of pieces of fabric at a time, as it is quite evident, articles such as collars, cuffs and shirts can readily and conveniently be handled singly. After the fabric is impregnated with the raw starch, it is then removed from the receptacle 1 and passed through a wringer or other suitable machine 2 to remove the surplus starch, which is directed to a receptacle 3 and is used again. When the fabric has been relieved of unnecessary starch, it is then delivered to a cooker 4, which is sealed and revolved, and steam is introduced thereto, as through a pipe 5. While the fabric is in the cooker, the agitation opens the fibers and the heat cooks the starch therein. In cases where the fabric contains a number of seams, or is unusually thick, the cooking is prolonged until every portion designed to be starched is brought under the influence of the heat and the particles of starch are cooked to the point where it will serve its mission. When the cold starch fabric has been in the cooker for a determined period, it is removed and then passed through either a wringer 6, or is rubbed down, or a like operation is performed to insure the proper amount of starch in the fabric, after which it is smoothed down by hand and dried ready for ironing. When the starch is first introduced in the fabric it is in a raw state but mixed with cold liquid to insure of the fabric being saturated, after which it is cooked in the fibers so that when the pressure is applied the starch and fibers are compressed which serves to produce a very smooth effect when ironed, a result which is of the utmost importance in high grade and custom made articles.

Machinery is not essential in carrying out my method, as it is evident the same high grade results may be obtained by manually treating the fabric as described.

I desire it to be understood that the term "uncooked starch" as expressed in the claims shall mean starch as furnished the trade and ready for use.

My invention possesses many decided advantages over the prior art, as I dispense with expensive help, and avoid damaging the fabric, and uniformly distribute the starch. Again I find by cooking the raw starch in the fabric, far better results are obtained than first cooking the starch and forcing the same in the fabric.

What I claim is:

1. That improvement in the art of starching fabric which consists in impregnating the fabric with uncooked starch, then cooking the impregnated fabric in moisture in a

cooker, and then applying pressure to the fabric.

2. That improvement in the art of starching fabric which consists in impregnating the fabric with uncooked starch, then cooking the impregnated fabric in a covered cooker, and then applying pressure to the fabric.

3. That improvement in the art of starching fabric which consists in passing the fabric through a cold uncooked starch solution, and then cooking the impregnated fabric by applying heat thereto in a covered receptacle, and then applying pressure to the impregnated fabric after the starch has been cooked in it.

4. That improvement in the art of starching fabric which consists in impregnating the fabric with uncooked starch in liquid form, and then cooking the impregnated fabric in moisture in a cooker.

5. That improvement in the art of starching fabric which consists in immersing the fabric in a cold raw starch bath, agitating the same, and then cooking the starched fabric in an agitator.

6. That improvement in the art of starching fabric which consists in immersing the fabric in a solution of cold uncooked starch, removing the surplus starch from the fabric, and then cooking the starched fabric in moisture in a cooker.

7. That improvement in the art of starching fabric which consists in immersing the fabric in a solution of cold uncooked starch, removing the surplus starch from the fabric, and then cooking the immersed fabric in moisture in a cooker, and then rubbing the fabric.

8. That improvement in the art of starching fabric which consists in impregnating the fabric with uncooked starch by forcing the starch into the fibers of the fabric, removing the surplus starch, and then cooking the impregnated fabric in moisture in a cooker.

9. That improvement in the art of starching fabric which consists of impregnating the fabric with uncooked starch by forcing the starch into the fibers of the fabric and then cooking the impregnated fabric in a covered cooker.

10. That improvement in the art of starching fabric which consists in impregnating the fabric with a solution of cold raw starch, and then cooking the fabric in a covered cooker.

11. That improvement in the art of starching fabric which consists in impregnating the fabric with cold raw starch, then cooking the fabric to loosen the fibers thereof and cook the uncooked starch there between, and then apply pressure to compress the fibers and the cooked starch.

12. That improvement in the art of starching fabric which consists of immersing the fabric in a solution of cold water and raw starch, agitating the same, removing the surplus uncooked solution, then cooking the fabric to incorporate the starch therein, and then removing the surplus cooked starch from the fabric.

13. That improvement in the art of starching fabric which consists of immersing the fabric in a solution of cold water and raw starch, agitating the solution and fabric, to keep the particles of starch in suspension to impregnate the fabric with starch, and then cooking the impregnated fabric in steam.

14. That improvement in the art of starching fabric which consists in impregnating the fabric with uncooked starch, then cooking the impregnated fabric by subjecting it to steam, and then applying pressure to the fabric.

15. That improvement in the art of starching fabric which consists in impregnating the fabric with raw starch, then cooking the impregnated fabric and starch in a cooker with steam, and then cleansing the outside surface of the fabric of superfluous starch.

16. That improvement in the art of starching fabric which consists in impregnating the fabric with raw starch, then cooking the impregnated fabric and starch in a cooker with steam, and then smoothing out the fabric and eliminating superfluous starch.

In testimony whereof I have affixed my signature, in presence of two subscribing witnesses.

HENRY C. MILLER.

Witnesses:
WM. F. PALMER,
ALONZO KNAPPEN.