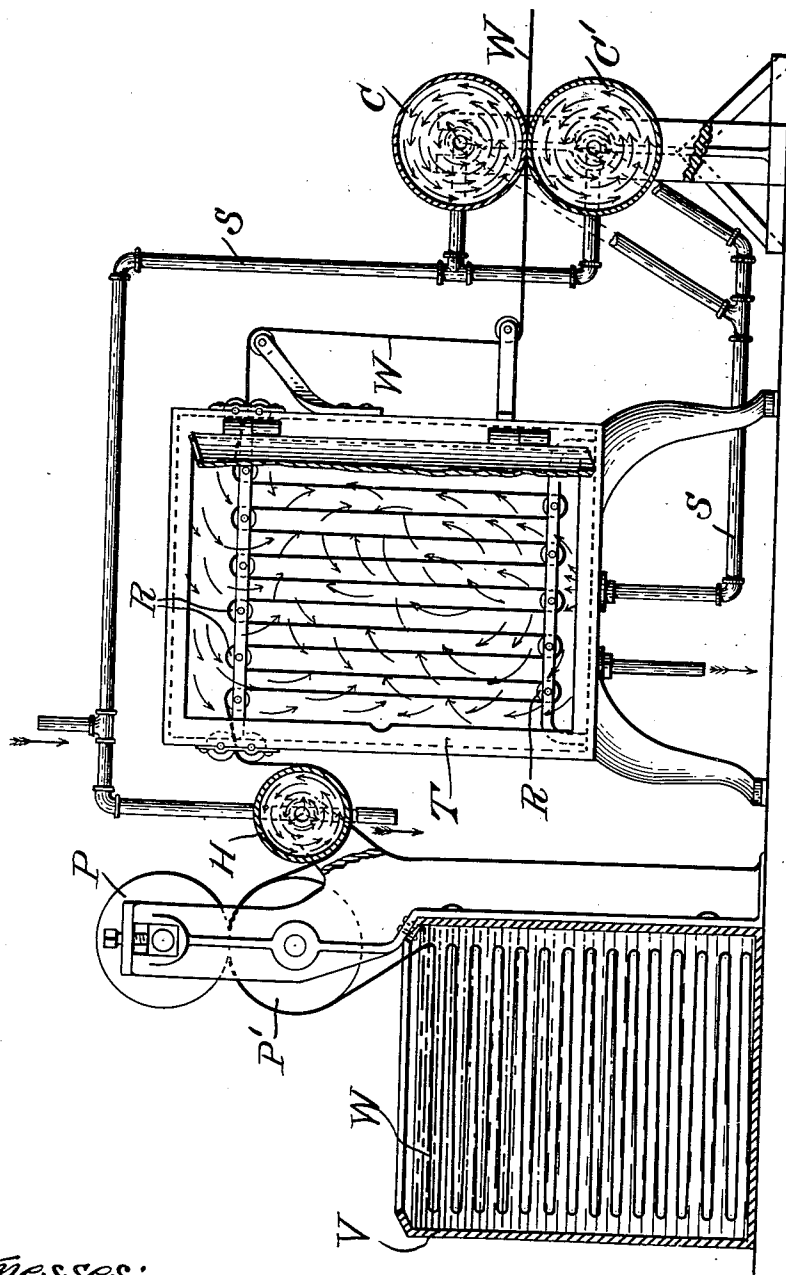


No. 855,708.

PATENTED JUNE 4, 1907.

S. HERMANN.  
PROCESS OF TREATING CLOTH.  
APPLICATION FILED JAN. 18, 1906.



Witnesses:  
*L. G. Fuss.*  
*W. H. Reid.*

Inventor:  
*Seymour Hermann,*  
by his attorney,  
*F. A. Richards.*

# UNITED STATES PATENT OFFICE.

SEYMOUR HERMANN, OF NEW YORK, N. Y.

## PROCESS OF TREATING CLOTH.

No. 855,708.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed January 18, 1906. Serial No. 296,609.

*To all whom it may concern:*

Be it known that I, SEYMOUR HERMANN, a citizen of the United States, residing in New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Processes of Treating Cloth, of which the following is a specification.

This invention relates to the art of treating textile fabrics and has for its object to provide a treatment whereby the fabric will be increased in body and weight, will have increased strength and elasticity of the fiber; and will also be impervious to water; and which treatment will not cause shrinkage of the fabric, and will not injure the fabric in any manner.

One form of apparatus by means of which the improved treatment can be effectually carried out is illustrated in the accompanying drawings in side elevation.

Referring now to the drawing, the fabric is first subjected to treatment by a certain solution in a vat V whereby it becomes impregnated with the solution. Thereupon the cloth, which may be in the form of a web W, is passed between two or more suitable pressing rolls P, P', whereby the solution is forced into the fabric to be more intimately combined therewith, and a surplus amount of the bath is pressed out of the cloth. By adjusting the rolls, more or less of the solution is forced into the fabric. The pressing rolls should be of a material that will not combine with the ingredients of the bath, and may preferably be formed of iron or steel. The rolls may be conveniently located at the top of the vat V, whereby the surplus solution pressed out of the web of cloth will be precipitated back into the vat. The fabric is next dried by suitable means, such as by passing around a heated roll H. The next step in the process is to subject the impregnated web of fabric to a steaming process. This may be conveniently performed by passing the web of fabric W, from the drying roll H into a suitable closed tank T, that is filled with steam under more or less pressure. The web may be caused to travel a number of times up and down in this tank, by means of suitably mounted guide rollers R. The next and final step is to subject the fabric to a calendering process, which may be conveniently performed by passing the web W, upon emerging from the steam tank, between a pair of rolls C C',

that may be chambered and supplied with any suitable heating medium, as by steam from a pipe S. These rolls should be adjusted to bear on the cloth with a comparatively light pressure, in order to produce a smooth glazed surface on the cloth, as a finishing touch.

The solution for the bath in which the fabric is treated is composed of gum zapota; concentrated amyl acetate; turpentine; a non-drying oil, such as castor oil; oleic acid; and amyl acetate collodion. These ingredients may be combined in the following manner and proportion, but the proportions may be varied according to the results desired. First, five grams of gum zapota preferably pure, are dissolved in ninety-five grams of concentrated amyl acetate, derived from any amyl alcohol; the isomeric, the secondary, or the tertiary. Ten grams of such mixture are added to forty grams of any suitable turpentine, Canada turpentine having been found desirable. The latter are mixed until the solution becomes clear. Next 172 grams of any non-drying oil, such as castor oil, is added to 10 grams of oleic acid; and this latter mixture is added to the above compound, and the whole well agitated. Thereupon to the compound formed is added 730 grams of a solution of amyl acetate collodion. The latter substance should contain about 16% of any nitro-cellulose compound, such for instance as xylidin. This entire mixture is well agitated and is then ready for use for the fabric. It has been found that the increase or decrease of the gum zapota and non-drying oil, in the above mixture will impart a greater or less elasticity respectively to the fabric. It has also been found that the increase or decrease of the proportion of amyl acetate collodion in the compound will result in the increase or decrease respectively of the weight of the goods.

The fabric to be treated is impregnated with the solution set forth, in any desired manner. Thereupon the fabric is first subjected to a pressing operation to force the solution into the fabric, and to remove therefrom a surplusage of the solution. Thereupon the fabric is dried, and then treated to a steaming operation; and finally the fabric, after being dried, pressed and steamed, is subjected to a calendering operation.

A fabric treated as set forth will be found to have an increased weight, and also to have

increased in body. Furthermore, the fabric will be water proof, impervious to the passage of water. The fabric will also be found to have an increased strength, that is, the fibers have an increased tensile strength; and the fabric will also have elastic properties imparted thereto. Furthermore, the improved process will not be attended with shrinkage of the fabric, which will eliminate the sponging process that is frequently necessitated when cloth is given chemical treatment.

Having thus described my invention, I claim:

1. The process of treating a textile fabric consisting in subjecting it to a bath composed of gum zapota, amyl acetate derived from isomeric amyl alcohol, turpentine, a non-drying oil, oleic acid, and amyl acetate collodion, thereupon removing excess of the bath, and then subjecting the fabric to a finishing process.

2. The process of treating a textile fabric consisting in subjecting it to a bath composed of gum zapota, concentrated amyl acetate, turpentine, a non-drying oil, oleic acid, and amyl acetate collodion, thereupon removing excess of the bath, and then subjecting the fabric to a finishing process.

3. The process of treating a textile fabric consisting in subjecting it to a bath composed of gum zapota, amyl acetate derived from isomeric amyl alcohol, turpentine, a non-drying oil, oleic acid, and amyl acetate collodion, thereupon removing the excess of the bath by pressing means; then drying the fabric; then steaming the fabric; and finally subjecting the fabric to a calendering process.

4. The process of treating a textile fabric consisting in subjecting it to a bath composed of gum zapota, concentrated amyl acetate, turpentine, a non-drying oil, oleic acid, and amyl acetate collodion, thereupon removing the excess of the bath by pressing means; then drying the fabric; thereupon steaming the fabric; and finally subjecting the fabric to a calendering process.

5. The process of treating textile fabric consisting in subjecting it to a bath formed by adding 5 grams of gum zapota to 95 grams of amyl acetate derived from isomeric amyl alcohol; thereupon adding 10 grams of such mixture to 40 grams of turpentine; then adding 172 grams of a non-drying oil to 10 grams of oleic acid, which latter mixture is added to the said compound; then adding 730 grams of concentrated solution amyl acetate collodion; thereupon removing excess of the bath from the fabric; and then subjecting the fabric to a finishing process.

6. The process of treating textile fabric consisting in subjecting it to a bath formed by adding 5 grams of gum zapota to 95 grams of concentrated amyl acetate; there-

upon adding 10 grams of such mixture to 40 grams of turpentine; then adding 172 grams of a non-drying oil to 10 grams of oleic acid, which latter mixture is added to the said compound; then adding 730 grams of concentrated solution amyl acetate collodion; thereupon removing excess of the bath from the fabric; and then subjecting the fabric to a finishing process.

7. The process of treating textile fabric consisting in subjecting the fabric to a bath formed by adding 5 grams gum zapota to 95 grams of amyl acetate derived from isomeric amyl alcohol; then adding to 10 grams of such mixture 40 grams of turpentine and mixing till clear; then adding 172 grams of castor oil to 10 grams of oleic acid, and adding the latter mixture to the above compound; thereupon adding to such compound 730 grams of concentrated solution amyl acetate collodion containing about 16% xylidin or any other nitro-cellulose compound; thereupon removing excess of the bath from the fabric; and finally subjecting the fabric to a finishing process.

8. The process of treating textile fabric consisting in subjecting the fabric to a bath formed by adding 5 grams gum zapota to 95 grams of concentrated amyl acetate, then adding to 10 grams of such mixture 40 grams of turpentine and mixing till clear; then adding 172 grams of castor oil to 10 grams of oleic acid, and adding the latter mixture to the above compound; thereupon adding to such compound 730 grams of concentrated solution amyl acetate collodion containing about 16% xylidin or any other nitro-cellulose compound; thereupon removing excess of the bath from the fabric; and finally subjecting the fabric to a finishing process.

9. The process of treating textile fabric consisting in subjecting the fabric to a bath formed by adding 5 grams gum zapota to 95 grams of concentrated amyl acetate; then adding to 10 grams of such mixture 40 grams of turpentine and mixing till clear; then adding 172 grams of castor oil to 10 grams of oleic acid; and adding the latter mixture to the above compound; thereupon adding to such compound 730 grams of concentrated solution amyl acetate collodion containing about 16% xylidin or any other nitro-cellulose compound; thereupon removing excess of the bath from the fabric by pressing; then drying the fabric; thereupon subjecting the fabric to a steaming process; and finally subjecting the fabric to a calendering treatment.

Signed at Nos. 9-15 Murray street, New York city, N. Y. this 16th day of January, 1906.

SEYMOUR HERMANN.

Witnesses:

W. H. REID,

JOHN O. SEIFERT.