

# UNITED STATES PATENT OFFICE.

FRANK E. ALDRICH, OF BOSTON, MASSACHUSETTS.

## RUBBER CLOTH OR FABRIC.

SPECIFICATION forming part of Letters Patent No. 283,057, dated August 14, 1883.

Application filed June 21, 1883. (Specimens.)

*To all whom it may concern:*

Be it known that I, FRANK E. ALDRICH, of Boston, in the county of Suffolk, State of Massachusetts, have invented a certain new and  
5 useful Improvement in Rubber Cloths or Fabrics, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the  
10 same.

My invention relates more especially to means for ornamenting the cloth or fabric; and it consists in a rubber cloth or fabric composed wholly or in part of rubber, having one or  
15 both of its surfaces provided with useful or ornamental designs or figures printed or stamped thereon with an ink or compound of a different color or shade from the body of the fabric by means of rollers, blocks, or in any  
20 other suitable manner, the ink or compound preferably containing rubber, caoutchouc, gutta-percha, or some analogous material, as hereinafter more fully set forth and claimed.

In carrying out my invention I take an ordinary rubber cloth, preferably gossamer rubber cloth, or any fabric composed wholly or in part of rubber, and print or stamp its finished surface or surfaces with an ink or compound of a different color or shade from the  
30 body of the goods by means of engraved rollers, blocks, types, dies, or in any other suitable manner. I deem it preferable; however, to use rollers, one or more being employed, according to the number of colors to be applied, and the cloth passed in cuts through the printing-machine after the manner of printing calico and similar goods.

The ink or compound employed in printing the figures or designs on the cloth or fabric is prepared as follows: Take one-half pound of rubber or caoutchouc, four quarts of naphtha, one-half pound of red lead, and one-eighth of an ounce of flowers of sulphur. Dissolve the gum in the naphtha, and then add and thoroughly mix the other ingredients therewith.  
45

I do not confine myself to the exact proportions given, as these may be varied considerably without materially changing the nature of the compound; and, instead of naphtha, some  
50 other solvent may be used for the rubber, if desired, although naphtha is deemed preferable; also, instead of the lead, litharge, pig-

ments, shellac, ocher, lamp-black, or any other coloring-matter may be employed, according to the shade or color it is desired to give the  
55 ink.

After the cloth or fabric has been printed or stamped as described, it is dried by passing it over heated rollers, or by means of hot air in a properly heated room, or by exposing  
60 it to the sun's rays in the open air, the latter being preferable on gossamer or light-weight goods, after which it may be varnished, if desired, although varnish is not generally required when the ink used is compounded  
65 according to the foregoing formula.

The object of the sulphur is to render the ink vulcanizable when exposed to heat or to the sun's rays; but, instead of the flowers of sulphur, various other preparations of sulphur  
70 may be used for that purpose, if desired, and accomplish substantially the same results.

It will be obvious that the ink or compound described, containing a large proportion of rubber, when applied to the rubber-covered surface of the cloth or to a rubber fabric, will  
75 become substantially integral therewith, thus rendering the imprinted figures or designs very durable or permanent, and better adapting the goods for use as carpeting and for purposes where they are subjected to wear than  
80 if printed with an ink or compound containing no rubber or analogous material.

I prefer to print or stamp the cloth or fabric while soft, sticky, or "tacky," or before  
85 its surfaces are thoroughly dried or vulcanized, as the rubber of the ink and that of the cloth more readily assimilate or become amalgamated at that period than later, thus rendering the process more effective.  
90

As I propose to make the ink or printing compound described the subject-matter of other Letters Patent, the same is not herein claimed when in and of itself considered.

It will be obvious that the cloth may be  
95 coated or finished and printed on both of its sides, if desired; also, that a fabric composed wholly or in part of rubber may be readily ornamented by printing one or both of its surfaces in substantially the same manner as that  
100 described for printing gossamer cloth or a fabric having a fibrous body.

It will also be obvious that the rubber in the ink serves to suspend and hold the lead or



other pigment and coloring materials used, and thus render the colors of the figures and designs permanent.

By "useful" figures and designs I refer more especially to numbers and geometric figures, such as would be imprinted upon the cloth for use in covering chess or checker boards, &c., and by "ornamental" figures and designs, to flowers, plaids, checks, scroll-work, &c., or such as would be imprinted on it for use as carpeting, coverings, draperies, linings, &c., or for manufacturing coats, circular-cloaks, and other articles of wearing-apparel.

Having thus explained my invention, what I claim is—

1. As an improved article of manufacture, a rubber cloth or fabric composed wholly or in part of rubber, having one or both of its surfaces printed or stamped with useful or ornamental designs or figures in an ink or printing compound of a different color or shade from the body of the cloth or fabric, substantially as set forth.

2. As an improved article of manufacture, a rubber cloth or fabric composed wholly or in part of rubber, having one or both of its surfaces printed or stamped with useful or ornamental designs or figures in an ink or printing compound of a different color or shade from the body of the cloth or fabric, said ink or compound being composed in part of rubber, caoutchouc, gutta-percha, or some analogous substance, and a coloring material or materials, substantially as specified.

3. As an improved article of manufacture, a rubber cloth or fabric composed wholly or in part of rubber, having one or both of its surfaces printed or stamped with useful or ornamental designs or figures in an ink or printing compound of a different color or shade from the body of the cloth or fabric, said ink or compound being composed in part of rubber, caoutchouc, gutta-percha, or some analogous substance, and containing sulphur or an ingredient for rendering the ink vulcanizable, substantially as set forth.

4. As an improved article of manufacture, a rubber cloth or fabric composed wholly or in part of rubber, having one or both of its surfaces printed or stamped with useful or ornamental designs or figures in an ink or printing compound of a different color or shade from the body of the cloth or fabric, and varnished, substantially as specified.

5. As an improved article of manufacture, a rubber cloth or fabric composed wholly or in part of rubber, having one or both of its surfaces printed or stamped with useful or ornamental designs or figures in an ink or printing compound analogous to the coating of the cloth or body of the fabric and of a different color or shade therefrom, substantially as set forth.

6. As an improved article of manufacture, a rubber cloth or fabric composed wholly or in part of rubber, having one or both of its surfaces printed or stamped with useful or ornamental designs or figures in an ink or printing compound of a different color or shade from the body of the cloth or fabric, said ink or compound containing rubber and sulphur, or an ingredient for vulcanizing the rubber when subjected to heat or the sun's rays, substantially as specified.

7. As an improved article of manufacture, a rubber cloth or fabric composed wholly or in part of rubber, having one or both of its surfaces printed or stamped with useful or ornamental designs or figures in an ink or printing compound of a different color or shade from the body of the cloth or fabric, said ink or compound containing rubber, lead, and sulphur, or means for vulcanizing the rubber when subjected to heat, substantially as set forth.

FRANK E. ALDRICH.

Witnesses:

C. A. SHAW,  
L. J. WHITE.