

(No Model.)

I. B. ABRAHAMS.
MANUFACTURE OF WALL COVERING.

No. 377,283.

Patented Jan. 31, 1888.

Fig. 1.

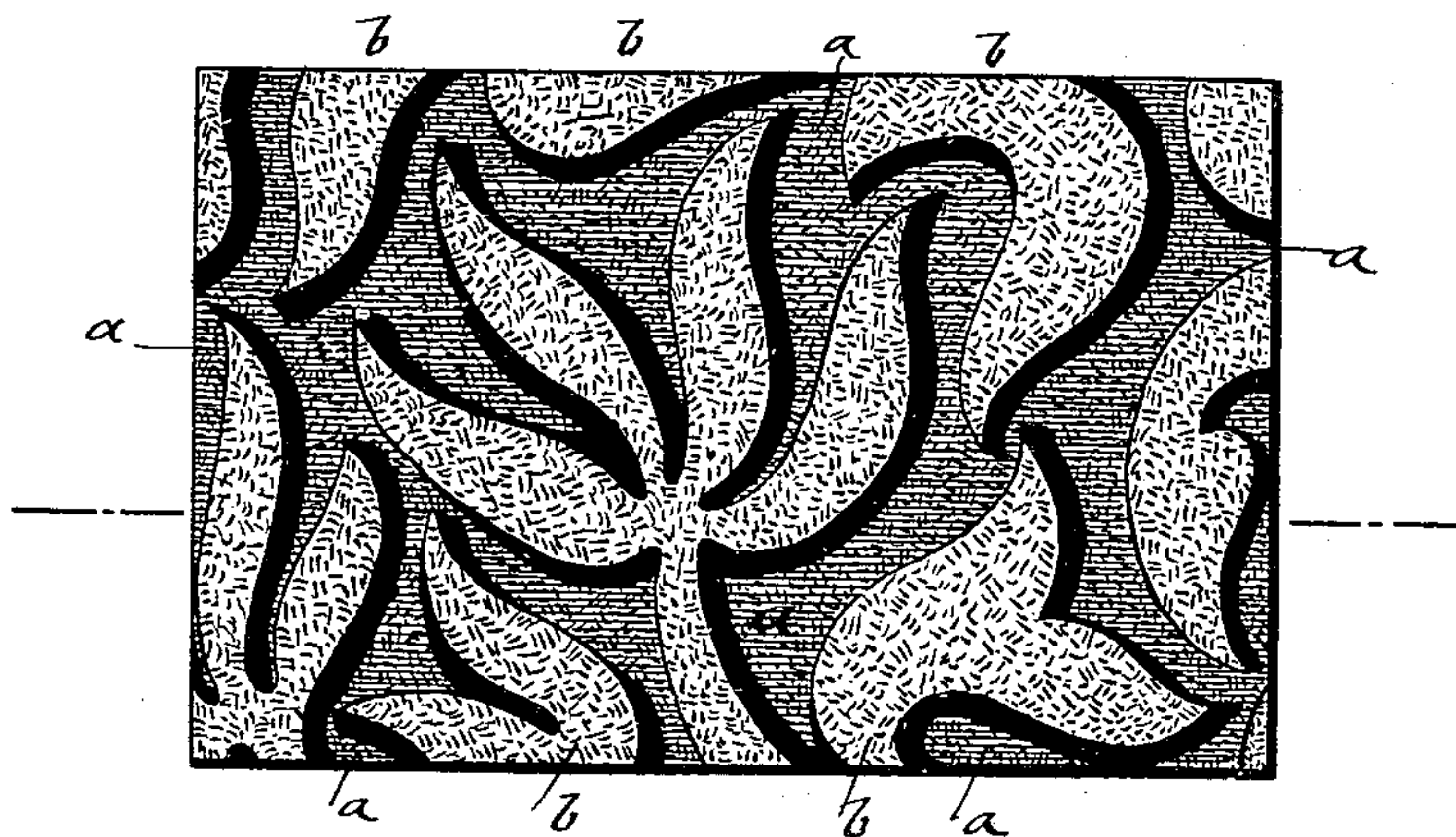


Fig. 2.



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MANUFACTURE OF WALL-COVERING.

SPECIFICATION forming part of Letters Patent No. 377,283, dated January 31, 1888.

Application filed April 20, 1887. Serial No. 235,464. (No model.)

To all whom it may concern:

Be it known that I, ISAAC B. ABRAHAMS, of the city, county, and State of New York, have invented certain new and useful Improvements in Manufacture of Wall-Covering, of which the following is a specification.

This invention has reference to the manufacture of wall-covering having the character of the well-known "flock wall-paper," but which is produced of cheaper materials, so as to permit of a more general application.

The invention consists of the method herein described of making wall-covering by coating a paper or other backing with a sizing containing caseine, then spreading over said sizing a layer of so-called "animalized vegetable flock or fibers" prepared from wood pulp or other vegetable fibers, then subjecting the paper to the action of heated embossing-rolls, whereby a part of the surface of the same is compressed, so as to form a ground of different color and appearance from the parts left in relief.

The invention consists, secondly, of a new wall-covering composed of a paper or other backing, and of a surface-covering of animalized vegetable flock or fibers applied thereto by a suitable sizing.

The invention consists, further, of the method of preparing the animalized vegetable flocks and of other details, as will more fully appear hereinafter and finally be pointed out in the claims.

In the accompanying drawings, Figure 1 represents a front elevation of a piece of wall-covering made according to my invention, and Fig. 2 is a horizontal section of the same drawn on a larger scale.

Similar letters of reference indicate corresponding parts.

In carrying my invention into practice the first step is to prepare the animalized vegetable flock or fibers that are employed by me for the surface-coating of my improved wall-covering. This flock is made of wood pulp or other vegetable fibers, which are changed or animalized by treating them with a solution prepared in the following manner: A caustic alkali or alkalies is mixed with a small quantity of camphor dissolved in alcohol, and with a certain quantity of silk or wool fibers, or both fibers mixed. The solution is exposed

to heat, so that the action of the caustic alkali will dissolve the fibers and form a clear camphorated alkali solution of said fibers. To this solution is added a small quantity of caseine, and in cases where a high degree of luster is to be produced a small quantity of shellac. The alkali solution of animal fibers is mixed with wood pulp, cotton pulp, or other vegetable fibers and then treated with a diluted acid, so that said wood pulp or other vegetable fibers are coated with the animalized fibers deposited thereon by the reaction. The flock produced by this reaction receives thereby the appearance of silk or wool flock, or of silk and wool flock combined in proportion to the quantity of silk or woolen fibers used in the animalizing solution. This prepared flock forms the main substance in the manufacture of my improved wall-covering. It may be dyed in all colors and shades, mixed with bronze-powder, and used in place of the more expensive silk or wool flock heretofore employed in the manufacture of wall-papers.

The animalized flock described is spread over the paper or other fabric, which has first been coated with a sizing that is composed of caseine, caoutchouc, and camphorated oil or glycerine, which ingredients are all dissolved in water of ammonia or other alkaline solutions and united by the action of heat.

By heating and stirring the solution the same forms a clear and transparent liquid which has the property of rendering the paper to which it is applied water-proof. If other non-evaporating alkalies are used as solvents, the insolubility of the sizing is produced by passing the wall-covering when finished through a bath containing some diluted acid—such as, for instance, tannic acid—whereby the sizing is rendered water-proof. After the paper or other suitable fabric which forms the base of my improved wall-covering is coated with the sizing described, the animalized vegetable flock or fiber is spread over the same in a layer of uniform thickness, which can be done either by hand or by machinery.

To produce a wall-covering of greater thickness the surface of the first layer of flock is again covered with sizing and on the same spread a second layer of animalized flock, and so on. The wall-covering has the appearance of the well-known velvet or flock wall-papers,

and may be used in this shape as a substitute for the same; or it can be embossed by being passed through suitably-heated embossing-rolls, which compress portions *a* of the surface of the paper and unite the caseine contained in the sizing with the caseine and shellac contained in the animalized flock, so that the compressed portions *a* assume a high gloss or luster and appear in a different shade of color than that of the parts *b* in relief, which were not exposed to pressure by the embossing-rollers. The parts *b* in relief stand out in bold contrast to the compressed portions *a* of the covering, and are thereby very attractive in appearance.

The wall-covering may also be produced in different colors by means of an inking attachment, by which a suitable color liquid bronze is applied to the parts in relief on the embossing-roll and transferred thereby to the compressed surface of the wall-covering. The animalized wood flock can also be mixed while damp with bronze-powders of any desirable color, the addition of which imparts, after embossing, a metallic gloss to the parts which are compressed by the embossing-rolls. By imparting a slight pressure to the raised portions of the covering by the heated rolls the surface of the same is smoothed and rendered somewhat glossy, whereby a different, and in some cases very desirable, effect is obtained.

By using a heavier base or backing and passing the fabric after it is coated with flock through a bath of dissolved caseine and treating the caseine by a suitable diluted acid a very strong and durable floor-covering is obtained.

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

1. The process herein described of making wall-coverings, which consists in sizing paper or other backing, spreading over said sizing a layer of animalized vegetable flock, and pressing the so-covered paper between heated embossing-rolls, substantially as set forth.

2. The process herein described of making wall-coverings, consisting in applying to a

layer of paper or other suitable backing a sizing containing caseine, spreading over the same a layer of animalized vegetable flock also containing caseine, and pressing the so-coated fabric between heated embossing-rolls, whereby the caseine of the flock and of the sizing unite at the compressed portions, so as to form a glossy ground of a different shade of color than the uncompressed parts in relief, substantially as set forth.

3. A wall-covering composed of a base or backing of paper or other suitable fabric, and a face-covering of animalized vegetable flock secured thereto by a suitable sizing, substantially as set forth.

4. A wall-covering composed of a base or backing of paper or other suitable fabric, and a face-covering of animalized vegetable flock secured thereto by a suitable sizing, said face being compressed in part and partly in relief, substantially as set forth.

5. As a new article for use in the manufacture of wall-papers, animalized vegetable flock or fibers prepared from wood or other vegetable fibers and coated with animal fibers deposited thereon, substantially as set forth.

6. In the manufacture of wall-coverings, the process herein described of preparing vegetable flock, which consists in dissolving animal fibers in a suitable alkali and depositing from said solution the animal fiber on wood pulp or other vegetable fibers by means of diluted acid, substantially as set forth.

7. In the manufacture of wall-papers, the process herein described of preparing flock, which consists in dissolving animal fibers in a camphorated alkali solution containing caseine and depositing said animal fibers on wood pulp or other vegetable fibers by means of a diluted acid, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ISAAC B. ABRAHAMS.

Witnesses:

PAUL GOEPEL,
MARTIN PETRY.