

908,780.

E. G. LANG.  
GUMMED CLOTH.  
APPLICATION FILED SEPT. 17, 1908.

Patented Jan. 5, 1909.

Fig. 1.

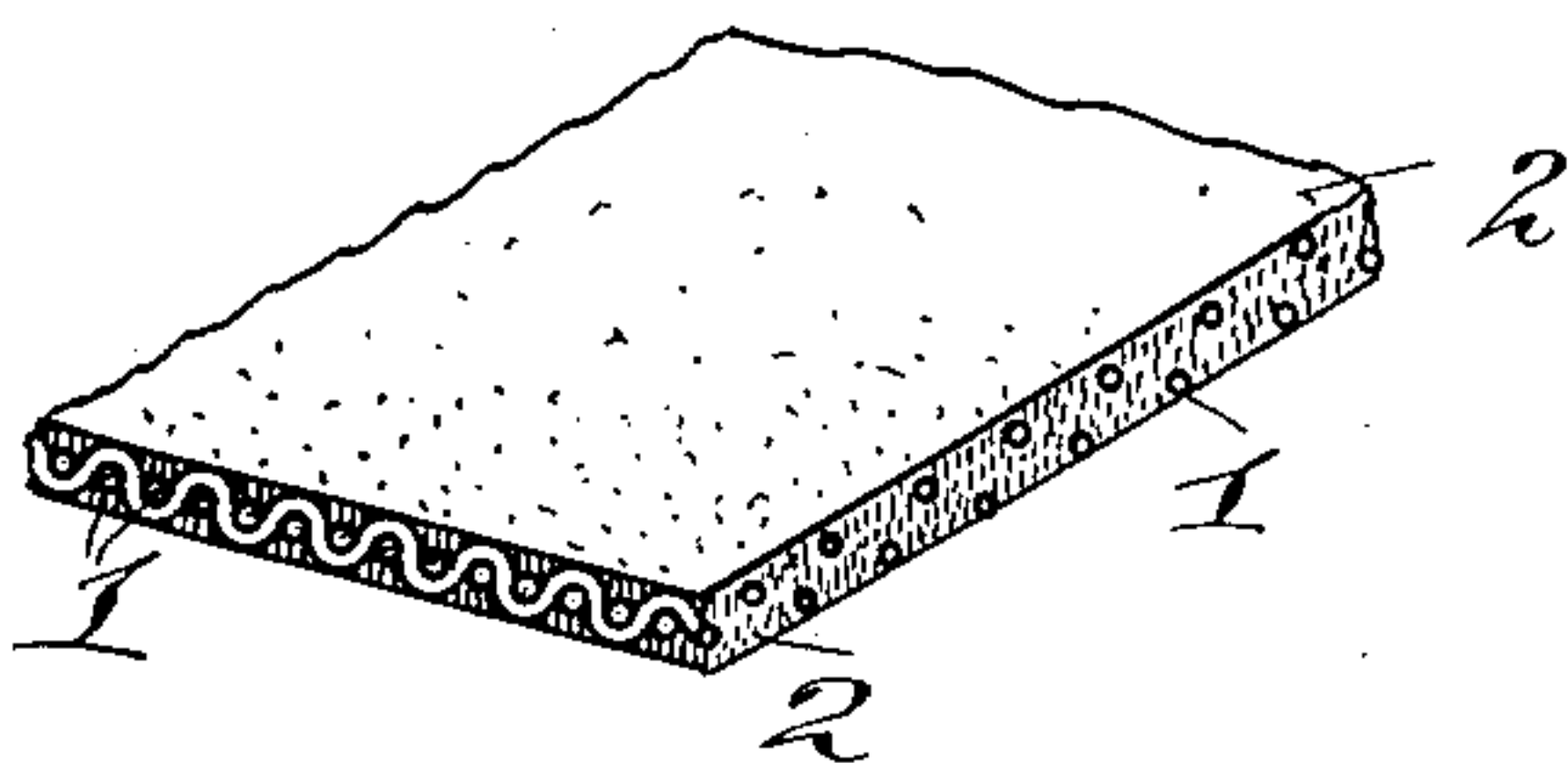


Fig. 2.

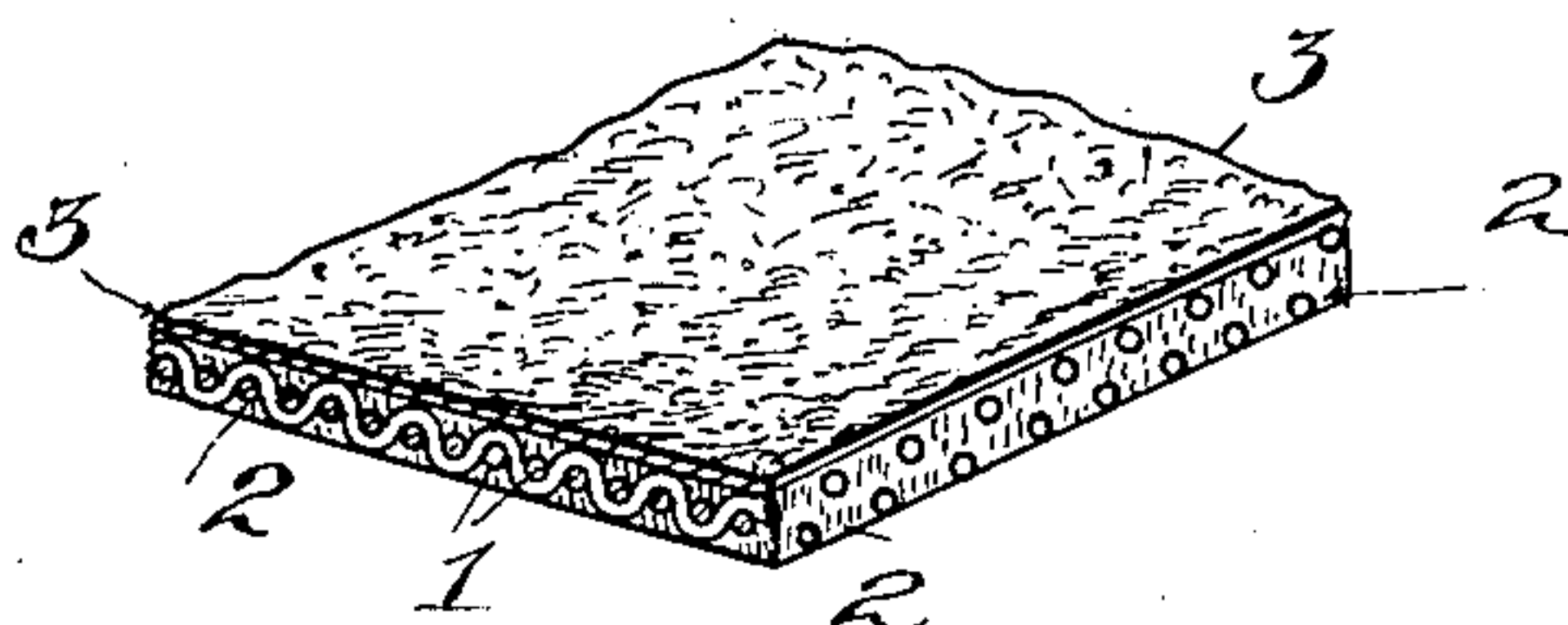


Fig. 3.

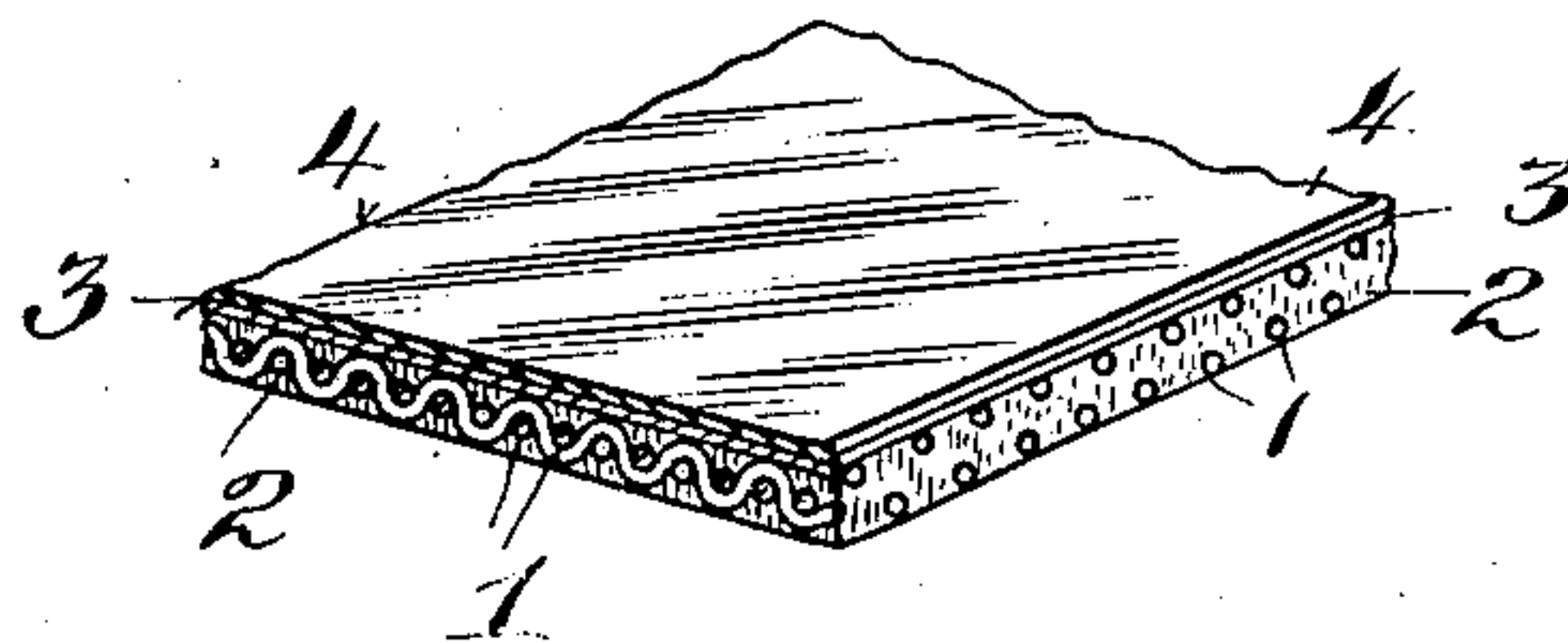


Fig. 5.

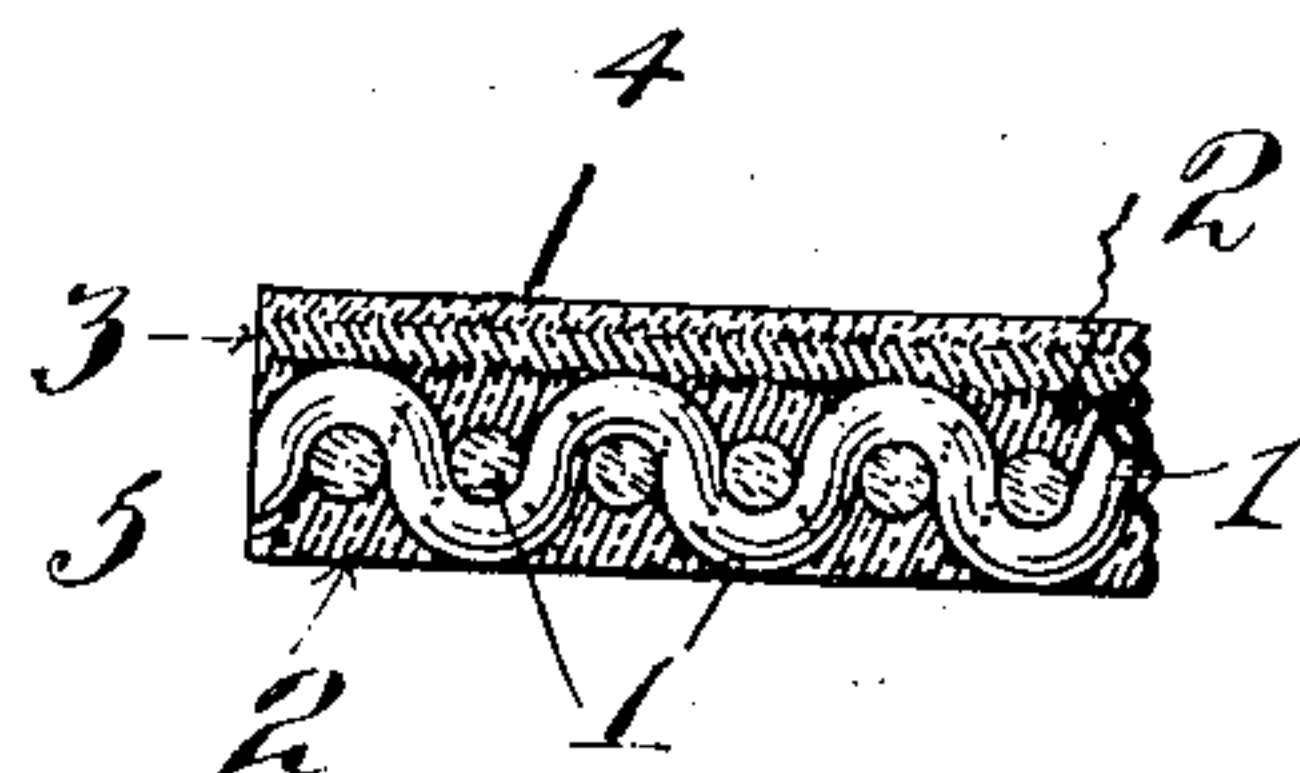
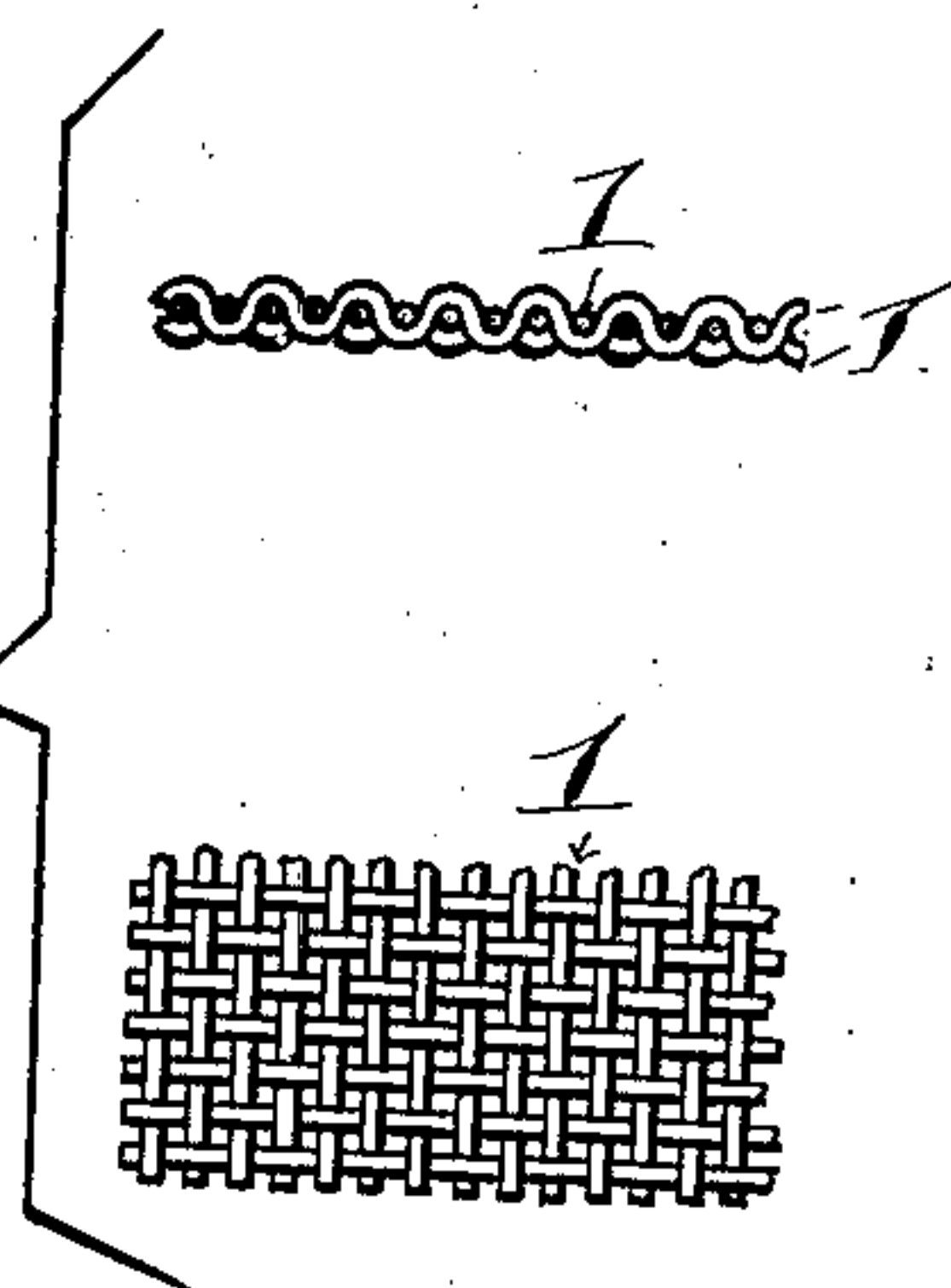


Fig. 4.

Witnesses:  
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Inventor  
*Edwin C. Lang*  
By his Attorney  
*Josh. R. Levy*



# UNITED STATES PATENT OFFICE.

EDWIN G. LANG, OF NEW YORK, N. Y., ASSIGNOR TO LANG & GROS MANUFACTURING CO., A CORPORATION OF NEW YORK.

## GUMMED CLOTH.

No. 908,780.

Specification of Letters Patent.

Patented Jan. 5, 1909.

Application filed September 17, 1908. Serial No. 453,405.

*To all whom it may concern:*

Be it known that I, EDWIN G. LANG, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Gummed Cloth, of which the following is a specification, reference being had to the accompanying drawings, forming part hereof.

10 In book binding, making of stationery, and in manufacturing of paper boxes, considerable gummed fabric is employed. In order to obtain sufficient lightness and flexibility of the material it has been found advantageous to use a comparatively cheap or inexpensive grade of open-meshed fabric, such as cambric and the like. It has been customary in the production of gummed cloth to lightly coat such an open-meshed or loosely-textured woven fabric by applying lightly to it a strong glue to one side thereof and cause that glue solution to adhere merely to the threads of the fabric without filling the interstices. Gummed cloth or fabrics made in this way have but very little body and are adapted only for certain special uses.

25 The object of my invention is to produce a gummed fabric in an economical and expeditious manner, which will be light and flexible enough to permit it to be used in the manufacture of stationery, books and the like, at the same time provide considerable stiffness or rigidity by means of which the field or scope of use to which gummed fabrics may be applied may be extended beyond that which the open-meshed or loosely-textured lightly coated above described fabric is capable of.

30 My invention therefore broadly consists in a process and the article produced thereby.

35 The preferred manner of carrying out my process consists in providing an open-meshed or loosely-textured woven fabric, such as light cambric, with a filling, then applying a rough surface coating or sizing having comparatively little adhesive qualities and drying the same so as to produce a rough surface, then applying to the rough surface a fluid coating of a glossy and adhesive compound, then drying the fabric so treated; and in the article of manufacture resulting from the practice of that process.

Reference is had to the accompanying

drawings diagrammatically illustrating the said process, and the article of manufacture 55 produced thereby.

In the drawing:—Figure 1 diagrammatically represents a piece of open meshed or loosely-textured woven fabric provided with a filling. Fig. 2 diagrammatically represents the fabric after the first rough surface coating has been applied. Fig. 3 diagrammatically represents the complete fabric having the finishing coating applied to the rough coating. Fig. 4 is a section, enlarged, showing the completed fabric; and Fig. 5 side and plan views, respectively, diagrammatically showing the foundation fabric.

Similar reference characters indicate corresponding parts throughout the several views. 70

The fabric as illustrated in the drawing is very much exaggerated both as to structure and thickness, but this is rendered necessary for the purpose of definite description.

In making my improved gummed fabric, 75 I use (preferably) an open-meshed or loosely-textured fabric such as diagrammatically shown at 1 in Fig. 5, which I call the foundation fabric. The uses to which the completed cloth is to be put to will, to a greater 80 or lesser extent determine the weight and openness of the fabric, but I have found that when my improved cloth is used in the manufacture of end stays and the like, for use in making paper boxes, that cambric of No. 85 64 (square) weave, so known commercially, may be advantageously employed. The fabric having been selected according to the requirements of its ultimate use, I next fill or weight the same. This may be done in 90 any of the well-known ways, such as by making a clay-mixture mixed with a suitable dye for giving it color, then applying the filling by running the fabric through the mixture, or in any other desired way, and 95 passing the fabric through suitable rollers, heated or otherwise, as desired, to cause the filling 2 to become a component part of the fabric itself, as illustrated in Fig. 1 in which the cloth thus far completed is shown. 100 The filling may be applied to one or both sides, or may be applied so that it is merely embedded in the interstices of the fabric without extending beyond one or the other of its sides or not, as desired, but I prefer 105 that the fabric be substantially filled, so



that the desired flexibility and body be retained in the fabric without unduly adding weight or stiffness thereto.

One of the objects of my invention is preferably to avoid having the adhesive material with which one face of the cloth is provided pass through the filled fabric on to the opposite side. In order to prevent this I give the face of the fabric to which the adhesive material is applied a polish in any desired way, as during the rolling step above referred to. But although I prefer to polish this surface, my invention may be carried out under certain conditions without polishing it. The next step is to apply to the fabric thus prepared, a holding or binding coating or surface. A solution which I have found to be of considerable advantage is made as follows. I take two (2) parts of water and add thereto one (1) part of opaque glue of commerce. This form of glue is comparatively inexpensive and has considerable body yet comparatively little adhesive qualities. I heat this mixture in any desirable way until it attains the consistency of heavy paste. This paste is applied manually or mechanically and roughly over the surface of the filled fabric and left to dry. The surface 3 thus produced is rough and uneven; and while the adhesive material used in the mixture is sufficient to cause it to adhere to the filled fabric, it is insufficiently adhesive to enable the fabric thus far prepared to readily adhere. If the filled surface is polished the likelihood of the mixture passing through is small; while its pasty condition will substantially prevent its absorption by the filled fabric. The purpose of applying the surface 3 is to form an irregular and uneven coating to the filled fabric to enable the final finishing coat to take good hold and firmly affix itself thereto, which the filled fabric would not do satisfactorily; and the coating 3 prevents the adhesive coat passing through the filled fabric. To produce this finishing coat, I take (preferably) three (3) parts of water, one (1) part of hide glue, one (1) part of fish glue of commerce, and a small quantity of glycerin, and reduce the same in the presence of heat to a freely flowing liquid mass. This liquid mass is then mechanically laid in a thin sheet or layer 4 to the surface of the rough or binding coating 3, so that it will enter into the ridges or depressions or other inequalities therein; and when dried leave a specially smooth exterior surface. The cloth may be then passed over heating rollers or other drying instrumentalities or passed through pressing and calendering rolls to reduce the fabric to a final thickness and to give a high polish to the finishing coat, and thoroughly set all of the combined elements of the fabric together into

a compact structure, such as is diagrammatically shown at 5, Fig. 4.

The characteristics of the fabric thus produced are that it may be made sufficiently stiff for the special purposes for which it may be used; the adhesive material has to a greater or less extent combined with the material of the basic fabric; the interstices of the fabric are closed; the surface of the cloth covered by a glossy adhesive material; the adhesive material being on the exterior of the fabric may be wetted to a proper extent to cause it to adhere to the material that it is to be used upon without necessitating the employment of further adhesive; and without causing the adhesive to pass through the fabric.

In fabrics of this class, so far as I know of them, the adhesive material, after the fabric has been applied in use, enters the fabric and fills up the interstices and presents itself on the exposed side of the fabric, rendering it very difficult in use; and where attempts have been made to stiffen the fabric the same has been done by an additional or unnecessary amount of highly adhesive material, which upon being wetted has caused its exposed surface to become unduly adhesive.

It will be apparent that my process, and the article which results therefrom, overcomes in an economical and expeditious manner the objections in fabrics of this class produced by other methods. Therefore, it will be clear that my process in its broad aspect can be carried out by departing from the sequence of steps herein set forth, and that the kind and quality of materials employed can be varied in accordance with the requirements of each special case, all without departing from the spirit of my invention.

Having described my invention, I claim:

1. The process of making a gummed cloth, which consists in filling an open-mesh fabric, applying a rough-surface coating thereto, and then applying a finishing coating of adhesive material to the rough-surface coating.
2. The process of making a gummed cloth, which consists in filling an open-mesh fabric, polishing the surface of the filled fabric, applying a rough-surface coating thereto, and then applying a finishing coating of adhesive material to the rough-surface coating.
3. The process of making a gummed cloth, which consists in applying to a filled fabric a rough-surface coating, drying the same, applying to the rough-surface coating a surface coating of adhesive material, then reducing the said elements into a compact mass.
4. A gummed cloth, comprising a basic fabric of open-mesh material provided with a filler, a rough surface coating laid on the basic fabric, and an adhesive coating laid on the rough coating, all being reduced to a compact mass.



5. A gummed cloth, comprising a basic fabric of open mesh material provided with a filler, a rough surface coating of comparatively slightly adhesive material laid on the  
5 basic fabric, and a polished coating of adhesive material laid on the rough surface coating, all being reduced to a compact mass.

6. A gummed cloth, comprising a basic fabric of open-mesh material provided with a  
10 filler, a pasty and rough surfaced coating consisting of comparatively slightly adhesive

material applied to the basic fabric, and a fluid finishing coat applied to the binding coat, the cloth being compressed into a compact mass and polished on the finish coat 15 side.

Signed at the city, county and State of New York, this 15th day of September, 1908.

EDWIN G. LANG.

Witnesses:

H. RADZINSKY,  
Gus. I. CORONOW.