

(Model.)

E. ASHWORTH.
CARD CLOTHING.

No. 578,592.

Patented Mar. 9, 1897.

FIG. 1.

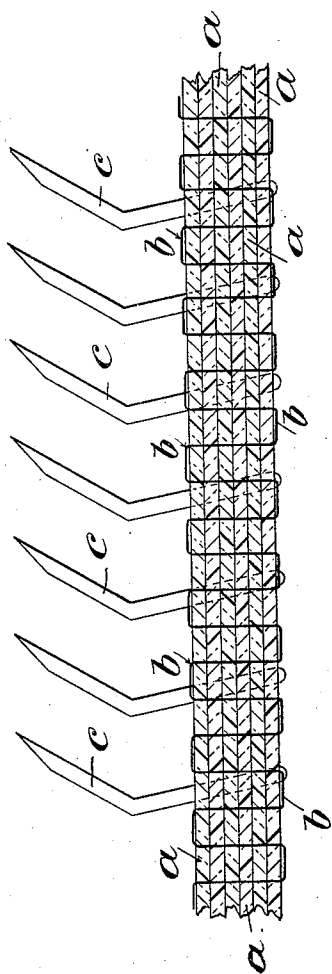
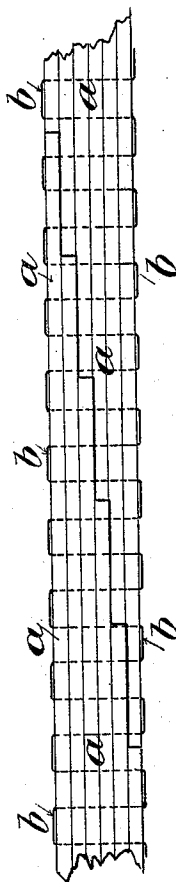


FIG. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

ELIJAH ASHWORTH, OF MANCHESTER, ENGLAND.

CARD-CLOTHING.

SPECIFICATION forming part of Letters Patent No. 578,592, dated March 9, 1897.

Application filed July 10, 1896. Serial No. 598,665. (Model.) Patented in England July 27, 1895, No. 14,295.

To all whom it may concern:

Be it known that I, ELIJAH ASHWORTH, a subject of the Queen of Great Britain, and a resident of Manchester, Lancaster county, England, have invented certain new and useful Improvements in Card-Clothing, (which has been patented in England, No. 14,295, dated July 27, 1895,) of which the following is a specification.

My said invention relates to improvements in wire cards and in the manufacture of the material, foundation, or backing into which the fine-wire teeth or dents are inserted. At present in preparing this foundation it is customary to cement several thicknesses or plies of woven fabric together, the cement employed being generally rubber solution. I have found in the course of a long experience that after such a card-backing has been in use for some time the cement loses its powers of cohesion to such an extent that frequently the respective layers of fabric become quite disconnected. This I have tested in many instances by removing the wire dents from a piece of card-clothing which has been for some time in use, whereupon the layers of fabric composing the foundation have fallen apart, showing that it was only the binding effect of the inserted dents which had kept them together. This loosening of the layers is caused partly by the mechanical disintegration caused by use and wear and partly by the cement losing its nature or becoming affected by the atmosphere. The result of this separation of the layers of the foundation is that when the card is at work or when being applied to the cylinder or other part the layers of the foundation are apt to move relatively to each other and thus alter the position and angle of the inserted dents, thereby causing bad work and injuriously affecting the efficiency of the carding apparatus. In addition to these defects if the cemented foundation, when in the form of filleting, for example, should be injured in the course of manufacture it is impossible to effect a neat joint or splice of the same nature as the rest of the filleting, and for this reason and because users will not accept an interrupted length the whole of the filleting already set has sometimes to be thrown away.

The object of my present invention is to

prevent any such separation or looseness of the respective thicknesses or layers of the foundation. Accordingly in preparing the foundation instead of cementing the different layers, as at present, I stitch or sew the layers together and thus obtain a positive and unalterable attachment common to all of the layers and absolutely preventing separation or relative movement of the thicknesses. Such a stitched or sewed foundation is shown in longitudinal section in Figure 1 of the accompanying drawings. Any suitable number of layers of fabric may be used. In the drawings I show six such layers, but there may be more or less. The layers *a a a a a a* are sewed together by the stitches *b*, and the wire dents *c* are inserted in the usual manner into the said stitched foundation. The rows of stitching would be spaced at a suitable distance apart and the stitching might be done in successive multiple rows by a suitable machine or machines devised for the purpose, but not forming part of my present invention.

The layers of fabric or cloth from which my improved foundation is made may be pressed or calendered or finished or stiffened or polished on one or on both surfaces or on the surfaces only of the complete foundation; also the finished foundation to prevent after slackness may be stretched by suitable stretching apparatus. The layers composing my improved foundation will always remain securely connected together, so that I gain both increased strength and greater reliability as regards the stability and correct position of the dents.

The cost of my improved stitched foundation is much less than the cemented material, as the expensive rubber cement is saved and also a certain economy in time effected, seeing that the manufacture of the foundation can be carried on without any of the delay that is entailed by waiting until the respective layers of cement have become dry.

In a cemented foundation the number of layers affects the cost considerably, as the greater the number of layers the greater is the expense entailed for cement and the more time is required for manufacture; but in my improved stitched foundation the number of layers does not affect the cost, since it is as easy to stitch ten layers together as it is to

stitch two or three, and no increased cost is entailed either in regard to material or time.

If the foundation should happen to become damaged in course of manufacture, it can be easily spliced by unpicking the stitches and connecting the layers at the divided parts by a series of lap-joints, (shown in Fig. 2,) which are secured by stitching, as in the body of the foundation. Such a splice can be made of the same thickness and quite as flexible as the main body of the foundation. The absence of the cement makes my improved card foundation much more durable, as it is not affected by age, oil, or light, as those foundations are into the composition or manufacture of which rubber enters.

Another advantage obtained by means of my invention, more especially when applied to the manufacture of filleting, is that the two or more layers constituting the stitched foundation can be woven to the proper width, so

that when stitched together uncut edges are presented on both sides of the foundation and no paring is necessary, so that not only is there an economy of material, but also the edges are not liable to become unraveled.

I claim as my invention—

1. In combination with the carding-teeth, a foundation in which said teeth are inserted, said foundation consisting of a plurality of layers of material stitched together, substantially as described.

2. The improved wire card having a foundation composed of several layers of woven fabric stitched together as hereinbefore set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ELIJAH ASHWORTH.

Witnesses:

JOSHUA ENTWISLE,
RICHARD IBBERTSON.