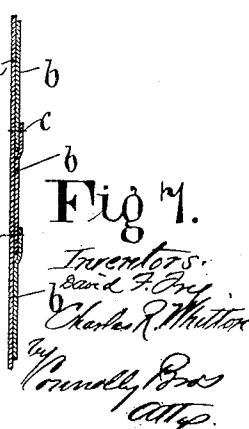
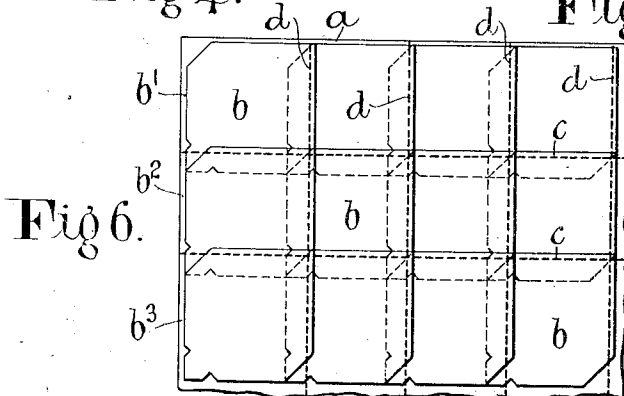
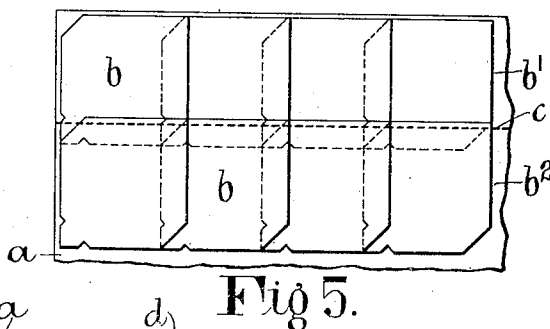
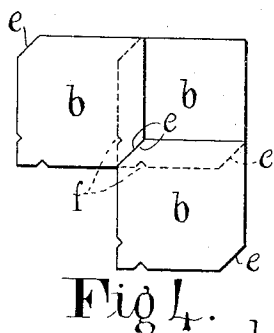
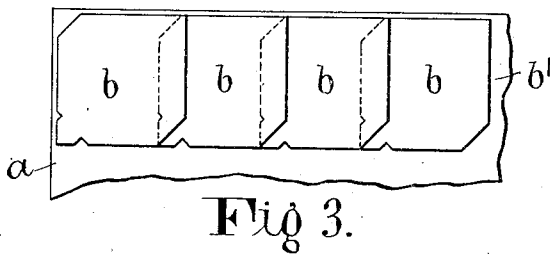
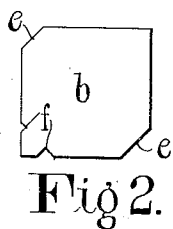
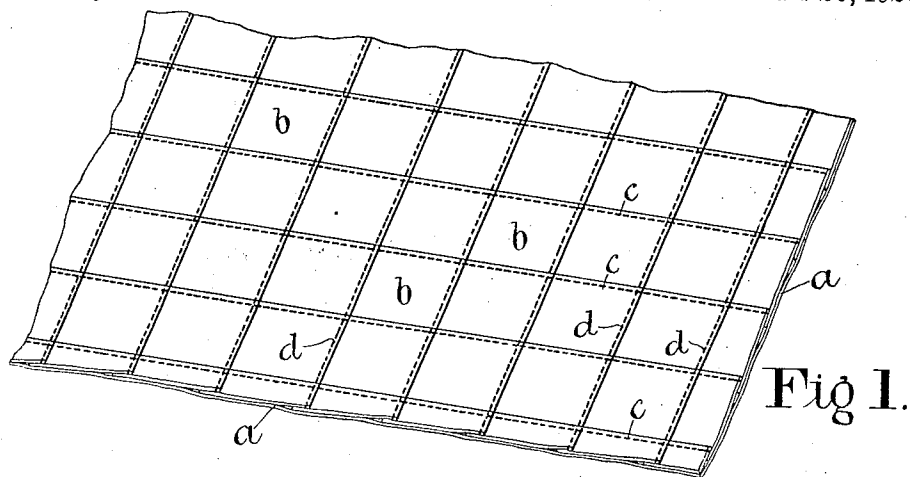


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FABRIC.

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UNITED STATES PATENT OFFICE.

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Specification of Letters Patent.

Patented Jan. 20, 1920.

Application filed February 15, 1919. Serial No. 277,222.

To all whom it may concern:

Be it known that we, DAVID FREDERICK FRY and CHARLES ROBERT WHITTON, subjects of the King of Great Britain, residing at Northampton, in the county of Northampton, England, have invented certain new and useful Improvements in or Relating to Fabrics, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a new or improved material or fabric having a leather face and a textile back particularly applicable for use for purposes for which leather *per se* has heretofore been employed.

The abnormal universal demand for war purposes of leather of all classes and the absence of any known material or substance which could be efficiently substituted for it has created a serious condition of affairs in many industries heretofore dependent on leather, and the object of this invention is to provide a new article of manufacture which may be used for the uppers of boots and shoes, and for many other purposes for which leather has previously been employed and for which the shortage of supply of the latter has rendered impracticable.

It is a primary object of this invention to utilize the small pieces of waste leather *i. e.* skins or dressed leather and as hereinafter described convert them into sheet material out of which uppers of boots and shoes may be cut in the well known manner and which material may also be utilized for covering furniture and other purposes. The scrap leather which is employed according to the present invention is at present regarded by boot manufacturers in whose factories it is largely produced in the cutting out of boot uppers as of no further commercial value to them and is generally disposed of for the purpose of being converted into size or manures.

The present invention has for its object, to avoid this wasteful disposal of leather scrap and to render it useful for the same purposes as skins *i. e.* dressed leather as at present employed.

According to the present invention waste scrap leather is cut into sections or pieces of uniform size and shape. A convenient method is to trim or cut them into sections of square or rectangular form having straight sides or edges. They may however be cut to other designs.

A sheet of textile material such for example as that used for the lining of boots and shoes and hereinafter referred to as "the foundation", and the leather sections are united by rows of stitches until the foundation is covered when a two ply sheet material is produced the plies arranged one upon the other, one ply of which consists of an aggregation of leather sections joined together edge to edge with two series of parallel rows of stitches running at right angles to each other while the other ply is of a textile character in sheet form and presenting a corresponding arrangement of rows of stitches. Conveniently the union of the different elements of the material is effected in a sewing machine.

To enable the invention to be clearly understood reference will be hereinafter made to the accompanying drawing, wherein:—

Figure 1 is a perspective view of a piece of fabric made according to this invention.

Fig. 2 shows one of the leather sections.

Fig. 3 shows how the first row of leather sections are positioned on the foundation.

Fig. 4 illustrates the manner in which adjacent sections fit together at the corners.

Fig. 5 shows two rows of leather sections placed in position and secured to the foundation by a row of stitches.

Fig. 6 shows the arrangement of three rows of leather sections and the securing of the same by rows of stitches running at right angles to each other.

Fig. 7 is a section through the fabric shown in Fig. 6.

The piece of fabric shown in Fig. 1 constitutes a convenient example of the invention and is composed of a foundation or backing *a* of textile material to which pieces of thin leather *b* are secured by rows of stitches *c d*.

In making the fabric the scrap leather of the kind hereinbefore mentioned is cut into sections each preferably of the shape shown in Fig. 2. The operator takes the foundation *a* and places thereon leather sections *b* arranged in a row *b'* as indicated in Fig. 3 the adjacent edges of the sections overlapping each other. This first row of sections may be secured to the foundation by a row of stitches passed through the sections and the foundation, each section being secured as it is placed in position. Or when a foundation material having an adhesive surface is employed the stitching of the first row of

sections may be omitted in which case the adhesive may be relied upon to keep the sections in proper position while a second row b^2 is formed as shown in Fig. 5. The leather sections b in the second row b^2 are placed so that their adjacent edges overlap each other and also overlap the adjacent edges of the first row as shown. Either after the second row is complete or as each section of said row is placed in position, the sections in the two rows b' and b^2 are secured to the foundation by stitches c which pass through the overlapping edges of the sections and through the foundation a . Further rows b^3 (Fig. 6) and so on of leather sections b are added and secured in a similar manner and when the foundation has been completely covered in this way the fabric is removed from the sewing machine and re-inserted therein and rows of stitches d (Fig. 6) are formed these stitches passing through the remaining overlapping edges of the sections b and through the foundation a and thus completing the two ply material of the character hereinbefore referred to.

It is an advantage to cut each leather section with beveled opposite corners e and opposite notches f , so that when the sections of one row are properly arranged in relation to those of the preceding row the beveled parts e will abut against each other as shown in Fig. 4 instead of overlapping and thus avoid bulkiness at this locality while the notches f form a guide to enable the operator by arranging the overlapping edge of the uppermost section in line with the notch to properly space the sections.

Sections of square shape as shown are found very suitable but instead the sections may be of rectangular form or they may be cut to other designs.

When the sections b are composed of very thin leather such as the lighter types of glacé kid, each edge of every section overlaps the adjacent edge of the contiguous sections as already described and shown, but when sections of thicker and heavier leathers are employed, it is preferable to skive or bevel down each edge of such thicker sections in order to enable them to overlap without imparting a bulky appearance to the edges.

When a thin foundation or backing is employed the edge of the foundation may be turned in or folded over before the leather sections are placed over the marginal edges thereof which improves the finish and appearance of the sheet material in its completed form.

It is found to be advantageous to employ a foundation having that surface upon which the sections are placed coated with a solution of rubber or equivalent adhesive or waterproof material which when slightly warmed facilitates the positioning of the

sections by its adhesive character, and after the completed two ply sheet material leaves the sewing machine the face of the textile ply may have a warm iron passed thereover or the sheet passed through heated rollers, sufficient pressure being applied to cause the two plies of fabric to be united and compacted together so that it is more convenient and better adapted for being cut up into the various parts of boot uppers and for use for other purposes for which leather is usually employed.

What we claim then is:—

1. As a new article of manufacture, a two ply sheet material comprising, a layer of a textile character in sheet form constituting a foundation, and a layer consisting of an aggregation of leather sections secured to the foundation by rows of stitches, the edges of said leather sections overlapping each other.

2. As a new article of manufacture, a two ply sheet material comprising, a layer of a textile character in sheet form constituting a foundation, and a layer consisting of an aggregation of leather sections, secured to the foundation by rows of stitches the edges of the said leather sections being skived and overlapping each other, substantially as described.

3. As a new article of manufacture, a two ply sheet material comprising, a layer of a textile character in sheet form constituting a foundation, and a layer consisting of an aggregation of leather sections secured to the foundation by rows of stitches running at right angles to each other, the edges of the leather sections overlapping each other, substantially as described.

4. As a new article of manufacture, a two ply sheet material comprising, a layer of a textile character in sheet form constituting a foundation, and a layer consisting of an aggregation of leather sections secured to the foundation by rows of stitches, the said leather sections having beveled opposite corners and being notched and the edges thereof overlapping each other, substantially as and for the purpose described.

5. As a new article of manufacture, a two ply sheet material comprising, a layer of a textile character in sheet form constituting a foundation and having an adhesive coated surface, and a layer consisting of an aggregation of leather sections secured to the foundation by rows of stitches, the edges of said leather sections overlapping each other.

In testimony whereof we affix our signatures in presence of two witnesses.

DAVID FREDERICK FRY.
CHARLES ROBERT WHITTON.

Witnesses:

A. G. COPSON,
D. M. CLARKE.