Oct. 8, 1935. A. G. LEMAIRE 2,016,786

FILTER FABRIC

Filed Jan. 29, 1930

Fig. 1.

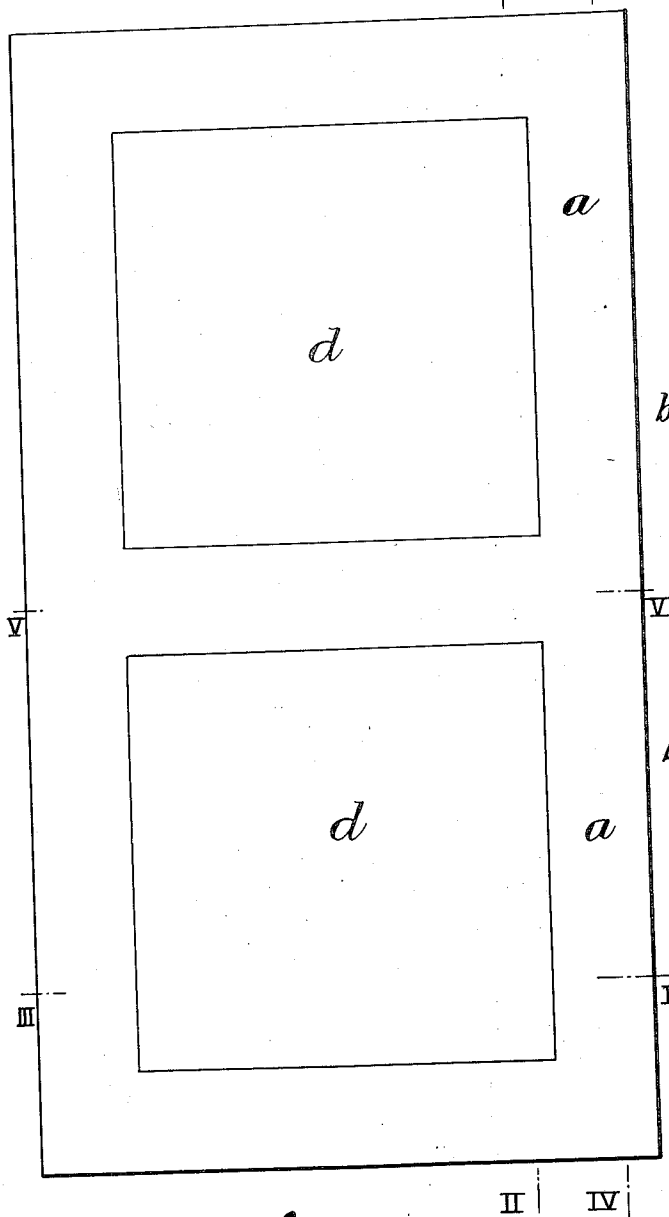


Fig. 2.

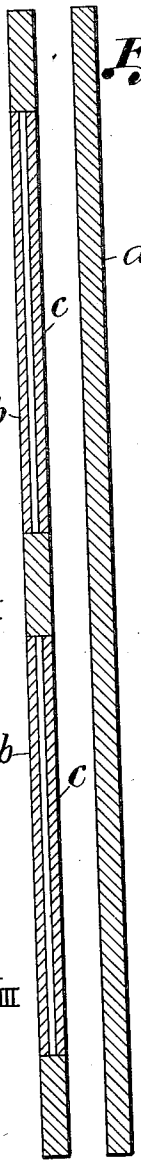


Fig. 4.

Fig. 6.

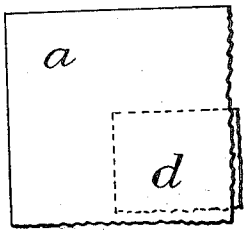


Fig. 7.

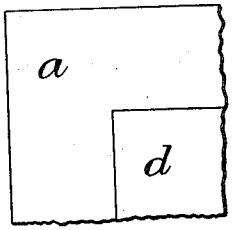


Fig. 3.

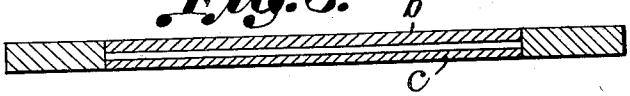
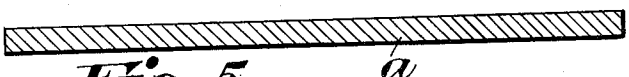


Fig. 5.



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FILTER FABRIC

Auguste Gustave Lemaire, Courtrai, Belgium

Application January 29, 1930, Serial No. 424,174
In Belgium January 29, 1929

1 Claim. (Cl. 139—426)

The invention herein disclosed relates to filter cloths such as those that are commonly used in filter presses and similar apparatus.

Such cloths are, when used in the presses, subjected to heavy stresses, particularly at the points where the plates engage the filter cloth, that is, at the border portions of the filter cloth. The present invention has for an object to provide a filter cloth with a circumambient strengthened marginal portion presenting uniform thickness at the points of application of the frames, that is, a filter cloth in which an increased thickness at the corners, which is detrimental to securing the fabric tightly, is avoided.

The invention essentially consists in the use of a reinforcement obtained by variation of the weaving of the threads presenting the same thickness or depth both of the warp and weft, although there may be differences between the thickness of the warp and that of the weft. Under these conditions the product obtained is a filter fabric formed throughout its extent from threads of the same thickness, these threads being differently woven in the filter zone and in the zone receiving the compression forces, ensuring tightness of the apparatus.

It is well known in weaving practice that if two fabrics are composed of the same number of threads of the same thickness both in the warp and weft, the thickness of these fabrics will vary according to their weaving, i. e. according to the manner in which the longitudinal and cross threads, i. e. the warp and weft, are interlaced to form the fabric. Thus if we have for an arrangement of given threads a particular fabric, designated in weaving by the formula 1/1, it is possible to provide a zone of determined thickness in the middle part of the fabric, that is to say in the effective filtering part, with the aid of said weaving.

If the periphery of this zone is then woven with a different twilling, such as a double weave, for example that designated in weaving by the formula 2/2 (or according to certain other classifications—"batavia" "casimire" "surrah" "dimitte" "tartane") a greater thickness is obtained at the parts pressed between the edges of the frames or filter plates, i. e. where the twilling has been altered.

Such a filter cloth is illustrated in the accompanying drawing in which:

Fig. 1 is a plan view of the cloth;

Figs. 2, 3, 4 and 5 are cross-sectional views respectively taken along the lines II—II, III—III, IV—IV and V—V of Fig. 1;

Fig. 6 is a perspective view of a corner, particularly the upper left corner of the cloth; and

Fig. 7 is a plan view of the same corner.

The circumambient strengthened marginal portion of the filter cloth illustrated in the drawing is indicated by *a*, and *d* designating the central filtering portion. The normal size of the filter cloth is slightly greater than the frame or filter plate in order to avoid narrowing the filter surface of the cloth.

Figs. 2 to 5 specifically illustrate a filter cloth in which the central portion *d* is composed of two separate fabrics *b* and *c*. These two fabrics are superposed in the central portion *d* and are interwoven or interlaced at the border forming a strengthened circumambient border portion.

There is thus presented a filter cloth which has two superposed layers at the center and a strengthened border portion which is received between the plates of a filter press. The border portion is of uniform thickness so that there is not any unevenness at the corners. Consequently, the plates may be pressed together and a tight fit secured so that there will not be leakage between the filter plates.

It will be obvious that various changes may be made by those skilled in the art within the principle and scope of the invention as expressed in the appended claim.

I claim:

A filter cloth adapted to be used between the frames of filter presses, the said cloth being formed throughout its extent from threads of the same thickness respectively in the warp and in the weft and comprising two superposed filter fabrics, the said filter fabrics being interwoven together at the outer edges to form a circumambient border portion, the border portion and the central portion surrounded thereby being of different weaves so that a circumambient strengthened woven marginal portion is provided.

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