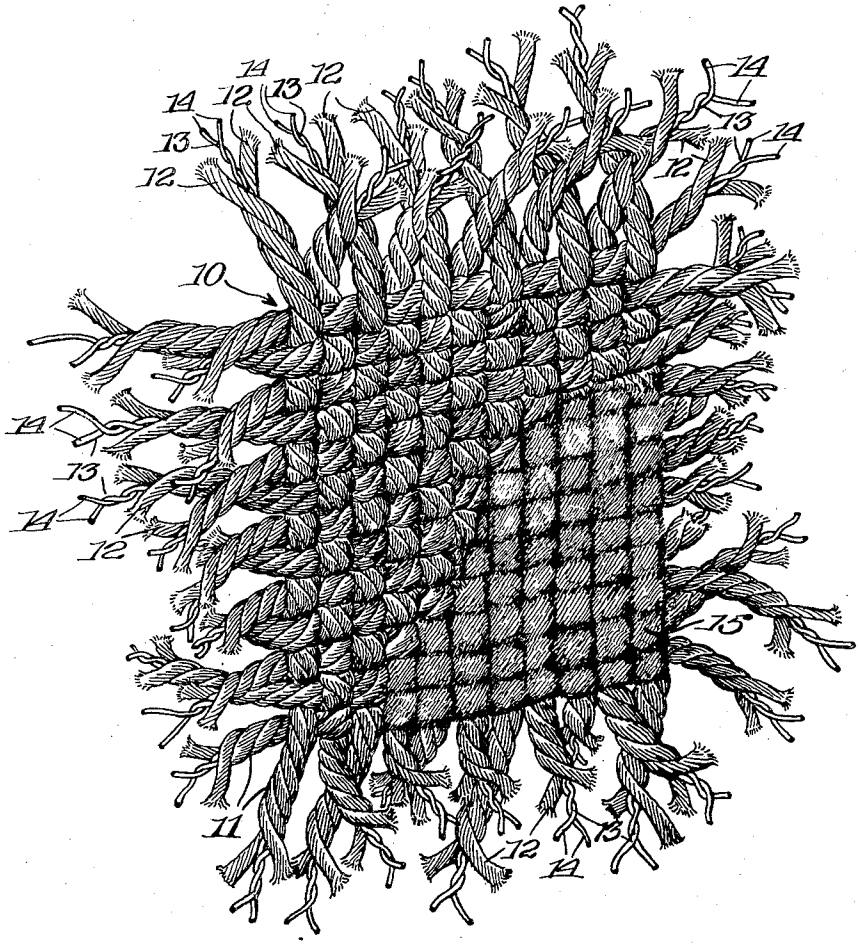
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FILTER CLOTH

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FILTER CLOTH

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This invention relates to filtering cloth which is employed as the filtering medium in filters of the pressure type, and is particularly adapted for the filtration of hot petroleum tars and residues.

The invention will readily be understood from the following description in conjunction with the accompanying drawing, which is a perspective view of a piece of cloth embodying the present invention, the outer edges of which are partially unwoven, while the threads are partially unwound.

The improved cloth is designated as a whole at 10, and is formed of closely woven threads 11. These threads 11 are interwoven as tightly as it is possible to weave them. In weaving the threads, it may be necessary to apply a suitable lubricant to them, such as powdered soapstone, or the like.

Each of the threads 11 comprises a pair of fabric strands 12 which are twisted around a strand of wire 13 formed by two metal wires 14 which are twisted or wound together. The strands 12 are made of long fibred Canadian asbestos and cotton. Each strand 12 contains at least 95% of the Canadian asbestos and not more than 5% of the cotton. It is preferred that the cotton content not exceed 3%.

The cloth 10 has one of its surfaces coated with graphite, a portion of such coating being shown at 15. The graphite may be applied in any suitable way, for example, by rubbing or by applying a suspension of graphite with brushes, or the like.

The cloth is particularly adapted to be used in pressure filters of the well known Kelly or Sweetland types. In the former, the cloth constitutes the outer covering for a hollow leaf-like element which is placed within a closed tank or receptacle into which the liquid to be filtered is fed. The liquid flows through the filter cloth and into the interior of the leaf, the cloth functioning to filter from the liquid any of the solid matter entrained therein. The filtrate is discharged from the interior of the leaf by means of a suitable conduit which communicates with the exterior of the tank or receptacle.

The graphite surface of the cloth is faced outwardly and comes into direct contact with the hot petroleum tars to be filtered. Since these tars are too viscous to be successfully filtered at ordinary temperatures, it is necessary that they be passed through the filter while highly heated. The solid matter filtered from the tar accumulates upon the outer surface of the cloth in the form of a tarry asphaltic cake. The filter must be shut down from time to time so that this cake may be removed.

The filter cloth of the present invention is particularly adapted to be employed as the filtering medium for such hot petroleum tars. It has been found that the fabric is long lived and that it has a high efficiency, in that large volumes of hot tar may be passed through it, while the filtrate produced is of high quality. The graphite functions to prolong the life of the filter cloth, and at the same time facilitates separating the tarry asphaltic filter cake from the cloth.

The foregoing detailed description has been given for clearness of understanding only and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible, in view of the prior art.

We claim:

1. A filter cloth for filtering highly heated viscous hydrocarbon oils in pressure filters which comprises interwoven threads each thread being formed of asbestos fibres and not more than 5% of cotton fibres intermingled therewith.

2. A filter cloth for filtering highly heated viscous hydrocarbon oils in pressure filters which comprises interwoven threads each thread being formed of asbestos fibres and not more than 5% of cotton fibres intermingled therewith, said threads having a wire center.

3. A filter media for filtering highly heated viscous hydrocarbon oils in pressure filters which comprises a cloth formed of closely interwoven threads, said threads being formed of asbestos fibres and not more than 5% of cotton fibres intermingled therewith, said cloth having its filtering surface coated with graphite.

4. A fabric filter media for filtering highly

heated viscous hydrocarbon oils in pressure leaf filters which comprises a cloth formed of closely interwoven threads, said threads being formed of strands each strand comprising long-fibered asbestos and not more than 5% cotton intermingled therewith, said strands being wrapped around a twisted metal wire.

5. A fabric filter media for filtering highly heated viscous hydrocarbon oils in pressure leaf filters which comprises a cloth formed of closely interwoven threads, said threads being formed of strands each strand comprising long-fibered asbestos and not more than 3% cotton intermingled therewith, said strands being wrapped around a strand of a plurality of twisted metal wires, said cloth having its filtering surface coated with graphite.

6. A filter cloth for filtering highly heated viscous hydrocarbon oils in pressure filters which comprises interwoven threads, each of which threads consists of asbestos fibres and not more than 5% of intermingled cotton fibres before the cloth is subjected to high temperature conditions.

7. A filter cloth for filtering highly heated viscous hydrocarbon oils in pressure filters which comprises interwoven threads, each of which threads consists of asbestos fibres and not more than 5% of intermingled cotton fibres before the cloth is subjected to high temperature conditions sufficient to effect charring of the cotton.

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