

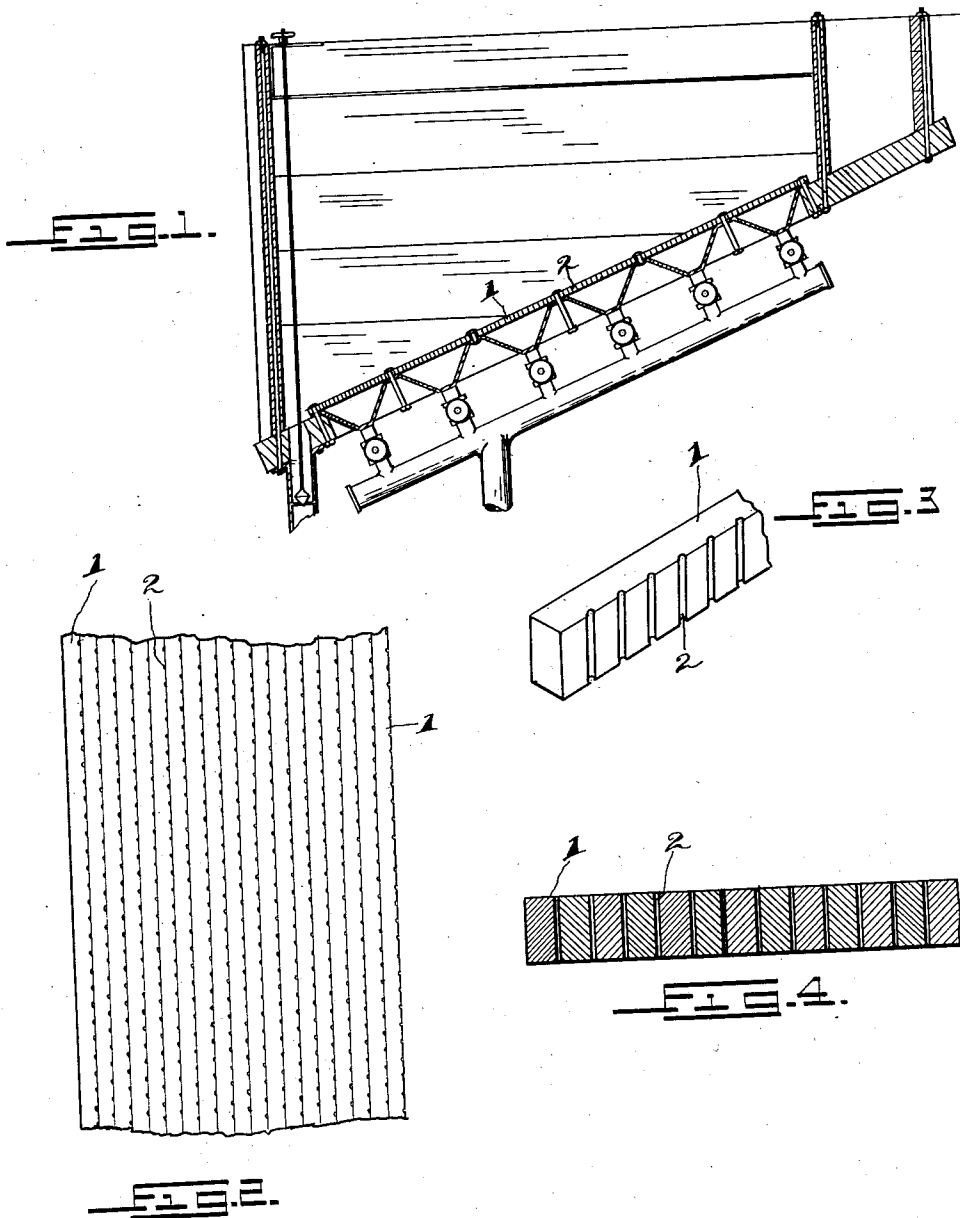
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POROUS MEDIUM AND METHOD OF MAKING THE SAME

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POROUS MEDIUM AND METHOD OF MAKING THE SAME.

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This invention relates to the manufacture of porous sheet material, and more particularly to a material adapted to be used for the porous cell bottoms employed in certain processes of mineral separation by flotation. For this purpose various natural and artificial materials have been employed, some of which are deficient in durability and others of which while reasonably durable cannot be relied on to evenly break up a fluid passed through them, nor could their porosity be standardized.

My object, therefore, is to produce an artificial porous medium which is more durable than textile fabrics, which will evenly break up any fluid passed through it and which may be produced with any required degree of porosity and with the greatest certainty.

I attain my object by forming the porous medium of a series of strips of a suitable material positioned or secured together side by side, each strip having a series of grooves formed in one edge extending through it from top to bottom.

In constructing the material I prefer to employ a composition initially plastic but adapted to be set by a subsequent treatment, such for example as linoleum compound. This material is formed into strips, and each strip has a series of grooves formed in one edge so that when a series of strips are secured together, a sheet is formed having a plurality of series of foramens extending through it from top to bottom. The sheet is then subjected to a setting treatment so that it is no longer plastic.

The invention is hereinafter more specifically described and is illustrated in the accompanying drawings in which

Fig. 1 is a section of a mineral flotation cell showing an application of the porous material, the subject of this application;

Fig. 2 a plan view, on a larger scale, of a sheet of porous material made in accordance with my invention;

Fig. 3 a perspective view of part of one of the strips from which the sheet material is made; and

Fig. 4 a cross section of a part of a porous sheet constructed in accordance with my invention.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

In constructing a porous sheet in accord-

ance with this invention I preferably employ a composition initially plastic, and which may be a mixture of ground cork and oxidizable oils, such as used in the manufacture of linoleum. This material is formed into strips 1, each of which is provided in at least one edge with a series of shallow grooves 2 extending from top to bottom of the strip. The material being initially plastic, these grooves are easily moulded therein. A series of these strips are arranged side by side and pressed into close contact whereby they adhere to one another. Any suitable cement or other coating may be employed, if necessary, to render the adjacent surfaces properly adhesive. The sheet so formed is then heated for a sufficient length of time to set the composition. The sheet is then no longer plastic but may retain a measure of flexibility, being in effect a sheet of linoleum with pores extending therethrough from top to bottom.

Instead of a linoleum composition, a rubber compound may be employed vulcanizable by the action of heat, or any other composition of matter initially plastic and adapted to be set by a subsequent treatment might be employed in the specific process employed provided the final product has the necessary strength and durability.

In some cases the porous medium may be formed of strips of material requiring no after treatment to give them the necessary strength and durability, and such strips may be positioned or secured together side by side to form a sheet.

The material produced, as hereinbefore described, possesses the advantage that it may be produced with any degree of porosity and with the certainty that all material produced will measure up to any required standard.

What I claim is:

1. A method of forming porous media which consists in employing a material initially plastic but adapted to be set by a subsequent treatment, forming said material into strips, forming a series of grooves in one edge of each strip extending from top to bottom thereof; securing a plurality of such strips together side by side to form a sheet; and finally subjecting said sheet to a "setting" treatment.

2. A method of forming porous media which consists in employing a material in-

initially plastic but adapted to be set by a subsequent treatment, forming said material into strips, forming a series of grooves in one edge of each strip extending from top to bottom thereof; securing a plurality of such strips together side by side to form a sheet by employing sufficient pressure to cause adhesion; and finally subjecting said sheet to a "setting" treatment.

10 3. A method of forming porous media which consists in employing a mixture of powdered cork and oxidizable oils known as "linoleum" which is adapted to be set by a subsequent heat treatment; forming said

15 material into strips, forming a series of grooves in one edge of each strip extending from top to bottom thereof; securing a plurality of such strips together side by side to form a sheet; and finally subjecting said

20 sheet to a heat treatment to set it.

4. A porous sheet formed of a plurality of strips of material secured together side by side, each strip having a series of grooves

formed in one edge extending from top to bottom of the sheet.

5. A porous sheet formed of a plurality of strips of "linoleum" secured together side by side, each strip having a series of grooves formed in one edge extending from top to bottom of the sheet.

6. A porous sheet formed of a plurality of strips of semi-flexible material secured together side by side, each strip having a series of grooves formed in one edge extending from top to bottom of the sheet.

7. A method of forming porous media which consists in grooving one edge of each of a plurality of strips of suitable solid material and positioning and holding a series of said strips side by side to form a sheet with foramen extending through the same from top to bottom.

Signed at Toronto, Canada, this 6th day of May, 1927.

FREDK. C. DYER.