

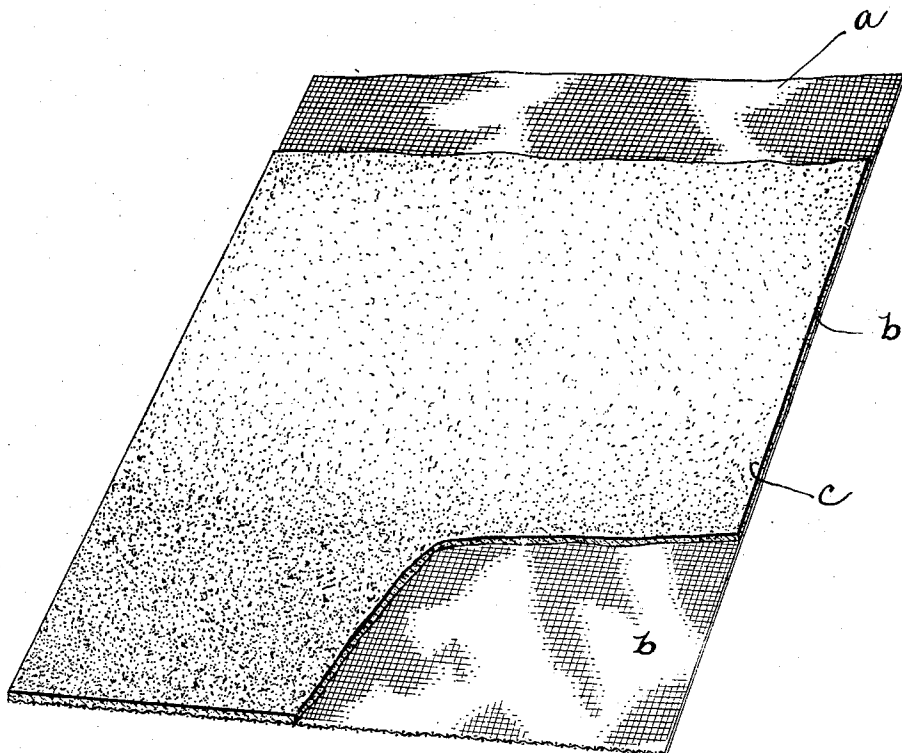
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A. L. SCHAVOIR

FABRICATED CORK SHEET

Filed April 8, 1924



Arnold L. Schavoir Inventor

By his Attorney

Frank J. Wentworth

UNITED STATES PATENT OFFICE.

ARNOLD L. SCHAVOIR, OF STAMFORD, CONNECTICUT, ASSIGNOR, BY MESNE ASSIGNMENTS, TO NEW PROCESS CORK COMPANY, INC., OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

FABRICATED CORK SHEET.

Application filed April 8, 1924. Serial No. 704,953.

My invention relates to a fabricated cork sheet, and more particularly to an article of this character consisting mainly of finely granulated cork, so bonded together as to
5 form a soft, highly flexible, water proof sheet which will not harden or disintegrate as a result of the action of air or water thereon.

A sheet of material forming the subject matter of my invention has a roughened or pebbled surface; is of substantially uniform thickness throughout, and may be readily produced by means of machinery well known in the rubber working art. In fact, material
10 embodying my invention is capable of being used in lieu of various rubber products, and has many advantages thereover in that it is not subject to deterioration, as a result of exposure to light or air; will adhere with
15 greater tenacity to a backing fabric which is preferably used; possesses relatively greater tensile strength; can more readily be bonded to other substances or materials, and may be much more cheaply produced both as to the
20 value of the ingredients entering therein, and in the handling of the various ingredients during the fabrication of the material.

The main ingredient of a sheet embodying my invention is finely granulated cork
30 which is largely a waste product resulting from the manufacture of other cork products, from waste cork bark, and while the proportion of cork entering into the mixture for forming the sheets is but approximately two parts of said cork to one of other
35 ingredients by weight, in actual bulk the cork will run from forty to fifty times that of the other ingredients.

While the material contains a binder including various gums and oils including some concentrated latex, no heat vulcanizing is required to impart the desired characteristics to the material, the curing or setting of this binder resulting from the mere exposure of the material to atmospheric air at normal temperatures. It requires no
40 special treatment to condition the material for the market, since the product is not tacky and the volume of granulated cork used is sufficiently great to avoid the presence of any of the other ingredients in the material except in the form of a thin superficial coating upon each cork granule, each
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granule also being partially impregnated with these materials so that they serve
55 merely as a binder for the cork granules, in themselves possessing a high degree of flexibility, which will preserve the resiliency inherent to the cork, and impart resiliency and flexibility throughout the fabricated
60 sheet.

In the accompanying drawing, I have illustrated a small piece of fabricated cork sheet embodying my invention, with portions thereof broken away.

In the embodiment of the invention shown in the drawing, I first form a mixture consisting of shellac, a rubber substitute known commercially as No. 1 Special, the main ingredients of which are resin and rapeseed
70 oil, an adhesive known in the trade as Technical Goulac, a mixture containing animal glue and dextrine; pure rubber known as smoked sheet, or in lieu thereof, a concentrated latex; an accelerator such as litharge
75 or super-sulphur (oxidized zinc salt of dimethyl-di-thio-carbamic acid with or without a clay base) or both, and a suitable coloring material. These ingredients are thoroughly mixed in an ordinary rubber
80 mill and thereafter have mixed therewith in such a mill, a filler of fine granular cork, known as No. 4 or No. 5 cork, or a mixture of these, the size of said granules being such as may be selected by a 14 to a 24 mesh
85 screen.

By weight, the granular cork which may be effectively worked into the other ingredients constituting the binder, will be approximately two to one, but in bulk the
90 ratio will be approximately fifty to one, it being possible to work a very large volume of the granular cork in a very small volume of the binder.

I have found in actual practice that the proportions of the binder for use with about
95 thirty-three pounds of finely granulated cork should be as follows:—

1 pound Vso gumlac (shellac), 4 pounds No. 1 special (rubber substitute), 8 pounds
100 smoked sheet (or 3 gallons latex), 24 ounces litharge, 3 ounces super-sulphur, 1 pound Technical Goulac (glue and dextrine). To this mixture when I desire a black finish, I add 12 ounces carbon black.

The composition, after the granular cork
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has been thoroughly worked into the other ingredients, is applied to a woven fabric such as cotton duck, by an ordinary calendaring machine, the surface of the duck before having the mixture applied thereto being provided with a coating of gum, glue or rubber cement.

When applying the mixture or composition by the calendaring machine, suitable pressure is developed so as to not only force the material of the binder as well as the cork granules well within the body of the textile backing, but to materially compress the cork granules themselves, larger granules being subjected to a greater degree of compression than smaller granules. After leaving the calendaring rolls, the cork granules which have been compressed, will expand, thus giving the pebbled finish to the composition surface of the sheet. The calendaring rolls are run hot, and heat is used only in applying the composition to the fabric back.

The various ingredients used in the composition for coating the cork granules, and the proportions of such as herein described, will permit the partial hardening of the surfacing composition when exposed to air of a normal temperature, the completed fabric being and remaining highly flexible, and not being subjected to cracking even when bent sharply.

Owing to the relatively small volume of the binding composition used, the resiliency of the surface finish is practically that of the cork itself, the binder possessing sufficient elasticity, however, to prevent the separation of the cork granules when the sheet is bent.

The exposed portion of the surface coating then receives a dressing of shellac which will improve the finish of the product and also facilitate its being cemented to glass or other objects.

The dressing of shellac may be dispensed with if desired, although even when the use of the material does not require it to be cemented to any object, the dressing of shellac will improve its appearance although it is not required to enhance the weather proof quality of the product.

The binder used will ensure continued flexibility of the sheet, and exposure to light or air over long periods, will have little or no effect as to the resiliency of the sheet or its weather proof qualities.

The sheet by reason of the large volume of cork granules, and the thin layer of the composition containing same applied to the textile backing, is very light in weight, per square foot.

In the drawing, *a* represents the textile backing, *b* the coating of gum, glue or rubber cement thereon, and *c* the facing of cork filled composition.

It is not my intention to limit the invention to the precise details of the formula for the binding medium herein set forth, it being apparent that this formula has a large range of variation both as to the quantities of the different ingredients employed, as well as the ingredients themselves, although in practice I have found the formula specified to give highly satisfactory results.

Having described the invention, what I claim as new and desire to have protected by Letters Patent, is:—

1. A fabricated cork sheet embodying therein a facing comprising finely granulated cork and a binder therefor containing rubber, an accelerator, an adhesive, a mixture containing a resin and an oil, and a vegetable gum, the volume of granulated cork being relatively much greater than the volume of other ingredients.

2. A fabricated cork sheet embodying therein a facing comprising finely granulated cork and a binder therefor containing shellac, a rubber substitute including therein resin and rapeseed oil, a mixture of glue and dextrine, pure rubber, litharge and super-sulphur, the quantity of granulated cork being substantially twice that of the other ingredients, by weight.

3. A fabricated cork sheet embodying therein a facing comprising finely granulated cork, a binder therefor containing rubber, an accelerator, an adhesive, a mixture containing a resin and an oil, and a vegetable gum, the volume of granulated cork being relatively much greater than the volume of other ingredients, and a surface dressing of shellac.

4. A fabricated cork sheet embodying therein a facing comprising finely granulated cork, a binder therefor containing shellac, a rubber substitute including therein resin and rapeseed oil, a mixture of glue and dextrine, pure rubber, litharge and super-sulphur, the quantity of granulated cork being substantially twice that of the other ingredients, by weight, and a surface dressing of shellac.

5. A fabricated cork sheet including therein a facing comprising a thin stratum of flexible material embodying the following ingredients in substantially the following proportions—33 pounds finely granulated cork, 1 pound shellac, 4 pounds of rubber substitute including therein resin and rapeseed oil, 1 pound of a mixture of glue and dextrine, 8 pounds sheet, 24 ounces litharge and 3 ounces super-sulphur.

6. A fabricated cork sheet including therein a facing comprising a thin stratum of flexible material embodying the following ingredients in substantially the following proportions—33 pounds finely granulated cork, 1 pound shellac, 4 pounds of rubber substitute including therein resin and rape-

seed oil, 1 pound of a mixture of glue and dextrine, 8 pounds sheet, 24 ounces litharge and 3 ounces super-sulphur, and a surface dressing of shellac on said stratum.

- 5 7. A fabricated cork sheet embodying therein a textile backing having cemented thereto a facing embodying therein finely granulated cork and a binder therefor containing rubber, an accelerator, an adhesive, 10 a mixture containing a resin and an oil, and a vegetable gum, the volume of granulated cork being relatively much greater than the volume of other ingredients.

- 15 8. A fabricated cork sheet embodying therein a textile backing having cemented thereto a facing embodying therein finely granulated cork, a binder therefor containing rubber, an accelerator, an adhesive, a mixture containing a resin and an oil, and a 20 vegetable gum, the volume of granulated cork being relatively much greater than the volume of other ingredients, and a surface dressing of shellac.

- 25 9. A fabricated cork sheet, a textile backing having cemented thereto a facing com-

prising a thin stratum of flexible material embodying the following ingredients in substantially the following proportions—33 pounds finely granulated cork, 1 pound shellac, 4 pounds of rubber substitute including therein resin and rapeseed oil, 1 30 pound of a mixture of glue and dextrine, 8 pounds sheet, 24 ounces litharge and 3 ounces super-sulphur.

10. A fabricated cork sheet, a textile back- 35 ing having cemented thereto a facing comprising a thin stratum of flexible material embodying the following ingredients in substantially the following proportions—33 pounds finely granulated cork, 1 pound shellac, 4 pounds of rubber substitute including 40 therein resin and rapeseed oil, 1 pound of a mixture of glue and dextrine, 8 pounds sheet, 24 ounces litharge and 3 ounces super-sulphur, and a surface dressing of shellac. 45

In witness whereof I have hereunto affixed my signature this 31st day of March, 1924.

ARNOLD L. SCHAVOIR.