July 10, 1928. 1,676,617

D. G. MAGILL

FIBER BOARD FOR CONTAINERS AND THE LIKE

Filed July 31, 1922

Fig. 1

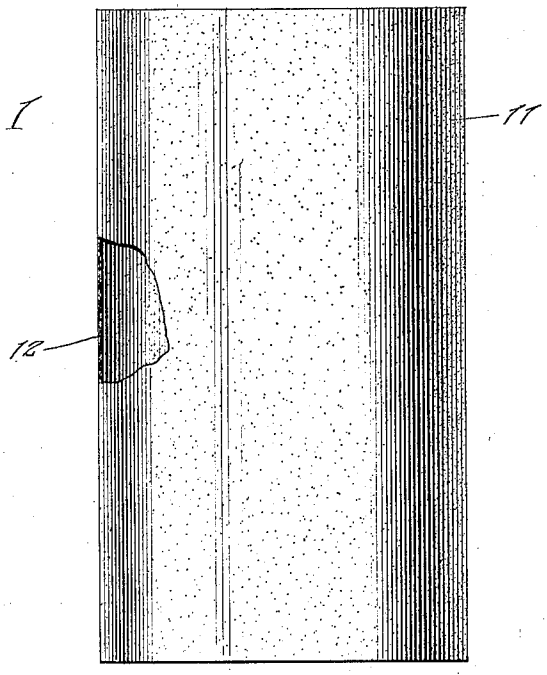
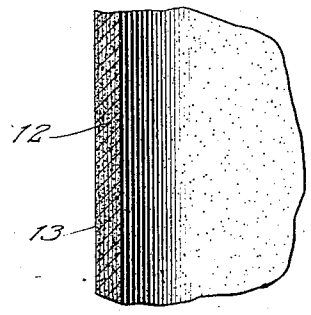


Fig. 2



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UNITED STATES PATENT OFFICE.

DONALD G. MAGILL, OF BROOKLYN, NEW YORK, ASSIGNOR TO AMERICAN CAN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

FIBER BOARD FOR CONTAINERS AND THE LIKE.

Application filed July 31, 1922. Serial No. 578,536.

My invention relates in general to fiber cans or boxes, having more particular reference to a new treatment of fiber board used in the manufacture of such containers and resulting in a stiffened and generally improved article of this character.

A principal object of the invention is the provision of a type of treated fiber board which, by reason of its unusual stiffness and strength, may be of less thickness than is ordinarily required and thus involves the use of a smaller amount of material in the formation of the container, without loss of resisting qualities.

A further object of the invention is the provision of a fibrous stock particularly adapted for the foregoing purposes which is treated with a resistance-increasing mixture having a relatively high melting point and thus being capable of being subjected to unusually high temperature, without effect upon the rigidity or strength of the container.

This relatively high melting point is of great advantage when containers or packages constructed from this improved fiber stock are filled with hot lard or other heated products. It will be readily apparent that the melting point of the stiffener must be higher than the highest degree of heat of the contents in order to leave the stiffening material unaffected.

My invention produces an unusually stiff and strong fiber board and container or can involving a relatively small amount of material with greatly increased heat-resisting qualities.

Other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings:

Figure 1 is a side elevation of a fiber tube in which my invention is embodied, a part thereof being broken away for convenience of illustration; and

Fig. 2 is an enlarged sectional detail of the wall thereof.

The embodiment of the invention which I have shown on the drawing comprises merely a tube 11, which it will be understood is adapted to be closed by ends which may be of either metal or fiber, in accordance with the particular use to which the container is to be put.

The wall 12 of the tube is ordinarily constructed of a series of sheets 13 wound one upon the other to any desired thickness. These sheets are impregnated in any approved manner with a mixture, indicated by the stippling on the drawing, which produces exceptional rigidity and strength in the wall and permits the use of a materially smaller quantity of paper stock in a container than is required without such treatment.

This mixture consists of paraffin and a relatively small portion of Montan wax, or other mineral wax having the desired stiffening qualities and having preferably a high melting point.

Montan wax is a by-product of the dye industry and has a melting point of approximately 180° F. I have found that, when mixed with paraffine, an exceptionally high melting point is attained which, according to experiments, is considerably in excess of the mean temperature which would be expected to result from such a mixture. For example, paraffine, suitable for use in an impregnating compound, has a melting point of 125° F., but, when mixed with an equal amount of Montan wax, the resulting mixture has been found to have a melting point of approximately 160° F., instead of 152.5°.

A suitable formula for preparation of the impregnating compound includes from 10 to 25% of Montan wax, which may vary in accordance with the particular needs. It will be understood that my invention also contemplates the use of Montan wax with other waxes having a lower melting point, and of paraffine with other mineral waxes, preferably having a higher melting point, these combinations resulting in the advantageous qualities above set forth.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention, or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. Fiber board, for use in the formation of can bodies and the like, comprising fibrous stock impregnated with a mixture of paraffine and Montan wax, said mixture having a melting point in excess of the theoretical mean melting point of the component parts of the mixture, said impregnation producing a fiber board of increased stiffness and strength.

2. A fibrous board stiffened with a mixture of paraffine and Montan wax combined in the approximate proportion of 10 to 25% Montan wax.

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