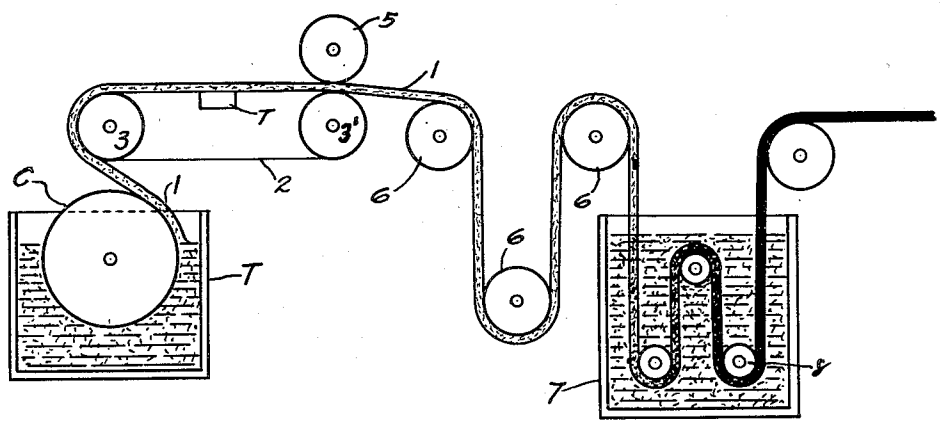
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K. B. HOWELL ET AL

CONSTRUCTION MATERIAL

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UNITED STATES PATENT OFFICE.

KENNETH B. HOWELL, OF MILLBURN, AND CLARENCE R. ECKERT, OF ENGLEWOOD, NEW JERSEY, ASSIGNORS TO THE BARRETT COMPANY, A CORPORATION OF NEW JERSEY.

CONSTRUCTION MATERIAL.

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To all whom it may concern:

Be it known that we, (1) KENNETH B. HOWELL and (2) CLARENCE R. ECKERT, citizens of the United States, residing at (1) 4 Rawley Place, Millburn, and (2) 151 West Palisade Ave., Englewood, in the counties of (1) Essex and (2) Bergen and States of (1) New Jersey and (2) New Jersey, have invented certain new and useful Improvements in Construction Materials, of which the following is a specification.

This invention relates to a new building felt or construction material and the method of producing the same.

One of the objects of the invention is to produce a building felt which may be easily dried and thoroughly saturated with waterproofing material in a rapid manner. Another object is to enable a sheet of building felt to be produced which has a higher content of saturating or waterproofing material than has been possible with ordinary processes. Other objects will be evident as the description proceeds.

It has been customary in making so-called rubber roofing to form a sheet of felt on a paper-making machine, dry the same and pass it through a bath of hot liquid waterproofing material, after which it is coated with plastic material such as pitch or asphalt.

This invention is an improvement in making the sort of felt above referred to in that a portion of the paper or felt-making material is saturated or waterproofed before it is introduced into the paper, felt or construction. For this purpose, small particles of wood, straw, paper stock, rag stock, etc., are first dried, if necessary, and then saturated or impregnated with liquid waterproofing material, such as liquid pitch, and the excess waterproofing material may be removed in any convenient manner, after which the particles may be introduced into the ordinary paper-making machine with or without the water pulp of the usual fibers and become incorporated in the sheet which is formed upon the foraminous cylinder. Or, the particles may be incorporated in the sheet in any other suitable way as, for example, by introducing a mixture of the waterproofed particles with or without other fibers and water into a foraminous mold and pressing the same into the desirable shape. The gist of the invention lies in coating or impregnating a portion of the stock before introducing it into the article which is to be formed.

The invention will be described in connection with the accompanying drawing which represents a view, partly in section, through a paper-making machine.

In this drawing reference character T represents the tank of a paper-making machine having the foraminous cylinder C upon which is formed the layer 1 of felt, which is picked up by the "wet blanket" 2 passing over rolls 3 and 3'. Part of the water is removed by means of suction box 4 and more of the water is squeezed out by means of squeeze roll 5. The sheet 1 may be further dried by passing over the heated drying rolls 6 which may be heated in any suitable manner, after which it is passed through the bath 7 of liquid waterproofing material, over and under rolls 8.

In practicing this invention with this machine, dried fibers or sawdust may be saturated or impregnated with waterproofing material in any convenient way as, for example, by mixing a quantity of molten pitch and sawdust or fibers and permitting the saturant to penetrate and fill the pores. The sawdust, or fibers, which have been saturated, may be introduced into the tank T along with the water pulp of the usual rag or paper stock and become incorporated in the sheet 1 as above stated. The particles of sawdust or fibers being saturated with the waterproofing material, are not penetrated by water in the tank T to any great extent and whatever water clings to the surfaces of the same in the sheet 1 is easily removed in the subsequent drying operations.

One of the difficulties which have been encountered in the making of sheets from wood fibers has been that of removing the moisture, especially from the fibers on the interior of the sheet. With a considerable proportion of the fibrous material waterproofed before being brought into contact with water the difficulty of removing the water from the sheet is greatly decreased and the time required for the drying operation is considerably shortened. Besides, since a portion of the material in the sheet is already waterproofed, the remainder of the sheet can be more easily and readily waterproofed by

passing the sheet through the bath of saturating material.

If desired, the saturated sheet 1 may be coated with the usual plastic material, such as pitch or asphalt, and a layer of crushed stone or slate applied to render the same fire and weather resistant so as to be suitable for roofing material.

In the specification and claims the term "sawdust" is used to designate small pieces of wood of appreciable size whether formed by means of a saw or by comminuting wood in any other way.

Claims:

1. As an article of manufacture, a sheet of flexible and porous unsaturated building felt consisting of fibrous material that had been waterproofed before being introduced into said sheet and paper stock material such as wood fibers and rag fibers.

2. As an article of manufacture, a sheet of building felt containing fibers, a portion only of said fibers having been waterproofed before being introduced into said sheet and being of the same sort as the major portion of the sheet.

3. As an article of manufacture, a construction material containing waterproofed particles of fibrous material of appreciable size which have been waterproofed before being incorporated into said article.

4. As an article of manufacture, a construction material containing fibrous material such as rag and wood stock and waterproofed particles of fibrous material of appreciable size which have been waterproofed before being incorporated into said article.

5. As an article of manufacture, a construction material containing paper making stock such as wood fibers and rag fibers and waterproofed sawdust.

6. As an article of manufacture, a sheet of saturated building felt having incorporated therein a quantity of fibrous material which has been previously waterproofed.

7. As an article of manufacture, a sheet of saturated building felt substantially free from water having incorporated therein a quantity of fibrous material which has been previously dried and then waterproofed by saturating with waterproofing material.

8. The herein described process which comprises introducing waterproofed material into paper-making pulp such as wood and rag fibers and forming a construction material therefrom.

9. The herein described process which comprises introducing waterproofed material into paper-making pulp such as wood and rag fibers and forming a construction material therefrom on a foraminous cylinder.

10. The herein described process which comprises forming a sheet of construction material from a mixture containing fibrous material such as wood and rag stock and sawdust that had been previously waterproofed, removing the water from said sheet and saturating it with waterproofing material.

11. The herein described process which comprises the steps of saturating sawdust with hot pitch, introducing said sawdust into the water pulp of a paper-making machine, forming a sheet having said sawdust incorporated therein, drying said sheet and saturating the same with waterproofing material.

In testimony whereof we affix our signatures.

KENNETH B. HOWELL.
CLARENCE R. ECKERT.