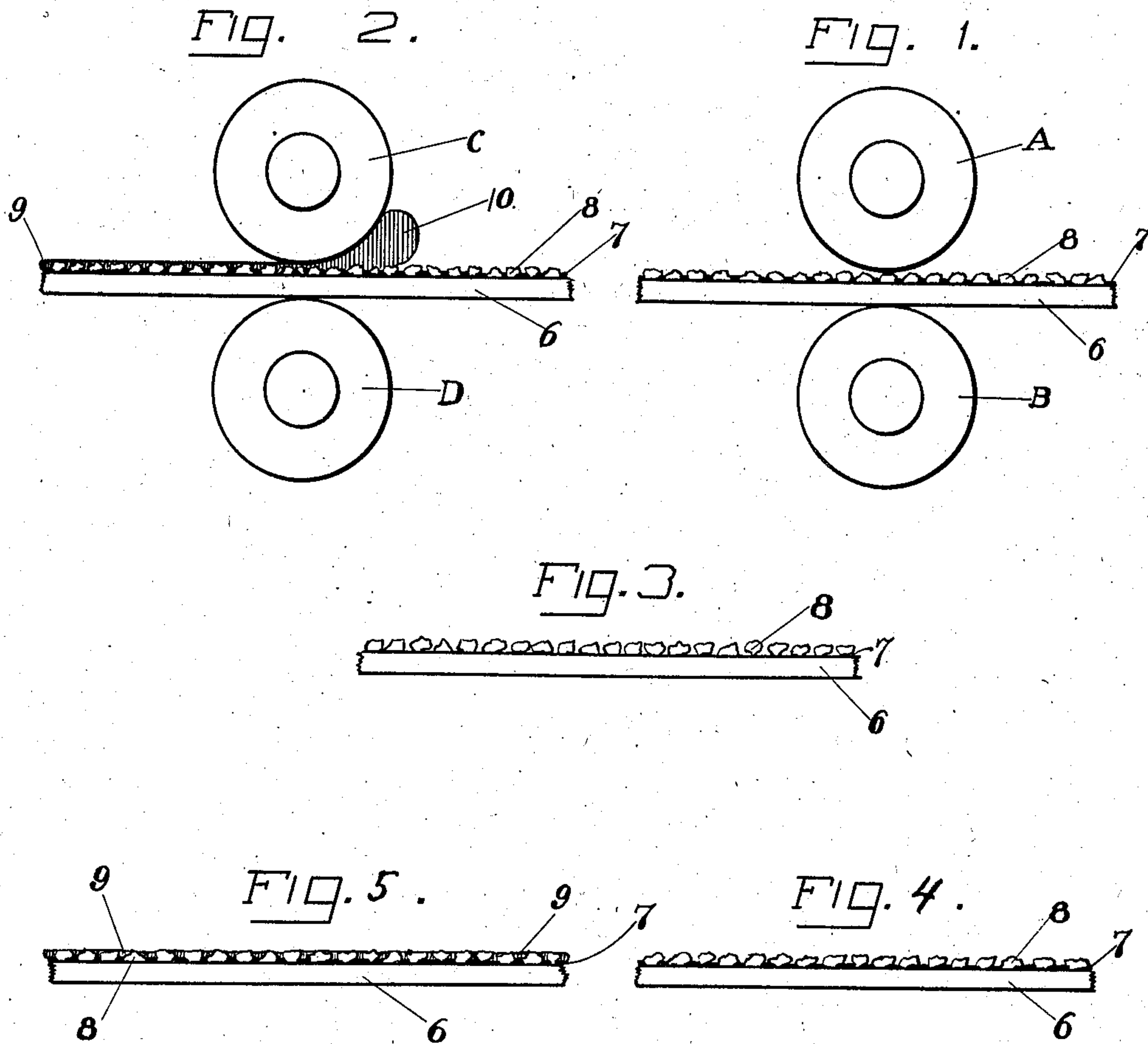


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PATENTED MAY 30, 1905.

C. S. BIRD & G. D. MOORE.  
WEATHERPROOF PAPER.  
APPLICATION FILED NOV. 17, 1904.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## WEATHERPROOF PAPER.

SPECIFICATION forming part of Letters Patent No. 791,312, dated May 30, 1905.

Application filed November 17, 1904. Serial No. 233,166.

*To all whom it may concern:*

Be it known that we, CHARLES S. BIRD, of East Walpole, in the county of Norfolk, and GEORGE D. MOORE, of Worcester, county of Worcester, State of Massachusetts, have invented certain new and useful Improvements in Weatherproof Paper; and we hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in paper adapted to resist the action of the weather and designed for use as roof or wall coverings and for similar purposes.

One object of the invention is to construct as an article of manufacture paper having a protecting layer of sand or similar material, that the particles of sand are bound together and to the paper against accidental wearing off from friction or from the action of the weather, and particularly designed to resist the action of rain beating thereagainst.

Another object of the invention is to provide paper of this nature with a surface adapted to receive and retain a coating of paint.

The invention consists in the peculiar features of the coated paper whereby the objects of the invention are carried into effect, as shall hereinafter be more fully described, and pointed out in the claim.

Figure 1 represents a diagrammatic view illustrative of the step in the process whereby the mineral elements are pressed into intimate contact with the adhesive coating of the paper. Fig. 2 represents a similar view illustrating the preferred method of applying the material for filling the spaces between the mineral elements. Figs. 3, 4, and 5 respectively represent views of the paper in three steps in the process of its manufacture.

Similar numbers of reference designate corresponding parts throughout.

It will be understood that the nature of the materials herein described precludes exact illustration thereof in regard to dimensions or as to the exact shape of the mineral elements. Fabric of this nature is designed for use as

protective sheathing to be applied to the exterior of roofs and walls to protect the same from the action of the weather and to prevent the passage of water to the frame of the building or to the interior thereof. It is therefore of great importance that the fabric should be furnished with an outer surface capable of shedding water, and thereby protecting the body of the fabric from the action of moisture, which might otherwise be absorbed thereby after a time. It is also desirable in some uses of the fabric that the exterior of the structure be painted and that the outer surface of the fabric should be adapted to receive and retain a coating of paint.

Experience teaches that the application of an outer surface of mineral elements of small size, as grains of sand, to a fabric of this nature tends to protect the body of the fabric from the action of the weather, and particularly tends to resist the action of a beating rain; but owing to the nature of the mineral elements and of their irregularity in shape it is difficult to secure the same to the fabric to prevent their accidental detachment by friction or by the washing action of rain, while the interstices between the mineral elements permit water to pass to the surface of the fabric.

In carrying this invention into practice we take a sheet or strip of fabric 6 of a fibrous nature, preferably waterproofed paper having a coating 7 of an adhesive nature, such as pitch, or of a bituminous compound, and on this adhesive coating we spread in any well-known manner a thin layer 8 of mineral elements, preferably grains of sand, a large proportion of which coming into contact with the adhesive coating adheres thereto. We now pass this fabric, with its layer of comparatively loose mineral elements, as shown in Fig. 3, between a pair of rolls A B, as shown in Fig. 1 of the drawings, whereby the mineral elements are pressed into more intimate contact with the adhesive material, some of said elements being thus partially pressed into said coating, as shown in Fig. 5 of the drawings. After the layer of mineral elements has thus been secured to the fabric 6



by means of the coating 7 we apply to the surface a layer 9 of heavy paint, which enters between the mineral elements 8 8, filling the interstices therebetween and forming a bond which unites the mineral elements and more securely fixes them to the fabric. We prefer to apply the coating of paint as shown in Fig. 2 of the drawings, wherein the rolls C and D are suitably spaced and the fabric 6, with its coating of mineral elements, is passed therebetween, a mass 10 of the paint being placed on the upper surface of the fabric adjacent to the roll C, so that the paint is applied to the fabric in a layer the thickness of which is determined by the distance between the surface of the fabric, or rather of the surface of the coating 7 and the periphery of the roll C, the object being to form this layer of paint of sufficient thickness to form a bond which unites the mineral elements. Where a smooth surface is desired, this layer of paint may entirely cover the mineral elements; but it is not our intention to limit ourselves to any particular thickness of this layer. The surface formed by the paint layer is preferably adapted to receive and retain a coating of paint of a similar color, or of a contrasting color, where a more finished surface is desired.

It is of course obvious that other binding material may be substituted for the layer of paint, and for some purposes a bituminous compound may be used in place of the paint with good results.

The accompanying drawings are designed more particularly to indicate the presence and relative location of the fabric, the mineral elements, and the binding layer of paint and are not intended to positively indicate the comparative size of these respective parts.

Therefore the present invention is not limited to any particular thickness or construction of the fabric 6 or to any particular thickness of the coating 7 and of the paint layer or bond 9, while it is obvious that the mineral elements 8 8 may be of any suitable size.

The rolls C and D may be considered as a gaging mechanism whereby the thickness of the bond layer 9 may be controlled, the roll D being the support for the fabric, while the spacing between said fabric and the roll C determines the thickness of the layer of paint supplied to the upper surface of the fabric as it passes under said roll C, it being understood that the paint or other material forming the bond layer may be sufficiently fluid that in settling between the mineral elements the tops of said elements may be exposed to view, or this result may be occasioned by the shrinking of the coating 9 during drying.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

As a new article of manufacture, weather-proof fabric having a coating of adhesive material carrying mineral elements which project therefrom, and a bond layer of suitable material filling the spaces between said projecting portions of the mineral elements, as and for the purpose described.

In testimony whereof we affix our signatures in the presence of two witnesses.

CHARLES S. BIRD.

GEORGE D. MOORE.

Witnesses to Charles S. Bird's signature:

DEXTER RANDALL,

ELMER H. BARTLETT.

Witnesses to George D. Moore's signature:

LOUIS W. SOUTHGATE,

ANGIE M. GODDARD.