

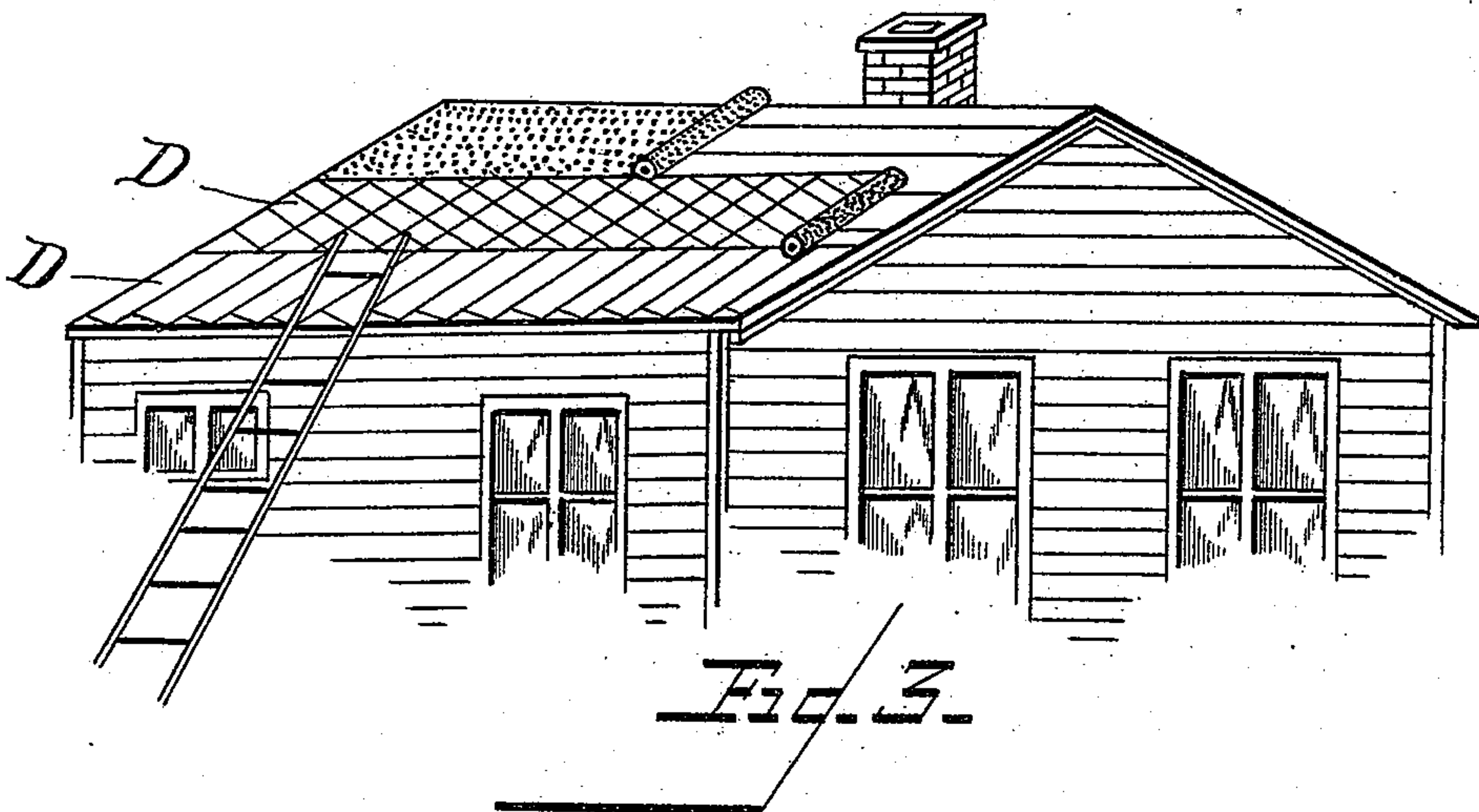
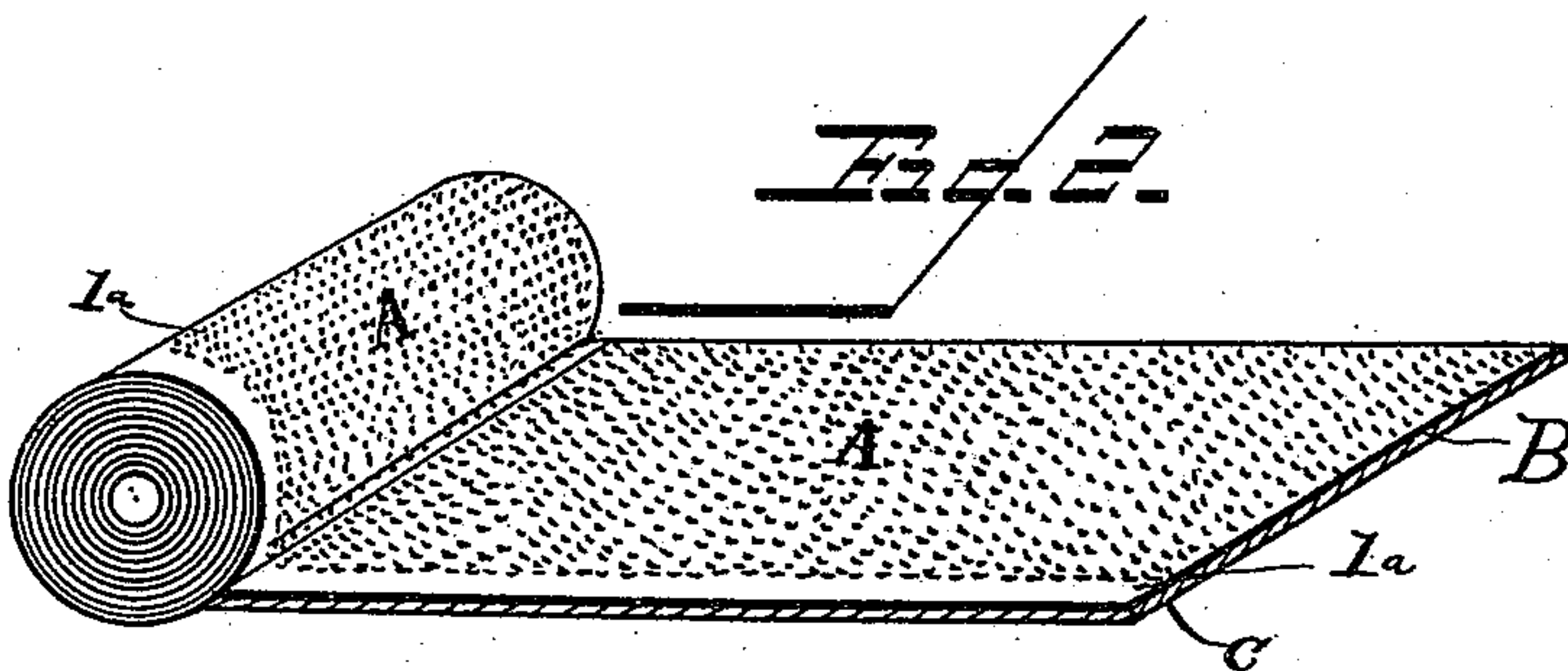
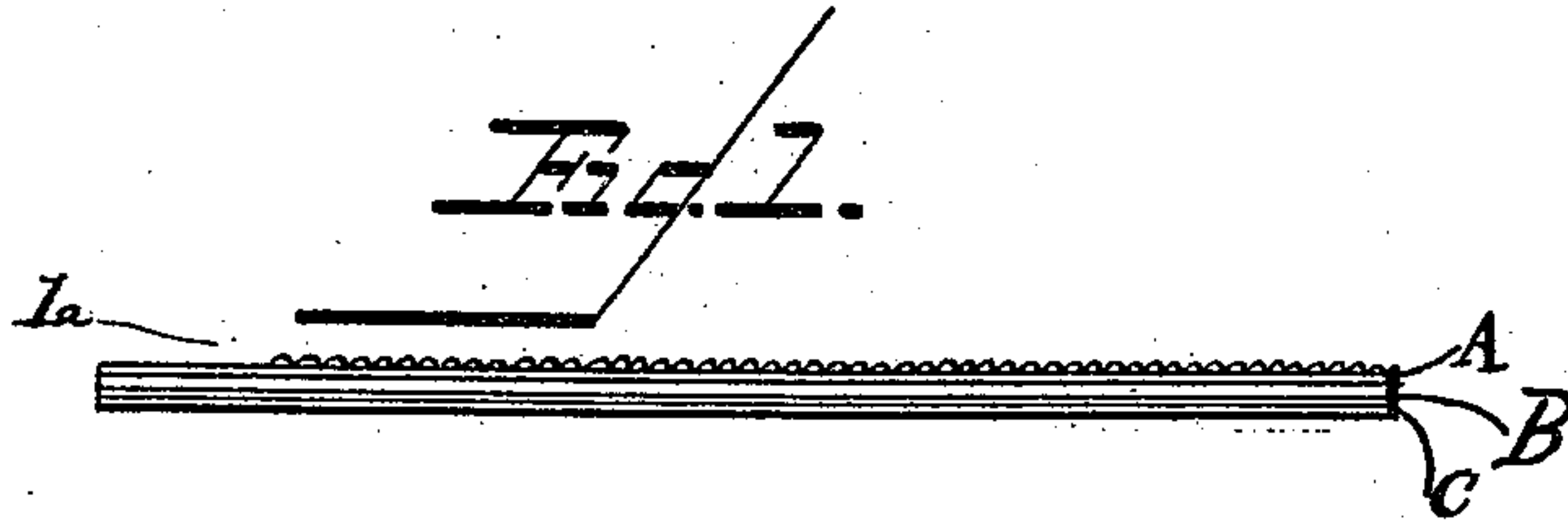
(No Model.)

2 Sheets—Sheet 1

G. S. LEE.  
ROOFING MATERIAL.

No. 490,668.

Patented Jan. 31, 1893.



WITNESSES

John D. Amine  
Joseph C. Stack.

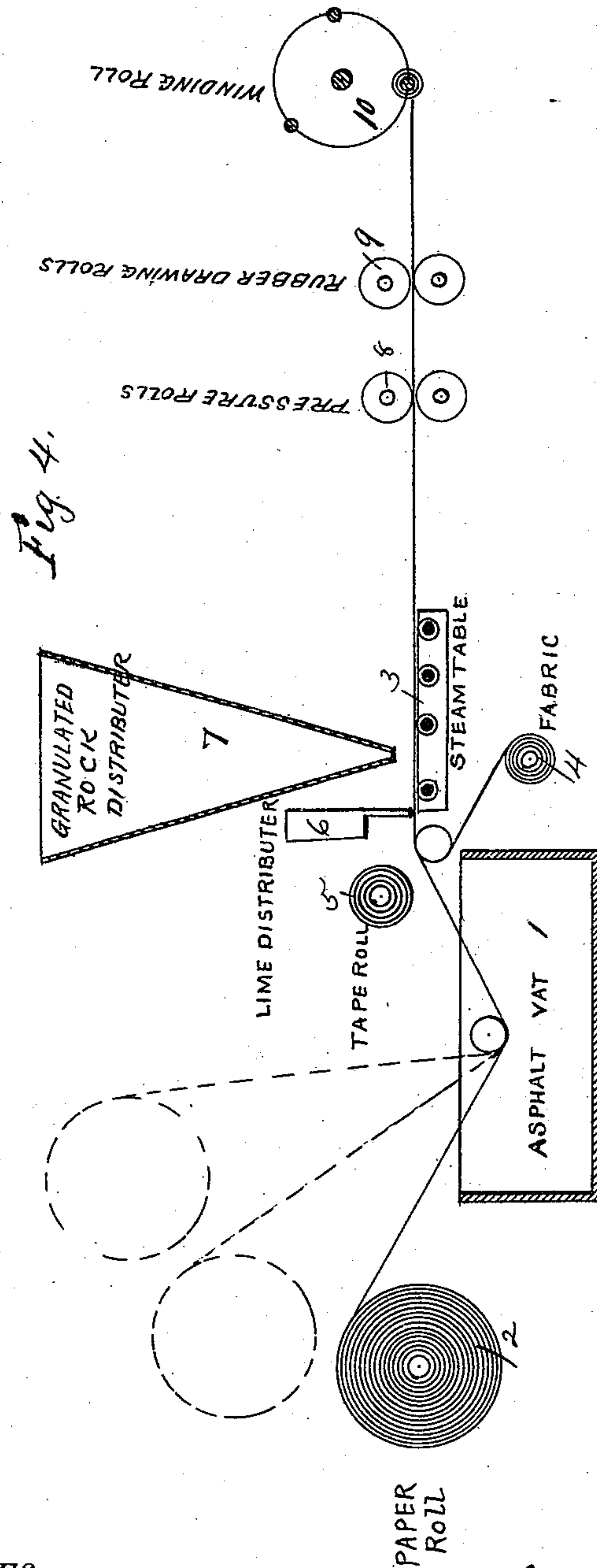
INVENTOR

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# UNITED STATES PATENT OFFICE.

GEORGE S. LEE, OF HAWTHORNE, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE EAST-COAST MANUFACTURING COMPANY OF NEW JERSEY.

## ROOFING MATERIAL.

SPECIFICATION forming part of Letters Patent No. 490,668, dated January 31, 1893.

Application filed January 30, 1892. Serial No. 419,846. (No specimens.)

*To all whom it may concern:*

Be it known that I, GEORGE S. LEE, a citizen of the United States, residing at Hawthorne, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Roofing Materials; and I do hereby declare the following to be a full, clear, and exact description of my invention, reference being had to the accompanying drawings, which form a part of this specification, for a more full and complete description of all parts thereof.

My invention relates to a roofing material.

The object of my invention is to provide a roofing fabric which will withstand the thermal changes without tearing or separating the fabric at the cementage, where nails are driven, or at any other anchorage, but can be cheaply and expeditiously laid, made, applied or removed, with but little injury to the main body, if required to be taken up within any reasonable time.

To this end my invention consists of a web of canvas, muslin, sheeting, burlap or other textile fabric, covered with successive layers of disintegrated paper, rag, or wood pulp, thoroughly intermixed, and incorporated with a compound which will be more fully hereinafter described.

The paper or wood pulp made use and mention of is derived from a waste product; that of old papers of any and all characters, hackled, torn, and reduced to a pulp, dried, and admixed as before stated.

In the accompanying drawings: Figure 1 indicates a sectional view of my improved roofing fabric. 1<sup>a</sup> represents a smooth strip in the manufactured fabric two inches in width, running lengthwise of the material and left barren of rock surfacing. Fig. 2 is a perspective view of a roll of the manufactured roofing, having a surface of granulated stone, quartz, sand, excepting that portion represented at 1<sup>a</sup>. Fig. 3 is a perspective view of a roof showing the fabric applied thereto, the surface being corrugated, or otherwise ornamented, in any desirable manner, as shown at D. Fig. 4 is a vertical longitudinal section showing the manner of making the fabric.

Referring to the drawings by letter: A,

Figs. 1 and 2, represents the covering of granulated rock.

B, Fig. 1, represents the successive layers of pulp incorporated with the compound, although only one layer may be employed.

C, Figs. 1 and 2, represents the backing of canvas, sheeting or burlap.

1<sup>a</sup>, Figs. 1 and 2, represents a section of the roofing fabric two inches in width, and running lengthwise of the fabric, which in manufacturing is surfaced or covered with air-slaked lime to prevent adhesion when rolled, at points not sanded, and leaving a clean, smooth surface, upon which (in the process of application) the overlapping layer of fabric can be readily cemented thereto to form a perfect union between the upper and lower layers, and avoid their being held apart by any foreign substances, rock, sand or gravel, as would be the case if the surfacing were applied to extreme outer edges of the roofing fabric, and if covering every portion of it. Instead of the employment of air slaked lime, I may simply cover the margin unsurfaced by rock or quartz with a tape of paper or fabric.

B, Fig. 1, represents the saturated layers of pulp held together, solidified and incorporated by a composition to any required thickness, and upon which may be compressed a layer of granulated rock, sand or quartz. The composition employed is composed of asphaltum, with from fifteen to twenty per cent. of residuum, or dead oils, to which (when liquefied by heat) is added in a pulverized state thirty-three and one-third per cent. of its total weight in disintegrated pulp, giving hardness and tenacity to the compound, and great durability in wear, and resistance to the heat of the sun.

The fabric thus formed and described is properly coated on the upper or wearing surface with granulated rock, sand or quartz, crushed and screened to No. 14 mesh as its coarsest state, and to No. 30 mesh as its finest, and embedded into the face of the fabric by compression or other suitable means. This surface may be embossed, or otherwise finished, by painting in ornamental designs the exterior surface to produce the effect of tiles, shingles or other roofs, as shown in Fig. 3.

In Fig. 4 1 designates the vat for contain-

ing the asphaltum 2 is the paper roll from which the paper is fed to the rolls; 3 is a steam table over which it passes; 4 is the backing; 5 is a tape roll; 6 is the lime distributer; 7 is the hopper for containing the granulated rock; 8 are the pressure rolls between which the material passes and by which it is compressed; 9 are the drawing rolls, and 10 is the winding drum upon which the completed fabric is wound. The operation of these parts will be readily comprehended from Fig. 4.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

15 A roofing material consisting of a sheet of

textile material, a layer of asphaltum, a backing of burlap or the like, a layer of crushed rock embedded in the asphaltum and leaving a barren marginal edge, and a non-adhesive material placed over said barren edge and adapted to be removed therefrom, substantially as herein described. 20

In testimony that I claim the foregoing as my invention I have hereunto set my hand this 25th day of January, A. D. 1892.

GEORGE S. LEE.

Witnesses:

BENJ. G. COWL,  
E. K. STEWART.