

No. 713,588.

Patented Nov. 18, 1902.

J. AYRAULT.

ROOFING.

(Application filed Feb. 26, 1902.)

(No Model.)

Fig. 1.

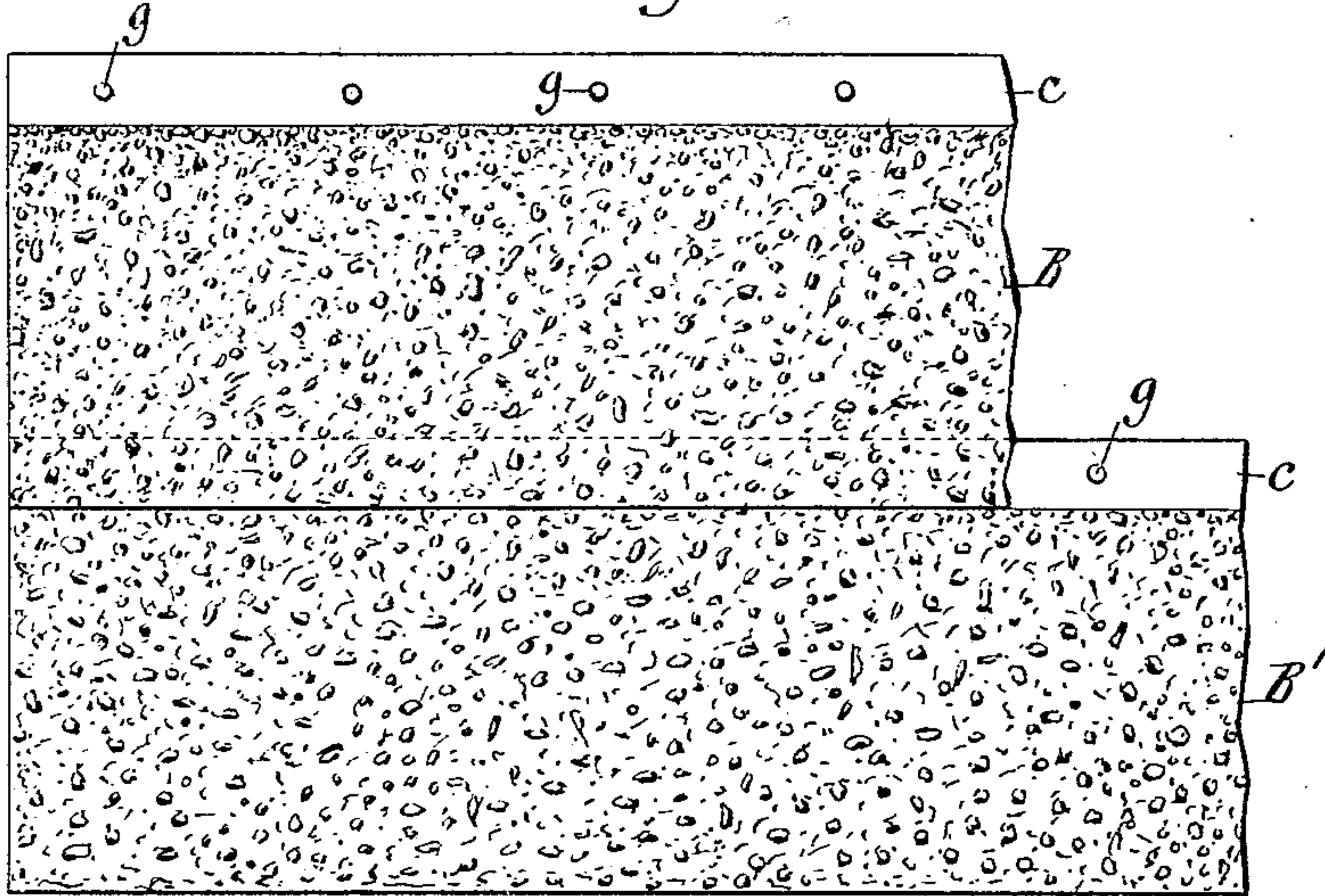


Fig. 2.

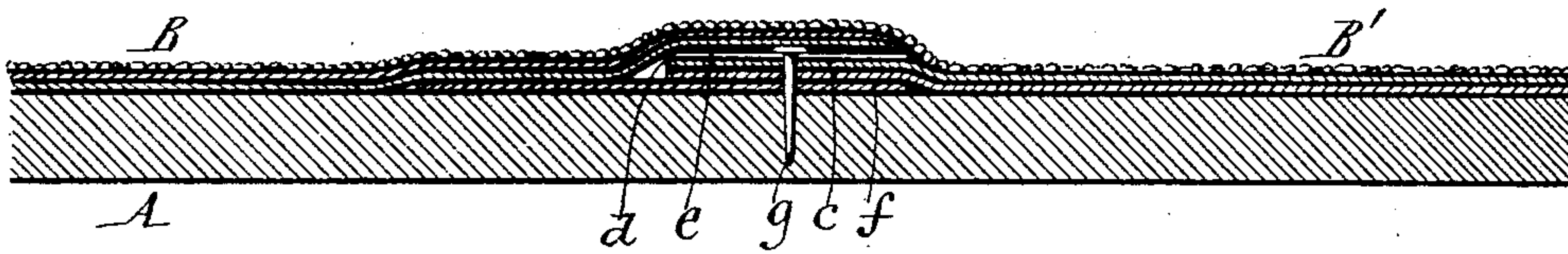
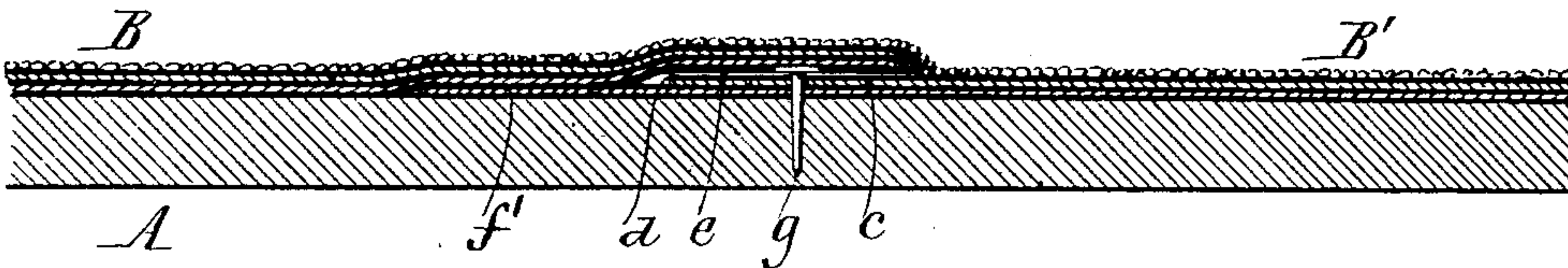


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN AYRAULT, OF HAMBURG, NEW YORK.

ROOFING.

SPECIFICATION forming part of Letters Patent No. 713,588, dated November 18, 1902.

Application filed February 26, 1902. Serial No. 95,815. (No model.)

To all whom it may concern:

Be it known that I, JOHN AYRAULT, a citizen of the United States, residing at Hamburg, in the county of Erie and State of New York, have invented new and useful Improvements in Roofing, of which the following is a specification.

This invention relates to a joint for uniting sheets of ready-roofing fabric. It has for its object the provision of a water-tight joint which has the necessary strength to withstand high winds, which unites the meeting edges of the sheets in such a manner as to produce a practically continuous fabric, and which can be cheaply constructed.

In the accompanying drawings, Figure 1 is a top plan view of a portion of roofing embodying my invention. Fig. 2 is a transverse vertical section thereof on an enlarged scale. Fig. 3 is a similar section showing a modified construction of the joint.

Like letters of reference refer to like parts in the several figures.

A indicates the roof-boards, and B B' two adjoining sheets of laminated ready-roofing fabric laid upon the same. This fabric may consist of one or more layers of roofing-felt or similar material, each of which has an upper coating of roofing-cement, such as asphalt, and a top surface of sand or gravel embedded in the coating of asphalt, the several layers of each sheet being firmly and closely united from edge to edge of the same. Each sheet of the fabric is covered with sand or gravel, with the exception of a narrow strip or margin *c* along one of its longitudinal edges, which strip is barren of gravel or similar finishing-surface, but has a coating *d* of normally hard roofing-cement, such as asphalt. This ungraveled margin may be two or more inches wide and is preferably protected by a strip *e* of thin paper or other non-adhesive material which is readily destroyed or dissolved by hot asphalt or similar cement used in joining the sheets. This protecting material prevents the cement-covered margin *c* from adhering to the adjacent portion of the roofing fabric when the same is rolled for shipment and storage.

The graveled edge of the upper sheet B of roofing fabric overlaps the ungraveled margin of the lower sheet B' and is cemented thereto

and pressed down upon the same. To the under side of the lower sheet is preferably applied a reinforcing strip or extension *f* of roofing-felt or similar material, which extends some distance beyond the edge of said sheet—say four inches or more—so that the adjacent portions of both sheets lie upon this strip, to which latter they are cemented by heated asphalt or other roofing-cement. The joined margins of the two sheets are secured to the roof-boards by ordinary roofing-cement, or by nails *g* driven through the ungraveled margin *c* of the lower sheet and its projecting strip or extension *f*, or by both of these fastenings. When nails are employed, they may be located from one and one-half inches to two feet apart, or more, as circumstances may require.

In covering a roof according to my invention the strip *f* is laid under the margin of the lower sheet B', as shown, and the latter is cemented to the strip by heated asphalt, after which this lower sheet and the strip are nailed or otherwise secured to the roof-boards. Upon the ungraveled margin *c* and the projecting portion of the strip *f* liquid asphalt or similar cement is next poured, this cement being preferably heated approximately to the high temperature necessary to reduce asphalt cement to the liquid consistency required for the manufacture of asphalt-roofing—that is, from 320° to 375° Fahrenheit. This high degree of heat destroys the protecting-strip *e* of the ungraveled margin *c* and melts the cement coating of the latter. The margin of the upper sheet B is now laid upon the margin of the lower sheet and allowed to become heated for a few minutes by the liquid cement upon said lower margin, after which it is firmly pressed into the cement by any suitable means. The lapped edges of the adjoining sheets and the felt strip *f* are in this manner welded together or “amalgamated,” so to speak, thus practically obliterating the joints and producing a continuous roofing which is absolutely waterproof and in which the heads of the nails *g* and the nail-holes are concealed and protected from the weather. Besides producing a practically one-piece roofing, this improved joint possesses considerable strength and resists shrinkage of the roof-boards, preventing the nails in a large measure from tearing the roofing fabric and causing leak-

age. This increased strength of the joint also permits the use of fewer nails, saving time and expense in the construction of the roof.

5 When the joints of the roof-boards are open more or less from the warping of the boards, the strip or extension *f* also serves as a covering for such joints, which prevents the roofing-cement from dripping through the same
10 into the story below and causing damage, especially in cases where the upper story is used for the storage of goods or for manufacturing purposes.

15 In the drawings the thickness of the joint is necessarily exaggerated to clearly illustrate the invention; but in practice the joints are flattened out to such an extent as to leave comparatively slight bulges.

20 If preferred, the projecting strip or extension under the marginal portions of adjoining sheets may be formed in one piece with the lower sheet of the joint by extending the bottom layer or roofing-felt of this sheet beyond its remaining layer, as shown at *f'* in
25 Fig. 3.

I claim as my invention—

1. A roofing consisting of sheets of roofing fabric provided with a coating of cement and a top surface of gravel or similar material, the
30 upper sheet consisting of separate layers of felt or similar material permanently united, the lower sheet consisting of separate layers of felt or similar material with an ungraveled

margin and a reinforcing-strip extending beyond said margin, and means for connecting 35 the margin of the upper sheet to the underlying margin and strip of the lower sheet, substantially as set forth.

2. A roofing comprising a lower sheet, consisting of separate layers, an independent re- 40 inforcing-strip attached to the under layer and extending beyond the same, an upper sheet having upper and lower layers which are permanently united at their margins and lapped over the margin of the lower sheet, 45 and means for connecting the margin of the upper sheet to the underlying margin and reinforcing-strip of the lower sheet, substantially as set forth.

3. A roofing, comprising a lower sheet of 50 roofing fabric having an ungraveled margin provided with an original coating of roofing-cement, and an upper sheet of such fabric overlapping said margin and welded thereto by liquid cement which, in joining the sheets, 55 is heated approximately to 320° Fahrenheit, whereby the cement originally applied to said ungraveled margin is melted by said highly-heated cement and amalgamated therewith, 60 substantially as set forth.

Witness my hand this 8th day of February, 1902.

JOHN AYRAULT.

Witnesses:

CARL F. GEYER,
THEO. L. POPP.