

H. R. WARDELL.
MACHINE FOR MAKING ROOFING.
APPLICATION FILED JAN. 18, 1910.

972,957.

Patented Oct. 18, 1910.
2 SHEETS—SHEET 1.

Fig. 1.

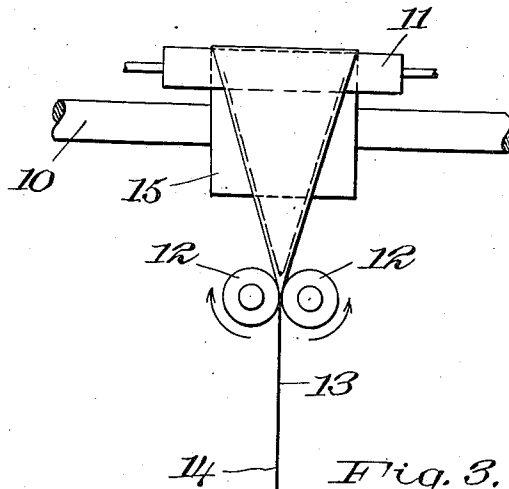
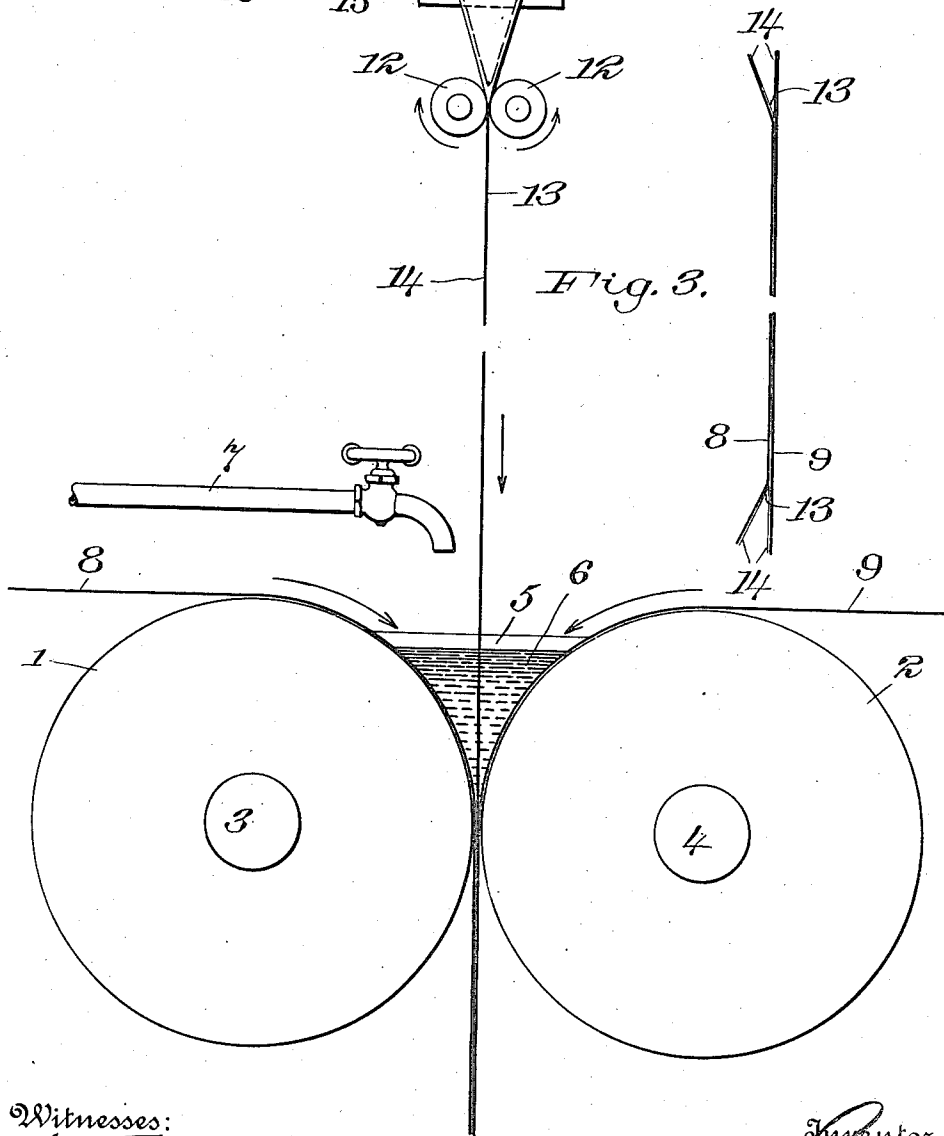


Fig. 3.



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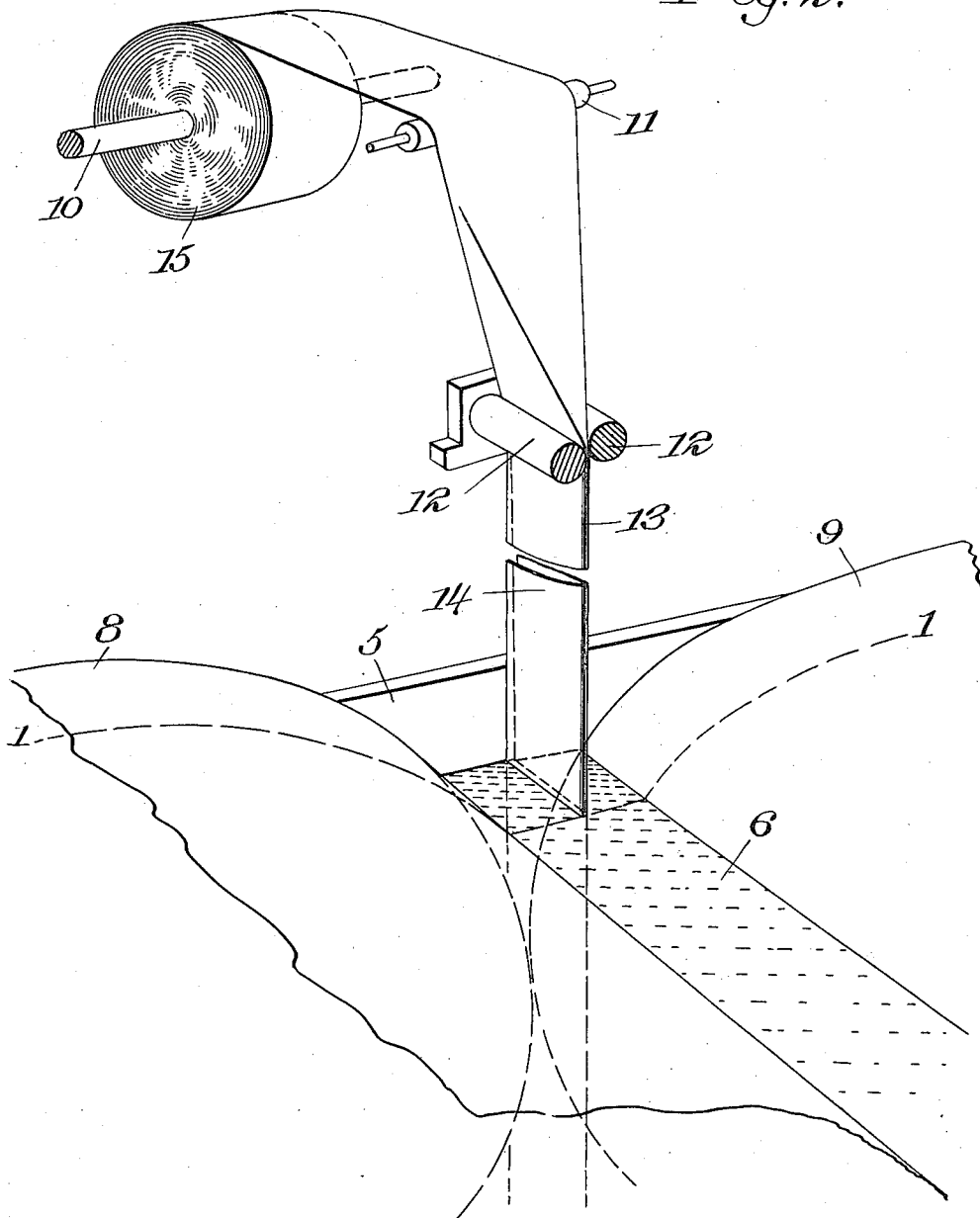
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2 SHEETS-SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

HENRY R. WARDELL, OF NEW YORK, N. Y., ASSIGNOR TO H. W. JOHNS-MANVILLE COMPANY, A CORPORATION OF NEW YORK.

MACHINE FOR MAKING ROOFING.

972,957.

Specification of Letters Patent. Patented Oct. 18, 1910.

Application filed January 18, 1910. Serial No. 538,706.

To all whom it may concern:

Be it known that I, HENRY R. WARDELL, a citizen of the United States of America, residing at New York city, borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Machines for Making Roofing, of which the following is a specification.

My invention relates to machines for manufacturing roofing composed of a plurality of plies or webs of flexible fabric such as asbestos felt or paper cemented together and comprises means for inserting between the edges of such webs a double thickness of a narrower strip of the same or similar fabric which shall have no cementing material between its inner faces. The outer faces of the double thickness strip are cemented to the webs, and thus the outer edges of the webs are left free and unattached one to the other. They are, in fact, provided with internal, non-adhesive facings. The resulting sheet of roofing has its edges formed of independent leaves which may easily be separated for the purpose of forming an interleaved joint between two adjacent sections in making a complete roof.

The best form of apparatus embodying my invention at present known to me is illustrated diagrammatically in the accompanying two sheets of drawing in which,

Figure 1 is a longitudinal, vertical section in diagram taken on a plane indicated by line 1-1 of Fig. 2, and Fig. 2 is a detail in perspective of the same mechanism, while, Fig. 3 is a cross section of a sheet of the roofing made in my apparatus.

Throughout the drawings like reference numbers indicate like parts.

1 and 2 are large rolls revolved by any convenient means (not shown) applying power to either or both their journals, 3 and 4. A partition or dam 5 at each end of the rolls (only one being shown in the drawing) forms with the rolls a reservoir into which a supply of liquid cementitious material 6 (such as liquid asphaltum) is fed by any convenient means such as a pipe 7. Webs of flexible fabric, 8 and 9, are passed over and between the rolls and through the cementitious material. These webs may be formed of asbestos felt, or other suitable fabric. Their width is the width of the set of rolls usually about three or four feet.

The action of the apparatus so far de-

scribed would be to firmly cement the two webs together throughout their entire width and so form the usual two-ply roofing. In order to have the edges of the plies not cemented together and to leave them free to separate, I feed in a double thickness of a narrower strip of fabric 14 along and between the edges of the webs 8 and 9. This double thickness strip is preferably formed by unwinding a six inch strip of fabric from a roll thereof indicated at 15 on shaft 10, over a guide 11, and down between folding rollers 12, placed at right angles to guide 11. The bight 13 of the fold comes on the side toward the inside of the webs 8 and 9, and farthest from their edges.

The cementitious material gets between the webs and between them and the outside of the doubled strip 14, and all are squeezed into intimate contact by rolls 1 and 2, but none of the cement gets between the two portions or thicknesses of the narrower strip. Consequently a two ply roofing is formed as shown in Fig. 3, with the edges of the webs 8 and 9 not cemented together. The edge of each web is simply cemented to the outside of one thickness of the narrow strip 14, and the edge portions of the two webs 8 and 9 may be easily separated as shown in Fig. 3.

Of course the number of plies of webbing can be varied, and the number of separating strips could also be varied, but I prefer to use only one strip at each edge of the webs doubled and folded as shown, and inserted between the edges of the webs at each side of the completed sheet of roofing, as shown in Fig. 3.

The drawings show only one end of the main rolls, 1, 2 and it should be understood that the mechanism is duplicated at the other end of the rolls so as to treat both edges of the roofing alike.

Having, therefore, described my invention, I claim:

1. The combination with a pair of rolls, means for maintaining a liquid body of cementitious material between them and means for feeding two webs of flexible fabric between the rolls and through the cementitious material, of mechanism for feeding a double thickness of a narrower strip of fabric between the two first mentioned webs along the edges thereof.

2. The combination with a pair of rolls, 110

means for maintaining a liquid body of cementitious material between them and means for feeding two webs of flexible fabric between the rolls and through the cementitious material, of mechanism for folding and feeding a narrower strip of fabric between the two first mentioned webs along the edges

thereof with the bight of the fold on the side farthest from the edges of the webs.

HENRY R. WARDELL.

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