W. B. SHARP.

COMPENSATING EXPANSION ROOFING CONNECTION.

APPLICATION FILED AUG. 1, 1919.

1,334,178. Patented Mar. 16, 1920.

Fig. 1.

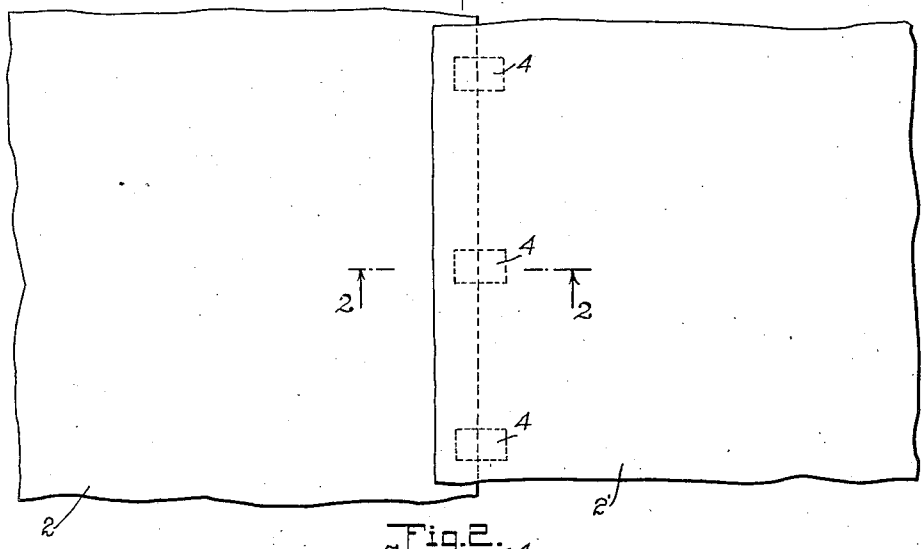


Fig. 2.

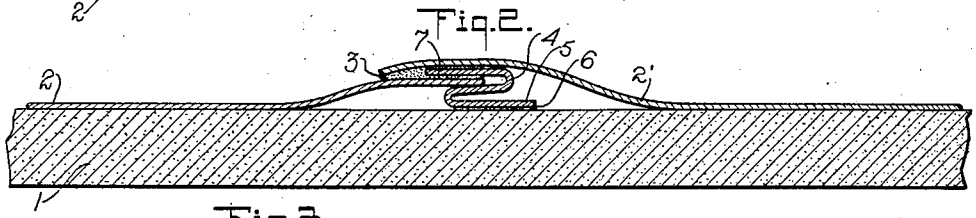


Fig. 3.

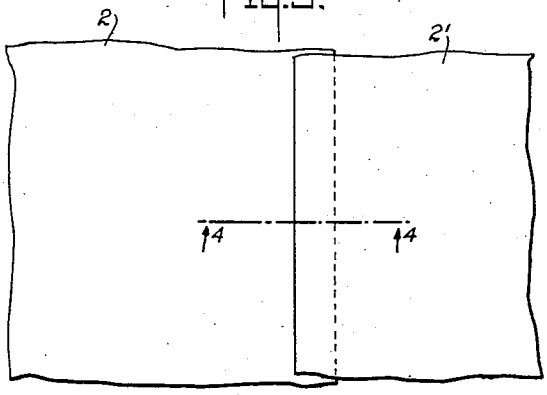


Fig. 6.

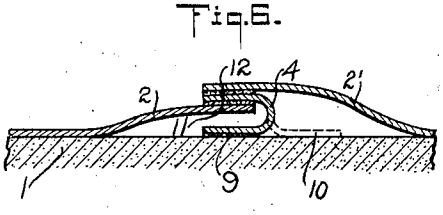


Fig. 4.

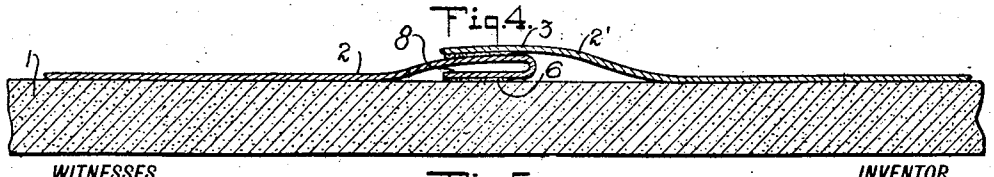
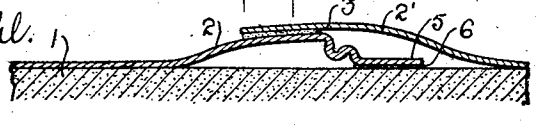


Fig. 5.



WITNESSES

Frederick Diehl.

C. B. Gale

INVENTOR

WALTER B. SHARP

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

WALTER B. SHARP, OF MOUNT VERNON, NEW YORK.

COMPENSATING EXPANSION ROOFING CONNECTION.

1,334,178. Specification of Letters Patent. Patented Mar. 16, 1920.

Application filed August 1, 1919. Serial No. 314,642.

To all whom it may concern:

Be it known that I, WALTER B. SHARP, a citizen of the United States, and a resident of Mount Vernon, in the county of Westchester and State of New York, have invented a new and Improved Compensating Expansion Roofing Connection, of which the following is a full, clear, and exact description.

This invention relates generally to a new and improved roofing connection, and relates more specifically to a connection to compensate for relative movement between a non-metallic covering and a roof.

Heretofore in applying a roof covering, such as felt or other composition, to the main roof, composed of concrete or other material, it has been the practice to lay the covering upon the roof and interpose a suitable composition adhesive material therebetween for holding the covering in its proper position relative to the main roof. In such a construction, a relative movement is obtained between the covering and the main roof due to the difference in coefficients of expansion of the covering and roof. This has caused much trouble in that the covering has become cracked, thus permitting moisture to find its way through to the roof beneath.

One of the objects of this invention is to provide a non metallic simple and inexpensive means by which a covering may be applied to a roof and will allow relative movement between the covering and the roof, thus compensating for a movement caused by the difference in the relative coefficients of expansion of the main roof body and the covering therefor.

A further object of this invention is to provide a simple and inexpensive method for compensating for the relative movement between a roof and a covering therefor, due to difference in the temperature coefficients of the respective parts.

The above objects are accomplished by providing a yielding connector interposed between the roof covering and the main roof, the said connector having one end thereof connected to the roof and the other end connected to the covering. By providing such a connection, it would not be necessary to interpose the adhesive composition between the covering and the roof throughout the entire surface thereof.

Other objects and advantages will be apparent from the following description, and the accompanying drawings in which similar characters of reference designate like parts and views.

Figure 1 is a top plan view indicating the spacing of the connectors with reference to the roof covering;

Fig. 2 is a sectional view looking in the direction of the arrows and taken on the line 2—2 of Fig. 1;

Fig. 3 is a plan view showing an arrangement in which the connector comprises a projecting end of one of the covering strips and extends throughout a length thereof;

Fig. 4 is a sectional view looking in the direction of the arrows and taken on the line 4—4 of Fig. 3, showing one method of securing the projecting end of the covering to the roof;

Fig. 5 is a sectional view of a modified form;

Fig. 6 is a sectional view showing another modified form and disclosing a different arrangement of the yielding connecting member.

In the drawings, a main roof 1 is shown, which may be of concrete or any other suitable material, and a covering 2, which may be of felt or any other suitable composition, is shown positioned thereupon and resting loosely thereon. If it is assumed that the covering 2 is composed of felt, it is usual to provide strips of felt having a certain width, and in covering the roof, it is usual to overlap the ends of the strips and interpose a suitable composition adhesive material 3 therebetween.

In one of the forms of applicant's invention, a yielding connector or strip 4 is provided, having one end 5 thereof connected to the main roof 1 by a suitable adhesive composition 6, or any other suitable means, and the other end 7 connected to the covering by a suitable means. In Fig. 2 a connection is provided by interposing the end 7 between the overlapping ends of the strips and within the composition adhesive mate-

rial 3. The connector 4 should be bent or formed intermediate the ends thereof so as to furnish a yielding connection between the covering and the main roof to permit relative movement therebetween and still maintain a connection. In the form shown in said figure, the connector 4 is formed in a Z shape. It is thus seen that the covering may be moved relatively to the main roof 1 without causing the breaking or cracking of the covering, but yet the connection is still maintained through the connector 4 between the covering 2 and the main roof 1.

In Fig. 1, the connectors are shown as being spaced at suitable intervals along the overlapping ends of the covering 2. It is understood that the connectors may be composed of any suitable material and may be of any desired width and length.

In order to obtain a yielding connection between the covering and the roof, it is not necessary that a separate connector be provided, but, as shown in Fig. 4, one end 8 of one of the covering strips 2 may be used to function as a yielding connector. As shown in said figure, the end 8 extends beyond the point at which the overlapping strip 2′ is connected by the composition adhesive material, and is turned under, and suitably secured to the roof 1 by a composition adhesive material 6, of other suitable substance. It is understood that any suitable number of covering strips may be provided, and that the said strips may overlap any desired distance, the essential feature in a construction as shown in Fig. 4 being that one of the ends extends beyond the point at which the overlapping strips are connected, the said projecting end being suitably secured to the roof 1. It is to be understood that in connecting the projecting end to the roof, a certain portion of the end will be free to move so that a relative movement may be obtained between the covering strips 2 and 2′ and the roof 1.

There is shown in Fig. 5 another modification in which a projecting end of one of the covering strips 2 is secured to the roof, but is turned in the opposite direction to that indicated in Fig. 4, there being provided a corrugated portion of the projecting strip between the point of connection with the roof and the point at which the overlapping strips 2, 2′ are connected by the composition adhesive material 3.

A further modification is shown in Fig. 6, in which the connector 4 is in the form of a separate strip. Instead of having a Z-shaped form to permit relative movement between the covering and the roof, relative movement between the covering 2, 2′ and the roof 1 is provided by a half bend as shown in full lines. If desired, the end 9 of the connector 4 instead of being turned backward underneath the overlapping ends of the covering 2, 2′, may be continued in the same general direction, as indicated by the dotted-line position 10, and be offset from that portion of the connector which is positioned in the composition adhesive material 3 between the overlapping ends 11, 12 of the covering.

As indicated in plan in Fig. 3, the connector, which in this case comprises the projecting end of the roof covering, extends the entire length of the strip. If desired, however, certain portions of the strip may be cut away to form spaces at suitable intervals between the connecting strip portions. When the separate strip 4 is provided, said strip may also extend throughout the entire length of the covering strip 2, if desired.

It is understood that in the construction above described, preferably, those portions of the covering strips 2 between the overlapping ends, lie loosely upon the roof, there being no adhesive material interposed therebetween.

It is thus seen that by providing a yielding connector having one end thereof connected to the roof covering and the other end thereof connected to the roof, such a connection compensates for any relative movement between the covering and the roof which may be caused by difference of temperature coefficients of the materials used.

While there has been shown herein constructions embodying certain forms of this invention, it is understood that changes and modifications may be made without departing from the spirit and scope of this invention, as set forth in the appended claims.

I claim:

1. A roof connection for securing a non-metallic composition covering upon a concrete roof comprising a flexible connector having one end thereof secured to the covering and the other end thereof secured to the roof by a composition adhesive material.

2. A roof connection for securing a non-metallic covering upon a roof comprising a yielding flexible connector having one end thereof secured to the covering and the other end thereof secured to the roof by an adhesive material.

3. In a device of the character described, a means for securing a composition felt covering upon a roof, said means including a yielding connector having one end thereof secured to the covering by an adhesive material and the other end thereof secured to the roof by an adhesive material.

4. In a device of the character described, a means for securing a non-metallic covering upon a roof, said means including a yielding connector, said connector being bent and having one end thereof connected to the covering by an adhesive material and the other end thereof secured to the roof by

an adhesive material, to permit relative movement between the covering and the roof.

5. In a device of the character described the combination with a roof and covering of non-metallic material formed in a plurality of strips, said strips being arranged to have overlapping edges, of an adhesive for connecting said strips together adjacent said overlapping edges, and flexible means connecting one of said edges to said roof whereby the covering may move relatively to the roof.

WALTER B. SHARP.