

PATENT SPECIFICATION

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DRAWINGS ATTACHED

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COMPLETE SPECIFICATION.

Roof Structure.

We, THE RUBEROID COMPANY LIMITED, a British Company, of Commonwealth House, 1—19 New Oxford Street, London, W.C.1, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to the laying of roof coverings of the kind comprising a perforated underlayer having a hard, rough or granular under surface, and one or more cover layers, the underlayer being secured in position by adhesive spread over its upper surface penetrating through the perforations, this adhesive also serving to secure into position the cover layer or first cover layer. With roofing of this kind, the various layers are usually bituminous roofing material comprising glass fibre felt; the underlayer is usually surfaced underneath with granules and permits air movement to take place from one part of the sub-structure surface to another. The adhesive used is usually bitumen; this runs through the perforations and spreads side-ways for a short distance only between the granules giving a "dot" anchorage. The cover layer or first cover layer is applied immediately after the bitumen is spread on to the top surface of the underlayer.

Roof coverings of the kind described serve to equalise the gas or vapour pressure between the covering and the surface of the sub-structure, and this is very useful in itself, but in addition it is commonly desirable to vent the space immediately below the underlayer, occupied by the granules, and this has been effected in the past in other countries, where coverings of this kind have already been adopted, by means of metal

fittings. It is an object of the invention to provide for the venting of roof coverings of the kind described, without having to resort to metal fittings like flashings, aprons, drips and special vent pipes.

The invention consists in a roof covering of the kind described, having a duct for the escape of gases from the lower surface of the underlayer leading from below the underlayer to the exterior, the duct comprising a strip of underlayer material and a second strip of material the two strips being arranged face-to-face with the rough or granular surface of the underlayer material innermost. The material of the second strip will normally comprise roofing felt, and is preferably also of underlayer material, so that the duct will then comprise two strips of underlayer material with the rough or granular faces together. To avoid an abrupt change in thickness below the underlayer on the roof, the duct preferably has the uppermost of its component strips extended beyond the end of the lowermost strip.

A duct as just described, which is in effect a flat tube, is most conveniently disposed where the roof sub-structure terminates in a wall, and it is desired to vent the underlayer at this wall. In this case, the method of laying the roof in accordance with the invention comprises applying underlayer material to the roof, continuing up the wall but stopping short of a chase therein parallel with the roof, with a duct as previously described disposed below and projecting upwardly from the underlayer, then applying a cover layer to lap over the underlayer and enter the chase, the cover layer being cut where necessary to enable the duct to project beyond the chase and to hang downwardly over the cover layer, then fitting a flashing

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Price 4s. 6d.



60
faces

into the chase to hang over the uppermost part of the cover layer and the duct where this hangs downwardly over the cover layer, in front of and immediately below the chase, and trimming off the duct behind the flashing if the duct projects below it. Preferably, the duct is made by cutting a strip from across the width of a roll of underlayer material, folding the strip to leave one end projecting beyond the other, and then applying the folded strip to the roof with the projecting end uppermost and with its granular face down. In the course of trimming behind the flashing, the fold in the resulting duct will be cut off. Generally, a fillet will be provided in the angle between the roof sub-structure and the wall, and where the underlayer is bedded down to this fillet, a projective soaker strip will be mounted above it. This soaker strip will be bedded down with adhesive, before the cover layer is applied over it. After the flashing has been positioned and bedded down with adhesive, the chase will be suitably pointed.

When laying a duct as described in the preceding paragraph, it is preferred to arrange that the underneath strip should stop short of the lower edge of the fillet, so that only a single thickness of the underlayer strip of the duct extends onto the roof sub-structure. The duct may conveniently be positioned after the underlayer has been placed on the main roof area.

The invention will be described further with reference to the accompanying drawing, which is an isometric partly cut-away view of a portion of roof covering.

The roof shown in the drawing comprises a sub-structure comprising concrete 1 and mortar or a finer grade of concrete 2 terminating in a fillet 3 at a wall 4 (it should be noted, however, that it is not necessary for the sub-structure to comprise concrete or mortar, for it may comprise another material to which bitumen will adhere). Sheets of underlayer material 5 (a portion of only one of which is shown) are laid on the roof sub-structure, continuing over the fillet and extending part-way up the wall stopping short of a chase 6. This underlayer material comprises a backing sheet formed with perforations 7 and faced on one side with granules 8. A strip of underlayer material several inches wide is cut across the width of a roll of this material and folded in two so that one end 12 projects somewhat beyond the other end 13, the granular faces being together. The folded strip constitutes a duct or flat tube and is inserted below the underlayer material 5 so that the end 13 is substantially flush with the bottom edge of the fillet 3 and the end 12 extends onto the roof sub-structure with its granular face down. The folded end portion of the duct extends up the wall beyond the chase 6 and during

the immediately succeeding operations may be held out of the way as required. A soaker strip 9 of roofing felt is bedded down with the aid of bitumen 11 over the underlayer material 5 where this overlies the fillet 3, the bitumen extending through the perforations 7 to afford a spot anchorage to the surface of the roof sub-structure and wall. This surface may have been pre-treated with a bituminous or other water-proofing or bonding composition beforehand. A cover layer 10 of roofing felt material is similarly bedded down over the underlayer material 5 and over the soaker strip 9 to enter the chase 6, bitumen 11 which is employed for bedding the cover layer completing the anchorage of the underlayer material to the surface below it. Where the cover layer overlies the inserted duct, the necessary cut-away is formed to enable the duct to hang down with its folded end outermost. Next, a flashing 14, which is preferably also of cover layer material, is inserted into the chase 6 and bedded down over the cover layer 10 with bitumen 15. Finally, the folded end of the aforesaid duct, which projects below the flashing 14, is trimmed off with a knife care being taken not to damage the cover layer 10, and the chase 6 is made good with mortar 16.

The roof described in the preceding paragraph can be improved by including an intermediate layer on the duct before the insertion of the flashing 14: this intermediate layer has the effect of providing a double thickness to the flashing 14 in the vicinity of the duct. In practice, for example, a 12" length of this intermediate layer may be provided for a 6" wide duct so that the layer can extend 3" on either side of the duct.

WHAT WE CLAIM IS:—

1. A roof covering of the kind described, having a duct for the escape of gases from the lower surface of the underlayer leading from below the underlayer to the exterior, the duct comprising a strip of underlayer material and a second strip of material the two strips being arranged face-to-face with the rough or granular surface of the underlayer material innermost.
2. A covering according to Claim 1 in which said second strip comprises roofing felt.
3. A covering according to Claim 1 in which said second strip is of underlayer material, the duct comprising two strips of underlayer material with the rough or granular faces together.
4. A covering according to Claim 1, 2 or 3 in which the duct has the uppermost of its component strips extended beyond the end of the lowermost strip to avoid an



85 hang



into the chase to hang over the uppermost part of the cover layer and the duct where this hangs downwardly over the cover layer, in front of and immediately below the chase, and trimming off the duct behind the flashing if the duct projects below it. Preferably, the duct is made by cutting a strip from across the width of a roll of underlayer material, folding the strip to leave one end projecting beyond the other, and then applying the folded strip to the roof with the projecting end uppermost and with its granular face down. In the course of trimming behind the flashing, the fold in the resulting duct will be cut off. Generally, a fillet will be provided in the angle between the roof sub-structure and the wall, and where the underlayer is bedded down to this fillet, a projective soaker strip will be mounted above it. This soaker strip will be bedded down with adhesive, before the cover layer is applied over it. After the flashing has been positioned and bedded down with adhesive, the chase will be suitably pointed.

When laying a duct as described in the preceding paragraph, it is preferred to arrange that the underneath strip should stop short of the lower edge of the fillet, so that only a single thickness of the underlayer strip of the duct extends onto the roof sub-structure. The duct may conveniently be positioned after the underlayer has been placed on the main roof area.

The invention will be described further with reference to the accompanying drawing, which is an isometric partly cut-away view of a portion of roof covering.

The roof shown in the drawing comprises a sub-structure comprising concrete 1 and mortar or a finer grade of concrete 2 terminating in a fillet 3 at a wall 4 (it should be noted, however, that it is not necessary for the sub-structure to comprise concrete or mortar, for it may comprise another material to which bitumen will adhere). Sheets of underlayer material 5 (a portion of only one of which is shown) are laid on the roof sub-structure, continuing over the fillet and extending part-way up the wall stopping short of a chase 6. This underlayer material comprises a backing sheet formed with perforations 7 and faced on one side with granules 8. A strip of underlayer material several inches wide is cut across the width of a roll of this material and folded in two so that one end 12 projects somewhat beyond the other end 13, the granular faces being together. The folded strip constitutes a duct or flat tube and is inserted below the underlayer material 5 so that the end 13 is substantially flush with the bottom edge of the fillet 3 and the end 12 extends onto the roof sub-structure with its granular face down. The folded end portion of the duct extends up the wall beyond the chase 6 and during

the immediately succeeding operations may be held out of the way as required. A soaker strip 9 of roofing felt is bedded down with the aid of bitumen 11 over the underlayer material 5 where this overlies the fillet 3, the bitumen extending through the perforations 7 to afford a spot anchorage to the surface of the roof sub-structure and wall. This surface may have been pre-treated with a bituminous or other water-proofing or bonding composition beforehand. A cover layer 10 of roofing felt material is similarly bedded down over the underlayer material 5 and over the soaker strip 9 to enter the chase 6, bitumen 11 which is employed for bedding the cover layer completing the anchorage of the underlayer material to the surface below it. Where the cover layer overlies the inserted duct, the necessary cut-away is formed to enable the duct to hang down with its folded end outermost. Next, a flashing 14, which is preferably also of cover layer material, is inserted into the chase 6 and bedded down over the cover layer 10 with bitumen 15. Finally, the folded end of the aforesaid duct, which projects below the flashing 14, is trimmed off with a knife care being taken not to damage the cover layer 10, and the chase 6 is made good with mortar 16.

The roof described in the preceding paragraph can be improved by including an intermediate layer on the duct before the insertion of the flashing 14: this intermediate layer has the effect of providing a double thickness to the flashing 14 in the vicinity of the duct. In practice, for example, a 12" length of this intermediate layer may be provided for a 6" wide duct so that the layer can extend 3" on either side of the duct.

WHAT WE CLAIM IS:—

1. A roof covering of the kind described, having a duct for the escape of gases from the lower surface of the underlayer leading from below the underlayer to the exterior, the duct comprising a strip of underlayer material and a second strip of material the two strips being arranged face-to-face with the rough or granular surface of the underlayer material innermost.

2. A covering according to Claim 1 in which said second strip comprises roofing felt.

3. A covering according to Claim 1 in which said second strip is of underlayer material, the duct comprising two strips of underlayer material with the rough or granular faces together.

4. A covering according to Claim 1, 2 or 3 in which the duct has the uppermost of its component strips extended beyond the end of the lowermost strip to avoid an



abrupt change in thickness below the underlayer on the roof.

5 5. A covering according to any of the preceding claims in which the duct is disposed where the roof sub-structure terminates in a wall.

10 6. A roof covering according to Claim 5 in which the underlayer material extends up the wall stopping short of a chase therein, parallel with the roof, into which the or a cover layer enters, said cover layer being cut to enable the duct to project beyond the chase, to hang downwardly over said cover layer, the latter and duct being overhung by a flashing fitted into the chase.

15 7. A covering according to Claim 6 in which the duct is one made by cutting a strip from across a roll of underlayer material folding the strip to leave one end pro-

jecting beyond the other, applying the folded strip to the roof with the projecting end uppermost and its granular face down, and subsequently trimming the duct behind said flashing concomitantly removing the fold therein.

25 8. A covering according to Claim 6 or 7 in which there is a fillet in the angle between the roof sub-structure and wall, and the underneath strip of the duct stops short at the lower edge of the fillet so that only a single thickness of the underlayer strip of the duct extends onto the roof sub-structure.

30 9. A roof covering substantially as hereinbefore described with reference to and as shown in the accompanying drawing.

MARKS & CLERK.

PROVISIONAL SPECIFICATION.

Roof Structure.

We, THE RUBEROID COMPANY LIMITED, a British Company, of Commonwealth House, 1—19 New Oxford Street, London, W.C.1, do hereby declare this invention to be described in the following statement:—

40 This invention relates to the laying of roof coverings of the kind comprising a perforated underlayer having a hard, rough under surface, and one or more cover layers, the underlayer being secured in position by adhesive spread over the surface penetrating through the perforations, this adhesive also serving to secure into position the cover layer or first cover layer. With roofing of this kind, the various layers are usually bituminous roofing material comprising glass fibre felt; the underlayer is usually surfaced underneath with granules and permits air movement to take place from one part of the sub-structure surface to another. The adhesive used is usually bitumen; this runs through the perforations and spreads sideways for a short distance only between the granules giving a "dot" anchorage. The cover layer or first cover layer is applied immediately after the bitumen is spread on the top surface of the underlayer.

65 Roof coverings of the kind described serve to equalise the gas or vapour pressure between the covering and the surface of the sub-structure, and this is very useful in itself, but in addition it is commonly desirable to vent the space immediately below the underlayer, occupied by the granules, and this has been effected in the past in other countries, where coverings of this kind have already been adopted, by means of metal fittings. It is an object of the invention to provide for the venting of roof coverings of the kind described, without having to resort to metal

fittings like flashing, aprons, drips and special vent pipes.

The invention consists in a roof covering of the kind described, having a duct for the escape of gases from the lower surface of the underlayer leading from below the underlayer to the exterior, the duct comprising a strip of underlayer material and a second strip of material the two strips being arranged face-to-face with the rough or granular surface of the underlayer material innermost. The material of the second strip will comprise roofing felt, and is preferably also of underlayer material, so that the duct will then comprise two strips of underlayer material with the rough or granular faces together. To avoid an abrupt change in thickness below the underlayer on the roof, the duct preferably has the uppermost of its component strips extended beyond the end of the lowermost strip.

A duct as just described, which is in effect a flat tube, is most conveniently disposed where the roof sub-structure terminates in a wall, and it is desired to vent the underlayer at this wall. In this case, the method of laying the roof in accordance with the invention comprises applying underlayer material to the roof, continuing up the wall but stopping short of a chase herein parallel with the roof, with a duct as previously described disposed below and projecting upwardly from the underlayer, then applying a cover layer to lap over the underlayer and enter the chase, the cover layer being cut where necessary to enable the duct to project beyond the chase, then fitting a flashing into the chase to hang over the uppermost part of the cover layer and the duct where this hangs downwardly over the cover layer, in front of and

*fittings
flashings*



therein



immediately below the chase, and trimming
off the duct behind the flashing if the duct
projects below it. Preferably, the duct is
made by cutting a strip from across the end
of a roll of underlayer material, folding the
strip to leave one end projecting beyond the
other, and then applying the folded strip to
the roof with the projecting end uppermost
and with its granular face down. In the
course of trimming behind the flashing, the
fold in the resulting duct will be cut off.
Generally, a fillet will be provided in the
angle between the roof sub-structure and the
wall, and where the underlayer is bedded
down to this fillet, a protective soaker strip
will be mounted above it. This soaker strip

will be bedded down with adhesive, before
the cover layer is applied over it. After the
flashing has been positioned and bedded
down with adhesive, the chase will be suit-
ably pointed.

When laying a duct as described in the
preceding paragraph, it is preferred to
arrange that the underneath strip should
stop short at the lower edge of the fillet, so
that only a single thickness of the underlayer
strip of the duct extends onto the roof sub-
structure. The duct may conveniently be
positioned after the underlayer has been
placed on the main roof area.

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