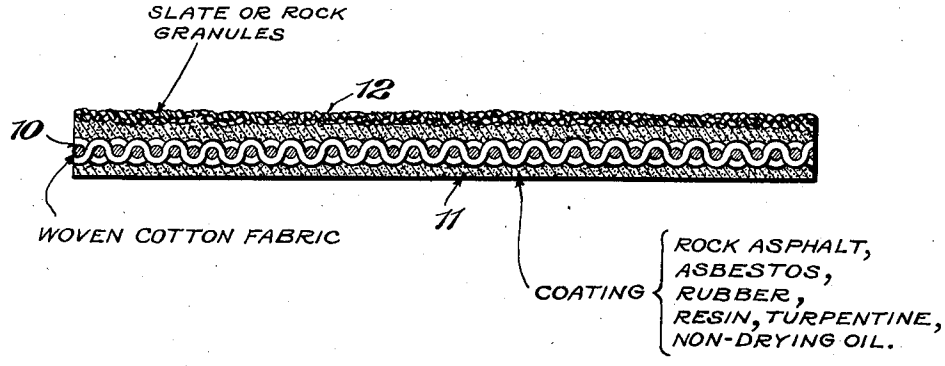
Aug. 6, 1940. J. W. SWOPE 2,210,348

ROOFING MATERIAL

Filed April 18, 1939



Inventor

John W. Swope,

By Emery, Booth, Thomas & Miller

Attorneys

Published by AsbestosClaims.Law
asbestosclaims.law/library/23590/1

Patented Aug. 6, 1940 2,210,348

UNITED STATES PATENT OFFICE

2,210,348

ROOFING MATERIAL

John W. Swope, Waco, Tex., assignor of five per cent to Ernest A. Flowers, Jr., and seven per cent to E. Doyle Garrett, both of McLennan County, Tex.

Application April 18, 1939, Serial No. 268,608

2 Claims. (Cl. 91—68)

The present invention relates to improvements in roofing materials of the type generally known as composition roofings and aims generally to improve existing materials of that type.

One of the principal objects of the invention is the provision of an improved roofing having a woven textile center or base, such as heavy cotton duck, which is coated and impregnated with an asphalt composition of a character providing a permanent flexible body that will not chemically attack or disintegrate the fabric center.

Heretofore, it has been proposed to treat a fabric center, either of felt or a woven fabric, with asphalt compositions including gas tar, pitch, coal tar and like ingredients. It has been found that such ingredients have an acid content which tends to attack and disintegrate the fabric center so that the life of the material, as a roofing, is greatly impaired.

I have discovered that certain mineral asphalts, such as rock asphalt, when properly mixed with fillers, nondrying oils such as cottonseed oil and rubber, provides a vehicle for a woven fabric base which has important advantages as a roofing material either in shingle or sheet form.

Other aims and advantages of the invention will be apparent to those skilled in the art, in view of the more detailed description of the invention, reference being had to the accompanying drawing, illustrating a section of a portion of my improved material.

In making my improved roofing material, I take a suitable, closely woven fabric base such as a heavy cotton duck base 10, and completely imbed it in a mixture of heated rock asphalt, non-drying oil, asbestos cement, rubber and filler, which provides a heavy, durable, flexible heat-resisting coating 11 for the fabric base. One suitable formula for making 50 gallons of coating, is as follows:

	Pounds
Rock asphalt (Texas Uvalde)	200
Ground asbestos	50
Rubber (reclaimed)	5
Resin (turpentine, such as pine tar foot)	30

The above ingredients to be mixed with a nondrying oil (such as cotton seed oil) until a thick, sticky, viscous mixture is produced. Approximately 15 gallons of oil will be sufficient for this purpose.

If desired, a mineral filler, as for example 15 lbs. of Portland cement or clay, may be added to impart the desired stiffness to the roofing sheet.

The amounts of the ingredients in the above stated composition may be varied within considerable limits, so long as the principal ingredient is rock asphalt. The quantity of asbestos may be varied to control the properties of the roofing to resist heat and fire, and increasing or diminishing the rubber content increases or diminishes the flexibility of the roofing.

The coating composition is advantageously a mixture of the above-named ingredients, the rock asphalt having been heated to approximately 120° F. The other ingredients may be added while the mixture is thoroughly agitated. When the mixture is of desired consistency, the fabric center 10 may be immersed in it to thoroughly coat both sides thereof. As the coated fabric is removed from the vat containing the mixture, it is preferably passed between rolls to impart a uniform thickness to the coating and then subjected to air blasts to partially dry it. Mineral granules 12 may be sifted on one or both sides as desired.

The coating composition 11 is characterized in that it is predominantly composed of a mineral or rock asphalt which does not chemically attack the fabric center, as is the case of other petroleum asphaltic compounds. I have found that Texas Uvalde asphalt is highly suitable for my purpose, and provides a coating composition that has an exceedingly long life.

The Texas-Uvalde rock asphalt, described above, is rock asphalt found in Uvalde County, Texas, and is unlike other natural asphalts in that bitumen is a solid ranging from 7 to 11 per cent with 89 to 93 per cent mineral matter, and its physical characteristics are substantially as follows:

Specific gravity	1.09
Penetration 77° F., 100 gr. 5 sec	8
Melting point (cube method) °F.	196
Flash point (open cup) °F.	480
Fire point °F.	560
Bitumen insoluble in 86° paraffin naphtha per cent	42
Bitumen soluble in carbon tetrachloride per cent	100
Fixed carbon do	18

A chemical analysis of mineral content of Texas-Uvalde rock asphalt is generally as follows:

	Per cent
Carbon	10.2
Limestone	88.4
Mineral matter	1.4
	100

Published by AsbestosClaims.Law
asbestosclaims.law/library/23590/2

The rubber ingredients, desirably, may be supplied from reclaimed inner tubes and imparts to the finished product the desired flexibility.

The asbestos fibre and the slate granuled surface 12 contribute to the heat- and fire-resisting properties, the slate granules also aiding in preventing the sun from drawing the non-drying oils from the mixture. The Portland cement or clay are included as desired to impart the necessary stiffness to the material.

The roofing is advantageously laid without nails, as the material may be adhesively cemented to the sheathing or overlapped edges of roofing by roofing cement similar in its composition to the coating composition 11 above described. All overlapping seams are thus rendered substantially homogeneous and watertight.

Advantages of my invention reside in the provision of a roofing material that possesses the desired tensile strength provided by the woven fabric center but protected by an asphaltic coating that is durable, waterproof and heat-resisting, and which will not chemically attack the fabric base center. When applied in the manner described, the roof is practically of one-piece construction.

While my invention is particularly useful as a roofing material, either in shingle or roll form, it is also highly satisfactory for use as a wall siding which may be decorated to imitate brick masonry.

Having described a preferred composition according to my invention, I claim:

1. An improved building material comprising a woven cotton base completely imbedded in a coating composition comprising approximately 200 parts by weight of Texas Uvalde rock asphalt, 50 parts by weight of asbestos fibre, 5 parts by weight of rubber, 30 parts by weight of turpentine resin mixed with cottonseed oil.

2. An improved building material comprising a woven cotton base completely imbedded in a coating composition comprising approximately 200 parts by weight of Texas Uvalde rock asphalt, 50 parts by weight of asbestos fibre, 5 parts by weight of rubber, 30 parts by weight of turpentine resin and 15 parts by weight of Portland cement mixed with cottonseed oil.

JOHN W. SWOPE.

Published by AsbestosClaims.Law
asbestosclaims.law/library/23590/3