

(No Model.)

J. N. HOPPER.
ROOFING MATERIAL.

No. 446,775.

Patented Feb. 17, 1891.

Fig. 1

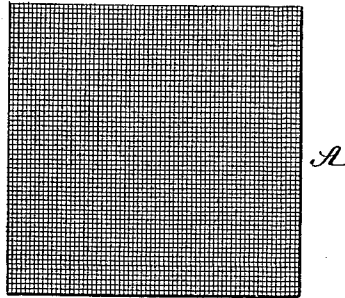


Fig. 2

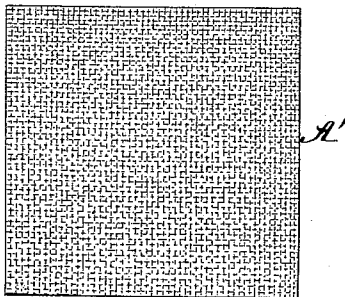
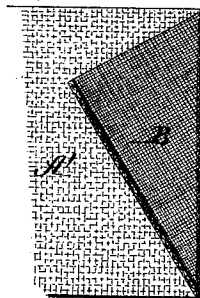


Fig. 3.



Fig. 4.



WITNESSES:

Fred G. Dieterich
Edw. W. Pyra.

INVENTOR:

J. N. Hopper.

BY *Munn & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSEPH N. HOPPER, OF PAWNEE CITY, NEBRASKA.

ROOFING MATERIAL.

SPECIFICATION forming part of Letters Patent No. 446,775, dated February 17, 1891.

Application filed October 14, 1890. Serial No. 368,104. (No specimens.)

To all whom it may concern:

Be it known that I, JOSEPH N. HOPPER, of Pawnee City, in the county of Pawnee and State of Nebraska, have invented a new and useful Improvement in Roofing Materials; of which the following is a specification.

The object of my invention is to provide a new roofing material which shall be impervious to water, strong, flexible, resisting blows and abrasions, easily repaired, conveniently put up in rolls, and which will neither crack from the winter's cold nor soften and run from the summer's heat.

It consists in a layer of woven wire or reticulated material having its interstices or meshes filled and closed with a plastic mass, combined with a backing or second layer of fabric saturated with a similar filling material and incorporated with or adhering to the woven-wire layer, as hereinafter fully described.

Figure 1 is a face view of a section of woven wire or wire-cloth. Fig. 2 is a face view of the same after having had its meshes filled with the plastic compound. Fig. 3 is a sectional view of the roofing material as completed by the addition of a backing of fabric saturated with the plastic compound and adhering to the wire-cloth, and Fig. 4 is a view of a piece of the completed material with the edge turned over to show both sides.

In the drawings, A represents a section of woven wire whose meshes are to be completely filled with a plastic compound which dries as a tough strong integument, making a perfectly tight, impervious, or imperforate sheet A', which is capable of holding or turning off water without allowing any of it to pass through.

The composition which I use for the purpose of filling the meshes of the woven wire is two parts, by weight, of vulcanite rubber or india-rubber prepared for vulcanization and one part asphaltum dissolved in one gallon of gasoline or other solvent, such as turpentine, to which may be added any desired coloring-matter. The roll of wire-cloth is immersed in this solution, and as it is unwound the thick adhering mass of the compound perfectly fills the interstices and clings by surface attraction till it dries, which soon occurs by reason of the volatile nature of the sol-

ent, leaving the solid matters in a tough pliant consistency closely tied into and perfectly filling all the meshes, so as to make the impervious sheet A'.

The composition for filling the wire-cloth, as above set forth, is a very efficient and desirable one, as it shows no change or deterioration under extremes of temperature and is characterized by great strength, toughness, and permanence; but I do not confine my invention to the specific formula of its composition, as other filling material may serve a good purpose in this connection. To the sheet A' of filled wire-cloth is then applied a backing B of canvas or some fibrous fabric. This layer is either saturated with the same compound or has it applied to one side by a brush, and the two layers are then passed through rollers or otherwise pressed into intimate union, causing the two layers to adhere as one thickness.

To the exposed or weather side I may, if desired, apply a coating of asbestos. This material is put up in rolls for the market and is designed to be applied to the sheathing of the roof in strips, whose edges are overlapped and tacked down and the seam then filled and made water-tight by being well painted with the same compound that is used in the manufacture of the material.

In defining my invention with greater clearness I would state that I am aware that wire-cloth has been provided with a filling of linseed-oil and litharge, and I make no broad claim to a filled wire-cloth simply. I have found, however, that by the addition of the backing B of fibrous material very great advantages are secured and some serious objections obviated. Thus, for instance, it permits accidental holes to be readily stopped up with the compound, both in the manufacture of the article and in the application of it to the roof, for the fibrous backing will, if the hole be made on the roof, close around the hole and hold and retain till dry any filling that may be applied thereto. The backing B also cushions the wire-cloth and prevents abrasion and sticking when put up in rolls.

Instead of using wire-cloth, any other reticulated material with open meshes may be employed.

It is obvious that my roofing material may

be applied to various other uses as a water-proof or weather-proof material.

Having thus described my invention, what I claim as new is—

5 1. A roofing material composed of a layer of reticulated net or webbing having its interstices or meshes filled with and retaining a plastic compound, combined with an adher-
10 stantially as shown and described.

2. A roofing material composed of a layer

of woven wire having its interstices or meshes filled with and retaining a plastic compound, combined with a layer or backing of fibrous material, also coated with the same plastic 15 filling compound and pressed into adhering union with the woven-wire layer, substantially as shown and described.

J. N. HOPPER.

Witnesses:

EDW. W. BYRN,
SOLON C. KEMON.