(No Model.)

A. SACKETT.

ROOFING FELT AND MECHANISM FOR MAKING THE SAME.

No. 291,628. Patented Jan. 8, 1884.

Fig. 1.

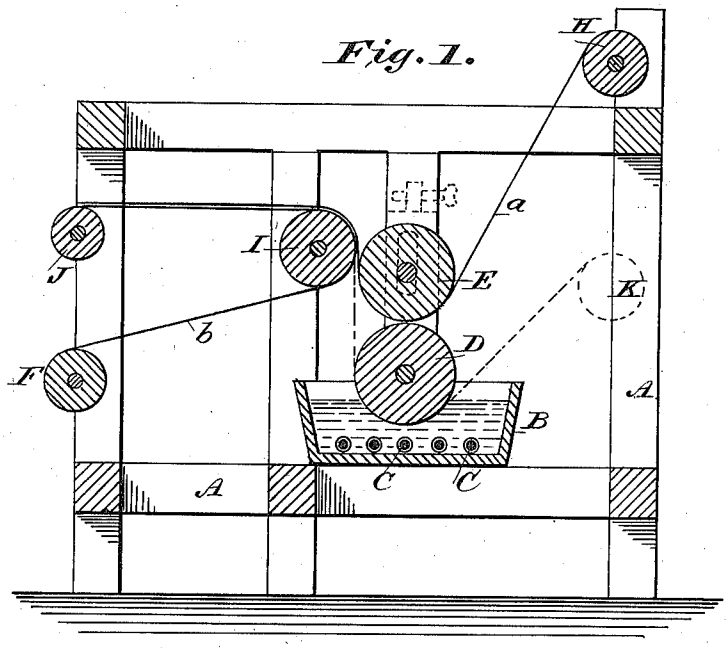


Fig. 2.

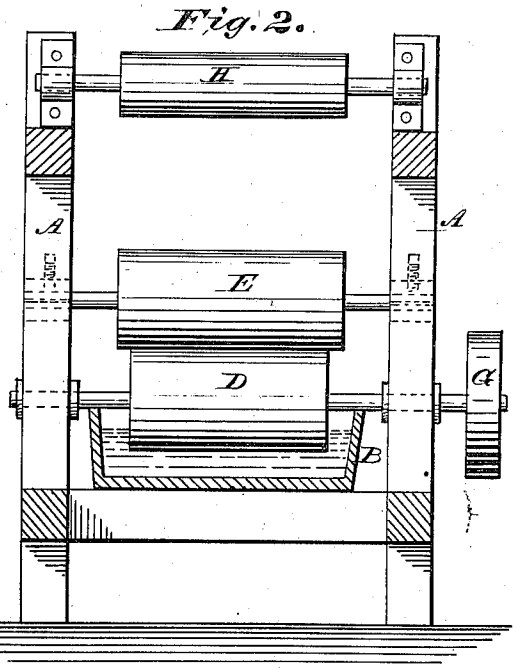
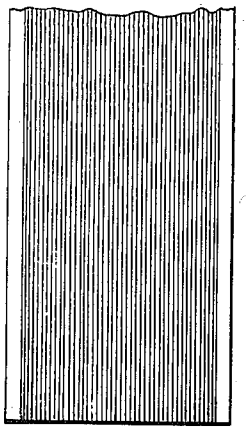


Fig. 3.



Witnesses:
E. H. Pierce.
John Yereance

Inventor:
Augustine Sackett,

UNITED STATES PATENT OFFICE.

AUGUSTINE SACKETT, OF NEW YORK, N. Y.

ROOFING-FELT AND MECHANISM FOR MAKING THE SAME.

SPECIFICATION forming part of Letters Patent No. 291,628, dated January 8, 1884.

Application filed May 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTINE SACKETT, a citizen of the United States, and resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Roofing-Felt and Mechanism for Making the Same, of which the following is a specification, when taken in connection with the accompanying drawings, forming a part thereof.

Figure 1 is a vertical longitudinal sectional view of my machine. Fig. 2 is an end view; and Fig. 3 is a plan view of the coated fabric, the dark lines showing the pitch or bituminous layer as applied by the roller.

In a former application, filed by me October 28, 1882, Serial No. 75,334, and allowed February 7, 1883, I have shown, described, and claimed a roofing-felt made up of three layers or webs of felt or paper, the inner layer or web being narrower than the two outer layers, said inner layer being saturated or coated, or both saturated and coated, with coal-tar and pitch, or natural bitumen, or other materials suitable for the purpose, said inner layer or web being joined to the outer layers or webs, so that their edges will project over the edges of the inner layer or web, and thus form a dry uncoated margin, which will prevent the pitch or other cementing material from running over the edges of the fabric, and causing the layers to adhere when wound up in a roll for transportation and use.

In my former application I have described in the original specification the substance of this invention, but have preferred not to claim it therein, reserving it, in connection with the mechanism for making, to form the subject-matter of this application.

My present invention, therefore, consists in applying to a web or layer of roofing felt, paper, or other material a coating of bitumen, either natural or artificial, in such a manner that the edges thereof will extend beyond the edges of the cement, leaving a narrow margin on each side free from the cement, and then joining to the fabric thus coated another layer or web of felt, paper, or other material of equal width, so that the completed article will be composed of two sheets or webs of felt or paper, united, except at its edges, with a layer of bituminous or other cement. My invention consists, further, in the mechanism for making my improved fabric.

I will now proceed to describe my devices for making the improved roofing-felt; but other devices equally applicable may be used without departing from the spirit of my invention.

A is the frame of the machine, which may be made of any suitable material, in which are mounted the devices, to be more fully hereinafter described.

B is a tank or vat, in which the pitch, &c., is melted and heated, of any suitable construction, and in which is located a coil of steam-pipes, C, for heating the pitch or other material used in coating the felt.

D is a roller or drum, so mounted as to be partially submerged in the pitch within the tank. The said web of felt or paper being caused to impinge against the cement on the roller D in its passage through the machine by means of the roller or drum E, which is mounted in adjustable bearings, so that the space between the rollers or drums D and E can be regulated to admit of felts or paper of different thicknesses passing through, and at the same time apply a coating of the pitch or cement of the required thickness. The roller or drum D is made somewhat shorter than the width of the felt which is to be coated, so that when the pitch is applied there will be a margin of half an inch, more or less, on which there will be no pitch, so that when the layer of felt or paper which is unwound from the roll F is caused to come in contact with the coated web or layer of felt *a*, there will be a margin or dry edge on each side of the web, which will prevent the pitch from working out over the edges of the same, and prevent the different layers or convolutions of felt from adhering together when it is wound in a roll ready for use. The shaft of the roller or drum D is provided with a band-wheel, G, by which means power is applied from any suitable source to rotate the roller or drum D. This drum D is rotated at a greater or less velocity than that at which the web *a* of felt or paper travels, which causes said roller to apply a more perfect and even layer of cement to the web *a* than would be the case if the web and drum traveled at the same rate of speed. I prefer, however, to run

the roller-drum D faster than the traveling speed of the web, for by this means a good supply of cement is constantly applied to the paper or felt, and at the same time, by the proper adjustment of the roller E, the roller D acts as a scraper to remove the surplus of material, and also applies the coating of cement in a uniform layer to the felt or paper. As heretofore stated, the roller E is mounted in adjustable bearings, and brings the paper or felt from off the roller H in contact with the cement at a point where the two rolls D and E meet, thus insuring an even distribution of the cement.

I is a roller, over which the coated web of paper or felt *a* passes, and at which point it is joined by the web *b*, as it is unwound from the roller F, the two webs or layers of felt or paper being united and wound into a roll on the roller J.

The rollers D and J are power-driven rolls. The former, D, is driven for the purpose already described, while the object of applying power to the latter, J, is to draw the felts through the machine, while the rollers E, H, I, and F are rotated by the passage of the web over or from them.

This machine can be readily adapted for making the three-ply felt described in my application heretofore referred to by raising the roller E, so it and the felt *a* will not come in contact with the roller D, and placing a web or roll of narrower felt on the roller K, and allowing it to become saturated or coated on both sides by passing it beneath the roller D, into the coating material, and thence between the rollers E and I, as shown in dotted lines in Fig. 1. The webs of felt *a* and *b* may be previously saturated with coal-tar, or mixtures of the same, and dried before they are joined together in the machine by any of the well-known devices or processes now in use; but this is not essential where the material is to be used as a sheathing paper or felt, in which case unsaturated paper or felt would be preferable, and they may be thus joined without departing from the spirit of my invention.

It will be seen from the description given that I make a felt for roofing and other purposes with a coating or body of pitch or cement confined in the interior thereof, while the edges will be free from the tarry and sticky compound; and, furthermore, the body of cement is practically sealed within the external layers of felt or paper, and the drying up or hardening of the cement by direct exposure to the atmosphere and sun is prevented, thus rendering the fabric more durable.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A roofing-felt or other fabric composed of two layers of felt or paper previously saturated with coal-tar, united by a layer of pitch or other suitable cement, which is confined to the interior of the fabric in such a manner as to leave the edges dry and uncemented, as set forth.

2. The method herein described of coating roofing felt or paper, the same consisting in bringing a traveling web of felt or fabric in contact with a partially-submerged roller or drum, which is somewhat shorter than the width of the felt, whereby a layer of pitch or cement is applied to the web on all portions of it, except in a narrow marginal line or space at each edge.

3. The method herein described of coating roofing felt or paper with pitch or cement, the same consisting in bringing a traveling web of felt or paper in contact with a rapidly-revolving and partially-submerged roller or drum, said drum being driven at a greater velocity than that at which the felt or paper is drawn through the machine, as set forth.

4. The method herein described of manufacturing roofing felt or paper or other material of like character, the same consisting in applying a layer of pitch or cement to a layer or web of paper or felt on all portions, except at the edges thereof, and then joining thereto by means of the cement thus applied another layer or web of felt or paper, as set forth, to form a completed fabric.

5. In a machine for coating paper or felt, the short power-driven roller D, mounted so as to be partially within the tank B, in combination with the adjustable roller E, roller H, and traveling web of felt or paper *a*, whereby a coating or layer of pitch somewhat narrower than the width of the web is applied thereto, as set forth.

6. A machine for coating or saturating paper or felt for roofing and other purposes, consisting of the following elements in combination: a heating or melting tank, a roller for applying cement to a traveling web of felt or paper mounted within said tank, an adjustable roller for pressing the web against the cementing-roll, a roller or drum for uniting the coated with an uncoated layer or web of paper or felt, and a drum or roller for winding into rolls the completed fabric, as set forth.

AUGUSTINE SACKETT.

Witnesses:
WM. A. BARTOW,
CHAS. M. WEBB.