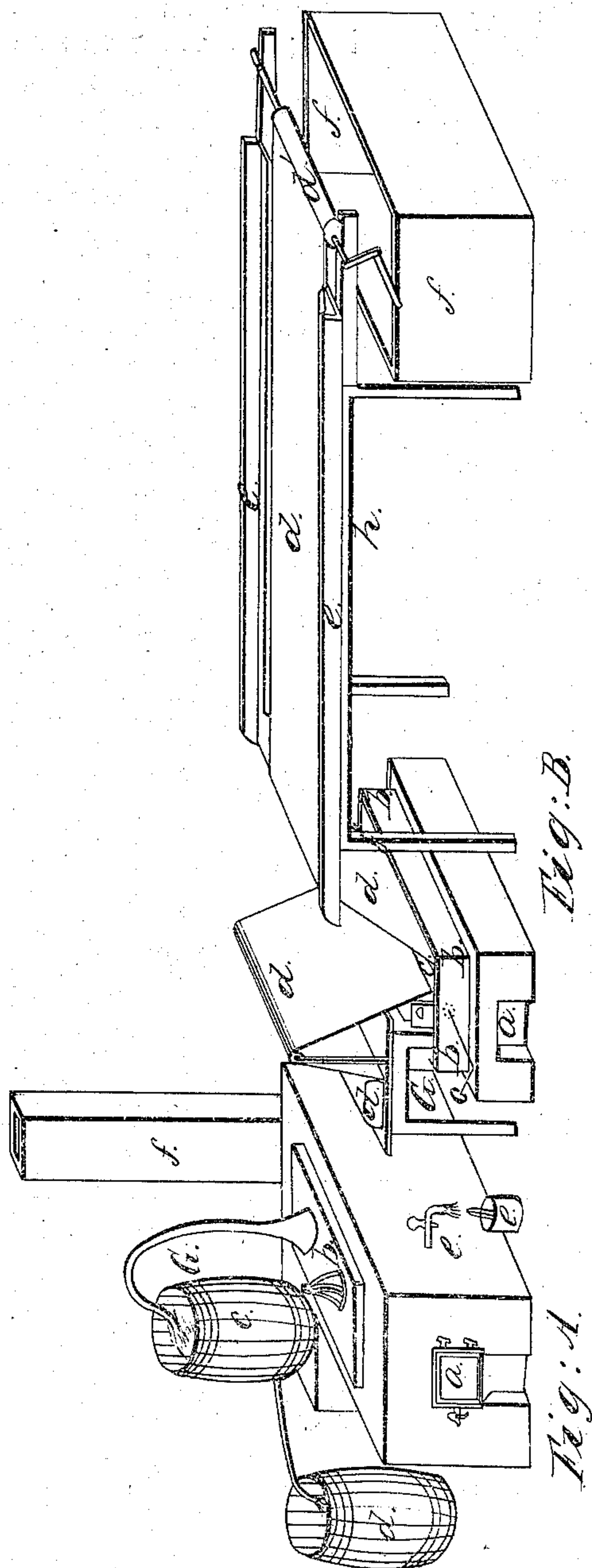


A. Davis.

Roofing Apparatus

N^o 21,246.

Patented Aug. 24, 1858.



Witnesses:

J. Clough James
George Coakworth

Inventor:
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UNITED STATES PATENT OFFICE.

ABRAM DAVIS, OF CHICAGO, ILLINOIS.

ROOFING COMPOSITION.

Specification of Letters Patent No. 21,246, dated August 24, 1858.

To all whom it may concern:

Be it known that I, ABRAM DAVIS, of the city of Chicago, in the county of Cook and State of Illinois, have invented a new and
5 useful mode of saturating canvas or other suitable fabric for roofing purposes and in preparing and applying an asphaltic compound cement for covering the same; and I hereby declare the following to be a full and
10 exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Drawings.—Figure A represents the boiler for distilling to obtain asphaltum and
15 for compounding the covering cement. *a* is the fire door; *b*, the manhole; *c*, the condenser; *d*, the receptacle for the distillate; *e*, the faucet; *f*, the flue; G, the pipe and worm in condenser C. Fig. B, *a* the fire
20 door; *b, b, b*, the saturating pan; *c* roller in pan *b, b, b*; *d d d d*, the canvas; *e e*, raised sides to table *h*; *h*, a table containing a layer of gypsum over which the canvas is passed; *d'*, a roller upon which the canvas is rolled;
25 *f f*, a box to receive the waste gypsum; G, bench upon which the canvas is laid.

The nature of my invention consists in forming a flexible cheap and durable prepared canvas or other suitable fabric to be
30 used as a basis or foundation for cement or composition roofs and in forming and applying an asphaltic compound cement of certain materials hereinafter mentioned, which combined in the manner described
35 and applied to the prepared canvas after it is laid upon the roof, will there form a durable and efficient covering impervious to water and will withstand the changes of heat and cold, and atmospheric action.

40 The ingredients I use are as follows: 1st, asphaltum, natural or artificial such as may be obtained by distilling coal tar; 2d, crude kerosene oil, the crude unrectified distillate from coal tar; 3d, india rubber, dissolved
45 with the crude distillate contained in the coal tar, aided by heat as hereinafter described; 4th, gum shellac, dissolved in the same manner as the india rubber; 5th, rosin; 6th, gypsum or its equivalent, ground fine;
50 7th, gravel.

To enable others skilled in the art to make and use my invention I will proceed to describe the manner of preparing and applying the same.

55 To obtain asphaltum, boiler A is nearly filled with coal tar leaving about eight inches

space for expansion and apply about four hundred degrees of heat and distil slowly for about two hours, when the most volatile matter will have passed off through con- 60 densing pipe G. Then increase the heat steadily till about one third of the contents of the boiler is distilled off. The asphaltum remains in the boiler and when it is sufficiently cool may be drawn off through faucet 65 *e*, and run into cheap barrels or vats to cool.

To saturate canvas or other suitable fabric the pan *b b b*, is nearly filled with asphaltum warmed to solution, and if too hard to leave the canvas flexible without adhering, 70 the crude distillate from coal tar or its equivalent may be added in small quantities until it is sufficiently softened. The canvas *d d d d* or other suitable fabric used, is laid upon bench G and passed through the com- 75 pound roller C in pan *b b b* arranged to be raised to pass the canvas under it and lowered near to the bottom to carry the canvas under the compound and over the layer of gypsum spread upon table, *h*. The gypsum 80 is sifted upon the upper surface of the canvas, thus coating both sides to prevent adhesion and is rolled upon roller *d'*. This being done and it is ready for use.

The covering cement compound I pre- 85 pare in the following manner, giving the proportions I have found efficient: In the boiler A, which will contain four barrels of forty gallons each I put three barrels of coal tar of forty gallons each (leaving room for 90 expansion) to which I add nine pounds of india rubber, nine pounds of gum shellac and fifteen pounds of resin. Then close the boiler steam tight and boil from four to six hours increasing the heat steadily to about 95 six hundred degrees. The crude kerosene oil contained in the coal tar is thus volatilized and acts powerfully upon the india rubber, and gum shellac dissolving them and uniting the mass. During the aforesaid process 100 from four to five gallons of crude kerosene oil will be distilled off; and the compound when cool will be ready for use. By further distillation the compound may be made nearly as hard as asphaltum. The gypsum 105 I use as a drier in the covering compound immediately before spreading it upon the roof in the proportion of one gallon of the covering cement compound to two gills of the gypsum. And finally the compound to 110 be well filled with gravel.

Having fully explained the nature and

object of my invention, I am aware that nearly all the ingredients which I use have been before used for like purposes but they were dissolved in a manner and with
5 solvents essentially different. I do not therefore claim them broadly or separately, nor do I claim the apparatus described in the accompanying drawings. But

I do claim

10 The methods of applying a cement, having the composition herein set forth, namely, by first saturating canvas or other suitable

fabric for roofing, with asphaltum softened and tempered with crude kerosene oil or its equivalent, in the manner herein mentioned, 15 and secondly, by covering this layer or foundation with a cement formed of india rubber and other ingredients, substantially as herein set forth, and for the purposes specified.

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Witnesses:

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