Oct. 16, 1934. H. A. CUMFER 1,977,046

METHOD FOR MAKING A PLASTER RECEIVING BASE

Filed Oct. 19, 1932 2 Sheets-Sheet 1

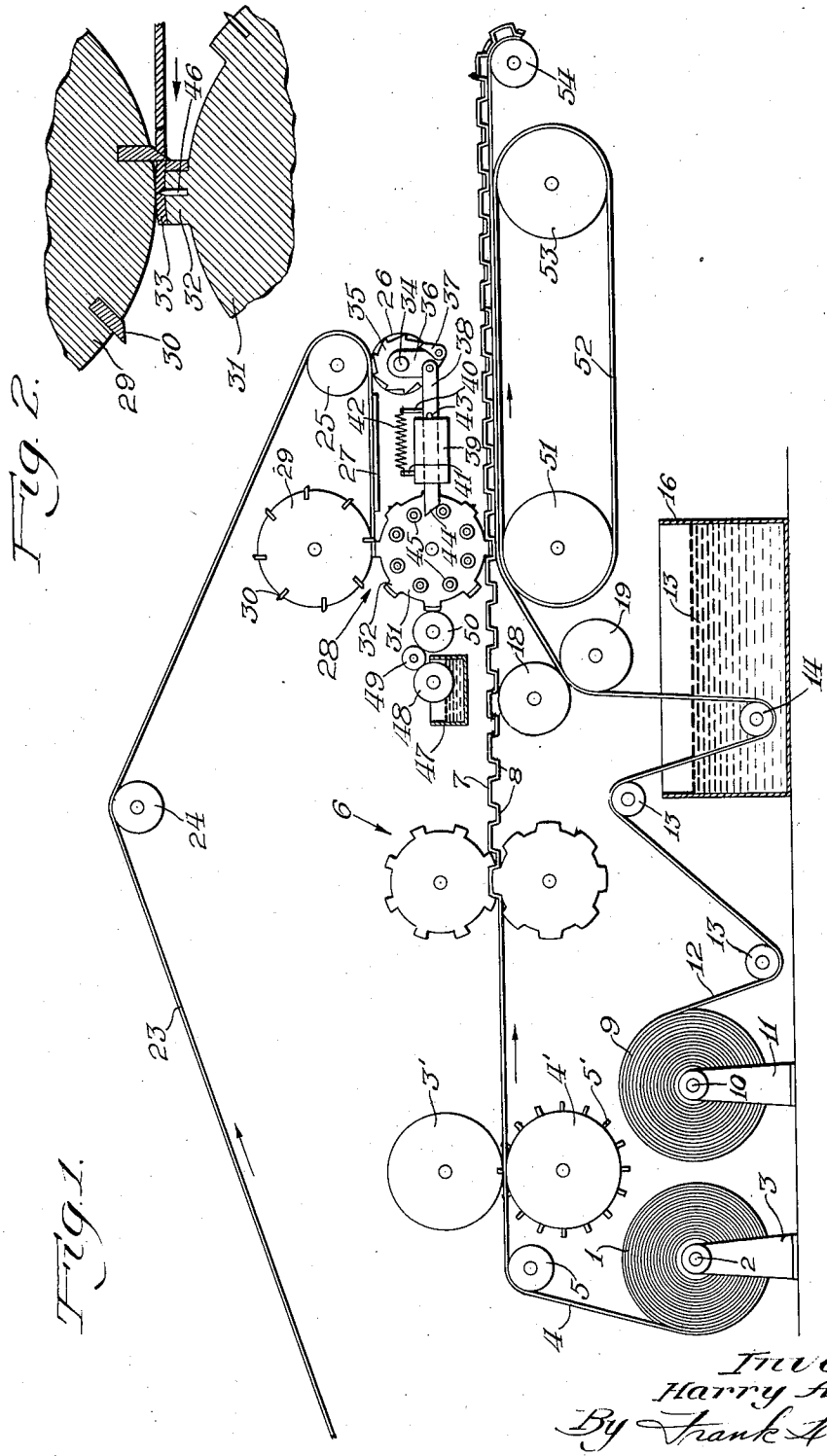


Fig. 2.

Fig. 1.

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Fig. 3.

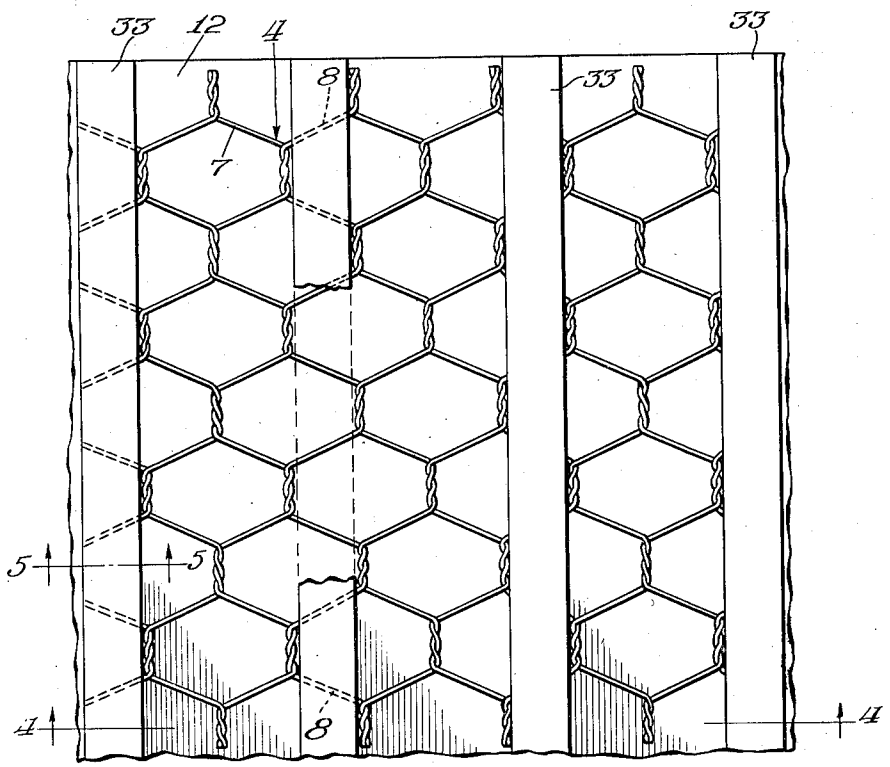


Fig. 4.

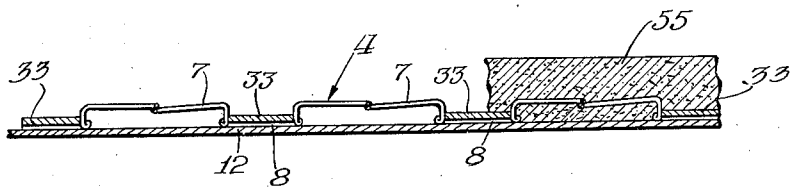
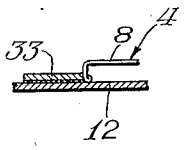


Fig. 5.



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UNITED STATES PATENT OFFICE

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METHOD FOR MAKING A PLASTER RECEIVING BASE

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3 Claims. (Cl. 154—2)

This invention relates to improvements in a base for receiving plaster or the like and a method of making said base, and refers specifically to a plaster or stucco receiving base comprising a single or multi-ply fibrous support having united to a surface thereof a corrugated wire mesh screen, and a method of corrugating, impregnating and uniting said fibrous support and said reticulated member.

The utility, objects and advantages of my invention will be apparent from the accompanying drawings and following detail description.

In the drawings, Fig. 1 is a diagrammatic side elevational view of suitable apparatus for carrying out my invention.

Fig. 2 is a fragmentary sectional view illustrating a portion of the strip cutting mechanism.

Fig. 3 is a top plan view of the plaster receiving base.

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is a sectional view taken on line 5—5 of Fig. 3.

Referring in detail to the drawings, 1 indicates a roll of reticulated material, such as coarse mesh screen, reticulated wire, commonly known as "chicken wire" or the like. The wire comprising roll 1 may be of any desirable width, for instance, forty-eight inches or any other multiple of the distance between studding used in wall construction. Roll 1 may be carried by shaft 2 which, in turn, may be supported by standards 3.

The wire web or strip 4 may be passed from roll 1 and trained over guide roll 5 from whence it may be carried between rolls 3' and 4'. The roll 4' may carry a series of projections or male elements 5' which may extend into and serve to expand the reticulated wire 4. The roll 3' may be provided with a series of apertures (not shown) into which the male elements 5' may extend at the point of osculation of the two rolls. It is to be understood, however, that the rolls 3' and 4' may be eliminated with the use of certain types of reticulated wire.

After leaving rolls 3' and 4' the wire 4 may be carried between a set of corrugating rolls 6.

The unit 6 may be so constructed as to form the wire strip 4 into a series of elongated transverse crests 7 and troughs 8, as shown best in Figs. 1 and 4.

A roll 9 comprising a continuous strip or web of fibrous material, such as felt paper, asbestos or the like, may be mounted upon shaft 10 which, in turn, may be mounted upon standards 11. A strip or web 12 taken from roll 9 may be trained over guide rolls 13 and if the web 12 comprises felt or the like, which is to be saturated or coated, said web may be trained over roll 14 submerged in a bath of waterproofing material 15, such as liquid asphalt or the like carried in vat 16. If asbestos paper or board is to be used, web 12 may if desired, be shunted around bath 15, and passed directly from roll 13 to rolls 18 and 19.

After passing over guide rolls 15, the web 12 whether passed through vat 16 or not, may be carried between rolls 18 and 19, which may function as doctor rolls or coating rolls as occasion demands. If the web 12 comprises felt or the like, rolls 18 and 19 may serve to control the thickness of the film of waterproofing material 15 upon the web or if an asbestos web is used, that surface of the web which subsequently serves as the rear or lower face of the finished product may not contain any adhesive and, consequently, that surface will be fire resistant. However, in the latter case, that surface of the asbestos web which comes into contact with the wire 4, as will be hereinafter described, may be coated with asphalt or other adhesive. This may be accomplished by positioning a fountain (not shown) adjacent roll 18, said fountain being adapted to deposit a film of adhesive upon conventional transfer rolls which, in turn, may deposit the adhesive upon roll 18. It is permissible to coat the inner or upper surface of the web with adhesive, since the finished product when used, carries plaster or a plastic material which will be in contact with that surface of the web and, hence, will protect the same from fire. The roll 18, in addition to coating web 12, may also contact and coat the lower portion or troughs 8 of the screen or wire 4.

A web 23 of felt, asbestos or the like, may be fed from a roll (not shown), and may be passed over guide roll 24. Said web may then be passed between draw rolls 25 and 26 which, in turn intermittently push said web forwardly over table 27 to cutting unit 28. Unit 28 may comprise, an upper cylinder 29 provided with angularly spaced, elongated knives 30 and a lower cylinder or bed roll 31 provided with angularly spaced elongated projections or ribs 32. The rotation of cylinders 29 and 31 may be so timed as to bring a knife 30 into registration with the rear surface of a rib 32, as shown best in Fig. 2. It can readily be seen that since web 23 is fed between cylinders 29 and 31, said web may be severed transversely by said knives into strips 33.

Strips 33 are preferably cut to a width substantially equal to the width of a rib 32, the width

of the latter, as will be hereinafter more fully described, being dependent upon the width of a trough 8. The angular spacing of ribs 32 upon the surface of cylinder 31 is dependent upon the distance between adjacent troughs 8 in the wire screen 4. Inasmuch as a strip 33 is cut only to the width of a rib 32 and said ribs are spaced from each other, the web 23 must be fed intermittently by draw rolls 25 and 26.

To accomplish the intermittent feed of the web 23, draw roll 26 may be loosely mounted upon shaft 34 and may be rigidly connected to ratchet 35. An arm 36 may be loosely mounted upon shaft 34 and may carry pawl 37 which may normally be impelled, by means of a spring (not shown), toward ratchet 35. A lever 38 may be pivotally connected at one end to arm 36, said lever being free at its opposite end and slidably supported intermediate its length by sleeve 39. A pin 40 may project from the upper surface of lever 38 and another pin 41 may extend upwardly from the upper portion of supporting sleeve 39. A coil spring 42 may be attached at its ends to pins 40 and 41 and normally tends to rock arm 36 in a clockwise direction. A pin 43 may be mounted upon the side of lever 38 and may serve to limit the motion of the lever 38 with respect to sleeve 39. The free end of lever 38 may be provided with an inclined surface 44 which is adapted to contact and ride over rotatable pins 45 mounted upon the side of cylinder 31.

The arrangement is such, that, when cylinder 31 rotates, pins 45 corresponding in number to the number of ribs 32 and angularly disposed in advance of the ribs, contact the incline 44 and displace the lever 38 longitudinally against spring 42, thereby rocking ratchet 35 and drum 26. The drum when moved carries the web 23 forwardly toward unit 28 a distance substantially equal to the width of strip 33. Thereafter a knife 30 cuts web 23 transversely and lever 38 being relieved of contact with a pin 45 is moved longitudinally by spring 42 until pin 43 contacts sleeve 39.

Instead of intermittently driving rolls 25 and 26, said rolls may, if desired, be driven continuously. However, the surface speed of said rolls must be considerably less than the surface speed of the rolls 29 and 31. The ratio of the surface speed of rolls 25 and 26 to the surface speed of rolls 29 and 31 must be proportional to the ratio of the width of a rib 32 to the distance between adjacent ribs. In this manner a strip of material 23 will be fed forwardly each time a rib 32 is brought into osculating positon.

A plurality of pales 46, having sharpened points, may protrude from the upper surface of each of the ribs 32 and, hence, during the cutting operation hereinbefore referred to, a strip 33 will be impaled upon the surface of a rib 32 and will be carried around by cylinder 31. A vat 47 containing an adhesive, such as asphalt or the like, may be positioned adjacent cylinder 31 and a roll 48 may be rotatably positioned within vat 47 in contact with the adhesive carried therein. Transfer rolls 49 and 50 may serve to carry a film of adhesive to a surface of a strip 33 as cylinder 31 passes roll 50.

A roll 51 may be positioned beneath cylinder 31 and a conveyor belt 52 may pass over said roll. Said conveyor may be continuous and may pass over roll 53 at the rearmost portion of its travel. Web 12 after passing between rolls 18 and 19 may be carried between roll 51 and cylinder 31, the lower surface of said web resting upon conveyor belt 52. The corrugated screen 4 may also pass between rolls 51 and 31, the troughs being brought into contact with the upper portion of web 12. Simultaneously, a rib 32 upon roll 31 is brought into registration with a trough 8 and strip 33 is pressed into intimate contact with the wire at the lower portion of the trough and the upper surface of web 12, and inasmuch as the upper surface of web 12 and the outer or lower surface of the strip 33 carry an adhesive film, said strip adheres to said wire and web and is disengaged from pale 46. The resulting product, shown in detail in Figs. 3, 4 and 5 may then be carried forwardly on conveyor 52 and rolled upon drum 54 or cut into suitable lengths by conventional cutting means (not shown).

The product of my invention is particularly adaptable as a plaster base, since the crests 7, when a plaster coating 55 is applied, extend upwardly into the thickness of the plaster and reinforce the same. In addition, that surface of the strips 33 which is brought into contact with the plaster contains no adhesive film and, hence, has greater affinity for the plaster. If asbestos is used as a base, that is when web 12 comprises asbestos, the entire structure will be fireproof.

I claim as my invention:

1. A process of making a plaster receiving base which comprises, passing a continuous fibrous web forwardly, coating a side of said web with an adhesive material, passing a continuous web of reticular wire forwardly, corrugating said reticular wire, passing a second continuous fibrous web forwardly, severing said latter web transversely into strips and continuously uniting said first web, the reticular wire web and the strips at the trough of each corrugation into a unitary structure.

2. A process of making a plaster receiving board which comprises, passing a continuous fibrous web forwardly, coating a side of said web with an adhesive material, passing a continuous web of reticular wire forwardly, corrugating said reticular wire, intermittently passing a second continuous, fibrous web forwardly, severing said latter web transversely into strips, adhesively uniting the first mentioned fibrous web with the corrugated reticular wire, and simultaneously adhesively uniting said strips to said reticular wire and said fibrous web at the trough of each corrugation.

3. A process of making a plaster receiving base which comprises, passing a continuous web of reticular wire forwardly, corrugating said reticular wire web, passing a web of fibrous material forwardly, coating a surface of said fibrous web, passing said coated web at an angle to said reticular wire web and adhesively uniting the two webs at the trough of each corrugation, intermittently passing a second continuous web of fibrous material forwardly, severing said web into transverse strips and uniting said strips to the wire web and first mentioned fibrous web at the trough of each corrugation simultaneously with the uniting of the two latter webs.

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