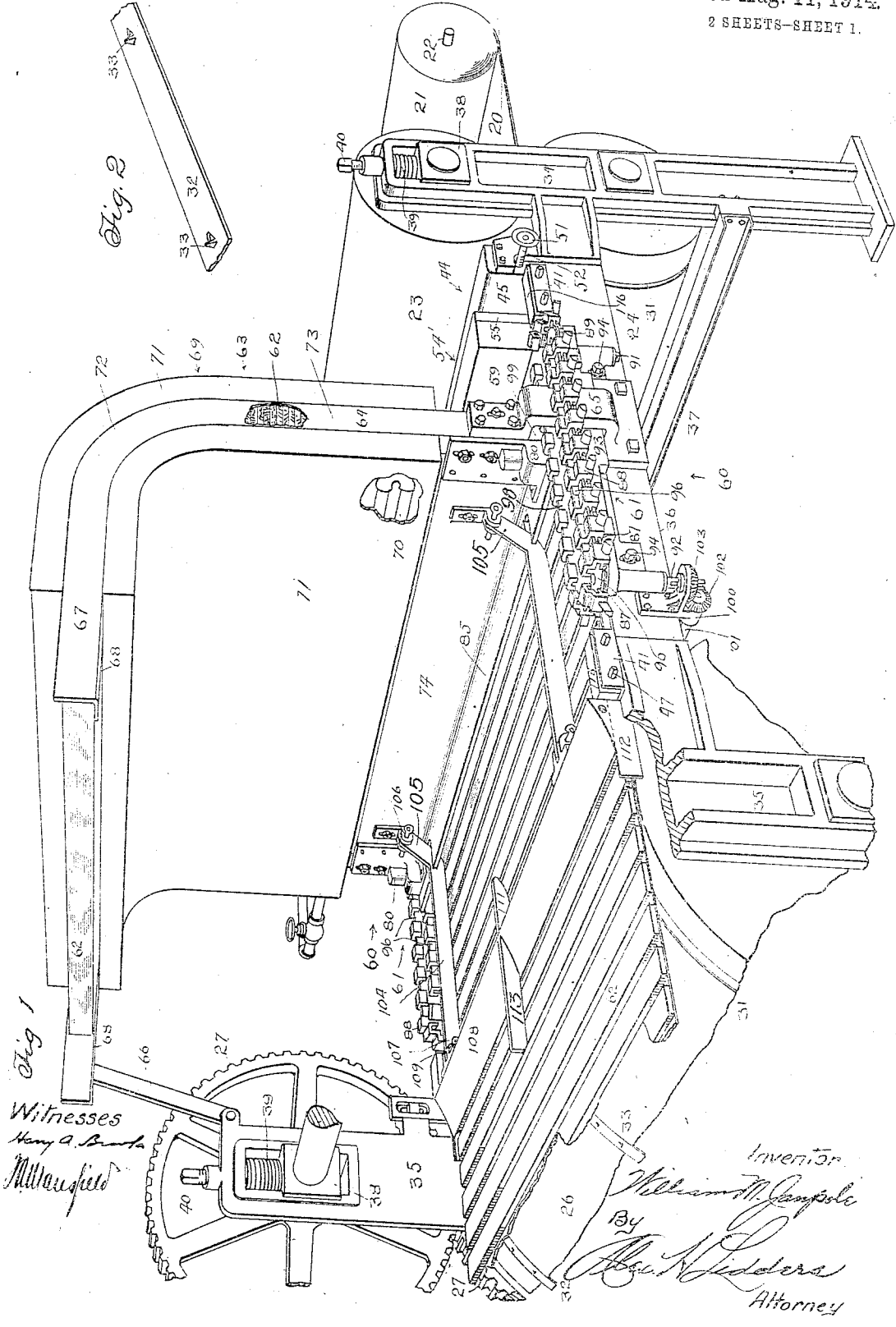


W. M. JANPOLE.
 APPARATUS FOR CONSTRUCTING SHEETS OF MATERIAL FOR BUILDING OR OTHER PURPOSES.
 APPLICATION FILED MAY 28, 1912.

1,107,074.

Patented Aug. 11, 1914.
 2 SHEETS—SHEET 1.



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2 SHEETS-SHEET 2.

Fig. 3

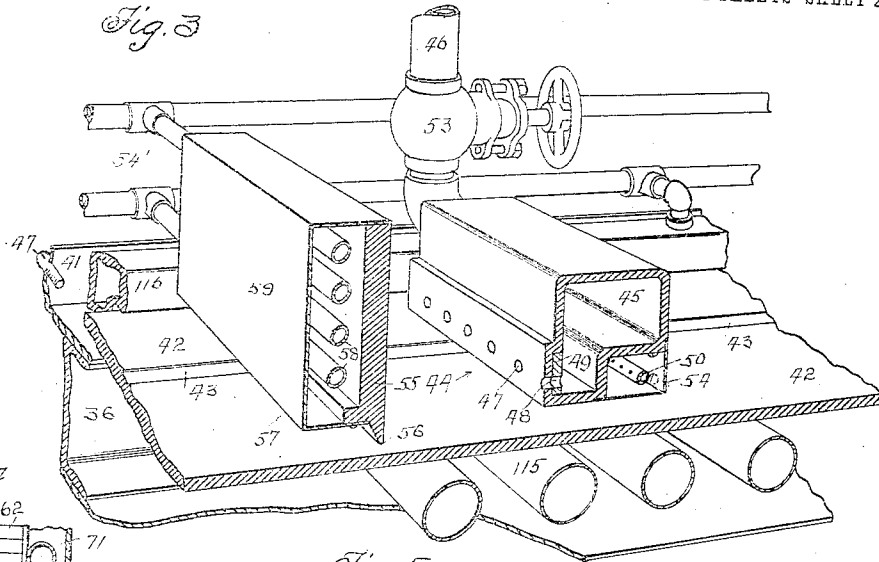


Fig. 4

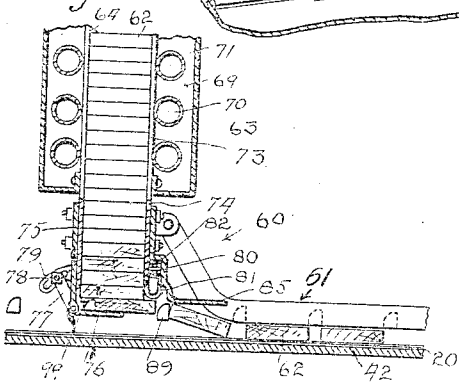


Fig. 5

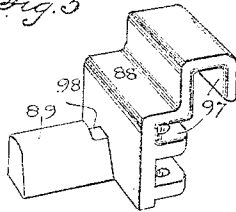


Fig. 6

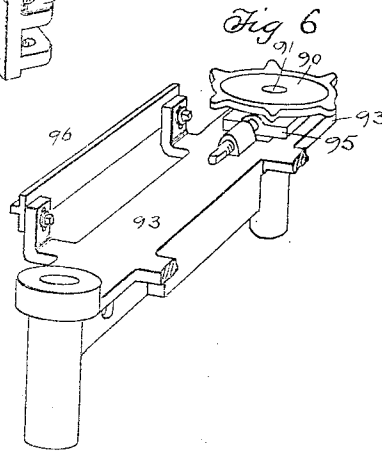
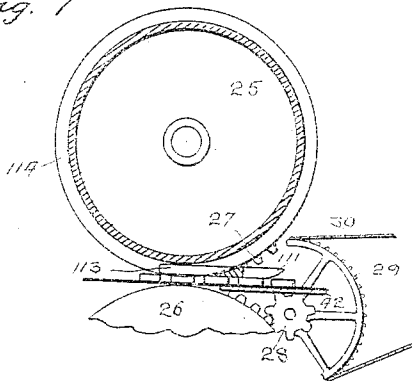


Fig. 7



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APPARATUS FOR CONSTRUCTING SHEETS OF MATERIAL FOR BUILDING OR OTHER PURPOSES.

1,107,074.

Specification of Letters Patent.

Patented Aug. 11, 1914.

Application filed May 28, 1912. Serial No. 700,181.

To all whom it may concern:

Be it known that I, WILLIAM M. JANPOLE, a citizen of the United States of America, residing at Los Angeles, in the county of Los Angeles, State of California, have invented a certain new and useful Apparatus for Constructing Sheets of Material for Building or other Purposes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an apparatus for constructing a sheet of material for building or other purposes.

It is one of the objects of the invention to provide a novel and improved apparatus whereby reinforcing pieces may be firmly embedded in a layer of substance applied to a sheet of material; said substance having previously been rendered adhesive and plastic.

A second object of the invention is to provide novel and improved means whereby the plastic substance may be maintained in an adhesive condition until the reinforcing pieces are properly positioned thereon.

A further object is to provide novel and improved mechanism for depositing the reinforcing pieces in position.

Still another object is to provide an apparatus that shall be light, compact, self-contained and that may be readily adjusted to different thickness of reinforcing pieces and of the constituents of the finished product.

Other objects and the advantages of the invention will be apparent to those skilled in the art to which it appertains from a consideration of the following description and accompanying drawings setting forth one form of apparatus adapted to use lath as the reinforcing material, asphalt mastic as the adhesive substance rendered plastic by heat, and paper as the supporting material. It is, however, understood that other materials or combinations and other reinforcing pieces may be used without departing from the spirit and scope of the invention.

In the drawing Figure 1 is a general perspective view with parts omitted and portions broken away; Fig. 2 is a perspective detail of the carrying bands; Fig. 3 is a perspective view, partly in section, of the distributor, the leveler, the side and under

heaters; Fig. 4 is a fragmentary longitudinal section showing the lower part of the lath container and part of the discharging mechanism; Fig. 5 is a perspective view of one of the special links; Fig. 6 is a perspective view of one of the side frames of the discharging mechanism, partly broken away, and Fig. 7 is a central cross-section of the upper pressure roller with adjacent parts.

The paper 20 or other supporting material may be supplied to the apparatus from a roll 21 wound upon a mandrel 22 carried by any suitable frame (not shown). The paper is drawn from roll 21 by front rollers 23 and 24 and is drawn through the apparatus by rear or pressure rollers 25 and 26. The rollers are interconnected by gears 27 with one of which may mesh a pinion 28, see Fig. 7. To pinion 28 is attached a sprocket wheel 29 which may by means of sprocket chain 30 be connected to any convenient source of power, not shown.

In order to prevent lateral displacement of the paper, the rollers 24 and 26 are preferably provided with shallow grooves 31 in which endless bands 32 of steel may travel. These bands are furnished with points or projections 33 which penetrate the paper and cause it to travel evenly.

The rollers are journaled in front castings 34 connected to rear castings 35 by side channels 36. Cross channels 37 connect the two front and the two rear castings.

To permit of adjusting the pressure, the bearings 38 of the upper rollers are movable vertically and are downwardly pressed by springs 39 whose tension may be varied by screws 40.

Side channels 36 have attached to their upper flanges angle bars 41, whose use will be explained later, and also table 42 provided with grooves 43 for the accommodation of the bands 32.

Shortly after leaving rollers 23 and 24 the paper has applied to it by means of distributor 44 a coating of asphalt or mastic material rendered fluid by heat. See also Fig. 3. This distributor may preferably consist of a hollow body 45 connected by means of pipe 46 with any source of supply (not shown) of the fluid asphalt. In its lower part are a plurality of orifices 47 which may be simultaneously more or less restricted, depending upon the extent to which the orifices 48 in a sliding valve 49

are brought into registry with the orifices 47 by means of hand wheel 51 and screw 52. Valve 53 permits of the supply of asphalt being cut off from the distributor 44 without disturbing the adjustment of its orifices.

As a relatively high temperature is advisable to permit of the asphalt flowing uniformly through the restricted orifices 47 and 48, the preferred form of heating means for the distributor may consist of a gas burner 50 arranged beneath the bottom 53 of the body 45. A shield 54 may be disposed beneath the burner to prevent ignition of the paper 20. After leaving the distributor the coated paper passes to the leveler 54', (see Fig. 3) consisting preferably of a heavy plate 55, of heat conducting material, having its lower edge 56 beveled and being provided with heating means 57 preferably consisting of steam pipes 58 inclosed in a box or casing 59. The now evenly coated paper next passes to the depositing device 60, where, by means of the discharging mechanism 61, the reinforcing pieces or laths 62 are drawn from the container 63 and deposited upon the plastic and adhesive asphalt or the like. The container 63 preferably consists of channels 64 attached by means of brackets 65 to the side channels 36 supporting the table 42 and by means of braces 66 to castings 35. The horizontal part 67 of the channels has its upper flange cut away to permit of the laths being placed upon the lower flange 68. Means 69 for heating the lath may comprise steam pipes 70 within the casing 71 supported by the channels 64. After being pushed past the curved part 72 of the container the laths descend by gravity in the vertical part 73, it being understood that the laths are fed in rapidly enough so that the container is normally filled with them. Thus they are given a sufficient time to become heated by radiation from the pipes 70. Referring now more particularly to Fig. 4, channels 64 terminate a short distance above table 42 and have adjustably secured to their back and their front flanges respectively back plate 74 and front plate 75. To front plate 75 is hingedly attached the bottom plate 76 of the container 63, its inclination being adjustable by means of arms 77 attached thereto and bolts 78 passing through slotted quadrants 79 attached to front plate 75. Back plate 74 has attached thereto hollow brackets 80 in which are housed rollers 81 pressed downwardly by springs 82. The front sides of the rollers are substantially in alinement with the front side of the rear flanges of channels 64 and their lower sides are, approximately, arranged at a distance equal to the thickness of one of the laths 62 above the bottom 76. An apron 85 is affixed to or formed integral with back plate 74 to prevent the laths from becoming

displaced after passing from under rollers 81.

The discharging mechanism 61 by which the laths are, one at a time, removed from the container 63 may comprise two endless sprocket chains 87 one at each side of the apparatus. Each chain is provided with special links 88 (see Fig. 5) each carrying a finger 89. These chains run on sprocket wheels 90 mounted on front vertical shafts 91 and rear shafts 92. The front and rear shafts on each side of the apparatus are mounted in a frame 93 (see Fig. 6) attached by bolts 94 to side channels 36, the slots in the frames permit of a certain amount of vertical adjustment. The front shafts 91 are adjustable longitudinally to compensate for wear of the chains 87, by means of boxes 95 mounted in the forked ends of the frames 93. Frames 93 have affixed on each side thereof guide rails 96 upon which the recesses 97 of links 88 fit, and upon which the links travel except when they are passing around the sprocket wheels. Each finger has a depression or notch 98 in its upper edge at or near its junction to its link 88. This notch, as the links 88 are moved adjacent to the container, travels under plates 99 each attached to the web of one of channels 64 and vertically adjustable, the inner surface of the plate forming a continuation of the inner surface of the web of the channel. Channels 36 carry brackets 100 in which is journaled shaft 101 driven by any suitable means (not shown). Upon shaft 101 are mounted bevel pinions 102 meshing with bevel gears 103 splined on shafts 92. By this means power is applied to rotate rear shafts 92 in opposite directions one from the other so that the fingers 89 pointing toward the center of the apparatus are caused to pass rearwardly at the same speed. Each pair of fingers, one on each side of the apparatus, are adapted to push a lath off of bottom 76 and out from under rollers 81 and apron 85.

Guard bars 104 have their front ends 105 removably attached to back plate 74 by means of pins passing through lugs 106 and their rear ends 107 similarly attached to shoe 108. The front ends 105 of the bars 104 are bent or curved upwardly so that by the time each lath has come opposite rear shafts 92 it has been pushed down from between fingers 89 into contact with the asphalt coated paper. The fingers are thus left free to turn outwardly around the sprocket wheels through the gaps 109 in the side angles 41.

Shoe 108 may have one or more forwardly extending runners 111 and also have end plates 112 to prevent displacement of the laths. After passing from under shoe 108 the paper 20 and laths pass between spring pressed upper roller 25 and lower roller 26

which firmly embed the lath in the still plastic asphalt. Shoe 108 may be provided with one or more rearward extensions 113 of the runners 111, there being a circumferential groove 114 in roller 25 to accommodate each of said extensions, see Fig. 7.

Beneath table 42 may be arranged steam pipes 115 (see Fig. 3) preferably connected in sections to a source of steam supply (not shown) so that the heat at different points of progress of the paper through the apparatus may be regulated to the best advantage.

Angle bars 41, previously mentioned, each adjustably hold a side heater 116 which by means of screws 47 passing through the angle bar may be moved to cover a narrow margin at the side of the paper 20 in order to prevent the asphalt spreading to the edge and running on to the back of the paper.

Rollers 25 and 26 discharge the finished product on to a cooling table (not shown) along which it may be moved by any preferred means.

While one form of construction in which the invention may be embodied has been particularly illustrated and described, there are many changes and modifications thereof that will readily occur to those skilled in the art, wherefore, the right is reserved to all such changes and modifications as do not depart from the spirit and scope of the invention as defined in the appended claims.

I claim:

1. In apparatus of the class specified, the combination of a frame, a table thereon, means for progressing a sheet of supporting material along said table, means for distributing adhesive substance upon said material, a container for laths, a hinged bottom plate on the container, means for adjusting the inclination of the bottom plate mechanism at the sides of said frame for removing the laths in succession from said bottom plate, and means to prevent displacement of the laths when they are moved by the said mechanism, substantially as described.

2. In apparatus of the class specified, the combination of a table, means for progressing a sheet of supporting material along said table, means for depositing adhesive substance upon said material, a container for laths, a hinged bottom plate on the container means for adjusting the inclination of the bottom plate spring-pressed rollers arranged adjacent to the bottom plate, mechanism at the sides of the table for removing the laths in succession from the container, and means adapted to guide the laths from said mechanism onto said adhesive substance.

3. In apparatus of the class specified,

the combination of a frame, a table thereon, means for progressing a sheet of material along said table, means for depositing adhesive substance upon the sheet of material a container for laths, guide rails on the frame, and mechanism for removing the laths in succession from the container and depositing them on the adhesive substance, said mechanism including vertical shafts on each side of the frame, sprocket wheels on the shafts, and endless chains mounted on the sprocket wheels and provided with links having fingers thereon and recesses into which the rails are adapted to fit to cause the links to travel on the rails.

4. In apparatus of the class specified, in combination, a container for laths, mechanism for removing the laths in succession from the bottom of said container, including endless chains provided with links having fingers with notches therein, and plates on the container adapted to fit in the notches as the links move adjacent to the bottom of the container, substantially as described.

5. In apparatus of the class specified, the combination of a table provided with grooves therein, means for progressing a sheet of material along the table, including rollers having grooves therein and endless bands provided with projections thereon and adapted to travel in the grooves, means for distributing adhesive substance on the material, a container for laths, mechanism for removing the laths in succession from the bottom of the container, an apron on the container adjacent to the bottom adapted to prevent displacement of the laths, and means adapted to guide the laths from the mechanism to the adhesive substance on the material, substantially as described.

6. In apparatus of the class specified, the combination of a table, means for progressing a sheet of material along the table, means for distributing adhesive substances onto the material, a container for laths, means for removing the laths in succession from the bottom of said container, bars having one end thereof upwardly curved and pivotally connected with the container, and a shoe pivotally connected with the other end of the bars, substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses at Los Angeles, county of Los Angeles, State of California, this 21st day of May, A. D. 1912.

WILLIAM M. JANPOLE.

Witnesses:

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ALEX. H. LIDDERS.