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W. ROGERS

MACHINE FOR COATING SHEET ROOFING AND THE LIKE

Filed Dec. 22, 1921

FIG. I.

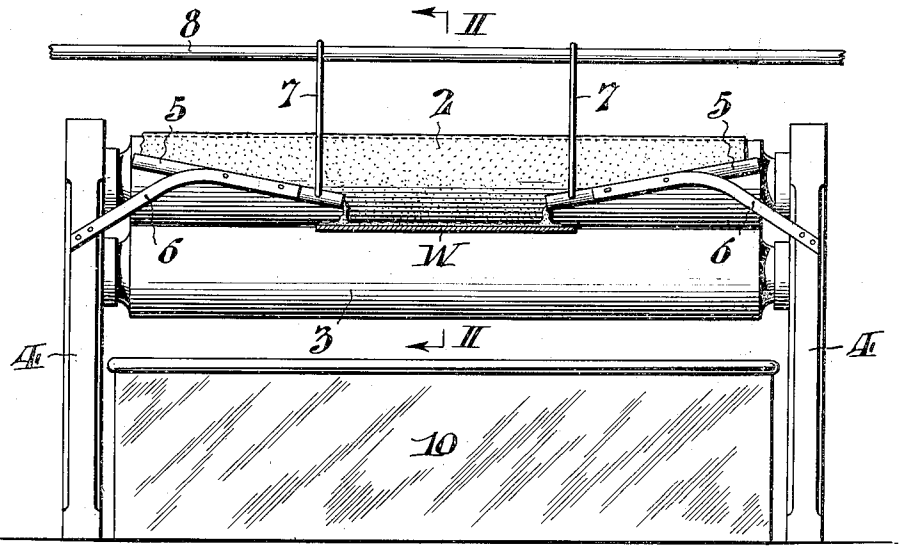
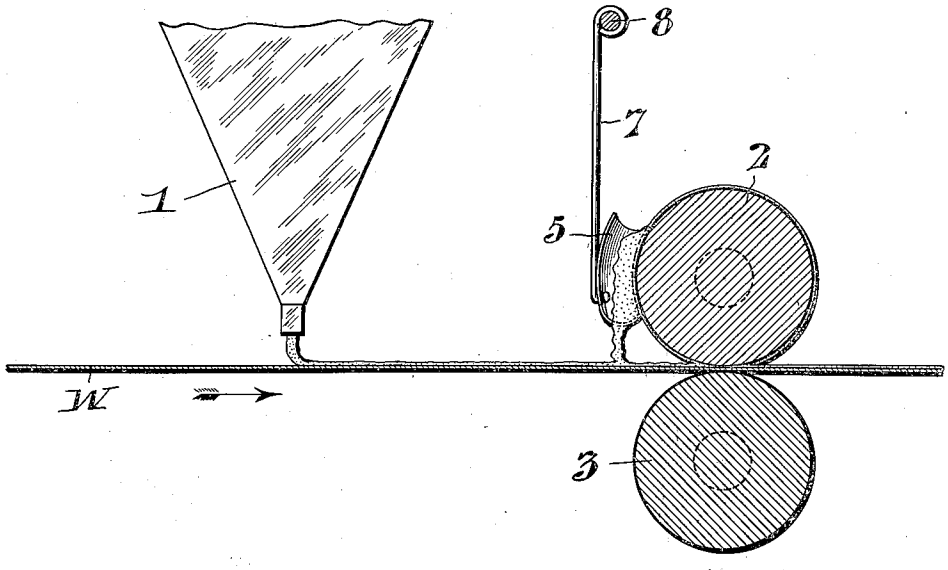


FIG. II.



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UNITED STATES PATENT OFFICE.

WALTER ROGERS, OF VENICE, ILLINOIS, ASSIGNOR TO THE BARBER ASPHALT COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF WEST VIRGINIA.

MACHINE FOR COATING SHEET ROOFING AND THE LIKE.

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To all whom it may concern:

Be it known that I, WALTER ROGERS, a citizen of the United States, residing in Venice, in the county of Madison and State of Illinois, have invented certain new and useful Improvements in Machines for Coating Sheet Roofing and the like, whereof the following is a specification, reference being had to the accompanying drawings.

My invention relates to machines for applying coatings in liquid or semi-liquid form in the course of manufacture of products such for example as so-called prepared sheet roofings.

In machines ordinarily employed in this art, the bituminous or other preservative coating is continuously applied to a traveling sheet or web (usually at the centre thereof) which forms the "base" of the roofing, and a pair of cooperative spreader rollers (between which the web is passed) are relied upon for distributing the coating. For the purpose of predetermining complete covering of the web with reasonable assurance; it has been customary to feed a quantity of the coating material far in excess of that requisite for adequate covering of the roofing thus necessitating subsequent recovery of a large amount of rejected surplus which had to be heated again before it could be reused. Notwithstanding such super-abundant feeding of the coating material, it very often happened that the spreader rollers did not fully perform the function allotted them, and, as a consequence, portions along the longitudinal side edges of the sheet or web were left uncovered.

The chief object of my invention is to overcome the various difficulties and objections pointed out, and to effect complete and adequate covering of the roofing with a minimum amount of the coating material. This I accomplish by feeding just the proper quantity of the coating actually needed and providing means whereby the accumulation adhering to the spreader rollers is collected and immediately redirected for discharge upon the moving sheet or web near its longitudinal edges and to the entrant side of said rollers.

Other objects and attendant advantages will become readily apparent from the detailed description of a typical representation of my invention which follows.

Referring to the drawings, Fig. I is an end elevation of a roofing coating machine conveniently embodying my invention; and Fig. II is a partial longitudinal section of the same, more or less diagrammatically represented, taken along the line II—II of Fig. I.

In the organization herein shown, 1 designates a hopper from which the molten bituminous coating material is discharged, through a suitably restricted outlet, centrally upon the moving sheet or web "W" which forms the base of the roofing, said sheet or web having previously been impregnated with an appropriate water proofing compound in accordance with standard practice. Immediately upon application of the coating material as just explained, the charged web "W" is passed between a pair of cooperative, superposed spreader rollers 2, 3, whereby said material is distributed across the surface of the web in a layer of uniform thickness. The said spreader rollers 2, 3 are journalled at opposite ends in bearings of the side frames 4, 4 of the machine, see Fig. I.

In order to insure complete covering of the roofing with special reference to the marginal portions of the surface along its longitudinal edges, I have provided, for association with the spreader rollers, novel means which may be briefly described as follows:

Bearing against the surface of the upper spreader roller 2, at the opposite extremities thereof, are scrapers 5, 5. These scrapers are respectively supported jointly by brackets 6, 6 reaching inwardly from the side frames 4, 4 and straps 7, 7 which depend from a fixed overhead bar 8 extending laterally of the machine. Said scrapers 5, 5 it will be observed, are troughed and complimentarily inclined so that the coating material accumulating on the spreader rollers 2, 3 is collected and redirected for discharge upon the web "W" preferably at points slightly inward from the longitudinal edges of the latter and to the entrant side of said rollers, as clearly shown in the drawings. The material previously unused is thus redirected to those portions of the web which are often left bare when the rollers alone are relied upon, as heretofore, to effect distribution of the coating. The usual trough for receiving any surplus coat-

ing likely to run over the side edges of the traveling web "W" is shown at 10 in Fig. I.

In actual practice, I restrict the flow of the coating material from the hopper 1 by providing an orifice of the proper size so that just the proper quantity necessary to produce a thin, but adequate protective covering is initially discharged upon the traveling web. As the web "W" passes between the spreader rollers, 2, 3, the coating is distributed laterally and complete covering assured through cooperation of the scrapers 5, 5, as already stated. From the foregoing, it will at once be apparent that by obviating the necessity for feeding an oversupply of the coating material, I am able not only to effect great saving in the amount used, but in addition, to do away with extra handling and reheating of a large quantity of rejected excess. Both considerations are of the utmost importance in economical production of prepared roofing.

Having thus described my invention, I claim:

1. A coating machine of the character described comprising means for continuously applying coating material upon a traveling web; a spreader roller for distributing the coating material uniformly over the surface of the web; and complementarily declined scrapers effective to remove any coating material adhering to the spreader roller and redirect the same toward the longitudinal edges of the traveling web.

2. A coating machine of the character described, comprising means for continuously applying coating material upon a traveling web; a pair of rollers between which the web is passed and by one of which the coating material is uniformly distributed over the surface of the web; and convergent troughed scrapers engaging the surface of said rollers whereby any adherent coating material is removed and redirected towards the entrant side of said rollers.

3. A coating machine of the character described, comprising means for continuously applying coating material upon a traveling web; a pair of rollers between which the web is passed and by one of which the coating material is uniformly distributed over the surface of the web; and opposed trough scrapers obliquely declined inwards in close association with the spreader roller end peripheral surfaces for collecting the coating material adhering thereto and redirecting it for discharge upon the web at regions near the longitudinal edges of the latter and to the entrant side of said rollers.

4. A coating machine of the character described, comprising means for continuously applying coating material upon a traveling web; a pair of rollers between which the web is passed and by one of which the coating material is uniformly distributed over the surface of the web; and a troughed scraper associated with the spreader rollers for collecting the adhering coating material and redirecting it for discharge upon the web to the entrant side of said rollers.

5. A coating machine of the character described, comprising means for continuously applying coating material upon a traveling web; a pair of rollers between which the web is passed and by one of which the coating material is uniformly distributed over the surface of the web; and a pair of complementarily convergent trough scrapers for collecting any adherent coating material from the end portions of the spreader rollers and redirecting it for discharge upon the web near the longitudinal edges of the latter and to the entrant side of said rollers.

In testimony whereof, I have hereunto signed my name at Madison, Illinois, this sixteenth day of December, 1921.

WALTER ROGERS.

Witnesses:

CHARLES SCOTT MACHIMMING,
H. CLIFTON WILSON.