S. M. FORD.

METHOD FOR HANDLING PREPARED ROOFING.

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1,410,667. Patented Mar. 28, 1922.

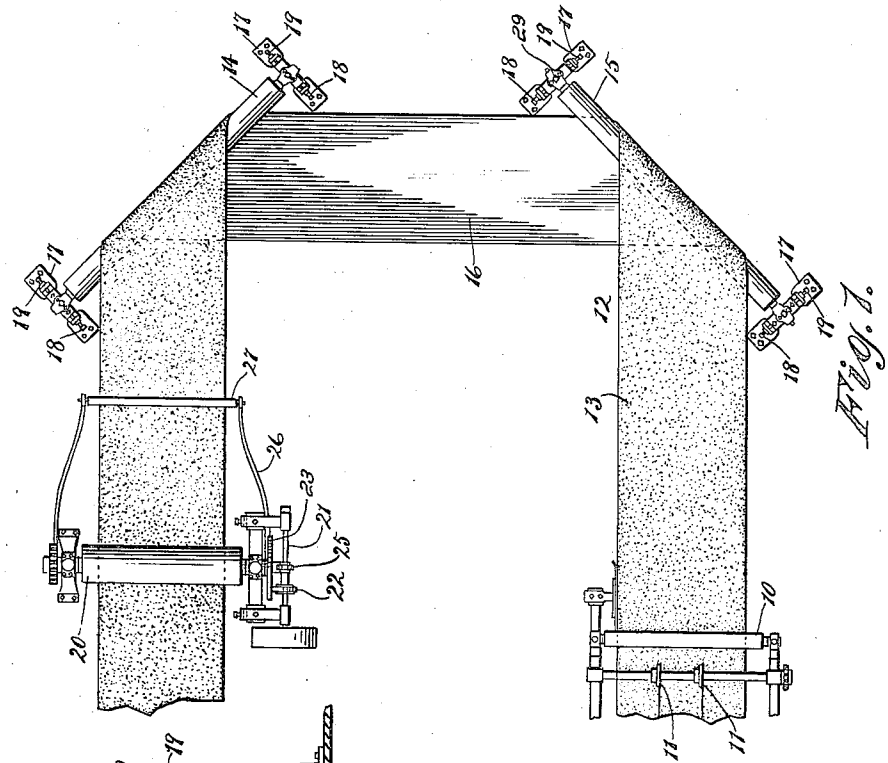


Fig. 1.

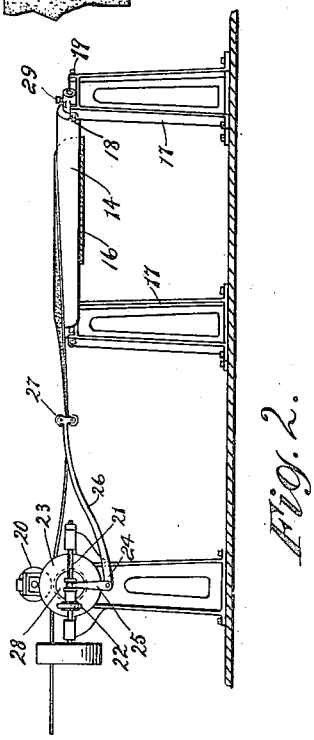


Fig. 2.

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UNITED STATES PATENT OFFICE.

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METHOD FOR HANDLING PREPARED ROOFING.

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To all whom it may concern:

Be it known that I, SILAS M. FORD, a citizen of the United States, and resident of St. Paul, county of Ramsey, and State of Minnesota, have invented certain new and useful Improvements in Methods for Handling Prepared Roofing, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to the manufacture of prepared roofing and more particularly that which is provided with a layer of grit upon one side and is originally formed in a continuous web and subsequently cut into separate shingles or shingle strips. The object of the invention is to provide an improved method for the delivery of the roofing sheet from one to another of the machines in which it is treated, the improvement having especially in view the removal of surplus grit, opportunity for inspection of the sheet upon both sides and a regular delivery of the sheet proportioned to the speed of the second machine when the said two machines are placed otherwise than in direct alignment.

In the accompanying drawings;

Fig. 1 is a plan view of a preferred form of apparatus for use in carrying out the invention, and

Fig. 2 is an elevation of a part of the apparatus located upon one side of the longitudinal center line of Fig. 1, the supporting floor and the roofing sheet at the place where it leaves the said part of the apparatus being shown in section.

In the manufacture of prepared roofing shingles and shingle strips, a so-called shingle machine, usually having feed rolls, as 10, and slitters, as 11, is employed for progressively cutting a continuous web 12 of the roofing material into shingles or strips of the desired size and shape. When the said roofing material is formed with a grit surface upon one side, as 13, any surplus of grit carried by the roofing sheet over the amount required to completely cover the asphalt coating, promotes excessive wear of the cutting devices of the shingle machine and is otherwise objectionable. Some of this surplus of grit may, however, be so firmly held that it is not easily removed. For this purpose the folding of the sheet over a rod or bar of relatively small diameter and subsequent travel of the sheet in inverted position is exceedingly effective, particularly when the line of folding is oblique to the direction of travel.

The drawings illustrate an arrangement wherein the roofing sheet 12 is twice folded upon oblique lines in its travel from the roofing machine (not shown) to the said shingle machine. As shown, a pair of oppositely inclined rods or bars, 1^4, 15, each oblique to the direction of travel of the sheet, are employed, the said folding of the sheet being accomplished by causing it to turn about the two bars in succession. The sheet thus runs in inverted position between the bars 14, 15, and the travel of the sheet after turning about the bar 15 is parallel but opposite to the direction of travel of the sheet in approaching the bar 14. The reverse side 16 of the sheet is thus turned uppermost for more convenient inspection of the same while traveling between the bars 14, 15 and the shingle machine may, if desired, be placed along side of the roofing machine, (not shown). The length of the building required to contain the various apparatus employed for the production of prepared roofing and shingles is thus substantially reduced.

While the bars 14 and 15 are preferably perpendicular to each other and each inclined at an angle of 45° to the direction of travel of the sheet, angular adjustment of the bars in a horizontal plane may sometimes be required. For this purpose, the ends of the bars are mounted in brackets 17 and are adjustably held between set screws 18 and 19 mounted in the brackets.

While the arrangement illustrated contemplates that the roofing sheet 12 will be drawn about both of the bars 14, 15 by the feed rolls 10 of the shingle machine, the resistance to the turning of the sheet about these bars will frequently impose as great a load upon the feed rolls as can safely be transmitted thereto through the sheet. It is accordingly desirable that the sheet should be fed to a point immediately in front of the bar 14, but without interfering with the tensioning of the sheet about the bar. As shown, a set of feed rolls, as 20, are employed for drawing the sheet from the roofing machine, or from the festoons (not shown) to which the sheet is delivered by the roofing machine for cooling. When these feed rolls are employed it is desirable that they should be driven at variable speed in accordance with the rate at which the sheet

is drawn into the shingle machine by the feed rolls 10.

Any convenient form of variable speed device may be employed for driving the feed rolls 20. As shown, power is applied to a shaft 21 which is transverse to the axis of the rolls. This shaft serves to drive the rolls 20 at different speeds through a friction pulley 22 which is slidably mounted on the shaft and cooperates with a friction plate 23 applied to the spindle of one of the rolls.

If desired the position of the friction pulley 22 upon the face of the plate 23 may be varied automatically in accordance with the amount of slack in the sheet 12 between the feed rolls 20 and the first oblique bar, as 14. To this end a bell crank lever 24 is pivotally supported adjacent the shaft 21 and one arm, as 25, of this bell crank lever is engaged with the hub of the pulley 22 to serve as a shipper lever for the pulley. The other arm, as 26, of the bell crank lever 24 extends forwardly in front of the feed rolls 20 and carries a roller 27 which rests upon the sheet. Since variation in the amount of slack in the sheet 12 between the feed rolls 20 and the first oblique bar 14 will cause the arm 26 of the bell crank lever 24 to rise and fall, the speed of the feed rolls 20 is thereby automatically adjusted to conform with that of the feed rolls 10. If the friction plate 23 is formed with a central opening 28, as shown, the feed rolls 20 will be stopped automatically whenever the operation of the shingle machine and its feed rolls 10 is interrupted for any reason.

While the bars 14 and 15 preferably each have a smooth surface and do not rotate with the movement of the roofing sheet 12 about the same, the ends of the bars may be journaled in the brackets 17. In that case the bars will usually be held against rotation, as by set screws 29 applied to the journals, but may be permitted to rotate by removal of the set screws.

I claim as my invention:

1. The method of handling a continuous web of grit surfaced prepared roofing to remove surplus grit therefrom which consists in progressively reversing the web throughout its length, the line of turning extending at all times diagonally across the web.

2. The method of handling a continuous web of grit surfaced prepared roofing to remove surplus grit therefrom which consists in twice reversing the web progressively throughout its length the two lines of turning extending at all times diagonally across the web in opposite directions.

SILAS M. FORD.