(Model.)

R. A. BENDALL.

Machine for making Three Ply Roofing Felt.

No. 237,158. **Patented Feb. 1, 1881.**

Fig. 1.

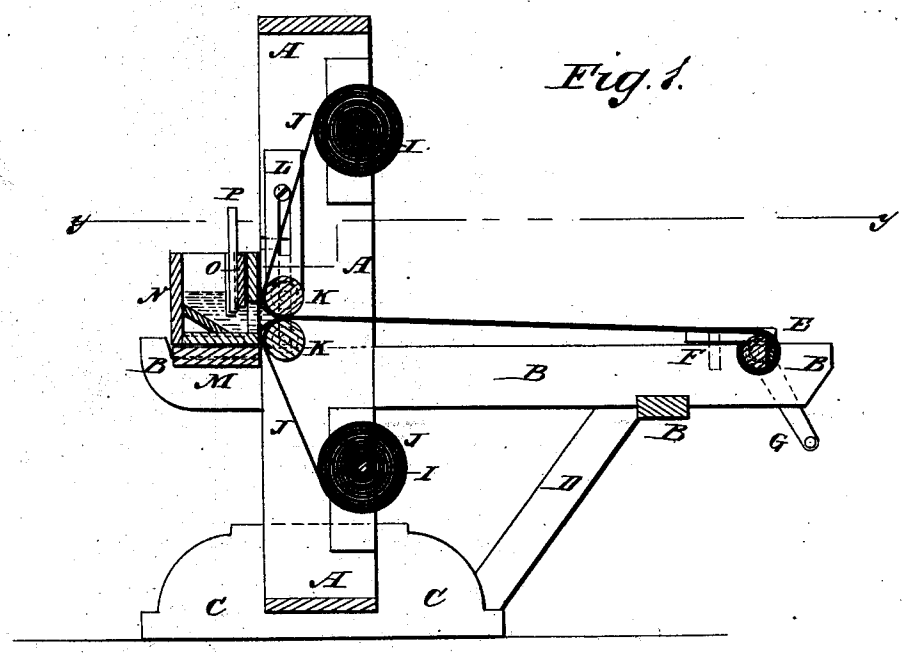


Fig. 2.

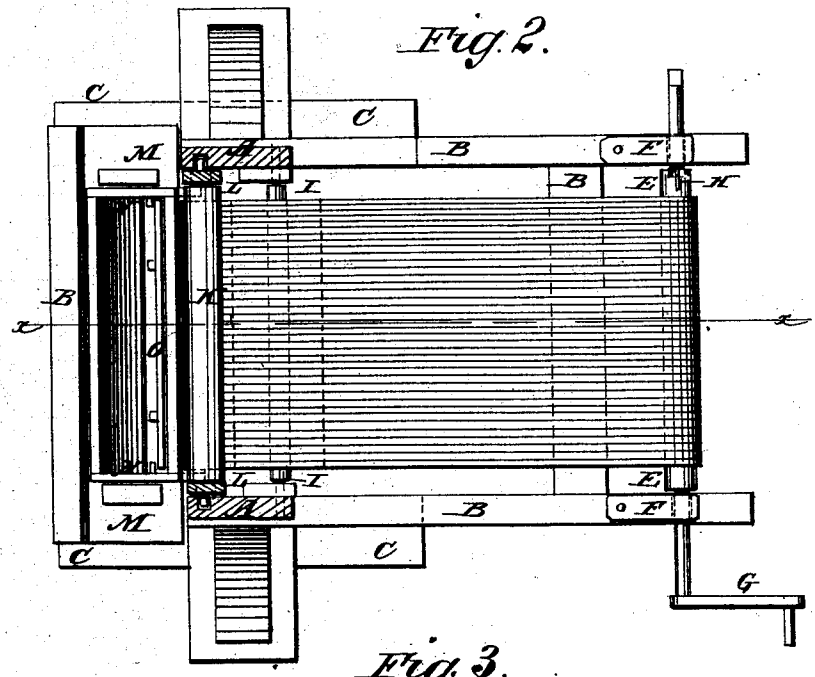
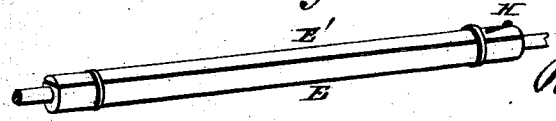


Fig. 3.



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MACHINE FOR MAKING THREE-PLY ROOFING-FELT.

SPECIFICATION forming part of Letters Patent No. 237,158, dated February 1, 1881.

Application filed December 8, 1880. (Model.)

To all whom it may concern:

Be it known that I, ROBERT ALBERT BENDALL, of Cohoes, Albany county, State of New York, have invented a new and useful Improvement in Machines for Making Three-Ply Roofing-Felt, of which the following is a specification.

Figure 1 is a sectional side elevation of my improvement, taken through the line *x x*, Fig. 2. Fig. 2 is a sectional plan view taken through the line *y y*, Fig. 1, and Fig. 3 is a perspective view of the receiving-roller.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish machines for inserting a layer of plastic slate between two layers of paper, pressing the three plies or thicknesses into a compact felt, and winding the felt into a roll.

A represents a vertical frame, to which, at a suitable distance above the floor, is attached the rear part of a horizontal frame, B. The vertical frame A is attached at its lower end to a base or foot, C, of such a width as will give a firm support to the frames A B. The forward part of the horizontal frame B is strengthened in place by braces D attached to it and to the base C.

In the upper edge of the forward part of the side bars of the horizontal frame B are formed notches, in which revolve the journals of a roller, E, to receive the completed felt. The journals of the roller E are kept in their bearings by buttons F, pivoted to the frame B, and to one or both of said journals is attached a crank, G, by means of which the roller is turned to wind up the felt. The body of the roller E is made of two unequal parts tapered in opposite directions, the journals being formed upon the ends of the longer part.

To the larger end of the smaller part E′ of the roller E is attached a loop or other catch, H, so that when the roll of felt has been formed and removed from the machine the loop H can be caught upon or grasped by a hook or other suitable catch and the smaller part E′ of the roller E drawn out, which loosens the larger part of the said roller and allows it to be readily removed from the roll of felt. The roller E is then placed upon the machine to receive another roll of the felt.

In the forward edges of the side bars of the upright frame A are formed inclined slots to receive rods I, which are passed through rolls of the paper J, which forms the outer layers or plies of the felt.

In the rear parts of the side bars of the upright frame A are formed vertical slots to receive the journals of the rollers K, which are made sufficiently heavy to spread the layer of plastic slate evenly between the two layers of paper and press the three layers or plies together, forming the felt.

From the upper parts of the slots in which the journals of the rollers K work are formed cross-slots leading out to the rear edges of the side bars of the frame A, so that the rollers K can be readily removed and cleaned. The rollers K are kept in place by slides L, the lower ends of which rest upon the journals of the upper roller, K, and which are slotted longitudinally to receive the screws that secure them to the side bars of the frame A.

The rearwardly-projecting ends of the side bars of the frame B are notched to receive the board M, which serves as a table to support the tank N.

The plastic slate, which is formed of ground or pulverized slate and coal-tar in the ordinary manner, is placed in the tank N and escapes through a longitudinal opening in the lower part of the forward side of the said tank into the angle between the plies of paper J as they come together around the rollers K. The bottom of the tank N, or a false bottom placed within the said tank, inclines forward to cause the plastic slate to flow readily through the slot in the forward side of the said tank. The outflow of the plastic slate can be prevented, when desired, by a slide, O, placed against the inner surface of the forward side of the tank N, and kept in place by cleats attached to the ends of the said tank. The slide O is provided with handles P for convenience in inserting, adjusting, and removing said slide.

As heretofore practiced, a layer of tar-saturated paper is laid upon a roof. A layer of plastic slate is applied to it. Another layer of tar-saturated paper is placed upon the plastic slate, and a finishing-layer of plastic slate is then applied to the upper layer of paper. By my improvement all this work, except applying the last or finishing layer of plastic slate, is done in the manufactory, and

all that is necessary in covering a roof is to lay down the prepared roofing-felt and apply the finishing-layer of plastic slate.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the winding-roll E, the pressure-rolls K K, the rods I, and the tank N, the latter being provided with an inclined bottom and side slot at the lower end of said incline, as and for the purpose described.

2. The winding-roll E, formed of two unequal parts, the larger provided with both the journals and the smaller with a catch, H, as shown and described.

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Witnesses:

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