E. Van Orden,

Making Roofing Fabric.

No. 104,380. Patented June 14, 1870.

Fig. 2.

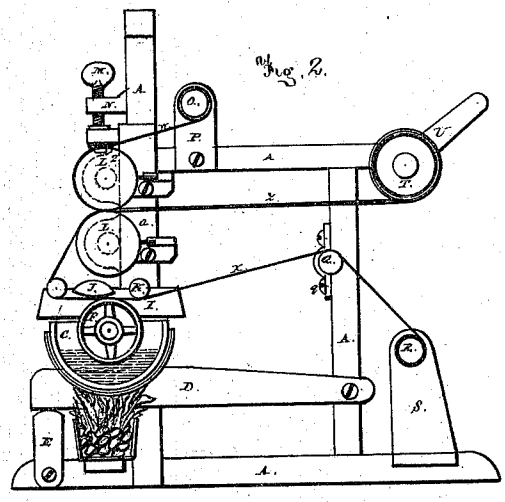
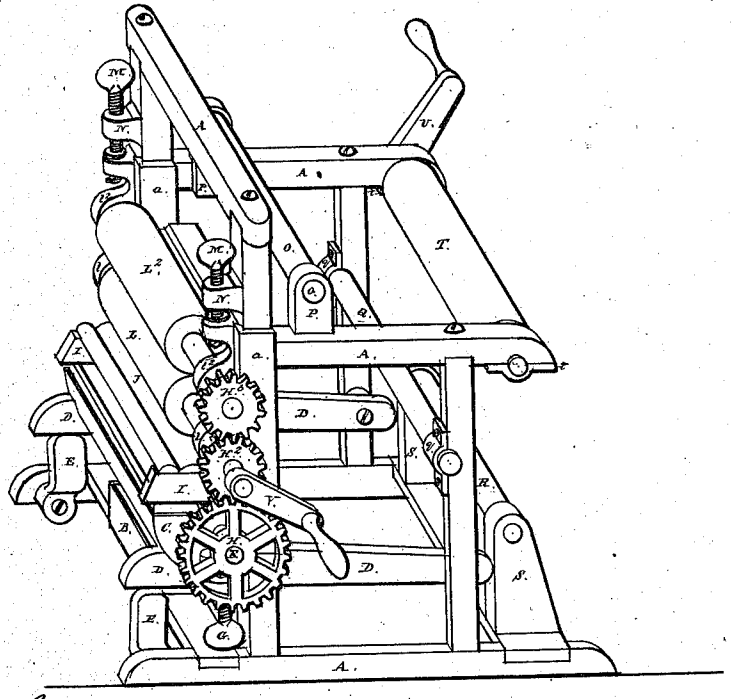


Fig. 1.



James M. Beard
John W. Glentaker's.

Edward Van Orden by his atty
A. Avery, Deane,

United States Patent Office.

EDWARD VAN ORDEN, OF NEW YORK, N. Y.

Letters Patent No. 104,380, *dated June* 14, 1870.

IMPROVED MACHINE FOR MAKING ROOFING FELTING.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, EDWARD VAN ORDEN, of the city, county, and State of New York, have invented a new and useful Machine for the Manufacture of Roofing Fabric, and that the following is a full, clear, and correct description of the same, reference being had to the accompanying drawings making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a perspective view of my improved machine;

Figure 2, a vertical cut section of the same.

In the drawings—

Like parts of the invention are pointed out by the same letters of reference.

The nature of the present invention consists in the construction, as more fully hereinafter set forth, of an improved machine for the manufacture of roofing-fabric, more particularly roofing fabric, composed of two thicknesses of felt or like material, united by a thickness of roofing-cement, plastic late, or like material.

The object of the invention being the manufacture of a superior article of roofing-fabric at a low cost, and in an expeditious manner.

To enable those skilled in the arts to make and use my invention, I will describe the construction and operation of the same.

A shows the frame-work of my improved machine composed of a series of upright and cross-pieces secured together, which frame-work may be made of any suitable material, and is intended to support the operative parts of the machine.

B shows the furnace or fire-box, placed directly beneath the trough C, in which is placed the roofing-cement, plastic slate, or like material, to be applied to one side of one of the thicknesses of felt or like material used.

This fire-box may be supplied with fuel, and the trough C is supported in position in the machine by the grooved arms D, hinged or pivoted at one end to the frame A, while beneath the opposite ends of the arms are the supports E, made movable, that they may be turned away from beneath the arms, and thus allow the trough C to be removed from the machine when necessary.

Within this trough C is placed a cylinder, F, provided with journals resting in movable boxes held in grooved ways in the upright pieces *a*, forming portions of the frame-work A, upon the under sides of which boxes the set-screws G impinge, so that the cylinder F may be raised or lowered in the trough C.

These set-screws are secured in lugs upon the upright pieces *a*.

Upon one of the cylinder journals is keyed a cog-wheel, H, gearing into the cog-wheel H^2, which, in turn, gears into the cog-wheel H^3.

Directly above the trough are placed the side pieces I, supporting the fixed surface J and roller K, the purpose of which will be explained hereinafter.

L and L^2 are the pressure-rollers, provided with journals l l^2, upon one end of which journals are keyed the gear-wheels H^2 and H^3, the former one of which gears into the gear-wheel H.

The journals l^2 are held in movable boxes moving in the grooved ways in the upright pieces *a*, and above them are the regulating screws M, by which the position of the pressure-roller L^2, relatively to the pressure-roller L, may be regulated as desired.

These regulating screws M are held in lugs N secured upon the upright pieces forming portions of the frame-work A.

O shows a spindle moving freely in the standards P, secured upon the frame-work A, which spindles may be placed above and in advance of the pressure-roller L^2.

Q is a spindle, held in the frame A by the caps *q*, and placed about in line with the roller K, already described.

R is a spindle supported in the standards S at the rear end of the machine, and

T is a cylinder secured to the frame by the caps *t*, and having upon one of its journals a crank or handle, U, while

V is a crank or handle attached to the roller L.

W shows one thickness of felt or like material, and

X, a second thickness of felt or like material, as the same passes through the machine in process of manufacture, while

Z shows the roofing-fabric being wound upon the cylinder T, after the two thicknesses of felt have been united.

Such being the construction, the operation is as follows:

W and X show the two thicknesses of felt or like material to be united, and form the roofing-fabric, which thicknesses are wound upon the spindles O and R.

The trough may be filled, or partially filled, with the roofing-cement, plastic slate, or other material used to unite the two thicknesses of felt or like material, and the fuel in the fire-box may be ignited that the cement may be kept warm while being applied upon the under side of one of the thicknesses of felt or like material, while the regulating screws M are depressed or elevated, so that the position of the pressure-roller L^2, relatively to the pressure-roller L, may be adjusted to correspond to the thickness of the material employed and the amount of pressure required to unite the thicknesses of felt, or like material, employed.

These preliminaries having been arranged, and the cement contained in the trough C being in proper condition for the purpose, one thickness of felt, or like material, is wound off of the spindle R, passes over the spindle Q, and is received upon the roller K and fixed surface J, directly above the cylinder F, which, by means of the crank or handle V, and the gear-wheels H^2 and H, is made to revolve in the trough C, taking up, in its revolution, a quantity of the cement and imparting the same to the under side of the thickness of felt or like material, as it is brought into contact with the same, the presence of the roller K and fixed surface J tending, in a great degree, to sustain the thickness of felt, or like material, employed, keeping it even and preventing the same from wrinkling up.

The thickness of felt, or like material, having been coated with the cement, now passes to the pressure-rollers L and L^2, and the coated side of the fabric now becomes (so to speak) the upper side, and is met at this point by the thickness of felt, or like material, W, wound off of the spindle O, and the two thicknesses of felt, or like material, pass between the rollers L and L^2 and are thoroughly united by the cement applied, as described, to one of the thicknesses of felt, or like material.

As, during the operation of supplying the cement to one of the thicknesses of felt or like material, the same is exhausted, or partially so, from the trough, the position of the cylinder in the trough is altered from time to time by the screws G, so that the cylinder may be depressed further into the trough as the cement is reduced in quantity therein.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the trough C and adjustable cylinder F, of the fixed surface J, roller K, and spindles O and R, when the same shall be constructed and operate substantially as and for the purpose specified.

2. The combination, with the subject matter of the first clause of claim, of the pressure-rollers L and L^2, regulating screws M, and cylinder T, when the same shall be constructed and operate substantially as and for the purposes set forth.

EDWARD VAN ORDEN.

Witnesses:

A. SIDNEY DOANE,

H. W. HENLEY.