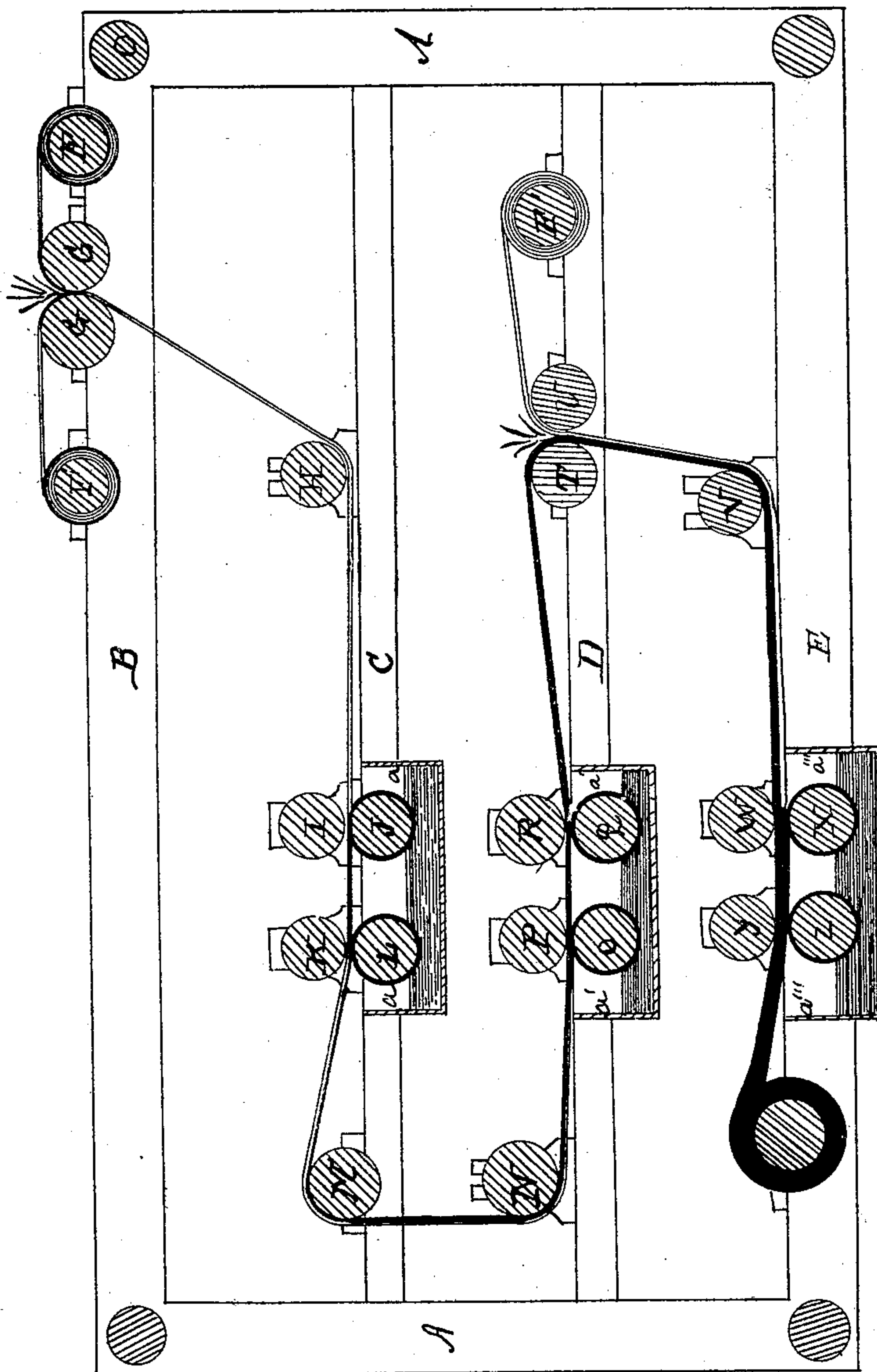


A. ROBINSON.

PROCESS OF AND APPARATUS FOR THE MANUFACTURE OF ROOFING  
FABRIC.

No. 75,197.

Patented Mar. 3, 1868.



WITNESSES

*M. M. L. Muxton*

*Benj Foster*

INVENTOR

*Alfred Robinson*

# United States Patent Office.

ALFRED ROBINSON, OF NEW YORK, N. Y.

Letters Patent No. 75,197, dated March 3, 1868.

## IMPROVED PROCESS AND APPARATUS FOR THE MANUFACTURE OF ROOFING-FABRICS.

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, ALFRED ROBINSON, of the city of New York, in the county and State of New York, have invented a new and improved Process for Preparing Roofing-Fabric; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, which forms part of this specification.

In the manufacture of fabric for roofing, felt or paper in strips or sheets is generally used. These sheets or strips of paper or felt are saturated with tar, or some water-proof composition, by running them through the tar or composition, the said sheets or strips being properly guided by rollers in their passage through the tar. The sheets, after having been thus saturated with the tar or other water-proof composition, are cemented together, in any suitable way, usually by passing two sheets through pressure-rollers, after roofing-cement has been applied to the contiguous or inner sides of the paper or felt. When a thicker material is required than can be produced by pasting two sheets together, a third is applied to those already united in the same manner as before. Great labor, embarrassment, and expense occur by this practice in the handling of the tarred strips or sheets preparatory to cementing them together to form the roofing-fabric, and my invention or process is designed to obviate such labor, embarrassment, and expense.

My invention consists in preparing a roofing-fabric by tarring or saturating one or more sheets or strips of felt or paper, and cementing together, with a suitable roofing-composition, two or more of such sheets by one continuous operation, thereby expediting the manufacture, and dispensing with any handling other than putting the rolls of paper or felt upon an apparatus suitable for the purpose, and removing therefrom the rolls of finished fabric.

The accompanying drawing represents a longitudinal vertical section of an apparatus by which my process may be successfully put into practice.

A designates the vertical, and B C D E the horizontal beams of a framing, in which is mounted a system of feeding, pressure, guiding, tarring, and take-up rollers. F F' F'' designate the feeding-rollers, upon which is wound the paper or felt to be subjected to the process. This may be done at the mills where the felt or paper is made, as is done at present at some paper-mills, where the paper is to be used with a certain style of printing-press. The rollers F F' are journaled upon the cross-beams B, and from each of these the paper or felt is passed down between two pressure-rollers G G. As the two sheets or strips of paper or felt are passing between these rollers, the pasting-material is applied in any suitable manner, either by pouring it in between the sheets, or by a rotary brush, or other suitable device, journaled or arranged so that its bristles will come in contact with each sheet or strip of paper.

The simplest mode of applying the pasting-material would be to either pour it in by hand, or let it drop out of a suitable reservoir mounted over the rollers G G.

The two sheets of paper or felt, after being pasted together, (which I shall now term the double strip,) pass down under a guide-roller, H, journaled on the transverse beam C, and thence the double strip passes between a pressure-roll, I, and tarring-roller J, and between another pressure-roller, K, and tarring-roller L, and then over a guide-roller, M, all journaled in the transverse beam C. Underneath the tarring-rollers J and L, a vat or box, a, is secured, into which the tar or other water-proof composition is placed. This is taken up by the rollers J and L, and plastered upon one side of the double strip of paper passing over it. Thus one of the strips or sheets of felt or paper is saturated with tar.

I will here remark that the felt or paper used for the fabric is usually of a porous nature, so that, by merely passing it over or under tarring-rollers, it will take up sufficient of the tar or water-proof composition to thoroughly saturate it.

From the guide-roller M the double strip passes down under another guide-roller, N, journaled upon the cross-beam D, and thence between a second set of tarring-rollers, O Q, and pressure-rollers P R; the tarring-rollers being provided with another tar-vat, a'. These rollers are arranged in substantially the same way as those, J L, and they put the tar or other water-proof composition on the other side of the double strip of paper or felt. This double strip is thoroughly saturated with the tar or other water-proof composition on the other side. The other strip is therefore properly saturated. Now, if a double strip is found to produce a sufficiently



thick fabric, it is carried to a take-up roller similar to the one, S, which, in the apparatus illustrated, is journaled at the foundation thereof; but, should the fabric be not thick enough, I have shown a provision for applying to the double strip a third sheet or strip. This third sheet or strip passes from the feeding-roller F'' and meets the double strip, and passes down with it between the pressure-rollers T U, where the pasting-material is applied, so as to secure the third sheet or strip to the double strip. Thence the triple strip passes under a guide-roller, V, and between a pressure-roller, W, and tarring-roller X, and also between the pressure-roller Y and tarring-roller Z; the tarring-roller being provided with another vat, a'''. Whilst the triple strip is passing between these rollers, W X and Y Z, the tar or other water-proof substance is applied to the third sheet or strip, and that one becomes saturated. The triple-sheet fabric is finally wound up on the take-up roller S, which, when filled, may be removed, the fabric being now ready for the market.

I wish it understood that, though I have illustrated the above apparatus as well adapted for carrying out my process, I do not limit myself to the arrangement of the rollers, as it is clearly evident a system of feed, ing, pressure, tarring, and take-up rollers may be arranged in various ways, and accomplish the purposes of my invention. For instance, I will remark that the paper or felt may be fed from feeding-rollers located at respective ends of a framing, which material may pass between tarring and pressure-rollers, where they will be tarred, and from these may pass down between pressure-rollers and be pasted together, and thence around a guide-roller. At this point, a sheet may be brought from another feeding-roller and tarred, and then meet the double sheet and be pasted to it, as they pass down through pressure-rollers, and afterward the triple sheet or strip may be rolled up on a take-up roller. This I should consider an equivalent system; but it will be perceived that the tarring is done before the sheets are pasted together, whereas, in that illustrated, it is done after the pasting or cementing.

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

1. The process of preparing roofing-fabric, substantially as herein specified.
2. The combination of a system of pressure and saturating-rollers, so arranged relatively with each other as to accomplish the purpose of my invention, substantially as herein specified.

ALFRED ROBINSON.

Witnesses:

M. M. LIVINGSTON,  
BENJ. FOSTER.