

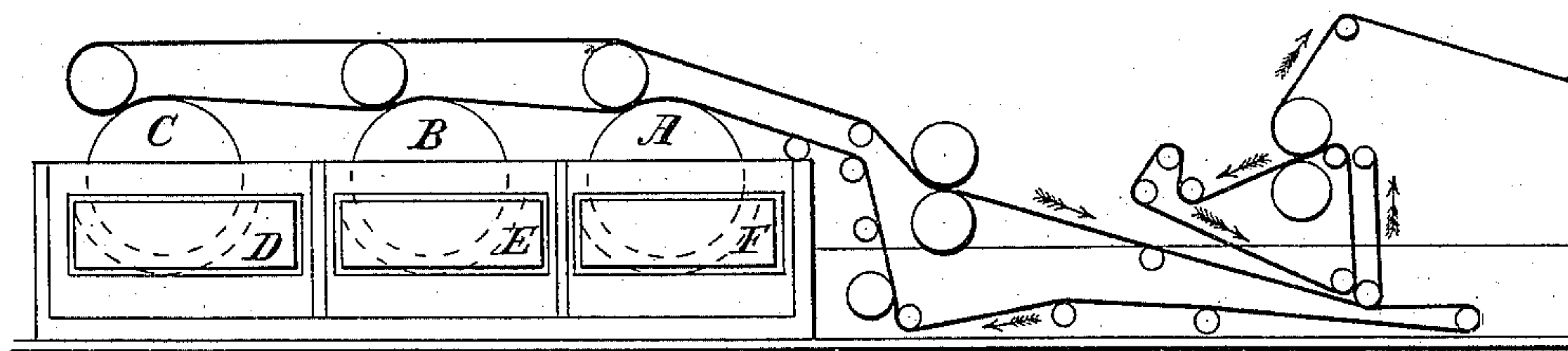
(No Model.)

C. W. ARMOUR.

PAPER FOR ROOFING FELT, &c.

No. 311,938.

Patented Feb. 10, 1885.



Witnesses:

Dudley Hiscop

Paul J. Amman

Inventor.

Charl W. Armour

UNITED STATES PATENT OFFICE.

CHARLES W. ARMOUR, OF SUMMIT, NEW JERSEY.

PAPER FOR ROOFING-FELT, &c.

SPECIFICATION forming part of Letters Patent No. 311,938, dated February 10, 1885.

Application filed January 3, 1885. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. ARMOUR, of Summit, Union county, State of New Jersey, have invented certain Improvements in
5 Paper, of which the following is a specification.

This invention consists of a paper composed of spent tan-bark, meadow-hay, and mill-waste, with both sides covered with a layer of pulp composed of satinet rags, colors, shoddy,
10 and straw.

The object of this invention is to produce a strong and smooth paper suitable for roofing-felt, and for saturating with coal-tar, pitch, and oils.

15 The drawing represents an elevation of the machine used to make my fabric.

The process of making this paper is as follows: A paper-making machine is arranged, as shown, with three (3) separate vats, each
20 provided with a forming-cylinder, and with a felt arranged to pass over all the cylinders. The central vat, E, is supplied with the pulp used for forming the inside or center sheet, as described, while the two end vats, D and
25 F, are supplied with the pulp used for forming the layers for covering both sides of the paper. When the machine is set in motion, the layer of pulp will be deposited on the felt by the cylinder A at the rear end, and as it
30 passes along cylinder B will deposit on the first layer a layer of pulp used for forming the inside or center sheet, and as it passes over the last cylinder, C, that will deposit another layer of the same material as deposited by
35 cylinder A, thus forming a strong smooth sheet of paper, of any thickness required, suit-

able for roofing-felt and for saturating with coal-tar, pitch, oils, &c.

I am aware of improvements in "filled paper," so called, consisting of three layers compacted into a single sheet; but such improvements are not for the mechanical combination
40 merely, but they comprise, also, the particular combination used therefor.

I have invented a new combination of materials for a different purpose, consisting of three layers compacted into a single sheet, but cheaper in cost, and utilizing new substances, in combination with a wider scope in
45 its application.

I am also aware of the Letters Patent issued to Frank J. Mather, No. 278,350, dated March 19, 1883, which I own; but that patent is for a combination of materials uniform through
50 the sheet, and for a different combination, in some particulars, from that which I employ, while my combination consists entirely of different kinds of materials, forming three distinct layers in a single compacted sheet.

What I claim as a new article of manufacture is—
60

A paper composed of a mixture of spent tan-bark, meadow-hay, and mill-waste, and covered on both sides with a layer of pulp composed of satinet rags, colors, shoddy, and
65 straw, thus making a strong smooth paper, suitable for the purposes and substantially in the manner described.

CHARLES W. ARMOUR.

In presence of—

P. J. ARMOUR,

RICHARD P. ROMANE.