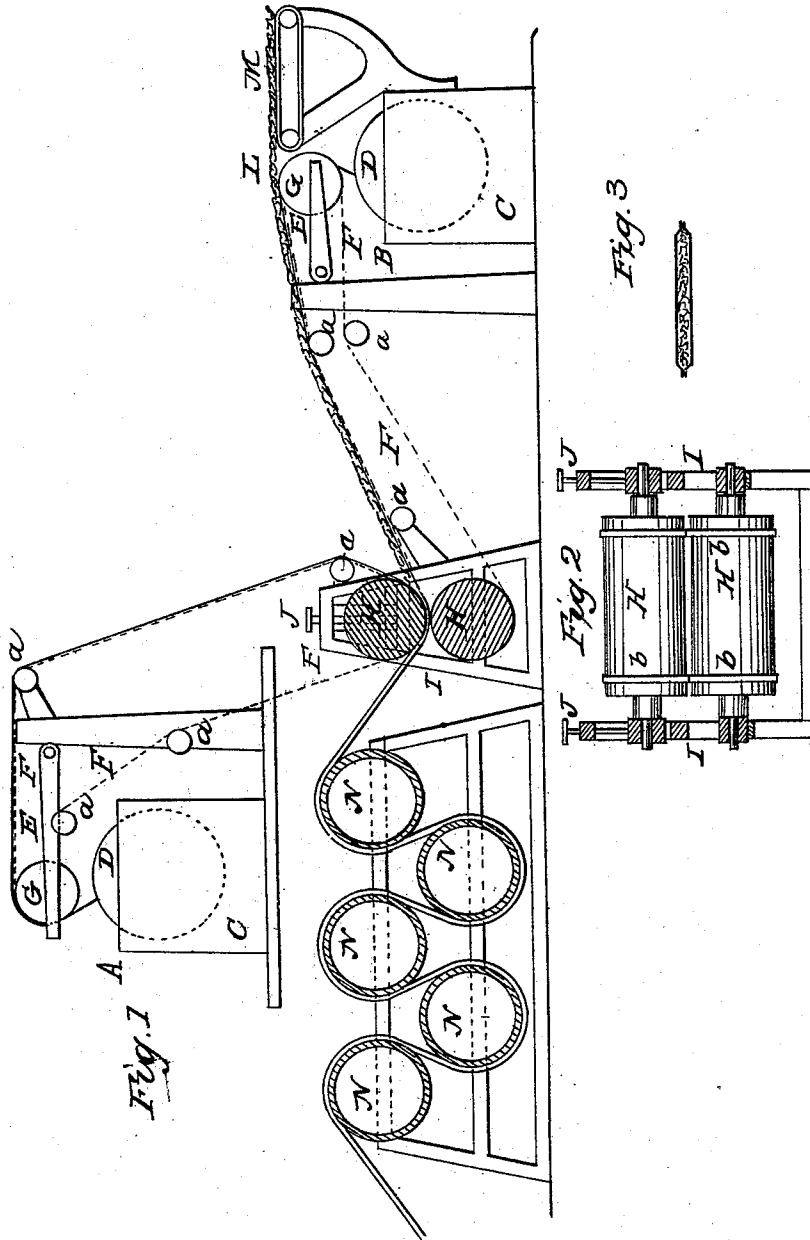


C. A. PEASE.

Machine for the Manufacture of Paper Carpet Linings.

No. 111,081.

Patented Jan'y 17, 1871.



Witnesses
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IMPROVEMENT IN MACHINES FOR THE MANUFACTURE OF PAPER CARPET-LINING.

Specification forming part of Letters Patent No. 111,081, dated January 17, 1871.

To all whom it may concern:

Be it known that I, CLAUDIUS A. PEASE, of Astoria, in the county of Queens and State of New York, have invented certain new and useful Improvements in Carpet-Lining Machines; and I do hereby declare that the following description, taken in connection with the accompanying plate of drawings, is a full and complete specification of the same.

This invention relates to an arrangement and combination of mechanism for the manufacture, in a continuous manner, of a carpet-lining, such as is embraced by the Letters Patent issued to Thomas H. Dunham, May 1, 1866, and April 23, 1867, and the Letters Patent issued to Enoch Waite, July 9, 1867.

The invention consists, principally, in the combination and arrangement of two sets of mechanism—such as is employed in the manufacture of paper for the production of the pulp sheet—the one in a plane of operation above the other, with endless-apron felts so arranged and running from the two as to convey the endless sheets of pulp, on one of which the layer or bat of loose fibrous material has been previously laid, to and between a common set of presser-rolls, by which, as the combined pulp sheets and lap pass between them, the loose fibrous lap is compressed within the moist pulp sheets and made to unite or interlock therewith, producing a union of the whole, as desired.

In addition to the above, the invention consists in constructing the presser-rolls, either one or both, with bands or rings, preferably of india-rubber or other elastic material, at suitable points of their lengths, to produce an additional pressure at the edges of the pulp sheets, so as to cause the two to unite, closing the combined material at its edges; and, also, in combination with the combined arrangement of mechanism to produce the two pulp sheets and the union with the fibrous lap, this invention further consists in the arrangement of a system of drying drums or cylinders in such manner as to secure the contact of the pulp sheets therein without the use of presser-rolls to confine them, and to subject both pulp sheets to contact with the drying-drums as they pass from one end to the other of the series.

In the accompanying plate of drawings the present improvements are illustrated, Figure 1

being a longitudinal vertical section through some parts of the machine, with others in side elevation; Fig. 2, an elevation of the presser-rolls along their length; Fig. 3, a transverse section of the carpet-lining.

A and B in the drawings respectively represent a set of mechanism, consisting of pulp-vat C, revolving wire-web cylinder D, and transferring parts E, which devices are respectively constructed and arranged and the whole operate together substantially as in the ordinary process of manufacture of paper to produce a continuous sheet of pulp from the tank C by the revolving cylinder D, from which it is transferred to an endless-apron web, F, arranged to pass around the roll G of the transferring parts E. It is therefore not deemed necessary to herein more particularly describe and illustrate them, as to all persons conversant with paper-manufacture they are most familiar.

H H are two presser-rolls, arranged one above the other, to turn in suitable bearings of parallel standards I, with the upper one arranged to be adjusted in its pressure on the lower one by and through screw-rods J, or by hanging weights on its journal, or otherwise.

The endless web aprons F, from the rolls G, hereinbefore referred to, pass over guide-rolls *a a*, suitably located, and thence around the presser-rolls H—the one apron around the upper and the other around the lower—by which, in consequence, the two pulp sheets are carried to and between the presser-rolls H, meeting at that point. Upon the upper side of pulp sheet coming from the pulp-sheet-forming mechanism B, at the point L of its passage, the fibrous lap or bat is received, which lap, by the endless traveling apron M, is conveyed thereto from an ordinary cotton-lap machine, or from a roll previously prepared in such a machine, the two lap and pulp sheets passing on as one to the presser-rolls H, between which they pass, in connection with the pulp sheet, from the pulp-sheet-forming mechanism A, which pulp sheet enters upon the top of the fibrous lap. By the pressure of the rolls H, the combined pulp and lap sheets passing between them, as described, are made to unite, the fibers of the lap interlocking with the fibers of the pulp sheets, producing a complete union of the whole.

N is a series of drums for drying the pulp

sheets. These drums N are made hollow, and in their construction are adapted to be heated by steam, and to be susceptible of being revolved, as is now the case in the drying operation in the manufacture of paper. The drums N are arranged in two rows—one above the other—in the relative position shown in the drawings—that is, with the periphery of the lower rolls projecting beyond that of the upper rolls upon both sides of their center, thereby causing a “hugging” of the pulp sheets about the drums, and the submission of both pulp sheets to direct contact with the periphery of the drying-drums as they pass from one end to the other of the series and there escape. The number of these drums N may be more or less.

The presser-rolls H are each provided, around their periphery, with a band, *b*, slightly projecting, and at such points relatively to the length of the rolls H as to bear upon the edges of the pulp sheets beyond the lap between them, and thus produce a union of the two, closing the edges of the lining.

In lieu of providing both rolls H with the bands *b*, only one may be so constructed; but it is best to so provide both, and to make the bands of material such as india-rubber.

I do not claim the combination of two vats so as to bring together two or more webs of pulp to be united in the green state, as that has been long known; nor do I claim a carpet-

lining formed by bringing together two webs of freshly-formed pulp, as that is described in the patents above cited; but the apparatus which I have invented, and which is now claimed, is the first machine, so far as known, which is capable of forming a carpet-lining having a bat of fibrous materials inclosed between two sheets of paper pressed together so as to unite at their edges.

I do not limit myself to the exact details, as they may be varied without departing from the principle of the invention, as just stated.

Having thus described my improvements in carpet-lining machines, I shall state my claims, as follows:

1. The combination of the two sets of pulp-sheet-forming mechanism A and B, and bat-feeding mechanism, with the presser-rolls H and endless aprons F, arranged together substantially as and for the purpose described.

2. The band *b* on the presser-roll H, substantially as and for the purpose specified.

3. The combination and arrangement of the endless aprons F F and M, so as to deliver to the pressing-rolls H H the sheets of newly-formed webs of paper, with a bat of fibrous or spongy materials between, as set forth.

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