

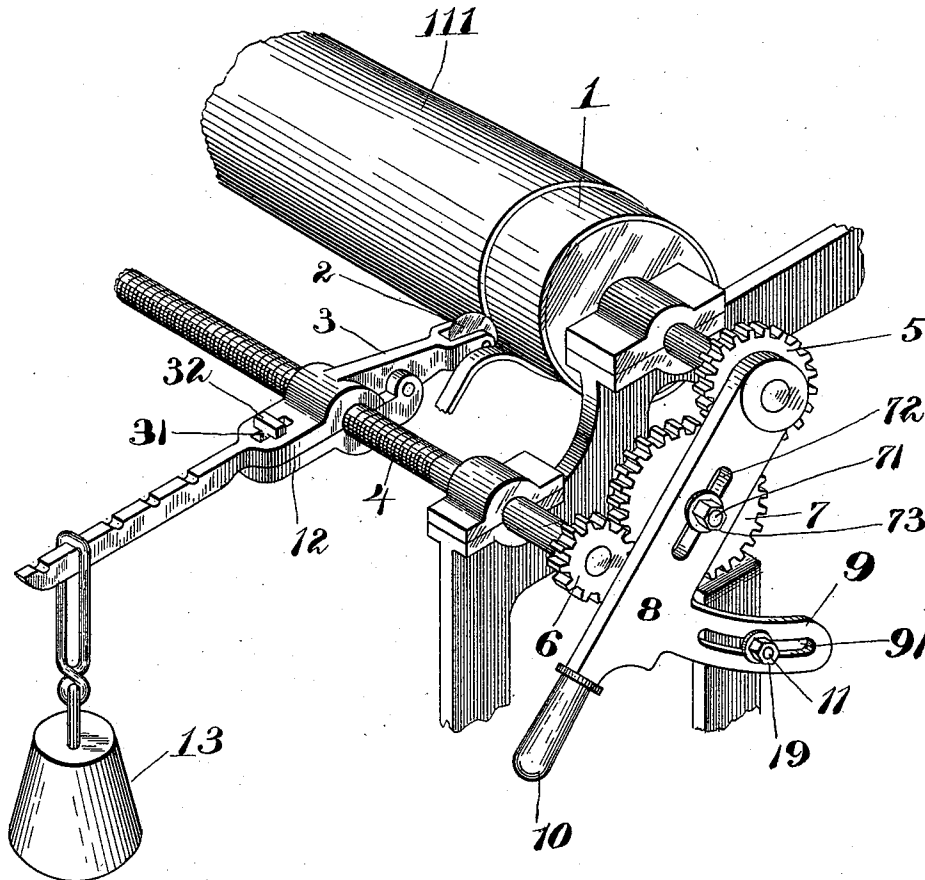
(No Model.)

E. ANDREWS.

MANUFACTURE OF TAPE FROM LEATHERBOARD, &c.

No. 541,032.

Patented June 11, 1895.



Witnesses.

Arthur F. Randall.
Robert Wallace.

Inventor.

Emery Andrews
by Macleod Calver & Randall
his Attorneys.

UNITED STATES PATENT OFFICE.

EMERY ANDREWS, OF KENNEBUNK, MAINE.

MANUFACTURE OF TAPE FROM LEATHER-BOARD, &c.

SPECIFICATION forming part of Letters Patent No. 541,032, dated June 11, 1895.

Application filed May 8, 1894. Serial No. 510,495. (No specimens.)

To all whom it may concern:

Be it known that I, EMERY ANDREWS, a citizen of the United States, residing at Kennebunk, in the county of Clark and State of Maine, have invented certain new and useful Improvements in the Manufacture of Tape from Leather-Board and the Like, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to the manufacture of tape from leather-board, leatheroid or the like and it consists more particularly of the process or method more fully set forth below by means of which a tape of great length may be quickly and cheaply produced, all as hereinafter set forth, and as is more particularly pointed out in the claims which are appended hereto and which form a part hereof.

In practicing my process I employ mechanism preferably of the form shown in the accompanying drawing, which shows the mechanism in perspective.

It is desirable for a variety of purposes, and especially in connection with electrical work, to provide tapes of leather board, leatheroid, or other paper-like material. These tapes, preferably, are of considerable length, oftentimes a hundred feet or more and are comparatively narrow, usually less than one inch. Inasmuch as leather board and the like cannot conveniently be made in sheets of sufficient length to permit these tapes to be cut from the flat sheet, I have devised the method hereinafter set forth by means of which they may be produced. Since, by my method, the tapes may be formed of great length and uniform in character, a considerable saving is effected in the cost of production over the old method, in which latter the long tape was formed from a number of short sections spliced and secured together, each of said short sections having only the length of the sheets into which leather-board and the like usually are formed.

I will first describe the mechanism shown in the accompanying drawing, as also its mode of operation, from which description the character and scope of my invention will be clearly understood.

The wet roll of a leather board machine is indicated at 1. On this roll a cylindrical

cal layer 111 of the pulp from which leather board, and the like, are made, is deposited by the felts. This wet roll may be of any convenient circumference and length, common dimensions of the roll being three to four feet in circumference and four feet in length. The tape is produced in accordance with my invention by cutting the said cylindrical layer spirally from end to end thereof, while it is still on the roll. In case, for example, it is desired to produce tape of one inch in width, it will be seen that a continuous length of more than a hundred feet of tape may be formed in one strip. For the purpose of cutting the said cylindrical layer spirally into a strip of tape while on the roll, as aforesaid, I employ a cutting disk as shown at 2, which is journaled in the frame 3, that is mounted on a screw 4. By means of the screw 4, the carriage is caused to travel longitudinally while the roll 1 is rotated. For the purpose of rotating the roll, any suitable and well known mechanism may be provided, as, for example, a pulley on the roll-shaft. A gear 5 is secured to one end of the roll-shaft and gear 6 is secured at the corresponding end of the screw. The screw is journaled in bearings on a suitable frame or support in front of the roll so that the axis of the screw is parallel with the axis of the roll. Between the gear 5 on the roll shaft and the gear 6, on the screw shaft I place an intermediate gear 7 which is mounted on a stud 71, set in a slot 72 in a lever arm 8, the stud being held in the desired position of adjustment, in the said slot by means of a nut 73. The lever arm 8 is mounted on the end of the roll shaft and is provided with a slotted projection 9 and a handle 10. By this device the intermediate gear 7 may be swung backwardly or forwardly and thus thrown into or out of mesh with the gear on the screw shaft. A threaded stud 11 passing through the slot 91 in the projection 9 and receiving the nut 19 on its outer end permits the lever 8 carrying the intermediate gear 7 to be secured in its forward position—that is, in the position which it occupies when the intermediate gear is in mesh with the gear on the screw shaft. See Fig. 1.

It will be seen that by properly arranging

the sizes of the gears, and the pitch of the screw the cutter may be made to travel longitudinally at the desired speed with reference to the rotation of the roll.

- 5 The cutter carriage may be of any well known construction. I prefer the simple form shown, which consists of an upper frame, previously referred to, and designated at 3, and a lower portion 12, which is hinged at its
10 forward end to the portion 3. The threaded boss with which the screw co-operates is formed in the parts 3 and 12, that is, one half of the boss is in one part and the other half in the other part. At the rear end of
15 the part 3 is a slot 31 through which projects a T-shaped locking pin 32 which is set in the part 12 and by giving this pin a quarter turn while it is in the slot in the part 3, the parts may be locked together. At the outer end of the
20 part 3 is hung a weight 13 which is sufficiently heavy to force the cutter against the wet roll with sufficient pressure to insure the severing of the strip from the layer on said roll. When the cutter has traveled longitudinally
25 to the opposite end of the roll, the parts 3 and 12 may be separated or opened and the cutter returned by hand to the position which it occupies when it begins to cut the next strip. In the operation of the device the operator
30 holds the severed strip in his hand and either guides it off the roll, as it is severed, or allows the cutter to precede the withdrawal of the strips from the roll by a turn or two of the spiral, so that the operations of cutting and
35 removing the strip from the roll are practically simultaneous.

- I do not desire to limit myself to any specified form of mechanism, since the mechanism employed is of simple construction and may
40 be varied in various well known ways. A longitudinally moving carriage mounted on a screw is a well known device and is constructed in various forms, many of which will answer equally well with the form shown.
45 The form shown is a simple one and is inexpensive in construction and efficient in operation.

After a strip has been cut, the cutter-carriage may be removed from its actuating screw, or it may be allowed to hang on the
50 screw with the cutter out of contact with the roll. This permits the wet roll to be again covered with another layer of pulp. As will be clear the cutter is used in conjunction with the wet roll only when the latter is covered
55 with a layer of material which it is desired to cut into a tape. After drying, it is calendered and finished in the well known manner, and at the same time or subsequently cut accurately to the desired width, thus forming a
60 finished strip of very uniform character and size.

In the foregoing I have referred to the production of tape from the cylindrical layer of pulp which is formed on the wet roll of a
65 leather-board machine.

I consider it within the scope of my invention to produce tape from leatheroid and similar material by forming the same into a cylinder around a roll like that indicated at 1,
70 and cutting the said cylinder spirally while still upon the said roll, as aforesaid.

What I claim is—

1. The method herein described of making tape from leather board or similar material
75 which consists in first forming a layer or sheet from moist pulp on a wet roll, then cutting the layer thus formed while on the roll into a spiral strip, then removing said strip from the roll, and then drying and finishing the
80 strip, substantially as set forth.

2. The method herein described of making tape from leather board or similar material, which consists in first forming a layer or sheet
85 from moist pulp on a wet roll, then cutting the layer thus formed while on the roll into a spiral strip, and simultaneously removing the strip from the roll, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EMERY ANDREWS.

Witnesses:

WM. A. MACLEOD,
CHAS. F. RANDALL.