

S. M. FORD.
MACHINE FOR MAKING LATH BOARD.
APPLICATION FILED MAR. 9, 1918.

1,297,304.

Patented Mar. 11, 1919.
2 SHEETS—SHEET 1.

Fig. 1.

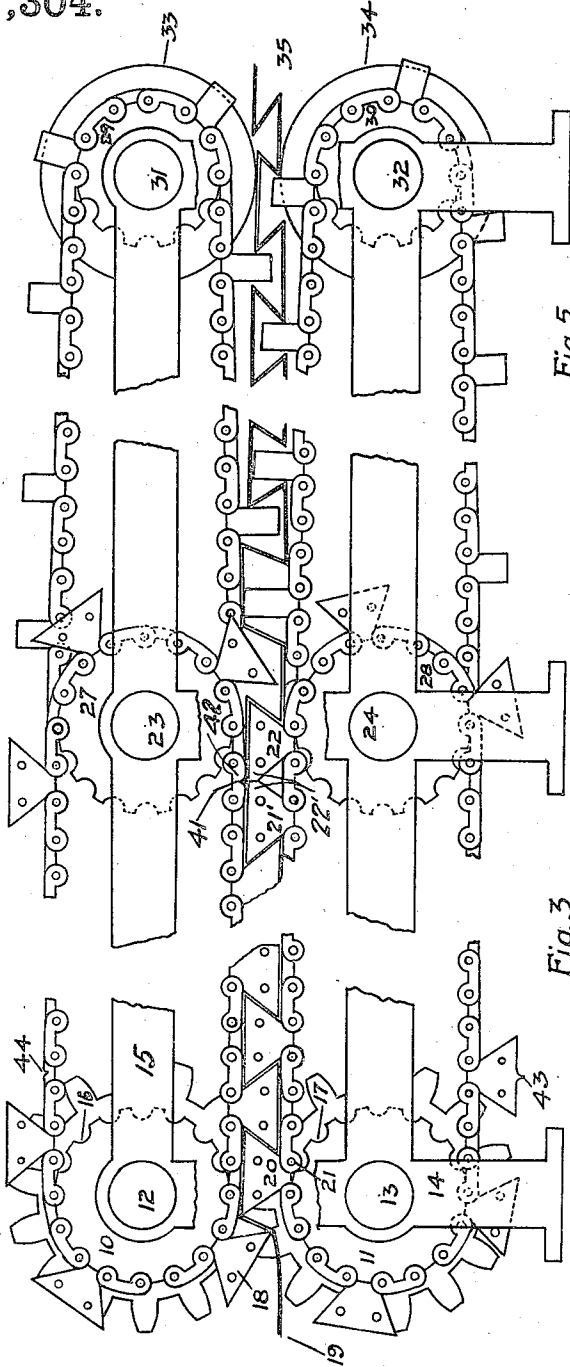


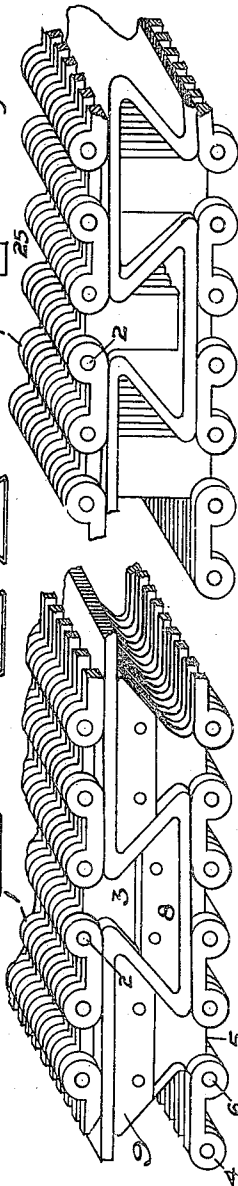
Fig. 6

Fig. 5

Fig. 4

Fig. 3.

Fig. 2.



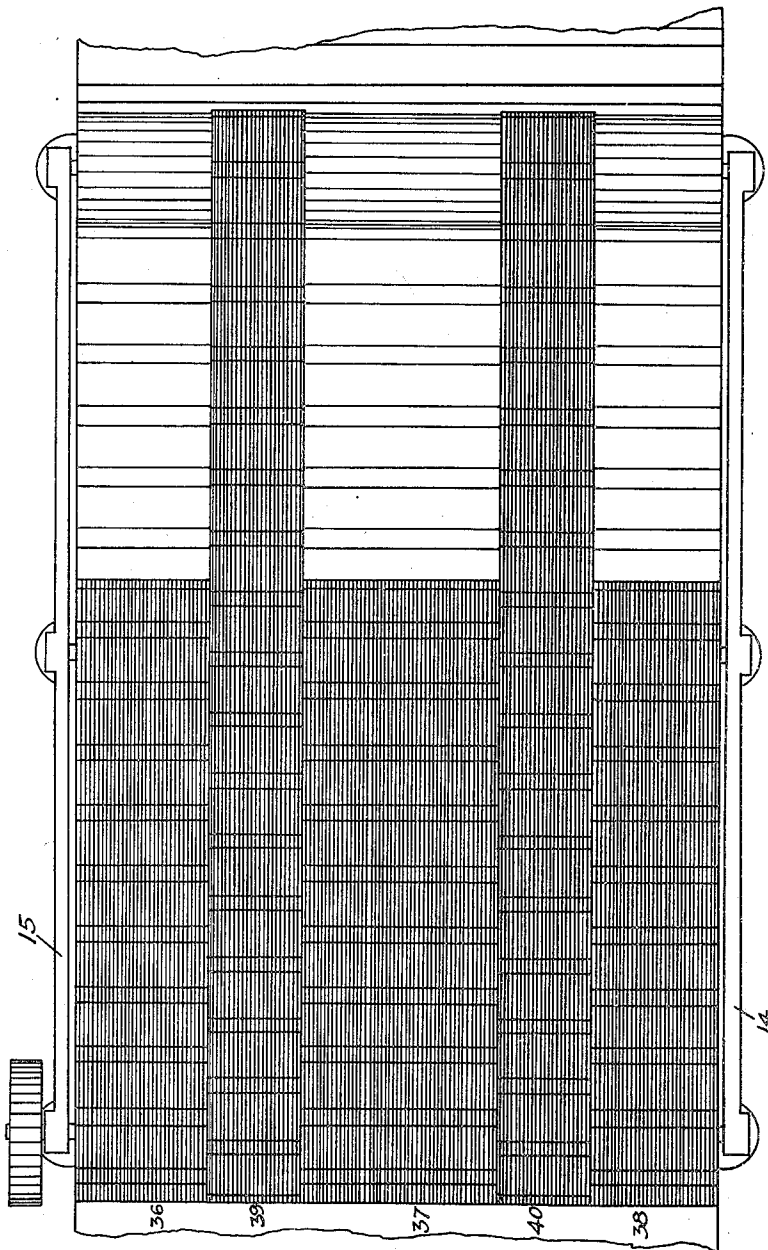
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Fig. 7



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UNITED STATES PATENT OFFICE.

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MACHINE FOR MAKING LATH-BOARD.

1,297,304.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, SILAS M. FORD, a citizen of the United States, and a resident of St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Machines for Making Lath-Board, of which the following is a specification.

One object of my invention is to provide, in a machine for making lath board, improved means for forming corrugations in a sheet of suitable material, the particular feature being that the folding or forming means are rigidly held in respect to the material as the material is passed there-through.

Another object of my invention is to form in a link belt forming cleats formed of a portion of the links and adapted to form thereover a lath board composed of alternate lath-like faces with intermediate depressions.

Another object of my invention is to provide, in a machine for making lath board, in continuous operation, means for forming at stated intervals a lath-like face of an extra width.

With these and incidental objects in view the invention consists of certain novel features of construction and combination of parts, the essential elements of which are hereinafter described with reference to the drawings which accompany and form a part of this specification.

In the drawing Figure 1 is a side elevation of my improved machine with portions broken away. Fig. 2 is a perspective view of the forming means shown in Fig. 1. Fig. 3 is a detail of one of the links of the link belt forming a part of my machine, carrying, as a part of itself, a forming cleat. Fig. 4 is an end view of a portion of the formed lath board showing the method of joining the formed sheets. Fig. 5 is a detail of one of the links of the conveyer. Fig. 6 is a perspective view of the link belt conveyer, and Fig. 7 is a plan view of the machine shown in Fig. 1.

The essential part of my invention is a pair of link belts, the belt being formed of multiple links 1, Fig. 2, carried by hinge pins 2 and joining multiple links 3 on the hinge pins 2, the links 1 and links 3 being alternately disposed along the pins 2.

The lower belt is similarly arranged, the links 4 and the links 5 being joined on pins 6.

The machine may be built up with the links alternately spaced on the pins 2, thereby leaving spaces between the forming portions 7 of the links 3, but I prefer to fill these spaces with punchings 8 so each transverse row of the links 3 would present a flat solid surface along their outer edges and along the angles 9.

The result of this construction is a link belt composed of multiple links of two different classes, one the ordinary link 1 and the other the forming link 3, which may or may not, as desired, have associated therewith space fillers 8.

A pair of rolls 10 and 11, carried by shafts 12 and 13 journaled in the frame members 14 and 15, respectively, have formed in their faces grooves 16 and 17, respectively, adapted to receive the ears of the links 1 and 3.

Looking at the transverse row of links 3 indicated by the numeral 18, Fig. 1, it will be seen that this row, which constitutes at this particular time a solid dove-tailed shaped cleat, is forming the sheet of paper as the cleat is moving in an anti-clockwise direction, and at this moment of maximum strain on the cleat the ears of the cleat are securely locked in the grooves 16 of the roller 10 so there is no possibility of the cleat 18 tipping or moving in any regard except in the arc of a circle about the shaft 12.

Looking particularly at the row of cleats indicated by the numeral 20, which row is just past the center line of the shafts 12 and 13, it will be seen that the member 21 has just left its cooperating groove of the roller 11 and that the cleat 20 is now moving in a horizontal direction to the right, having performed the forming operation on the paper and now carrying the paper forwardly in the machine.

Looking particularly at the row of links marked 21' and 22, it will be noted that there are two rows of forming links 3, two rows of links 1 having been omitted between the rows of links 21' and 22, and that the adjacent corners of these rows have been cut off so that paper formed thereover will have a lath-like face of substantially double the width of the faces formed by the other rows of links.

This particular formation is for the purpose of establishing a cutting line in the completed lath board so the extra wide face may be cut centrally and form a free face of

substantially the same width as the ordinary lath-like faced formed, and when this free end is lapped with the shorter end produced by cutting one of the ordinary lath-like faces centrally, a full lap joint may be produced in laying the lath board on the wall, as plainly shown in Fig. 4.

A knife 41, mounted in a slot carried by the row of links 42, is provided for cutting the paper on the wide, lath-like face, and a similar knife 43, co-acting with the slot in the row of links 44, is provided for cutting the paper on a lath-like face of ordinary width, so the complete operation of the machine will cut the paper fed therein into lengths having a longer face on one end and a short face on the other end to establish the lap joint as shown in Fig. 4.

Inasmuch as the knives 41 and 43 ride over the series of links 42 and 44 respectively, and the links are spaced apart the thickness of the adjacent links, the cut is not a complete severing of the sheet, but is in the nature of a series of perforations across the sheet, leaving the paper so it may be readily severed along this line.

When the formed paper has reached the center line of the shafts 23 and 24, the forming rows of the links are rolled out of the lath-like depressions but the formed lath board is carried forwardly by the conveyer chains formed likewise of two link belts having links 1 and links 25 joined together on hinge pins 2, the links 25 being similar to the links 3 except that their projections 26 are rectangular in shape instead of dove-tailed.

These conveyer chains or belts are carried by the rollers 10 and 11 passed over rollers 27 and 28 to rollers 29 and 30, which are of smaller diameters than are rollers 27 and 28, so the extensions 26 are gradually withdrawn from the formed lath-board as they reach the center line of the shafts 31 and 32.

The shafts 31 and 32 also carry forming rollers 33 and 34 which press the dove-tailed formations into more intimate relation with each other, as shown at 35.

Looking at Fig. 7, it will be seen that the forming link belts 36 and 37 and 38 carry the rows of dove-tailed forming links 3, and intermediate of these forming belts are the conveyer belts 39 and 40, the relative width

of the conveyer belts and forming belts being such that the material of which the lath board is formed will be formed into a dove-tailed shape across the face of the conveyer belts 39 and 40 by the forming of the material at each side of these conveyer belts, as the material will take the dove-tailed shaped fold a certain distance beyond the end of each of the rows of the forming links 20.

While I have described my invention and illustrated it in one particular design, I do not wish it understood that I limit myself to this construction, as it is evident that the invention may be varied in many ways within the scope of the following claims.

Claims;

1. In a machine for making lath board the combination with other forming means adapted to form material into lath board having a series of lath-like faces and intermediate depressions, of means adapted to form a lath-like face of a width substantially double that of the other lath-like faces formed.

2. In a machine for making lath board the combination of means for forming paper into lath board having a series of lath-like faces and intermediate depressions and having one of said lath-like faces of greater width than the remainder, and cutting means for cutting said lath board across said wider lath-like face.

3. In a machine for making lath board the combination of means for forming material into lath board having a series of lath-like faces and intermediate depressions, one of said lath-like faces being of greater width than the remainder, and means for cutting said lath board into even lengths, one cut being across said wider lath-like face and another cut being across one of the ordinary lath-like faces.

4. In a machine for making lath board an endless belt comprised of a series of transverse forming cleats each of said forming cleats being composed of multiple punchings placed side by side and strung onto a transverse rod, multiple connecting links connecting said cleats in hinged relation thereby forming a substantially solid metal belt having cleats extending transversely thereof.

SILAS M. FORD.