

(No Model.)

3 Sheets—Sheet 1.

C. D. JOHNSON, A. A. ADAIR & J. H. D. ROSAN.  
MACHINE FOR MAKING SHEATHING LATHS.

No. 549,318.

Patented Nov. 5, 1895.

Fig. 5.

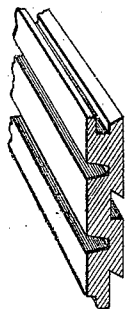
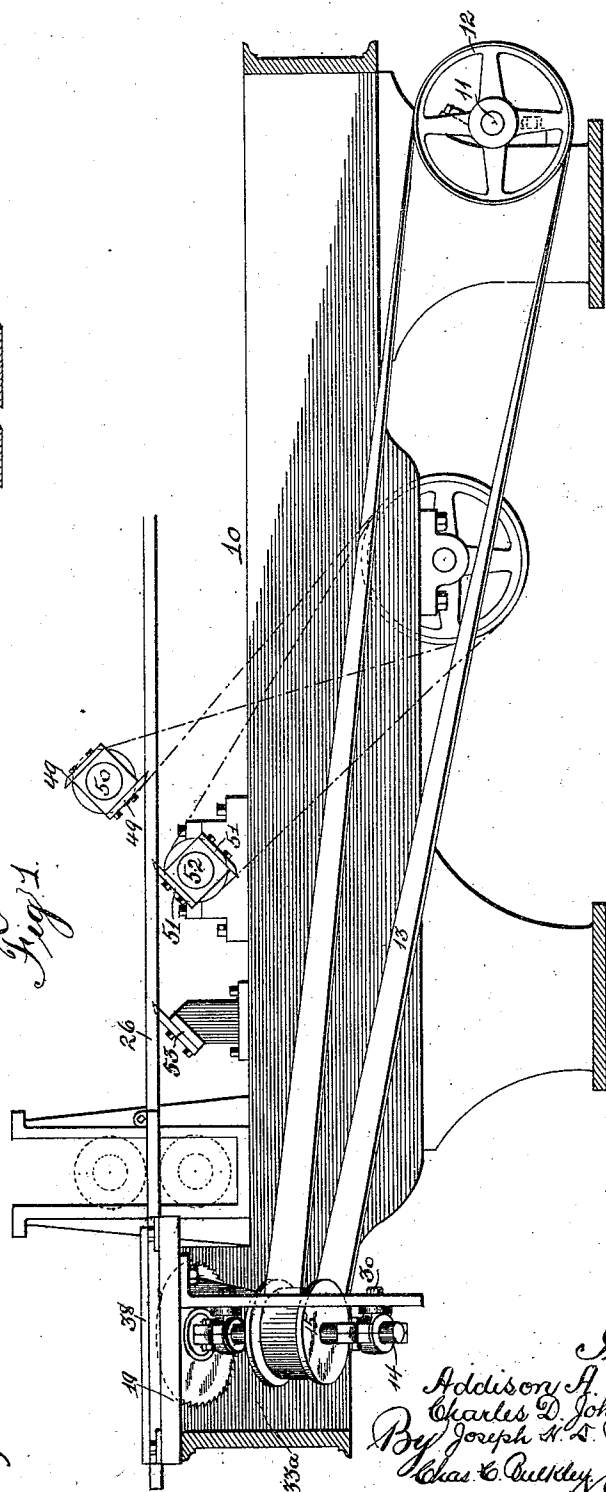


Fig. 1.



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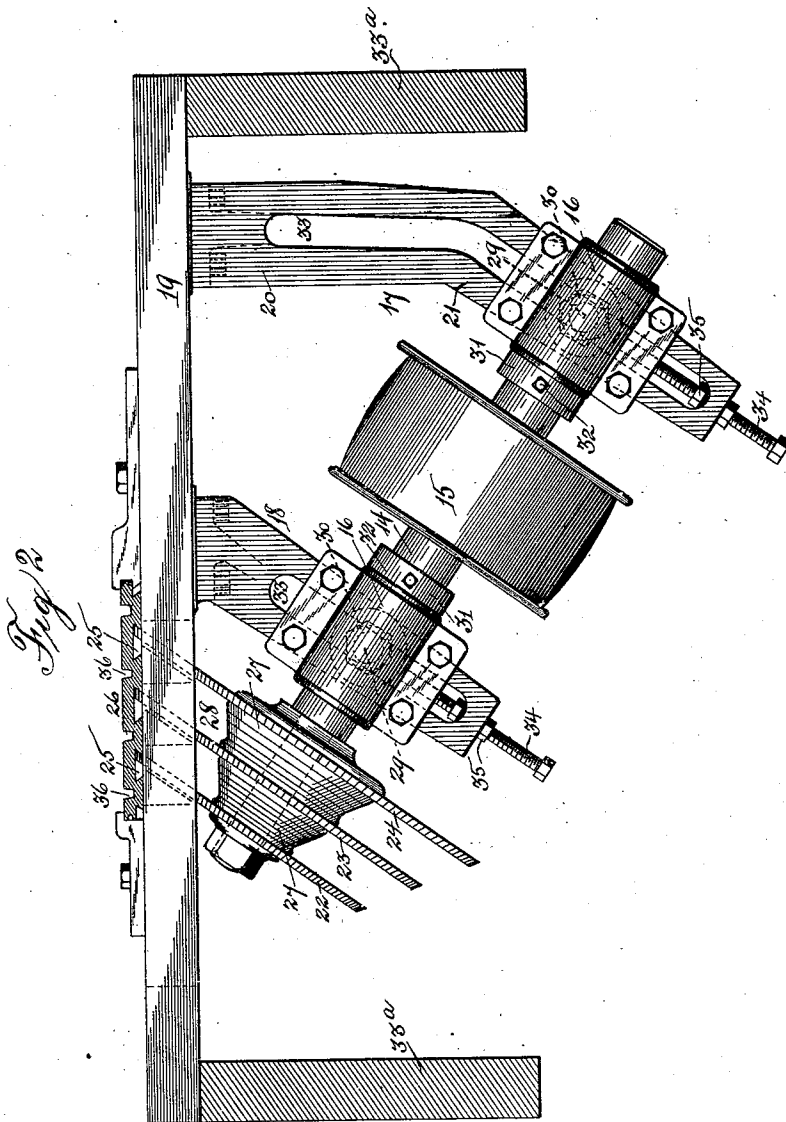
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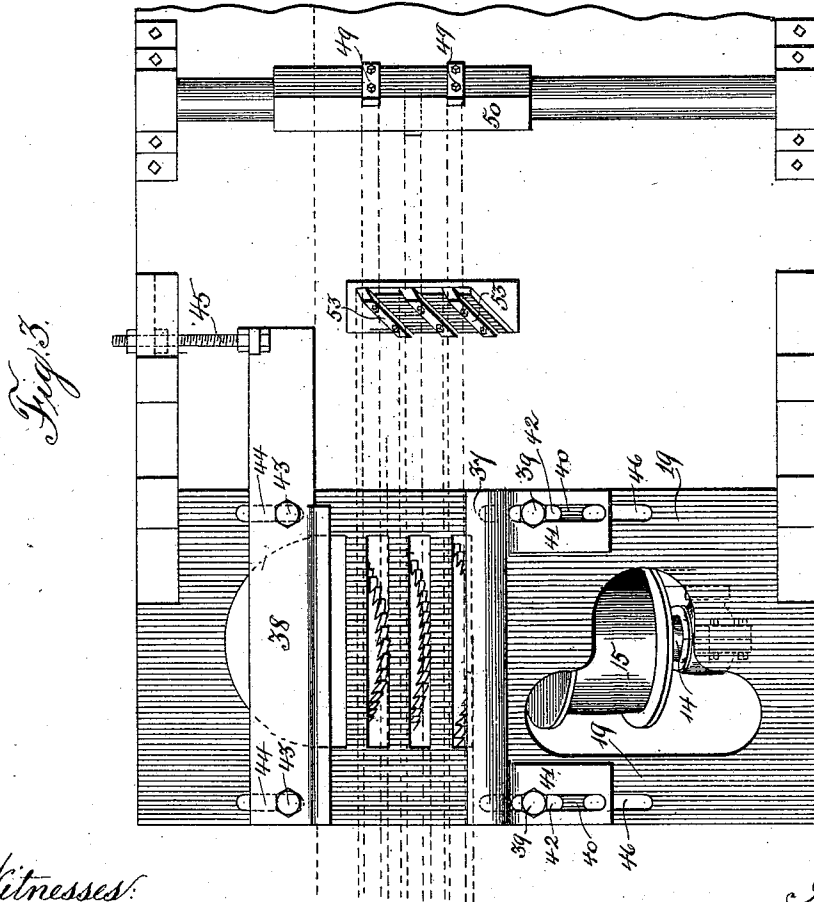
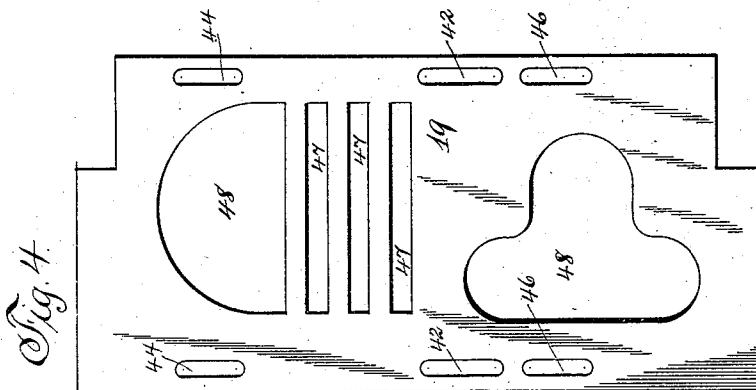
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# UNITED STATES PATENT OFFICE.

CHARLES D. JOHNSON, OF TOMAH, WISCONSIN, AND ADDISON A. ADAIR AND JOSEPH H. D. ROSAN, OF CHICAGO, ILLINOIS, ASSIGNORS TO THE BYRKIT-HALL SHEATHING LATH COMPANY, OF CHICAGO, ILLINOIS.

## MACHINE FOR MAKING SHEATHING-LATHS.

SPECIFICATION forming part of Letters Patent No. 549,318, dated November 5, 1895.

Application filed December 5, 1894. Serial No. 530,935. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES D. JOHNSON, residing at Tomah, in the county of Monroe and State of Wisconsin, and ADDISON A. ADAIR and JOSEPH H. D. ROSAN, residing at Chicago, in the county of Cook and State of Illinois, citizens of the United States, have invented certain new and useful Improvements in Machines for Making Sheathing-Laths, of which the following is a specification.

Our invention relates to that class of machines particularly designed and used for the making of sheathing-laths.

Our invention has for its object the provision of a simple machine for this purpose which shall be compact in form and construction and which may be used in conjunction or association with any of the usual types of matching-machines and occupy a very small space and capable of and adapted for disposition within the frame of the matching-machine and thus entirely inclosed and positioned out of the way, the construction and arrangement of the lath-making machine being such as to in no wise interfere or obstruct the ordinary and customary uses of the matching-machine, the arrangement of the lath-making machine relatively to the mechanism of the matching-machine being such that the lath-making machine may be driven directly from the main drive-shaft of the matching-machine with a minimum expenditure of power.

Our invention in another particular has for its object the provision of a combined machine for making sheathing-lath consisting of a matching-machine having certain parts added thereto which are particularly adapted for performing certain functions in the production of the lath and a lath-making mechanism which is simple and compact in form and capable of disposition within the frame of the matching-machine, as heretofore set forth, whereby the two distinctive mechanisms are united in action to produce the desired completed lath; but we do not desire to be understood as limiting our invention solely to this combined action, since, as will subsequently appear, the lath-making mech-

anism alone is capable of producing the completed lath.

Our object, further, is to provide means by which various adjustments of the related parts may be effected so that the machine is adapted for action upon various sizes of lath or width of board to be cut into lath and also to permit of its disposition in conjunctive operation with any one of the various types of matching-machine or to permit an adjustment which will reduce and distribute the frictional wear of the parts.

Our invention has certain other objects in view; and it consists in certain features, arrangements, and combination of parts, which will be described, and pointed out in our claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of a matching-machine, showing the sheathing-lath machine in conjunction with the matching-machine, the lath-making machine being indicated partly in dotted lines, and a portion of the matching-machine shown in section in order to disclose means by which the kerfs or cuts on one side of the lath and the grooves on the other side are formed by the matching-machine, which are subsequently dovetailed or partly dovetailed. Fig. 2 is an enlarged cross-sectional view on the line *xx* of Fig. 1. Fig. 3 is a plan view of the lath-machine and also a portion of the matching-machine. Fig. 4 is a detail plan view of the table-top of the lath-machine. Fig. 5 is a perspective view of a specimen of produced lath having one side of its grooves only dovetailed.

The frame of the matching-machine is designated at 10, having a drive-shaft 11, on which is mounted the drive-pulley 12, connected by the belt 13 with the mechanism of the lath-making machine.

The lath-making machine, as shown more clearly in Fig. 2, consists of an arbor 14, mounted in the journal-boxes 16, which arbor is rotated by means of the pulley-wheel 15 and the belt 13 passing about it. The journal-bearing boxes 16 are adjustably mounted upon the arms 17 and 18, depending from the under side of the table-top 19, these arms being of such construction and so disposed

as to conjunctively maintain the shaft 14 in a diagonal position relative to the table-top when the saws (about to be described) are being used to dovetail grooves in the lath.

5 The arm 17, it will be observed, has a straight portion 20 and an extension 21 arranged angularly relative to the straight portion 20, whereas the arm 18 is simply disposed at an angle relative to the table-top 19. On one

10 end of the arbor 14 are the saws 22, 23, and 24, said saws being of relatively decreasing diameter, so that the same may conjunctively act upon three different grooves 25 in the lath 26 at one and the same time. It is evident,

15 however, that any number of saws may be used, depending in each case upon the width of the board in which are the grooves 25. It is now evident, by reason of the diagonal position in which the arbor 14 is held and the diminishing diameters of the saws, that a plurality

20 of grooves 25, having square sides, may be formed dovetail on one side during one movement of the board forward against the saws, and that by simply reversing the board and again passing the same through the machine

25 the other side of the grooves are also formed dovetail.

The saws are spaced and held apart by means of the washers 27, which washers,

30 when joined together, form the hub 28, Fig. 2. These washers 27 may be of various different widths, so that the saws may be positioned apart and brought into the right relation to the grooves 25 of the lath 26. The position

35 of the arbor 14 and saws thereon is adjusted by means of the adjusting-bolts 29 and nuts 30, (shown by the dotted lines in Fig. 2,) and is also capable of endwise adjustment, being held in position by the collars 31 and set-

40 screws 32, the adjusting-bolts 29 moving within the slots 33 in the arms 17 and 18. Adjusting-screws 34 are also provided, secured to or bearing against the journal-boxes 16, which screws pass through the lower ends

45 of the arms 17 and 18 and are held in position by means of the jam-nuts 35. The slots 33 in the arms 17 and 18 are of such length that by loosening the collars 31 and adjusting the arbor 14 endwise the said arbor may be

50 disposed at any desired angle relative to the table-top 19, and thus the required dovetail of the grooves 25 may be obtained and also permits a positioning of said arbor in parallelism with the table-top 19, so that the

55 saws may be employed for any desired purpose, being in a vertical position, either to form the square-sided grooves 25 by providing saws of sufficient width, or to cut the kerfs 36, or a single saw or set of saws may

60 be employed for any one of the many numerous uses of circular saws.

In order to employ this described lath-making mechanism, in conjunction or combination with a matching-machine, it is simply necessary to remove the top plate of the end portion of the matching-machine and then dis-

65 pose the lath-making mechanism within and

between the side pieces 33<sup>a</sup> of the matching-machine frame 10, the table-top 19 of the lath-making mechanism being bolted in po-

70 sition on said frame 10 and substituted for the end plate of the matching-machine. By this construction and arrangement we are enabled to completely inclose and incase the lath-making mechanism within the frame of

75 the matching-machine, and thus dispose the lath-making mechanism so that the same is entirely out of the way and in such position as to be belted directly with the main drive-

80 shaft of the matching-machine or with the mill-shaft, and thus reducing the power necessary heretofore to drive the saws of the lath-making mechanism. The pulley 15, being disposed between the journal-boxes 16,

85 distributes the frictional wear evenly, and in conjunction with the arbor 14 permits an alignment of the pulley 15 with the pulley 12 on the drive-shaft 11 of the matching-machine, so as to avoid any obstruction on the

90 matching-machine.

It is evident that the arbor 14 and saws may be disposed in such a manner as to provide a left or right hand machine, or double arbors and two saws or sets of saws may be employed in a manner as embodied by us in

95 a machine for which application will be made for patent.

Referring now to the means for holding and guiding the board in its movement through the saws, (shown more particularly in Fig. 3,) the guide-pieces 37 and 38 are disposed upon

100 the upper side of the table-top 19, the guide-piece 37 being held adjustably in position by means of the bolts 39, passing through the slots 40 in the arms 41 extended from the

105 guide-piece 37, and also through the slots 42 in the table-top. The guide-piece 38 is adjustably held, by means of the bolts 43, in the slots 44, and is also held by means of the bolt 45, which serves to steady that portion

110 of the guide-piece 38 extended beyond the table-top 19. By this means the guide-pieces may be adjusted for any width of board and the guide-piece 37 may also be held in a position removed some distance from the guide

115 38 by securing the bolts 39 through the supplemental slots 46, thus permitting the passage between the guides of any material acted upon by the matching-machine without encountering obstructions at the lath-making

120 machine.

The table-top 19 is slotted at 47 to permit the saws to protrude beyond the plane of the top of the table, and openings 48 are provided which give access to the working part of the

125 lath-making mechanism.

Referring now to Fig. 1, it will be observed that we have provided rotating cutting-knives or cutters 49, mounted on, preferably, the upper cylinder 50 of the matching-machine,

130 and also the cutting-knives 51, mounted, preferably, on the lower cylinder 52 of the matching-machine, the rotated cutters 50 being adapted to cut the kerf or groove 36,

Figs. 2 and 5, in the board 26 and the cutters 51 being adapted to cut the groove 25, which latter is subsequently dovetailed by means of the saws. It may be desired, however, to form one side of the groove 25 by means other than the saws, and we have therefore shown the stationary cutters 53, Figs. 1 and 3, held in a stationary position and inclined forwardly and diagonally.

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

1. The combination with a matching machine, of a sheathing lath making mechanism, comprising a table-top disposed on the end portion of the matching machine, arms depending from the under side of said table-top and inclosed within the frame of the matching machine, an arbor rotatably held by said arms and saws fixed on said arbor, and means for driving the arbor and saws.

2. The combination with a matching machine, of sheathing lath making mechanism, comprising a table-top disposed on the end portion of the matching mechanism or machine, arms depending from the under side of said table-top and inclosed within the frame of the matching machine, an arbor rotatably held by said arms and saws fixed on said arbor, and connections between the arbor and the main shaft driving the matching machine.

3. A combined machine for producing sheathing lath, comprising a matching machine and a lath making machine, the latter consisting of an arbor, arms depending from a table-top holding said arbor, the lath making mechanism being disposed within the frame of the matching machine, rotary cutters on the matching machine for forming grooves in the board, and means for driving said cutters.

4. In a lath sheathing machine, a suitably supported table-top, formed with saw-slots, laterally adjustable guides on the table to direct a board in alignment with the saw-slots, depending hangers of different lengths under the table-top and secured thereto, adjustable bearings in the hangers, an arbor in the bear-

ings, arranged at an angle in relation to the table-top, and saws of different diameters on the arbor having their upper edges on a common plane and arranged to cut the board through the slots of the table-top, substantially as described.

5. The combination with a matching machine, of sheathing lath making mechanism, comprising a removable table-top, slotted arms depending from said table-top and arranged angularly relative to the same, an arbor rotatably held by said arms, saws carried by said arbor, and means for driving said arbor and saw or saws thereon from the matching machine.

6. The combination with the removable table-top of sheathing lath making mechanism, of slotted arms secured to and depending therefrom, said arms being arranged angularly relative to said table-top, an arbor held by the arms by means of journal boxes adjustably mounted on the arms, bolts within said slotted arms connected with the journal boxes, and means for adjusting the arbor endwise whereby said arbor may be positioned at any desired angle relative to the said removable table-top or in parallelism therewith.

7. The combination with an arbor held by a removable table-top, slotted arms depending from said table-top at an angle thereto, which arbor is arranged diagonally relative to the said table-top, when forming the grooves dovetail, of saws mounted upon said arbor, spacing washers between said saws, and means for driving the arbor, all substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

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