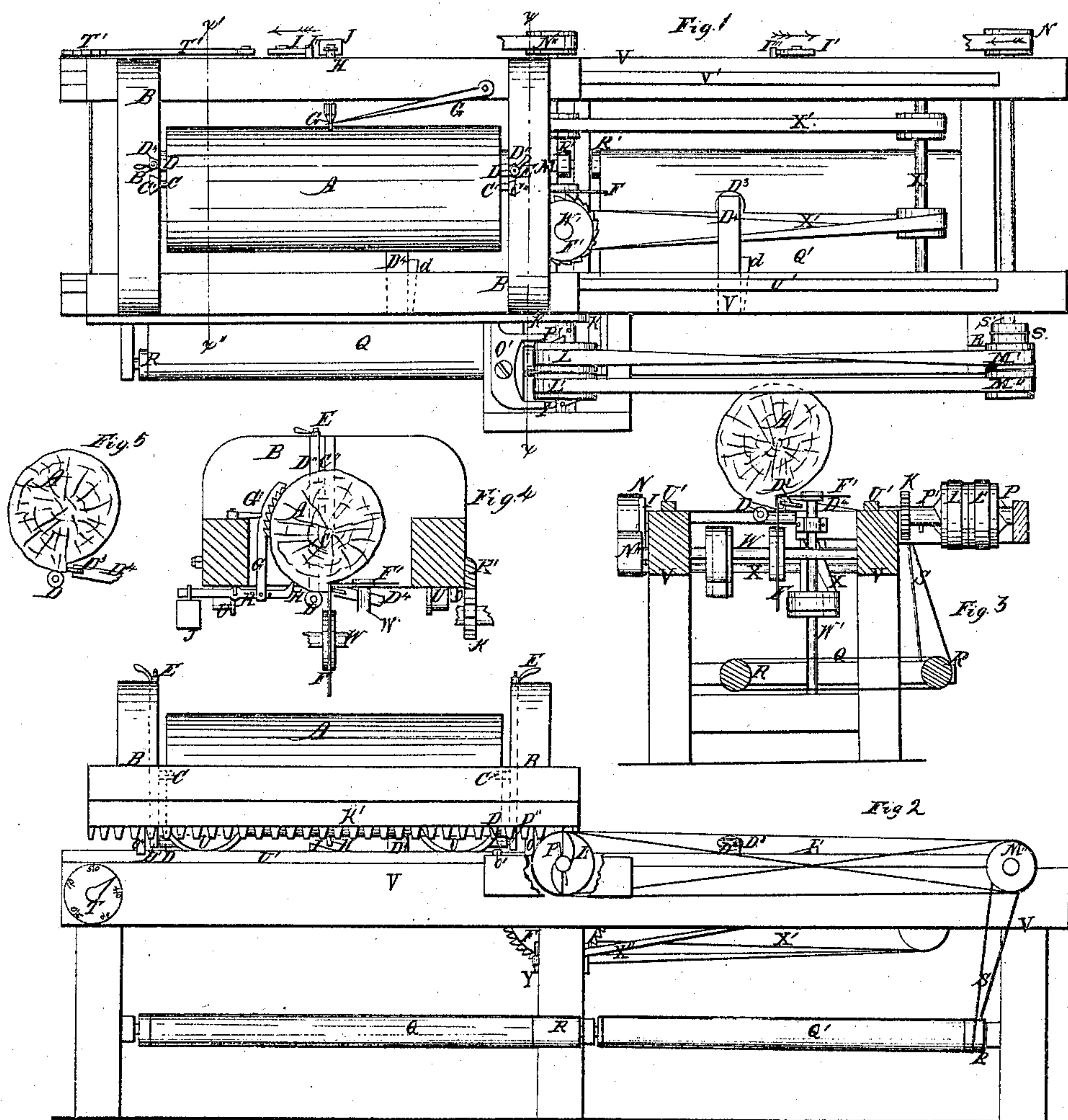


H. FRISBEE.
LATH MACHINE.

No. 10,905.

Patented May 16, 1854.



UNITED STATES PATENT OFFICE.

HIRAM FRISBEE, OF OLMSTEAD, OHIO.

LATH-MACHINE.

Specification of Letters Patent No. 10,905, dated May 16, 1854.

To all whom it may concern:

Be it known that I, HIRAM FRISBEE, of Olmstead, in the county of Cuyahoga and State of Ohio, have invented new and useful

5 Improvements in the Construction of Lath-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the annexed drawings, making part of this specification.

10 The nature of my invention consists in hanging the log upon centers in a carriage which moves the length of the log backward and forward on a frame, in which revolves circular saws, at right angles to each other,

15 for the purpose of cutting off the lath, from the log, as it traverses over the saws; also in the combination of devices for adjusting the log to the saws, so that lath, or strips of any desired thickness or width may be cut from

20 the log; and also, in revolving the log by the action of a ratchet, the thickness of a lath, immediately on each strip or lath being cut from the log.

To enable others skilled in the art, to

25 make and use my invention, I will proceed to describe its construction and operation.

Figure 1, is a plan view of the machine, Fig. 2, a side elevation, Fig. 3, a transverse section of the frame, without the carriage,

30 in the direction of the red lines X X, of Fig. 1. Fig. 4 is a transverse section of the carriage without the frame, in the direction of the lines X' X'' Fig. 1. The other view will be referred to in description.

35 Like letters refer to like parts in the different views.

A, represents the log, hung in the carriage B B, by the centers C C, upon which it revolves, and which centers are secured to the

40 slides C' C'', Figs. 1, and 4; these centers retain the log in place, but do not sustain the whole weight of it, as the log rests on the rollers D D. The rollers revolve upon the arm or journal, which passes through their

45 centers, and is secured to the slides D' D'', on top of which are the nuts E E; by this arrangement of the slides, nuts, and rollers, a log of any size may be adjusted in place for sawing off lath.

50 The log is revolved the thickness of a lath, each time it passes its length over the saws F F', in either direction longitudinally, by the ratchet G, Figs. 1 and 4, which is connected at the lower end, to the stay lever H,

55 by a joint. The stay lever is hung upon

journals near its center, to the under side of the carriage.

As the carriage passes over either of the cam blocks, I I', in the direction of the arrows, it brings the stay lever in contact

60 with them alternately, and by the inclined planes of the cam blocks, over which slides the stay lever, the end to which the weight J is hung, is raised, and the other end, to which the ratchet G is attached, is de-

65 pressed; thereby revolving the log, as the ratchet teeth are forced into it by the spring G', and its own inclination. As soon as the stay lever passes the cam blocks, by the action of the weight, a reverse movement is given

70 to the stay lever, which relieves the ratchet teeth from the log, and causes the point H' of the lever, as seen in Fig. 4, to be forced into it; which secures the log in place while traversing over the saws.

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The movements for rotating the log, take place directly after it leaves the saws. It matters not in which direction the log may be traversing, the result is the same, but as the carriage returns in a reverse direction of

80 the arrows, the stay lever again passes over the cam blocks, but as they are hung upon a center pin, they turn upon it by the lever, until the stay lever passes over it, then turns back to its place, and is prevented from turn-

85 ing only in the desired direction, by the stay pins I'' I''', which are inserted in the side of the frame. The log is prevented from turning more than the thickness of a lath, by the roller D³, Figs. 3, 4, and 5, against

90 which the shoulder or scaf, in the log rests, as it traverses. These rollers are supported by the arms D⁴ which are secured to the frame, d, are keys for adjusting the arms to the log. The traversing movement is

95 given to the carriage B B, by the rack and pinion K and K', the pinion being keyed to the same shaft as that on which the clutch loose pulleys L, and L', are keyed. These clutch loose pulleys belt out to the tight

100 pulleys M' M''.

On the other end of the same shaft to which the tight pulleys are attached, is the driving pulley N, on the outside of the

105 frame. By this arrangement of belts and pulleys, any movement given to the driving pulley N, causes a corresponding movement to be conveyed to the pinion K, which traverses the carriage, by means of the rack K'.

The forward and backward traverse of

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the carriage is obtained by cross belting, as follows: The driving wheel N, turning in the direction of the arrow, causes the carriage to move from the position it now has in Figs. 1 and 2, and by the action of the pin O, the shifter O' is moved, thereby the pulleys L and L' are shifted on the shaft, from the pin P, to P', which causes the carriage to move to I', then by the action of the pin O'', on the shifter, the direction of the carriage will be again reversed by the cross belt, on connecting the pulley L, to M', by which it will traverse to I, then again the reaction takes place as before described. This reverse traversing of the carriage from I, to I', and from I' to I, is produced by the belts on the pulleys L and L', and M' and M'' Fig. 1 the belt on the pulley L and M', being a cross belt, and the other straight.

In combination with the clutch and pins P and P', the pulley is moved by the shifter from the clutch P, to the clutch P', which, by the cross belt moves the carriage to I', leaving the pulley L' to run loose; when the pulleys are again shifted from P' to P, the pulley L' clutches, as seen in Fig. 1, leaving the pulley L to run loose, thus alternately the pulleys clutch and unclutch, by the action of the shifter, which gives the reverse traverse of the carriage, on the frame over the saws. Each time the log traverses over the saws, a lath is cut off.

The lath being cut off from the log, drop upon one of the aprons or conveyers, Q' Q, according to the position of the log over each apron or conveyer. These conveyers revolve upon the rollers R R', which are turned by the belt S, from the pulley S', Figs. 2 and 3. By this arrangement the lath are conveyed to the front of the machine, for bundling, as fast as cut from the log.

On the front of the machine is the index plate T, for counting the lath; this machine is operated by the pall and ratchet T' and T'', Fig. 1. The ratchet is on the opposite end of the shaft, to which the pointer is, and is worked by the pall T'', attached to the carriage.

On the under side of the carriage are wheels, as seen at U U, Figs. 2 and 4, upon which the carriage traverses on the ways U' U', which ways are secured to the frame V V. Inside of the frame are the circular saws F and F'. The saw F, is secured to the same shaft as the driving pulley N'', as seen at W, Fig. 3, and the saw F' is on the shaft W', which is driven by belting from the shaft W, to the shaft X, by the belt X', by which a motion is conveyed to the pulley V, by the cross belt X'', which is on the same shaft as the saw F, which shaft has a point and step at the bottom. The saw F' cuts the lath off horizontally, and the saw F, vertically, as seen in Figs. 3 and 4.

The arms D⁴ D⁴, slide in the frame, and are secured in place by the keys d d. These sliding or adjustable arms, in combination with the rollers D D, upon which the log rests, and the slides D' D'', provided with the adjusting screws E E, are the means employed for the purpose of adjusting the log to the saws, so that lath or strips, of any thickness or width, may be cut from the log.

The adjusting screws will raise or lower the log in a vertical direction from or to, the log, according to the required width of the lath or strip; and the arms D⁴ D⁴, adjust the log horizontally to the saws, according to the required thickness of the strips or lath.

Lath which are sawed from the log, are superior in all cases, to lath cut from the log, by means of knives, in the latter case, the lath are invariably checked or split by the action of the knives, in severing them from the log, and when the log is knotty, unsound, or not straight grained, the lath will not be of a uniform thickness, or width, because the action of the knives will not be equal or uniform, owing to the imperfect condition of the log, in such case a large portion of the lath are worthless by their being so split and broken up, by the wrenching of the knives and log.

When saws are used the lath are of uniform thickness and width, free from checks, as the saws will cut through the log without its starting or diverging from the saws, or the saws from the log, which is found not to be the case when knives are used.

What I claim as my improvement, and desire to secure by Letters Patent, is—

1. The combination of the movable cam blocks I I, stay lever H, ratchet dog G, and weight J, for the purpose of successively turning and gripping the log, in the following manner, the ratchet dog rotates the log the thickness of a lath as the stay lever passes over the movable cam blocks I I' on the instant the stay lever passes the movable cam block, the stay lever is reversed by the action of the weight J causing the log to be gripped and held stationary by the point of the lever at H' during the process of sawing. The act of turning and gripping the log takes place alternately as the carriage traverses backward and forward in the direction of the arrows.

2. I claim the combination of the adjustable rollers D, D, and D³, D³ the slides D' D'' and the adjusting screws E E with the slides C C as hereinbefore described, and for the purpose set forth.

HIRAM FRISBEE.

Witnesses:

W. S. CARPENTER,
G. FRISBEE.