

E. H. Hancock,

Making Laths.

N^o 22,499.

Patented Jan. 4, 1859.

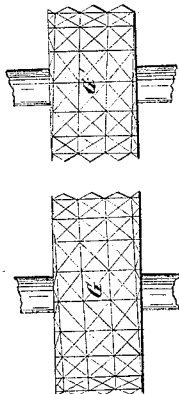


Fig. 3

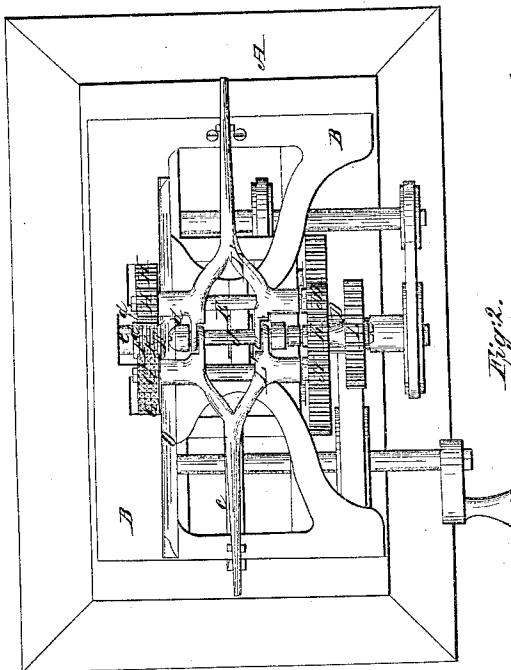


Fig. 1

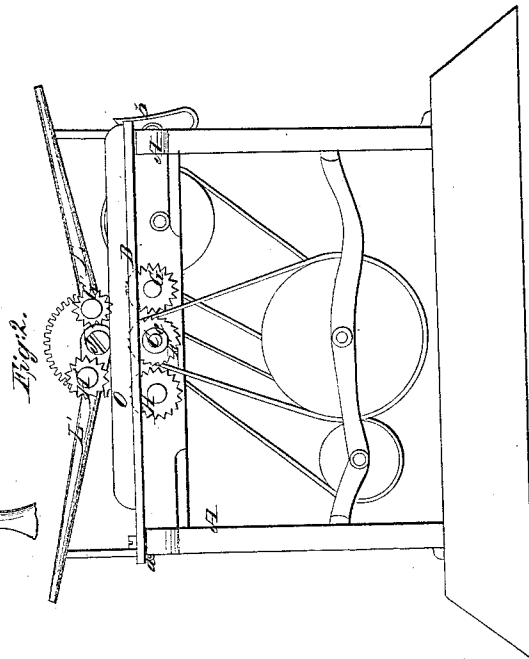


Fig. 2

Witnesses,

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UNITED STATES PATENT OFFICE.

E. H. HANCOCK, OF AUGUSTA, GEORGIA.

MACHINE FOR SAWING LATHS.

Specification of Letters Patent No. 22,499, dated January 4, 1859.

To all whom it may concern:

Be it known that I, E. H. HANCOCK, of Augusta, in the county of Richmond and State of Georgia, have invented a new and useful Improvement in Machines for Sawing Laths; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1, is a plan or top view of my improved machine. Fig. 2, is a side view of the same. Fig. 3, is an enlarged plan or top view of the first set of feed rollers.

Similar letters of reference, in each of the several figures, indicate corresponding parts.

The nature of my invention consists in the employment of a front set of feed rollers having the teeth arranged around their circumference in spiral lines, the spirals of the upper roller running just the reverse of those of the lower roller, in combination with an ordinary back set of straight fluted feed rollers, and with a stationary guide or gage strip which is set oblique to instead of parallel with the face of the saw. By employing rollers with spiral set teeth, the stuff from which the laths are cut, is always kept in close contact with the gage or guide until its inner end arrives at the back edge of the saw; and by having the gage or guide set oblique, the lath has a chance to move laterally slightly as soon as the end of the bolt arrives at the point stated, and thus enlarge the kerf, or make the space between the lath and bolt, wide enough for the back edge of the saw to move in without becoming heated by reason of friction or contact with the wood. And by having the back feed rollers of ordinary construction the bolt and lath will be discharged in a line parallel with the face of the saw and thus avoid the binding of the wood against the saw and guide or gage, as said rollers draw in a straight line instead of in a spiral line. It is owing to the teeth of the front feed rollers in taking hold of the stuff, drawing in a spiral or screw line, and consequently feeding the stuff laterally as well as longitudinally, that the uniformity in the thickness of the lath throughout its length is maintained.

My invention consists 2nd, in having the top roller of each set of feed rollers hung in swinging or yielding frames and driven from a central driving shaft which has the

frames hung and turning on it, so that when the rollers rise to feed different thickness of timber, the pinions shall always remain in gear.

My invention consists 3rd, in the combination of a table with hinged top, arbor with saws which can be set nearer together or farther apart by means of collars, feed rollers with spiral and straight teeth, swinging or yielding frames, and oblique set guide or gage strip; whereby laths, fence slats, sash and blind stuff, etc. of any thickness and width can be uniformly and conveniently sawed out with one machine, as hereinafter specified.

To enable others, skilled in the art, to make and use my invention, I will proceed to describe its construction and operation.

A, represents the frame of the machine, on its top a cast iron table B, well planed, is hung with hinges *a*, which allow it to be raised so that the saws can be slipped from their mandrel. This table is held down to its place by a spring catch *b*, and thrown up automatically by means of a flat spring *c*, when said catch is withdrawn. In the top of the table, are formed suitable openings to admit the upper part of the lower feed rollers, saws and central driving pulley.

C, is the saw mandrel. It is arranged transversely under the table B, about the center of the frame. On this mandrel, a shifting pulley E, and circular saws F, F, F, are arranged. The saws F, F, F, are slipped on the outer end of the mandrel and kept at the desired distance apart by means of loose collars *d, d, d*, the saws and collars being held firmly in place and together by a clamp nut *e*, which is screwed on the end of the mandrel. By having the saws thus secured on the mandrel, they can readily be adjusted to cut any required thickness of laths, fencing slats, sash and blind stuff or any other strips or slats required, by placing a greater or less number of collars between the saws. The saws when on the mandrel extend up through the table far enough to cut entirely through the lath bolt and hence will be seen the necessity for having the table hinged as described, so that it may be raised clear of the saws when it is desired to adjust the saws. This arrangement of saws also affords facilities for using a greater or less number of saws as occasion may require.

G, G', H, H', are two sets of feed rollers.

The set G, G', precedes the saws and the set H, H', succeed the same; or in other words the saws are situated intermediate between the two sets of rollers. The front set of rollers are dressed circumferentially with teeth which run in spiral lines; the spirals of the upper roller G', requiring to run just the reverse of those of the lower roller on account of the rollers G, G', turning in opposite directions. The effect of the spiral set of the teeth is to crowd the lath bolt laterally at the same time that they feed it forward. The back set of rollers are dressed with spur teeth or flutes set in the ordinary manner. These rollers take hold of the lath bolt after its end passes beyond the saws and keep it in a straight line until the saws have made a cut from end to end of the lath-bolt.

The upper roller of each pair of the feed rollers is hung in a swinging frame L', yielding or spring frame, said frames being hinged to a central shaft J, which has a pinion K, and a spur wheel L, on its outer end, said spur wheel gearing with the long barrel cog wheel D, and the pinion with pinions M, N, of the shafts of the feed rollers G', H', as shown. By this arrangement of the upper feed rollers, it will be seen that they can rise and fall to suit any desired thickness of lath bolt and yet always remain in gear.

O, is the stationary guide or gage against which the lath bolt is fed forward and by which the saws are compelled to cut the laths true and uniform. This gage or guide projects up from the surface of the table and gradually recedes from the face of the saw from its front to its rear end, thus providing room for the lath to gradually move laterally from the bolt after its forward end has escaped by the rear of the saws, and thus enlarge the kerf sufficiently to allow the rear teeth of the saw to run in the same without being heated by reason of friction or contact.

The machine thus constructed is driven

by the system of gearing represented or any other more suitable.

The lath machines most commonly used at present consist simply of a frame and table with a single saw on the mandrel and with a gage running parallel with the face of the saw projecting from the table. The timber when fed to the saw by hand in these machines, bears against the gage very imperfectly and the sawing is done very irregularly, and there is consequently about ten per cent. in waste. The irregularity in the sawing results from the lumber or bolt being fed from the rear end by hand and the saw consequently having a chance to pull the timber or bolt from the gage in a manner to cause the laths to be cut smaller or thinner near the middle of their length. These machines with a man attending, can only saw from three to four thousand per day. With one of my machines, two boys attending, more laths of a uniform thickness with but little waste of material can be sawed per day than can be sawed with four machines of ordinary construction having each a man attending.

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

1. The combination of the peculiar spirally toothed feed rollers G, G', ordinary toothed or fluted feed rollers H, H', and obliquely set guide or gage O, when the whole is arranged as described and relatively to the saws; for the purposes herein set forth.

2. The combination of the rollers G', H, swinging frames L', L', shaft J, pinions K, K, spur wheel L, and cog wheel D, substantially as and for the purposes set forth.

3. The arrangement of the swing table B, bearing a portion of the machinery with respect to the frame A, and the rest of the machinery thereon, as set forth.

E. H. HANCOCK.

Witnesses:

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L. D. LATTERSTEAT.