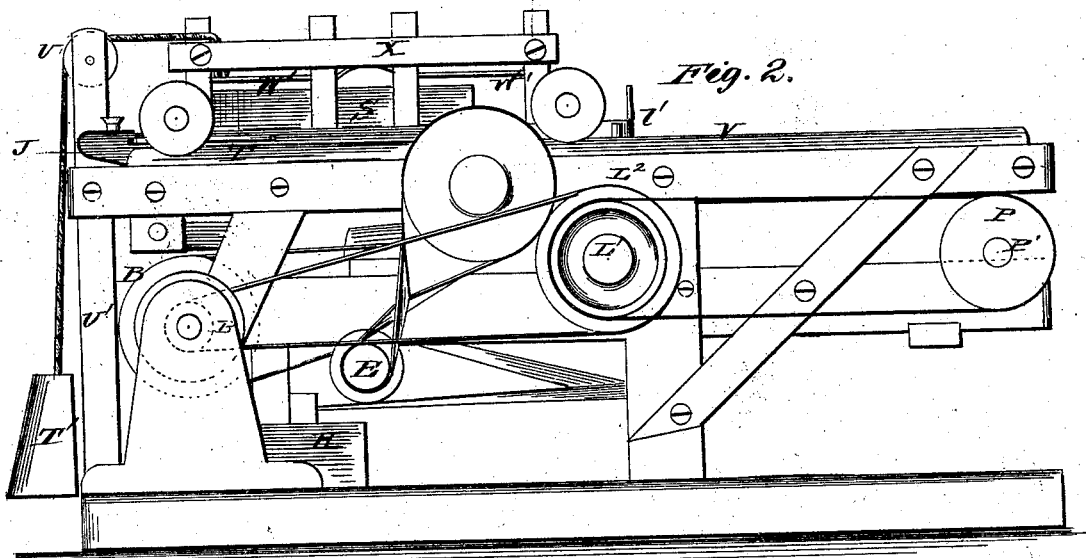
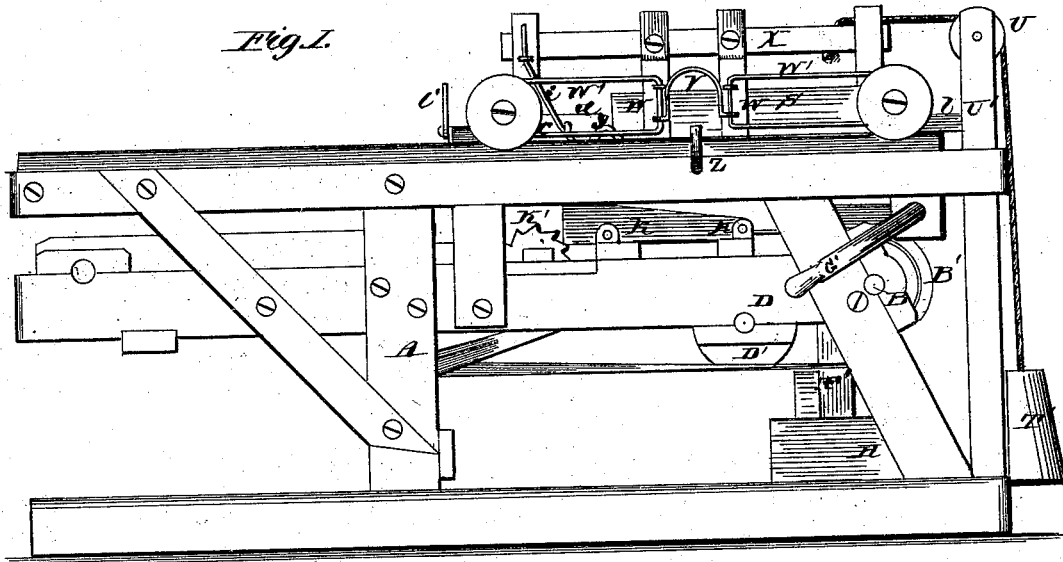


D. A. H. STARKWEATHER.
Machine for Sawing Laths.

No. 209,430.

Patented Oct. 29, 1878.



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Fig. 3.

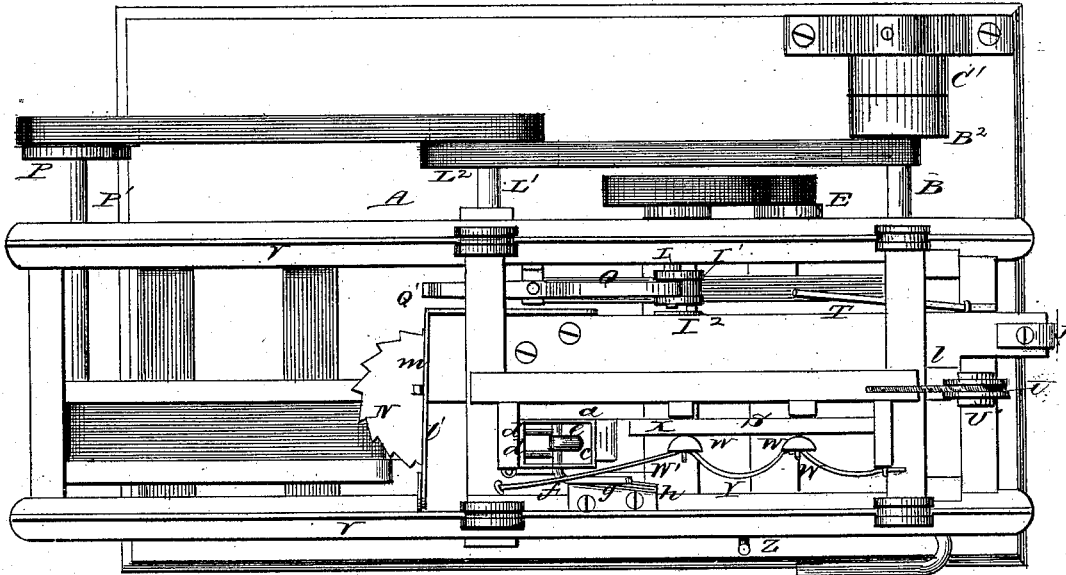
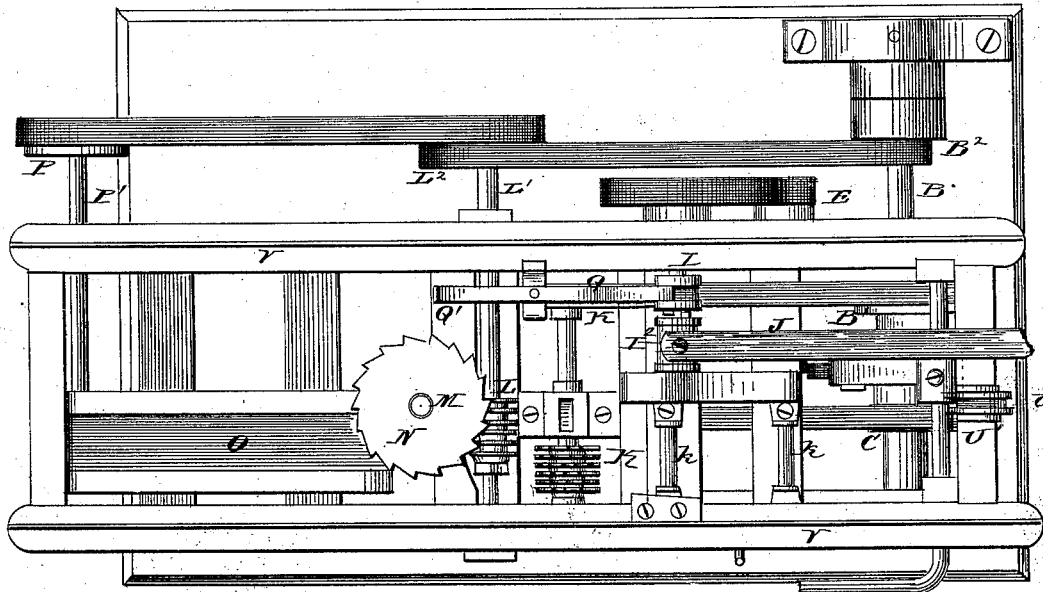


Fig. 4.



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UNITED STATES PATENT OFFICE.

DEROSNA A. H. STARKWEATHER, OF GREENVILLE, MICHIGAN.

IMPROVEMENT IN MACHINES FOR SAWING LATHS.

Specification forming part of Letters Patent No. **209,430**, dated October 29, 1878; application filed July 23, 1878.

To all whom it may concern:

Be it known that I, DEROSNA A. H. STARKWEATHER, of the city of Greenville, (Ureka,) in the county of Montcalm and State of Michigan, have invented certain new and useful Improvements in Lath-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a front elevation of a machine embodying the improvements in this invention. Fig. 2 is a rear elevation of the same. Fig. 3 is a plan view of the machine. Fig. 4 is a plan of the machine with the carriage removed. Fig. 5 is a vertical longitudinal sectional view. Fig. 6 is a vertical longitudinal sectional view. Fig. 7 is a detached view of the carriage, showing the automatic claw for holding and releasing the forward end of the slab in section.

This invention relates to lath-machines; and consists of improvements in the construction of the same, hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings similar letters of reference indicate like parts in the invention.

The frame A of the machine is provided at the right-hand end with the driving-shaft B, which carries the double pulleys B¹ B², the single pulley C, and the loose pulley C'. The shaft D carries a double pulley, D', near its center, and a pulley, E, at one end outside of the frame. A friction-wheel, F, having a soft-rubber periphery, is supported in hangers F¹, depending from and pivoted to an arm, F², keyed to a shaft, G, which slides in its bearings, to permit lateral adjustment of the friction-wheel F irrespective of the lateral adjustment of the same, that may be made by moving the arm F² along the shaft G.

The friction-wheel F is supported between a pulley on the shaft B and the pulley D' on the shaft D, and is held down to transmit the motion from the driving-shaft B to the shaft D by a weight, H, secured to the hangers F¹. An arm or lever, G', is used to raise the friction-wheel F from between its pulleys to per-

mit it to be shoved inwardly, or drawn outwardly to increase or lessen the amount of bearing-surface between the friction-wheel and its pulleys, to thereby increase or lessen the speed with which the slab in the carriage is to be fed to the saws.

A cross-band runs from the small pulley E upon the end of the shaft D to a large pulley upon the end of the short shaft I, provided with the clutch I', the loose end or spool I² of which receives and discharges the strap J, one end of which is connected with the front end of the carriage.

A band leading from the pulley B¹ of the driving-shaft to the pulley K runs the vertical saws K'. Directly behind the vertical saws K' are the splitters L, run by a cross-band leading from the double pulley B² to a large double pulley, L², upon the end of the shaft L'. A band leading from the single pulley C to a pulley at the bottom of the vertical shaft M drives the horizontal saw N at the top of the shaft M. An endless apron, O, driven by a band leading from the double pulley L² to a pulley, P, on the end of the shaft P', carries the laths as they come from the saws, and discharges them at the end of the machine.

A shifting-lever, Q, is pivoted in the rear of the clutch P, engages with said clutch, and has a vertical arm, Q', which engages with an adjustable guide at the rear of the carriage, to automatically engage the clutch I' and spool I², and cause the strap J to be wound upon the spool I², and thus draw the carriage toward and over the saws until the slab S has been cut through its entire length, when the trip T at the side of the carriage will automatically disengage the clutch from the spool by striking the arm Q' of the shifting-lever Q, and the carriage will be drawn back, to be again run over the saws, by the weight T', attached to the cord running over the sheave U in the post U' at the right-hand end of the machine.

The top of the frame A is provided with iron ways or rails V, upon which the grooved wheels of the carriage run. The carriage has at its front side the clamps W, provided with springs W', of sufficient strength to hold the slab S edge up against the frame X of the carriage. The clamps W are held open when the slab is to be introduced by the bail Y, which

is for that purpose hooked over the pin *Z* in the front of the frame *A*. The dog *b* at the right hand in the carriage is stationary. The dog *a* at the left hand in the carriage is automatic, and is constructed as follows, viz: *A* box or case, *c*, has the knife or claw working on guides *d*, and operated by the short arm *e*, fixed to the short shaft *f*, having the curved lever *g*, which engages with the guide-plate *h* when the carriage is held in place against the post *U'* by the weight *T'*, and prevents the dog *a* from biting the end of the slab *S*. A spring, *i*, forces the dog *a* into the end of the slab *S* as soon as the strap *J* has carried the carriage forward far enough to release the curved lever *g* from the guide-plate *h*, and the dog *a* retains its bite upon the slab *S* until the lever *g* has been again run beneath the guide-plate *h*, which occurs when the carriage has been drawn back by the weight *T'*, when it releases the slab *S* and permits that end to drop upon the guiding-rollers *k*, which operation jars the other end loose from the dog *b*, and permits the slab *S* to rest evenly upon the guiding-rollers *k*, so that by this means the slab is automatically lowered and held in place by the dogs *a* and *b*. The projection *l* at the right of the carriage strikes against the post *U'* when the carriage is drawn back, and stops it in the proper place. The left-hand end of the carriage has the guide-arm *l'* and the bumper *m*. When the carriage is drawn over the saws in the direction to have the saws operate upon the slab the guide-arm *l'* passes through an opening in the cross-piece of the frame at the left end, and the bumper *m* strikes said cross-piece.

It is not intended that any particular number of vertical saws and splitters are to be used; but a sufficient number should be employed to extend the entire thickness of the slab to be sawed. The vertical saws cut the slab into strips of the proper thickness, and the horizontal saw cuts it the proper width, while the splitters fill the gains, and separate and guide the laths to the endless apron.

The endless apron is protected by sideboards, which prevent the laths from falling from the apron until they leave it at the end.

Having thus described my invention, what

I claim as new and useful, and desire to secure by Letters Patent, is—

1. The friction-wheel *F*, supported in hangers *F'*, pivoted to the arm *F''*, keyed to the sliding shaft *G*, and operated by the lever *G'* and weight *H*, substantially as and for the purposes set forth.

2. The combination of the friction-wheel *F* and weight *H*, supported by the hangers *F'* from the arm *F''*, with the sliding shaft *G*, lever *G'*, and double pulleys *B'* and *D'*, substantially as and for the purposes set forth.

3. The combination of the clutch *I'* and spool *I''*, provided with the strap *J*, and arranged upon the shaft *L*, with the shifting-lever *Q* and arm *Q'*, and the carriage, provided with the adjustable guide-arm *l'* and the trip *T*, substantially as and for the purposes set forth.

4. In a carriage for lath-machines, the clamps *W*, springs *W'*, and bail *Y*, combined and operating substantially as and for the purposes set forth.

5. In a carriage for lath-machines, the automatic dog, composed of the case *c*, dog *a*, working on guides *d*, arm *e*, shaft *f*, and curved lever *g*, and the guide-plate *h*, all combined and operating substantially as shown, for the purposes set forth.

6. In a carriage for lath-machines, the combination of the clamps *W*, provided with the springs *W'*, and bail *Y*, with the fixed dog *b* and automatic dog *a*, as described and claimed, for the purpose of operating the slab *S*, substantially as set forth.

7. The carriage constructed to run upon the rails *V*, and provided with the adjustable guide *l'*, trip *T*, and cord and weight *T'*, in combination with the sheave *U* and post *U'*, and the shifting-lever *Q* and arm *Q'*, clutch *I'*, and spool *I''*, provided with strap *J*, constructed and operating substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

DEROSNA A. H. STARKWEATHER.

Witnesses:

GEO. E. BACKUS,

ALEXANDER GLEASON.