(No Model.)

# J. T. HALL.

## LATH SAWING MACHINE.

No. 321,716. Patented July 7, 1885.

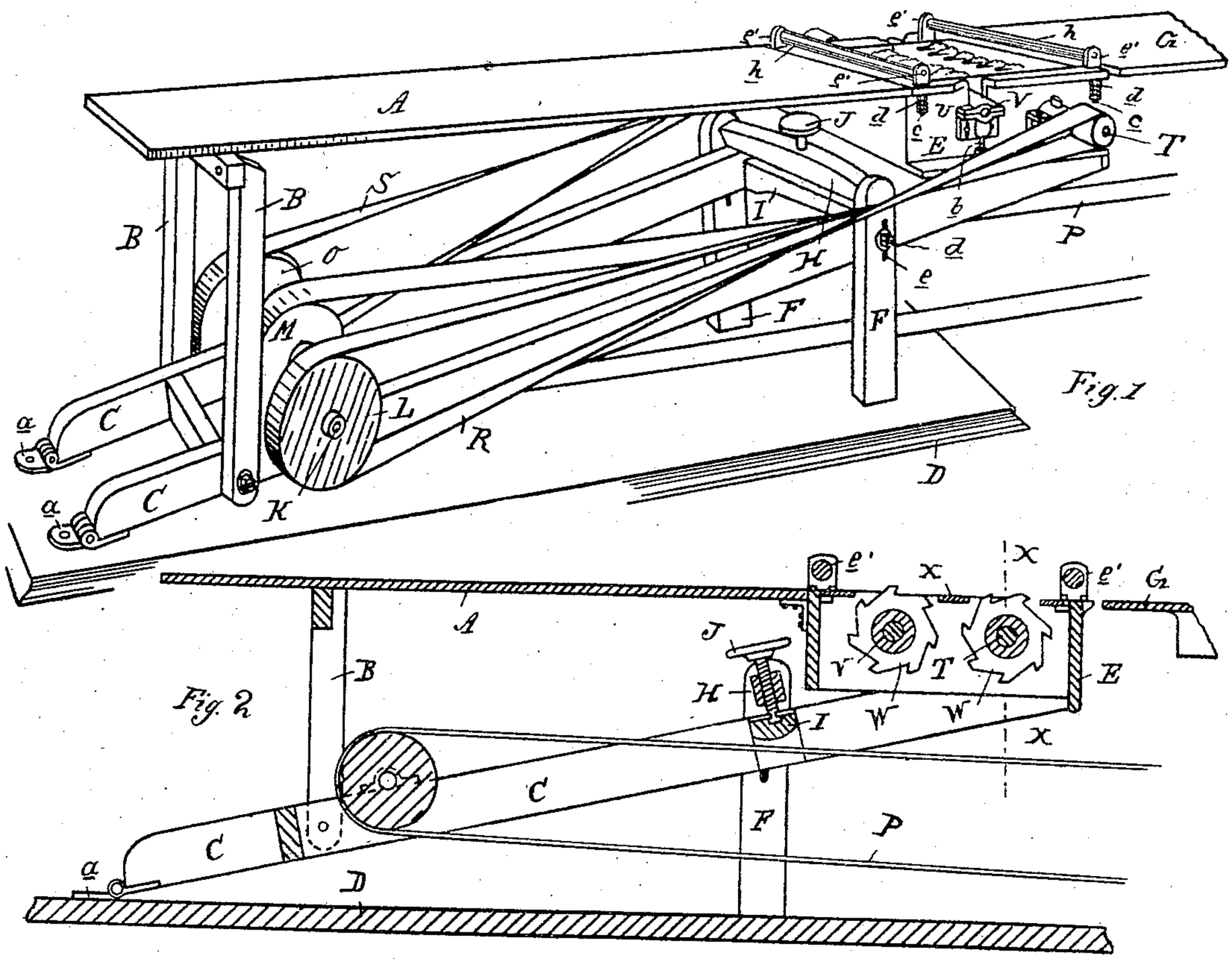



Fig. 1

Fig. 2




Fig. 3

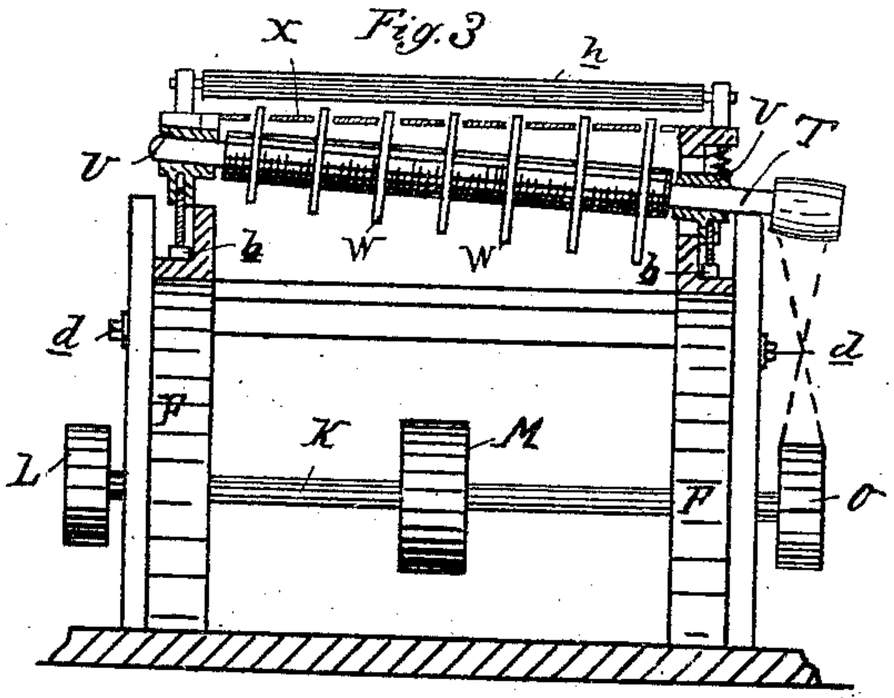
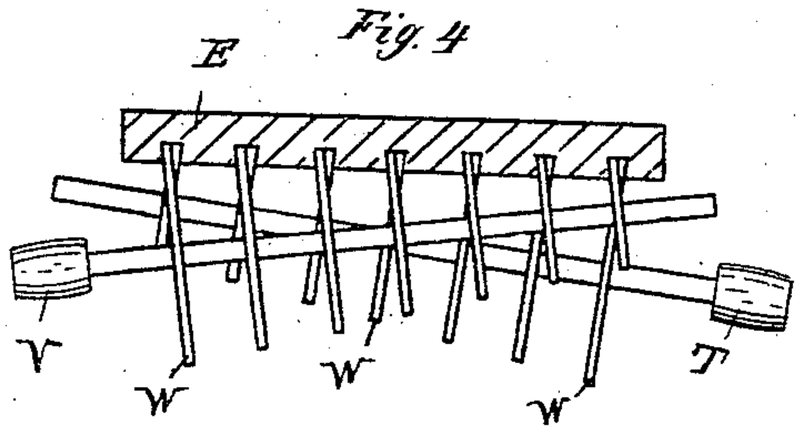



Fig. 4

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# UNITED STATES PATENT OFFICE.

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## LATH-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 321,716, dated July 7, 1885.

Application filed March 5, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES T. HALL, of St. Louis, in the county of Gratiot and State of Michigan, have invented new and useful Improvements in Lath-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in the construction of machines which are designed to be employed in connection with planing-machines for the purpose of dressing lumber upon one surface and grooving the same upon the opposite surface, such lumber being designed to be used for sheathing the interior walls of a building, and providing the necessary clings by means of which the mortar is secured in place. As lumber comes from the saws of the saw-mills it varies slightly in thickness, and hence the importance in its use for building purposes of reducing it to a uniform thickness. This is done by passing it through a planer, and this planer delivers the lumber after it has been so reduced to the device herein described, wherein dovetailed-shaped grooves are formed in that face which is designed to be inwardly presented when the lumber is used as sheathing, such device being driven from the planer proper.

The invention consists in the peculiar construction of the parts and their combinations, as more fully hereinafter described and claimed.

Figure 1 is a perspective view of my improved device, showing a section of the adjacent bed of a planing-machine. Fig. 2 is a vertical central longitudinal section of the same. Fig. 3 is a cross-section on the line *x x* in Fig. 2. Fig. 4 is a diagram showing the relative inclinations of the saw-arbors.

In the drawings, A represents the bed of my improved machine, supported at one end upon the legs B, which at or near their lower ends are pivotally secured to the inclined timbers or plates C, which are secured to the floor D of the mill by means of hinges *a* or any other equivalent devices. The opposite end of the table is supported upon or by the metallic frame E, which in turn is supported upon the upper ends of the inclined plates C, which are held in this inclined position by means of suitable bolts, *d*, which pass through the standards F, the lower ends of which also rest upon the floor of the mill. Slots *e* are formed in each of these standards, through which the bolts *d* pass to allow this end of the plates C to be elevated or depressed, as may be necessary in setting up the machine to bring the bed thereof upon a line and level with the bed G of the adjacent planer, which planer may be of any of the known and suitable constructions.

The standards F are connected together by a cross-girth, H, and immediately below this cross-girth the plates C are connected together by a tie-bar, I, and a set-screw, J, passing through the girth H into the tie-bar I, where a suitable swivel allows the operator, by means of the set-screw J, to lower this end of the bed A and its connections sufficient below the bed of the adjoining planer to allow the latter to be used independently of this device, in which case the other end of the bed A would act as a carrying-off table to the lumber passing through the planer, the working parts of this device having by the means described been dropped sufficiently below the body of such planer to allow the lumber sent through it to pass over it onto the bed A beyond.

K is the main driving-shaft of this device, having thereon three pulleys, L, M, and O, the pulley M receiving its motion by means of a belt, P, from a suitable connection with the planing-machine, and the pulleys L and O, by means of belt-connections R and S, give motion to the saws by means of which the dovetailed grooves are cut upon the lower face of the lumber as it passes over the planer.

T is an arbor driven by the belt R, and journaled in suitable boxes U in the iron frame E, which boxes are adapted to be adjusted vertically by means of set-screws *b*. V is another arbor, also carrying a pulley, and is driven by means of the belt S; and this arbor is supported in boxes provided with similar means of adjustment to those already described. It will be noticed that these arbors are supported upon diagonal lines—that is to say, the end of the arbor T, which carries the pulley, is lower than its opposite end, while one end of the arbor V is lower than its opposite end, as is clearly shown in Figs. 1

and 4, the lower ends of such arbors being upon the same plane, and their opposite ends being upon the same but a little higher plane, and each of these arbors is provided with a series of saws, W. These saws upon each arbor are largest upon that portion of the arbor which is upon the lower plane, and they gradually diminish in size toward the opposite ends of the arbors, so that in their revolutions each saw cuts under the surface, thereby forming a dovetailed groove.

At each corner of the iron frame E there are holes, through which pass the stems *c*, the lower projecting ends whereof are surrounded by coiled springs *d'*. These stems terminate in heads *c'*, and in each pair of these heads are journaled the pressure-rolls *h*, these parts being so constructed that the springs *d'* will limit and control the vertical motion of such pressure-rolls.

That portion X of the bed A which extends across the operating parts of this device to form a level connection between the beds G and A is provided with slots of proper size and properly located to allow the saws W to project through, and in their revolutions to operate upon the lower face of the lumber as it passes over the planer, which has reduced the boards to a uniform thickness.

In setting up this device it should be so set that the body G of the planer and the bed A of this device should be upon the same plane, when, the belt-connection being made as described, the lumber, as it passes through the planer and is reduced to a common thickness, passes under the first pressure-roll onto the portion X of the table, where it is subjected to the operation of the saws, and thence passes under the outer pressure-roll along the delivery or carrying bed A.

Should it be necessary to use the planer without this device, the screws *d* are slackened, when, by means of the set-screw J, this end of the device may be dropped until the pressure-rolls are below the body of the planer.

What I claim as my invention is—

1. In combination with adjustable saw-arbors carrying graduated saws, and inclined in opposite directions, journals for said arbors formed in an adjustable frame pivoted to the floor and adjustable in standards arising therefrom, and the table A, supported upon the pivoted frame, and providing recesses through which the saws operate, as set forth.

2. In a machine for the purposes described, the combination, with the standards F, rigid with the floor, and the frame C, pivoted to said floor and carrying the table A and saw-frame E, of the cross-girth H, connecting said standards, and set-screw J, operating through said girth and in the frame to adjust the table relatively to the planer-bed G, as set forth.

3. The pivoted frame C A E, substantially as described, in combination with the standards F, rigid with the floor, and provisions—as the girth H, connecting said standards, and the set-screw J, passing through said girth into the cross-bar L—for adjusting the height of the bed relatively to the planer-bed G, the saw-arbors T V, journaled in the frame E, and connected by belts with a power-shaft, also journaled in the pivoted frame, the whole arranged and serving as and for the purposes specified.

4. In a machine substantially as described, the combination, with the bed A, planer-bed G, and the saws, of a frame located between said beds A G and moving with the bed A, and the rollers *h*, carried by said frame and serving the double function of holding the work to the saws when the saws are in position, and as friction-rollers for work from the planer when the movable frame is lowered, as set forth.

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Witnesses:
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