W. P. VALENTINE.

Shingle-Machine.

No. 168,541. Patented Oct. 5, 1875.

Fig. 1.

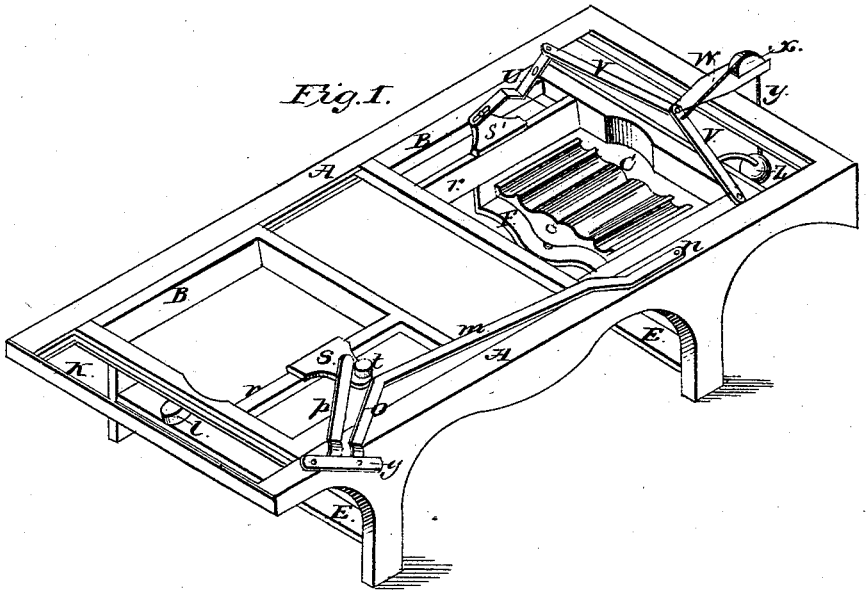


Fig. 2.

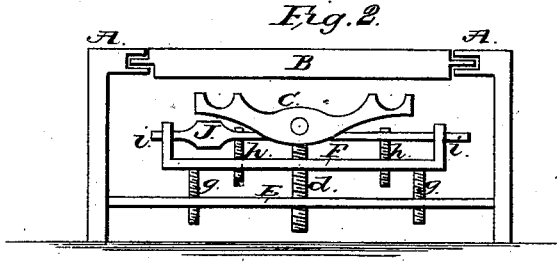
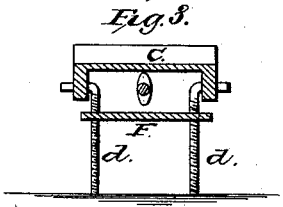


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM P. VALENTINE, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN SHINGLE-MACHINES.

Specification forming part of Letters Patent No. **168,541**, dated October 5, 1875; application filed December 21, 1874.

To all whom it may concern:

Be it known that I, WILLIAM P. VALENTINE, of the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Shingle-Machines; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvements without further invention or experiment.

My invention relates to certain improvements upon the shingle-machine for which Letters Patent No. 23,327 were issued to me on the 22d day of March, 1859, and reissued November 14, 1865, No. 2,107. My improvements consist, first, of an arrangement for adjusting the tilting frame or table which shifts the angle of the bolts or blocks of wood after each shingle is sawed, this adjustment being for the purpose of regulating the thickness and taper of the shingles; and, secondly, to certain improvements in checking and stopping the receding movement of the carriages or sliding frames which carry the blocks from the tilting table to the saw and back again. My invention also includes improvements in operating the clamps or dogs which alternately grasp and release the bolts or blocks when the machine is in operation.

In order to more fully illustrate and explain my improvements reference is had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is a transverse vertical section. Fig. 3 is a section of the tilting table.

A is the frame of my shingle-machine, inside of which the frames or carriages B B are arranged to slide back and forth, and carry the blocks of wood between the saw and tilting-table, as more fully described in my former patent. Each of the tilting-tables C (one of which is located at each end of the frame A and below the sliding frames) is supported by a vertical screw-rod, *d*, at the middle of each side. The lower ends of these screw-rods are secured in the cross-timbers E, which extend between the legs of the machine, while their upper ends are bent at right angles, so as to form journals which bear in boxes underneath the middle of each side of the table, so that the table can tilt from side to side while the screw-rods or supporting-legs can be used for adjusting the table up or down. Between the cross-timbers E and tilting-table C I mount a platform, F, which is somewhat longer than the tables C, by means of long screws *g g*, which also pass down through the cross-timbers, and serve to raise or lower the platform, as desired. A screw, *h*, passes upward through this platform below each end of the tilting-tables C, and extends sufficiently above it to permit their upper ends to serve as stops to regulate the tilt or angle of the table. The platform F has a vertical standard or end board, *i*, secured to each end, in which the opposite ends of the cam-shaft J bears, so that the rotation of the shaft will alternately tip the tables in opposite directions, as described in my former patent.

It will thus be seen that I provide the table C with an almost universal adjustment, by which I can raise or lower it at will, so as to make thicker or thinner shingles, as desired; and by setting the screws *h* I can adjust the tilt of the table so as to give any desired taper to the shingle.

To arrest and stop the movement of the carriages B B as they recede from the saw after each shingle has been sawed without jar to the machine, I employ a steel or other sufficiently strong and yielding spring K, to connect the ends of the ways or sides of the frame A. This spring is long enough to permit its ends to pass around the ends of the side timbers of the frame, and be secured to the sides a short distance from the ends of the timbers, as shown.

Each carriage B I provide with a buffer, *l*, which will strike the middle of this spring when the carriage moves back, and thus cause it to draw the ends of the ways toward each other, and pinch the carriage between them, thus stopping the movement of the carriage without noise or jar.

I have also devised two ways of operating the clamps, which alternately seizes and releases the bolt or block of wood as the carriage moves back and forth, and one of these devices I have represented at each end of the machine. One consists of a bar, *m*, one end

of which is pivoted upon the side timber of the frame at *n*, while its opposite end is bent at an angle outward, as at *o*. An india-rubber or other spring, *g*, connects the extremity of this bent end *o* with the side timber of the frame. A fixed plate or bar, *p*, is secured to the timber parallel with the angular end piece *o* of the bar *m*, and at a short distance from it, so as to provide an angular space between them. The clamp-block *r* has an arm, *s*, extending from it, and at the extremity of this arm is a short stud or upward-projecting pin, *t*. As the carriage moves forward the middle of the frame A, this pin, moving in the angular slot or space, will force the clamp against the block of wood, where it will be held until the carriage returns in its backward movement far enough to cause the pin to strike the projecting end of the bar *p*, which will force it into the slot and draw the clamp away from the bolt or block, so as to release it and let it be adjusted to the opposite angle by the table. The other device consists of a lever, U, one end of which is pivoted to an arm, *s'*, of the clamp-block, while its middle is pivoted to the side of the carriage. A pair of toggle-levers, *v v*, extend across the rear side of the carriage, one end of which is pivoted to the opposite end of lever U, while its other end is pivoted to the opposite corner of the carriage. By forcing the joint or middle of the toggle-levers toward the inside of the carriage they will draw the outer end of lever U toward the middle of the frame A, and consequently withdraw the clamp-block so as to release the bolt of wood, and by straightening the toggle-levers the clamp will be forced against the bolt of wood, so as to hold it. To accomplish this I secure a buffer, W, across the middle of the end timber of the frame A, so that its extremity will project inside of the timber and strike the middle joint of the toggle-levers when the carriage moves back, thus forcing the joint inward and withdrawing the clamp. A pulley, *x*, is secured in the outer end of the buffer *w*, and a cord, *y*, has one end secured to the middle of the toggle. This cord passes over the pulley *x*, and has attached to its opposite end a weight, *z*, so that when the carriage starts forward again the pull of this weight will straighten the toggle and force the clamp against the block. The weight *z* moves along a guide-rod, so that it will act steadily. I thus provide very important improvements in this class of shingle-machines. The machine can also be used for sawing out boards for boxes and similar purposes, in which case the tilting table C must be set and retained in a horizontal position.

Having thus described my improvements, what I claim, and desire to secure by Letters Patent, is—

1. The spring K, for connecting the ends of the side timbers of the frame A, in combination with the carriage B, with its buffer *l*, substantially as and for the purpose above specified.

2. The pivoted bar *m*, with its angular end *o* and spring *g*, and the fixed parallel bar *p*, in combination with the carriage B, with its arm *s* and pin *t*, substantially as and for the purpose above described.

3. The carriage B, with its arm *s'*, lever *u*, and toggle-levers *v v*, in combination with the buffer *w*, pulley *x*, cord *y*, and weight *z*, substantially as and for the purpose specified.

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Witnesses:

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