JOSEPH JIMO.

Improvement in Shingle-Machines.

No. 114,443. Patented May 2, 1871.

Fig. 1.

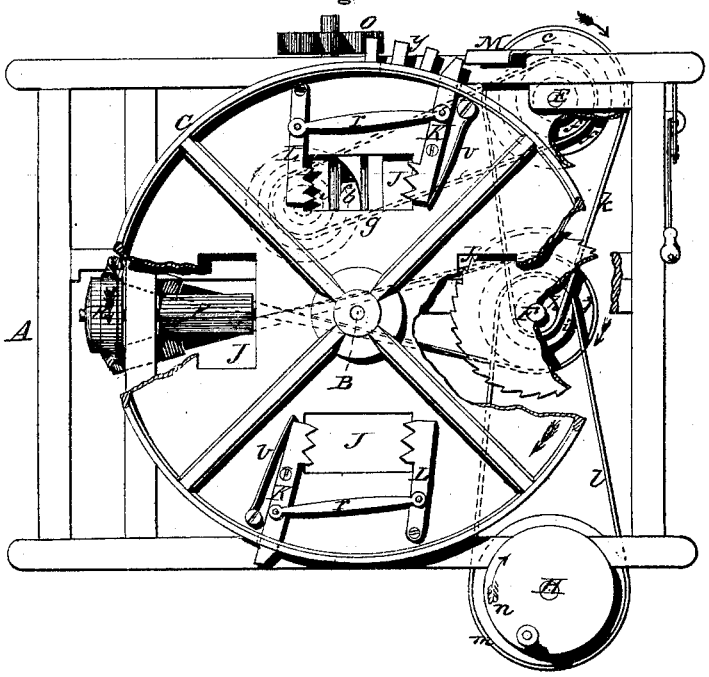


Fig. 2.

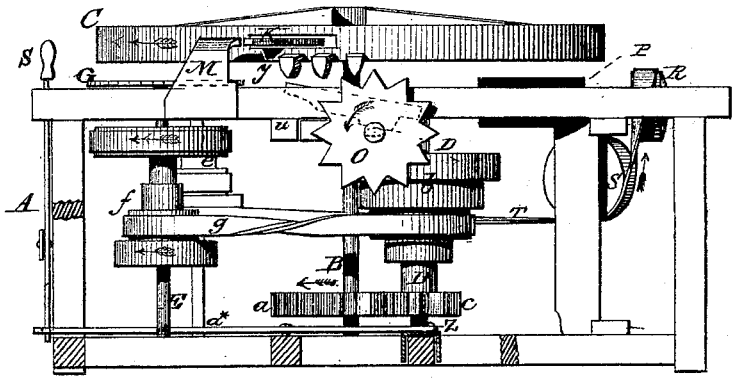


Fig. 3.

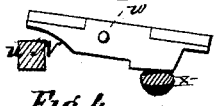
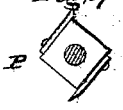


Fig. 4



Witnesses.

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JOSEPH JIMO, OF VERGENNES, VERMONT, ASSIGNOR TO HIMSELF AND E. H. LANDON, OF SAME PLACE.

Letters Patent No. 114,443, dated May 2, 1871.

IMPROVEMENT IN SHINGLE-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOSEPH JIMO, of Vergennes, in the county of Addison and State of Vermont, have invented certain Improvements in Shingle-Machine, of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to that class of shingle-machines in which the bolts or blocks are fed against the saw by a horizontal rotating table; and

The invention consists in an improved manner of constructing and arranging various details, as hereinafter described.

Figure 1 is a top plan view of the machine with certain portions broken away;

Figure 2 is a side elevation of the same;

Figure 3 is an end view of the tilting table and the shaft for operating it; and

Figure 4, an end view of the planer or cutter.

A represents the frame of the machine, at the center of which is mounted a vertical shaft, B, having on its upper end a large circular horizontal table, C, and on its lower end a cog-wheel, *a*.

By the side of shaft B is mounted another vertical shaft, D, provided with cone-pulleys *b* and a pinion, *c*, which gears into wheel *a*, as shown in figs. 1 and 2.

In one corner of the frame is mounted a vertical shaft, E, provided with a large pulley, *e*, and cone-pulleys *f*, the latter being connected by a crossed belt, *g*, with pulleys *b*, as shown in fig. 2.

At the middle of the frame, near one side, is mounted a vertical shaft, F, provided with three fixed pulleys, *h*, *i*, and *j*, and also on its upper end, above the frame, with a circular saw, G.

The pulley *h*, which is the smallest of the three, is connected, by a belt, *k*, with the large pulley *e* of the corner-shaft E, as shown in fig. 1; and the pulley *i* is connected, by a belt, *l*, with a large pulley, *m*, on a vertical driving-shaft, H, mounted in one corner of the frame, as shown in fig. 1.

The shaft H is also provided with a second pulley, *n*, through which the power to drive the machine is applied.

When the shaft H is set in operation motion is transmitted through belt *l* to the saw-shaft, and thence through belts *h* and *g* to the pinion *c*, which in turn rotates the wheel *a* and turns the table or bed C.

Owing to the arrangement and proportion of the various parts the saw is revolved at a high and the bed at a slow rate of speed.

Through the bed C is formed a number of rectangular openings, J, to receive the bolts or blocks of wood, so that as the bed revolves the different bolts will be carried in succession over the saw G.

To the bed C, at each opening J, is pivoted a pair of levers, K L, one at each end of the opening. The inner ends of the levers, opposite the openings J, are provided with teeth to engage in and hold the block or bolt of wood.

The two levers are connected by a bar or link, *r*, in the manner shown, so that they shall both swing against or away from the block at the same time.

The end of lever K of each pair is extended out beyond the edge of the bed C, and an upright, M, is secured to the side of the main frame in such manner as to strike against levers K as the bed revolves, and thus open the different pairs of arms in succession.

A spring, *v*, is secured behind each arm K, so as to keep the pair closed, except for the instant they are held open in passing standard M.

At one side of frame A, under the bed C, is mounted a tilting bed or table, N, shown in place in figs. 1 and 2, and detached in fig. 3.

This table is supported at one side on a stationary horizontal shaft, *w*, and at the opposite side it rests on a rotating shaft, *x*, flattened on its two sides, so that when the table rests on either of the flat sides of the shaft it stands inclined in one direction; but when the shaft is turned up edgewise the bed is inclined in the opposite direction.

To the outer end of shaft *x* is secured a toothed wheel, O, and to the outer edge of the bed, close together, are secured three teeth or fingers, *y*, which, as the bed C revolves, engage with the wheel O and turn the same, the shaft being turned a quarter of a revolution at each revolution of the bed.

During one revolution of the bed C the table N stands inclined in one direction, and then the fingers turn wheel O and tilt the table in the opposite direction. The table remains in this latter position until the bed completes the second revolution, when the fingers again come into play and the table is tilted back in the first position, and so on repeatedly.

On the opposite side of the frame from the saw, under the bed C, is mounted a horizontal shaft, P, provided with cutting or planing-blades, as shown in figs. 1, 2, and 3.

On the outer end of this shaft P is secured a pulley, R, and to the frame below said pulley are secured two guide-pulleys, S, as shown.

A belt, T, is passed over the pulley R and under the pulleys S, and then crossed and carried around pulley *j* of shaft F, as shown in figs. 1 and 2.

The various parts being thus arranged, a bolt clamped in each of the openings J, and the machine set in motion, the operation is as follows:

As the bed C revolves each bolt is carried around over the rotary cutter P and the under side of the bolt smoothed or planed off. The bolt then passes around until it is over the table N, when the lever K strikes standard and the levers are opened for an instant so

as to let the bolt drop down and rest on the table N. As soon as lever K passes the standard the levers clasp the block and hold it in position while it is carried around over the saw, which cuts a shingle off from the under side.

The block is then carried around as before, being first planed off, and then released so as to rest on the table; then clamped again, and finally presented to the saw.

The table N is placed below the level of the saw, and serves as a gauge to regulate the thickness of the shingle.

Owing to the arrangement of the table N, which stands at one inclination during one revolution of the bed C, and at the opposite inclination during the next revolution, the saw cuts obliquely through the bolt—first in one direction and then in the other, so that there is no waste of material, as the butt of one shingle is taken off from the right and the next off from the left end of the bolt.

To provide for stopping the motion of the bed without stopping the other parts, the lower end of shaft D is mounted in a box, *z*, arranged to slide laterally, and a lever, $a^{\times}$, is pivoted to the frame and connected at its inner end with the sliding box, and at its outer end with a vertical pivoted hand-lever, S, as shown. By moving the hand-lever the box *z* and the lower end of shaft D may be moved so as to throw the pinion *c* in and out of gear, and thus the bed stopped and started when desired.

Having thus described my invention,

What I claim is—

1. The tilting table N and the shaft *x*, having the wheel O attached, in combination with the rotating table C provided with the fingers *y*, all constructed and arranged to operate as set forth.

2. A shingle-machine, consisting of the rotating table C with its dogs K L, the saw G, the tilting table N, and revolving planer P, all constructed and arranged to operate substantially as herein shown and described.

JOSEPH JIMO.

Witnesses:

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D. H. LEWIS.