

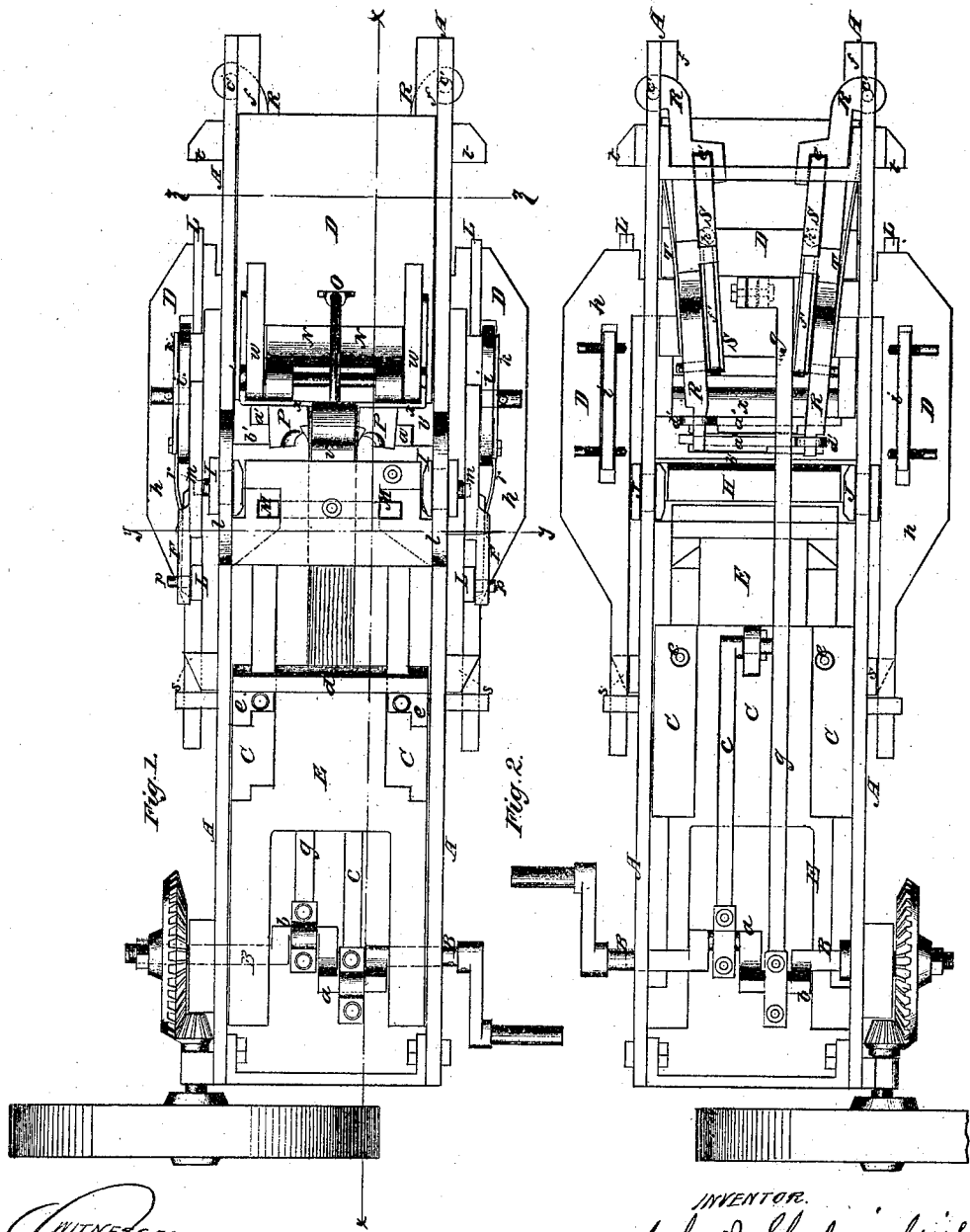
C. Shelvudine,

3. Sheets, Sheet 1.

Shingle Machine.

No. 109,258.

Patented Nov. 15, 1890.



WITNESSES.
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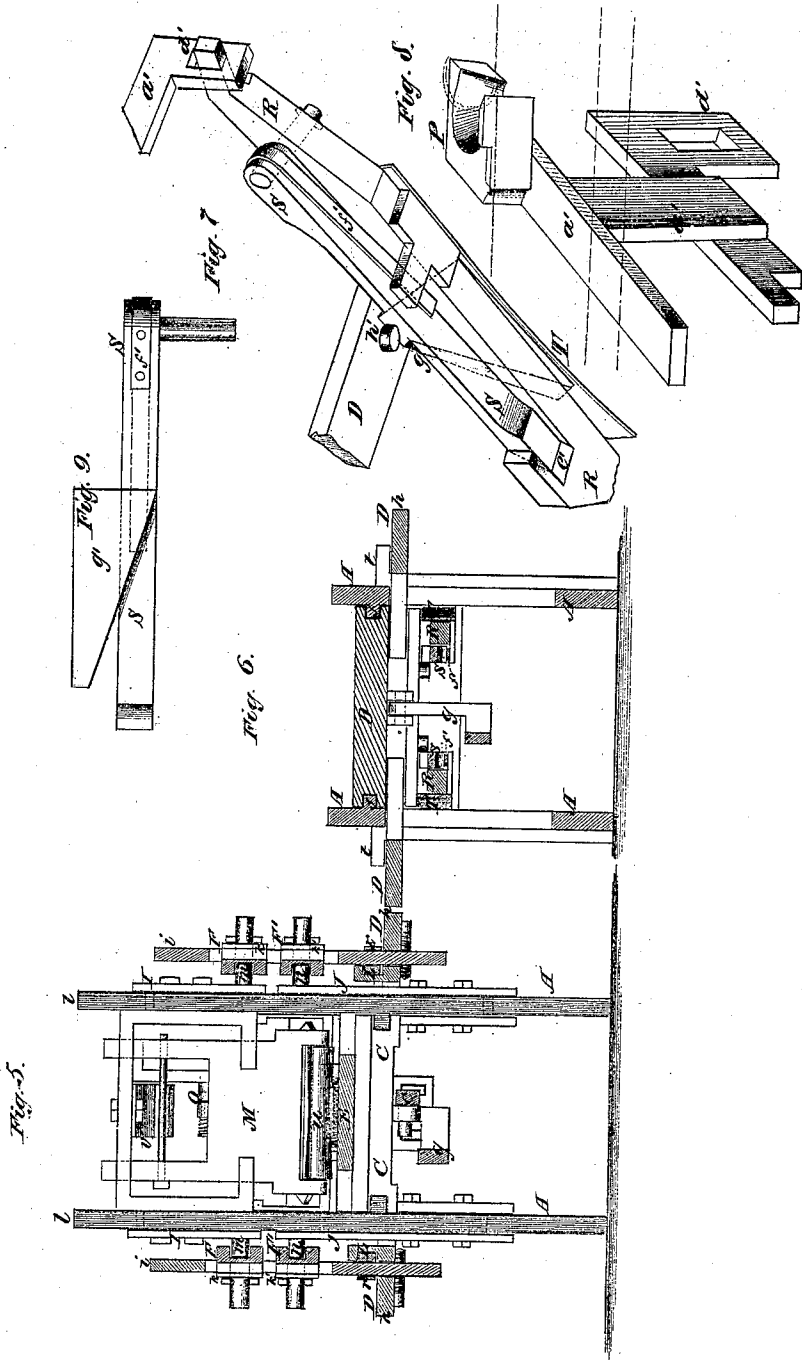
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3, Sheets, Sheet 3.

Shingle Machine.

No. 109258.

Patented Nov. 15, 1870.



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CHARLES SHELMIDINE, OF SUMMIT, NEW YORK.

Letters Patent No. 109,258, dated November 15, 1870.

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, CHARLES SHELMIDINE, of Summit, in the county of Schoharie and State of New York, have invented a new and improved Machine for Shaving Shingles, &c.; 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 make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 represents a plan or top view of my improved machine for shaving shingles.

Figure 2 is an inverted plan view of the same.

Figure 3 is a side elevation of the same.

Figure 4 is a vertical longitudinal section of the same, taken on the plane of the line *x x*, fig. 1.

Figure 5 is a vertical transverse section of the same, taken on the plane of the line *y y*, fig. 1.

Figure 6 is a vertical transverse section of the same, taken on the plane of the line *z z*, fig. 1.

Figure 7 is a detail perspective view, on an enlarged scale, of the lever for operating the edger.

Figure 8 is a detail perspective view of the slide on which the edger is secured.

Figure 9 is a detail plan view of the lever which operates the edger.

Similar letters of reference indicate corresponding parts.

My invention relates to shingle-machines; and my object is to introduce to the public certain improvements thereon, which will first be described in connection with all that is necessary to a full understanding thereof, and then clearly specified in the claim.

A in the drawing represents the frame of my improved shingle-shaving machine.

It is made of metal, or other suitable material, of such suitable size and shape as to properly sustain and hold the machinery connected with the apparatus.

Near one end, which I will denominate the rear end of the frame, is hung in the same the transverse driving-shaft B, which receives rotary motion by suitable mechanism.

The driving-shaft is provided with two cranks, *a* and *b*, standing opposite to each other, as shown in fig. 4.

The crank *a* has nearly or quite double the length of the crank *b*, and serves to feed the shingles to the knives, while the shorter crank is used for carrying the shingles through the cutting apparatus.

The feeding apparatus consists of two sliding frames, C and D.

The frame C is, by a rod, *c*, connected with the crank *a*, and is mainly below the table or platform E of the frame A.

It supports above said platform a transverse bar or driver *d*, the supporting-arms *e* of which project through slots of the platform E, as indicated in fig. 1.

The shingle to be cut being placed upon the platform E in front of the driver *d*, is by said driver pushed forward toward the cutting apparatus.

The front or pushing-face of the driver *d* is slanting, so as to recede toward its lower part, as shown in fig. 4. It will thereby prevent the rear end of the shingles from tipping or springing up, and will always hold the same in the proper position.

The front frame D rests on rails *f f*, that project from the inner faces of the cheeks or sides of the frame A.

The platform E is continued but a short distance in front of the forward position of the frame C, and is not in the forward part of the frame A.

The frame D constitutes the front, but movable, platform of the frame A.

A rod, *g*, connects the front frame D with the short crank *b*.

The frame D carries side plates *h h*, which project beyond the sides of the frame A, to form movable side tables.

Each of these tables *h* contains a projecting vertical plate, *i*, which has two vertically-adjustable plates, *k k*, as shown in fig. 3.

The plates *k k* serve, respectively, to support and hold pivoted levers *F F*, which are grooved on their inner faces, for the purpose of adjusting the planing-knives vertically.

G and H are the two planing-knives, set in inclined positions against each other, so that their cutting-edges are opposite each other, as shown in fig. 4.

The planes are set, respectively, in sliding frames I and J, which are vertically adjustable in the frame A.

The upper knife G is hung in the frame I, which slides in or on ears *l l* that project from the sides of the frame A.

A pin, *m*, projects from the frame I into the groove on the inner faces of the levers F.

The lever F, when swung on its pivot, will, therefore, serve to adjust the knife G vertically.

The lower knife, H, is secured in the lower frame J, which has a pin, *n*, projecting into the groove of the lever F', so that the knife will be vertically adjustable by means of said lever F'.

In the drawing I have shown a pair of levers, F F', in each side of the machine. A single pair will, however, be sufficient.

The levers F F' have inclined slots *o* at their outer winging ends.

Through these slots are fitted pins *p p* that project from a sliding elbow-lever, L.

This lever is, by a spring, *r*, held against the plate, to be carried along by the same, but still to be independently adjustable.

The ends of the lever L strike, during the motion of the frame A, respectively, against stationary stops, *s* and *t*, that are secured to the sides of the frame A.

The stops *s* and *t* are adjustable and removable.

At the end of the backward stroke of D, the lever L will strike the back stop, *s*, and will thereby be pushed forward, to carry the pins *p* into the forward or diverging ends of the slots *o*.

The back ends of the levers F F' will thereby be drawn together, so that said levers will be inclined.

The grooves, on their inner sides, will thereby also be inclined, so that they will serve, during the ensuing forward motion of the frame D, to gradually draw the knives G H together. The taper will thereby be produced on the shingle.

At the end of the forward stroke the front end of the lever L will strike the stop *t*, whereby said lever will be pushed backward to swing the plates F F' apart, and spread the knives.

These will remain thus spread during the backward motion, so that they may be in position for taking hold of the thick end of the shingle.

Just behind the knives G H is arranged, above the platform E, a vertically-adjustable frame, M, carrying a transverse roller, *u*, at its lower end, and pressed down upon the platform by a spring, *v*.

This roller is smaller in the middle than at the ends, being thus of double conical form, as shown in fig. 5.

The frame and roller M serve to hold the shingle down, and to apply enough pressure to make it move steady.

The double inclination of the roller *u* serves to keep the shingle in the right direction; preventing it from swing to the right or left.

Upon the rear part of the movable platform D is arranged the self-acting clamp N, which is a plate, pivoted to projecting ears *w*.

Its weight causes it to swing backward against a fixed plate *x*.

When the shingle presses forward, the knife-edge of the clamp N will hold it on the platform D.

A spring-foot, O, pivoted to a projecting portion of the frame A, is held down upon the platform D, and retains the shingle on the same after the clamp N has released it.

Each of the edging-knives P P' is secured to a frame, *a'*, which is supported by a transverse rail or rails, *b'*, of the frame A, directly in front of the knives G H.

The frames *a'* are laterally adjustable, and are set by means of swinging levers R.

Each lever R is, by a pin, *c'*, pivoted to the extreme front end of the frame A, as shown in fig. 2.

The rear end of the lever R fits through a slotted arm, *d'*, of the frame *a'*, as indicated in figs. 7 and 8.

To the inner side of the lever R is pivoted, near the rear end, a spring-lever, S, which is held up against an inclined stop, *e'*, by a spring, *f'*.

The upper face of the lever S carries a wedge, *g'*, which works in conjunction with a pin, *h'*, projecting downward from the frame or platform D.

While the platform D moves forward, the pins *h'*

will move over the wedges *g'*, simply depressing the levers S, the wedges being thinner at the rear ends to admit the pins *h'*.

The levers R are then thrown toward each other by powerful springs T, so that the edging-knives are thereby thrown against the edges of the shingles.

When the pins *h'* have passed the wedges, the levers S are thrown up by the springs *f'*.

During the backward motion of the slide D, the pins *h'* move along the oblique edges of the wedges *g'*, and serve thereby to gradually swing the levers R and their knives P' apart, allowing them to fit over the end of a new shingle.

As soon as near the end of the backward stroke the edgers P have arrived in line with the new shingle, the pins *h'* pass the wedges and liberate the levers R S, so that the knives P may, by the springs T, be thrown against the shingles.

The operation of the machine is as follows:

The shingles to be shaved are successively placed upon the platform E in front of the driver *d*.

The rotation of the shaft B will move the frame C forward, so that the driver will push the shingle ahead between the cutters G H, and under the roller *u*.

When the crank *a* has moved the frame C as far forward as possible, the frame D commences to move forward, and C is again moved back.

During the momentary dead-point the roller *u* holds the shingle in place, and prevents its being again taken back by the friction of the frame C.

As soon as the frame D begins to move forward, the knives G H are gradually thrown together, and shave both sides of the shingle to produce the requisite taper.

The edgers P are also thrown against the edges of the shingle and plane the same.

The clamp N holds the shingle on the frame D, and draws it forward with the same.

As soon as the frame D commences again to move backward, the shingle is released by the clamp N, but is held on D by the presser-foot O, which retains it until it is pushed out by the next shingle.

During the backward motion of the frame D, the knives G, H, and P, are again spread, as aforesaid, ready for the next shingle.

For dressing staves, the knives G H are replaced by such having, respectively, convex and concave cutting-edges.

The stops, *s* and *t*, are removed, and the levers F F' held parallel, so as to keep the cutters in the same relative position throughout the entire operation.

The driver *d* may also be replaced by one having no slanting edge, and the roller *u*, as well as the self-acting clamp, by one having a rounded circumference, *i. e.*, larger in the middle than at the ends.

Having thus described my invention,

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

1. The combination with tools G H, of the pivoted levers F F' grooved on their inner faces, and the sliding frames I J, as and for the purpose described.

2. The combination, with the pivoted levers F F' having inclined slots O, of the sliding lever L *p p*, spring *r*, plate *i*, and fixed stops *s t*, to open and close the knives at the times and in the manner described.

3. A pressure-roller, *u*, for shingle-machines, formed of two cones united at their vertices, and in contact with the shingle only at each side, to thereby prevent all lateral swing of the same.

4. The combination, with the shingle-transferring slide D, of the pivoted and knife-edged clamp N,

to retain the blank firmly while said slide moves in one direction, but to release it readily when it moves in the other, as described.

5. The combination, with a shingle-transferring slide D, of the spring-foot O, pivoted to the frame A, to hold the shingle after the clamp N has released it, as described.

6. The combination, with the edgers P P, of laterally sliding frame *a' d'*, swinging levers R, spring-wedge lever S *g'*, inclined stop *c'*, and sliding frame

D *k'*, to open the said edgers for the shingle at the time and in the manner described.

7. In a shingle-machine, the driver *d*, spring-pressed roll *u*, vibrating clamp N, and presser-foot O, combined with the sliding frames C D to transfer the blank to and from the knives, in the manner described.

Witnesses: CHARLES SHELMIDINE.

BYRON BURNETT,

(GEO. W. FERRIS.