(No Model.) 3 Sheets—Sheet 1.

J. M. HARVEY.

SHINGLE SHAVING MACHINE.

No. 262,765. Patented Aug. 15, 1882.

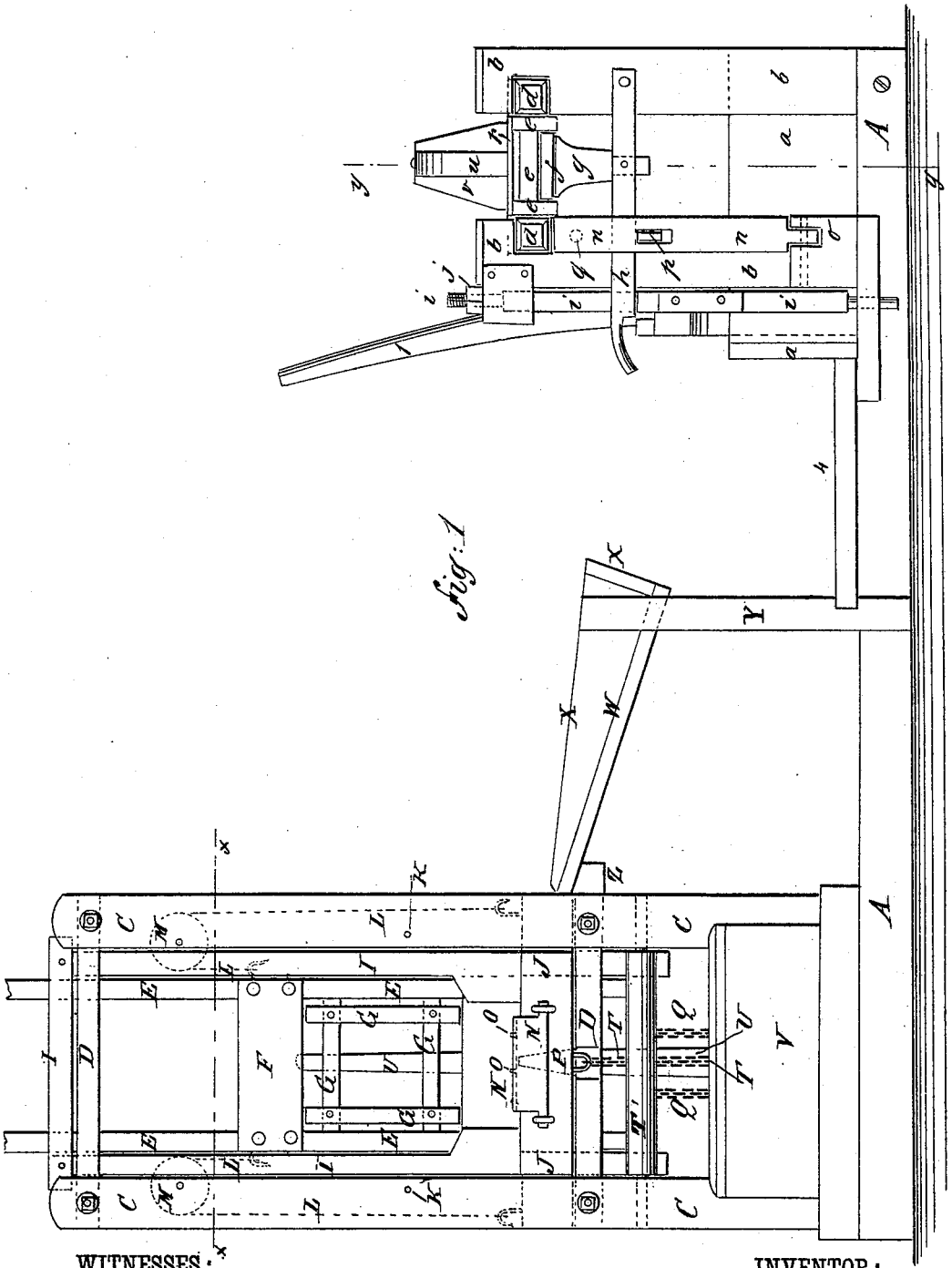

Fig. 1.

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(No Model.) 3 Sheets—Sheet 2.

J. M. HARVEY.

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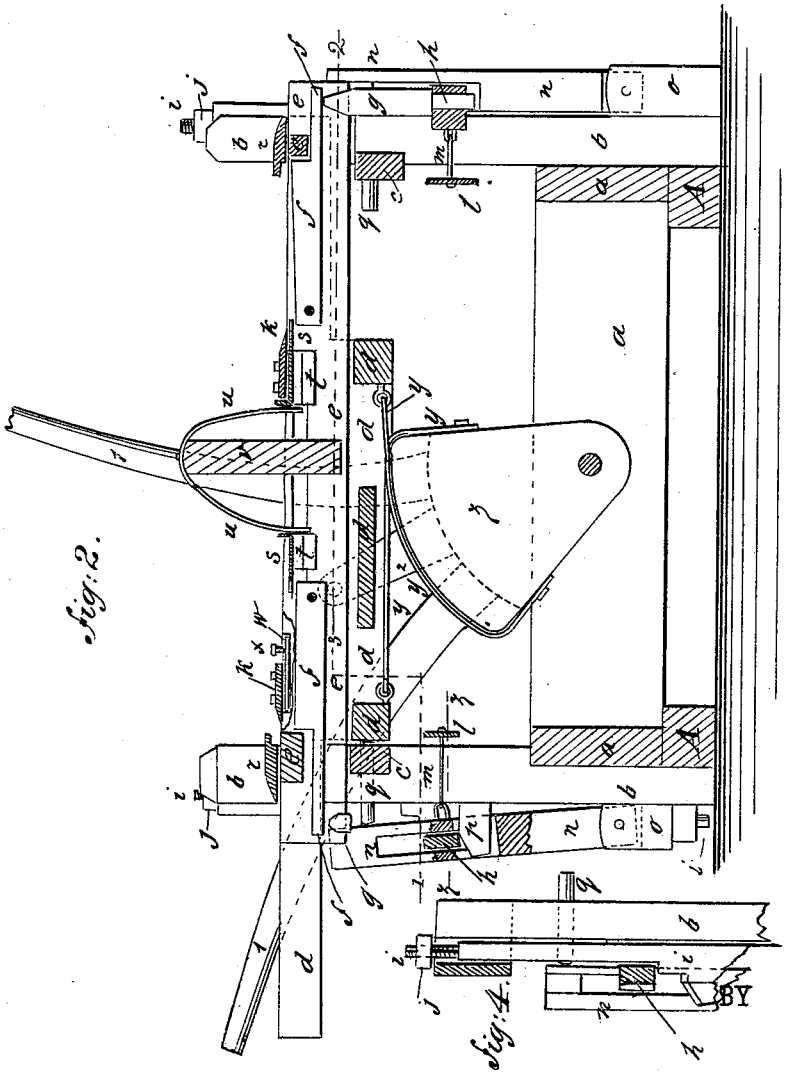

Fig. 2.

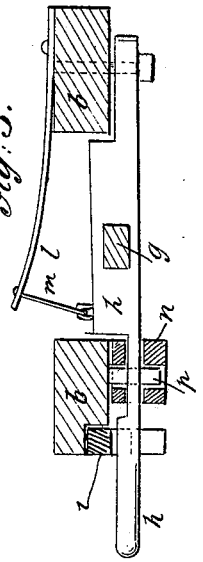

Fig. 3.

Fig. 4.

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(No Model.) 3 Sheets—Sheet 3.

J. M. HARVEY.

SHINGLE SHAVING MACHINE.

No. 262,765. Patented Aug. 15, 1882.

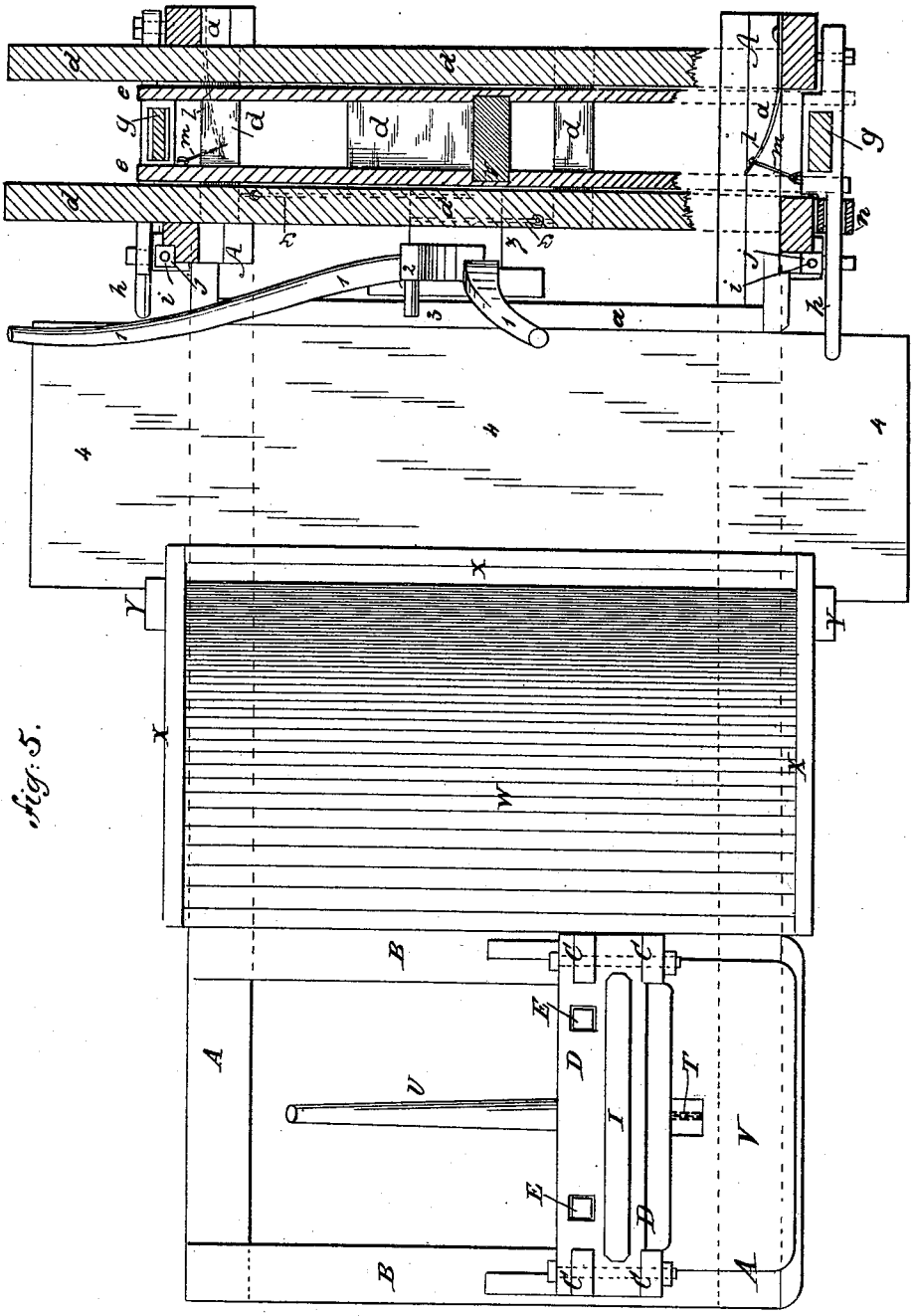

Fig. 5.

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UNITED STATES PATENT OFFICE.

JAMES M. HARVEY, OF PALMYRA, TENNESSEE, ASSIGNOR TO HIMSELF AND THOMAS J. LAIRD, OF SAME PLACE.

SHINGLE-SHAVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 262,765, dated August 15, 1882.

Application filed December 21, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. HARVEY, of Palmyra, in the county of Montgomery and State of Tennessee, have invented certain new and useful Improvements in Shingle-Shaving Machines, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of my improvement. Fig. 2 is a sectional elevation of the shaving mechanism, taken through the line *y y*, Fig. 1. Fig. 3 is a sectional plan view of a part of the same, taken through the line *z z*, Fig. 2. Fig. 4 is a sectional elevation of a part of the same. Fig. 5 is a horizontal section through line 1 2 of Fig. 2.

The object of this invention is to facilitate the operation of shaving shingles and promote uniformity in the thickness and taper of the shingles.

A are the sills of the machine.

The pairs of posts C and the posts of each pair are connected and held in proper relative position by two cross-bars, D, attached to the said posts at their upper ends and at a little distance from their lower ends.

In the rear parts of the cross-bars D are formed apertures, in which work the side bars of the sash E, to which, a little above their centers, are attached the ends of the riving-knife F.

The gage-frame G consists of two upright bars attached to two horizontal bars, the ends of which are secured by hand-screws H to the side bars of the knife-sash E, so that the frame G can be adjusted to cause the knife F to cut thicker or thinner shingles, as may be required.

In the forward part of the cross-bars D are formed apertures to receive the side bars of the sash I, which are connected at their upper ends by a cross-bar.

To the side bars of the sash I, at a little distance from their lower ends, is attached a cross-bar, J, that supports the block to be rived. The upward movement of the block-sash I can be limited by stop-pins K, attached to the pairs of posts C, for the ends of the cross-bar J to strike against.

To the projecting ends of the cross-bar J are attached the ends of two chains, L, which pass over guide-pulleys M, pivoted to the pairs of posts C. The other ends of the chains L are attached to the side bars of the knife-sash E.

The shingle-block, while being rived, rests upon the apron N, the forward edge of which is bent down to overlap the forward side of the cross-bar J, and is hinged to the said forward side of the said cross-bar. In the apron N, near its rear or inner edge, are formed perforations for the passage of the points O, attached to the cross-bar J, and which project through the apron N so as to enter the shingle-block and prevent it from slipping while being operated upon.

To the lower cross-bar, D, is attached a stud, P, which, when the block-sash I is lowered, passes through an aperture in the cross-bar J, so as to strike against the lower side of the apron N and raise the said apron far enough to raise the shingle-block off the points O, so that the said shingle-block can be pushed forward for the knife to make another cut as it again moves downward.

To the cross-bar, at the lower end of the knife sash E, are attached the upper ends of two chains, Q, the lower ends of which are attached to the cam or eccentric R. The cam R is journaled to the cross-sills B, or to supports attached to the said cross-sills. Upon the cam R is formed, or to it is attached, a second cam, S, to which is attached the lower end of a chain, T. The upper end of the chain T is attached to the cross-bar J of the block-sash I.

To the cam R is rigidly attached a lever, U, which projects upward and rearward, so that it can be conveniently reached and operated by an attendant standing in the rear of the riving mechanism to operate the sashes E I.

The part of the double cam R S that projects in front of the posts C is covered by a box or casing, V, the top of which serves as a platform for the man that adjusts the shingle-block and removes the shingle-blanks to stand upon. The inner edge of the top of the box or case V is slotted to allow the chain T to work freely. The chain T is made to draw the sash I down vertically by a roller, T′, pivoted to the forward posts, C, and behind which the said chain T passes, as shown in Figs. 2 and 4.

The shingle-blanks, when removed from the riving mechanism, are placed upon the inclined table W, and slide down the said table to its lowest part. The table W, at its end edges and at its lower side edge, is provided with a flange, X, to prevent the shingle-blanks from sliding off the said table. The table W is supported by the legs Y, attached to its lower corners, and by the cross-bar Z, attached to the inner pair of posts C, and to which the upper side edge of the said table is attached. This riving mechanism is described for the purpose of showing its arrangement with respect to the shaving mechanism, but will form the subject-matter of another application.

To the base-sills A, at the opposite ends from the riving mechanism, is attached the base-frame *a* of the shaving mechanism. To each end of the frame *a* and to each end of the base-sills A are attached two posts, *b*, which are connected at a little distance from their upper ends by a cross-bar, *c*.

In notches in the inner sides of the posts *b*, at the upper sides of the cross-bars *c*, slide the end parts of the side bars of the horizontal sash *d*, the middle parts of the said side bars being extended downward, and being connected by cross-bars.

Between the side bars of the sash *d* is placed a stationary frame or sash, *e*, the end parts of which rest upon and are secured to the cross-bars *c* of the posts *b*.

To the side bars of the stationary sash *e*, upon the opposite sides of and equally distant from the centers of the said side bars, are hinged the inner ends of two platforms, *f*, to receive the shingle-blanks to be shaved. The outer ends of the platforms *f* are rabbeted upon the upper side to pass beneath the cross-bars of the stationary sash *e*, the said rabbets being made of such a depth that the outer ends of the said platforms will have a vertical play greater than the thickness of the outer or thicker end of the shaving to be taken from one side of the shingle in giving it the required taper. The outer end of each platform *f* rests upon the upper end of a stud, *g*, the lower end of which is secured loosely in a mortise in the latch *h*, so that the said upper end of the stud *g* will bear squarely against the under side of the said platform *f*. The outer end of the latch *h* is hinged to the outer post, *b*. The inner end of the latch *h* rests upon a shoulder formed upon the side of the vertical catch-bar *i*, the ends of which slide in bearings attached to the post *b* and sill A. The upper end of the catch-bar *i* is provided with a screw-thread, and has a nut, *j*, screwed upon it, so that the said catch-bar can be adjusted as the thickness of the shingles may require. Two shoulders are formed upon the catch-bar *i*, the lower shoulder being used when shaving the first side of the shingle and the second shoulder being used when shaving the second side of the shingle, the said shoulders being at such a distance apart that both sides of the shingle will receive the same taper. The catch-bar *i* below the lower shoulder is beveled so that the latch *h* can be moved down so far as to lower the shingle out of contact with the knife *k*, so that the said knife can be drawn back without friction. The latch *h* is held against the catch-bar *i* by a spring, *l*, one end of which is attached to a post, *b*, and its other end is connected with the said latch *h* by a short rod, *m*, or other suitable means. The latch *h* passes through a slot in a bar, *n*, the lower end of which is hinged to a support, *o*, attached to the sill A or post *b*. The bar *n* is kept in place by a guide-arm, *p*, attached to a post, *b*, and which passes through a slot in the said bar *n*. In a hole in the post *b*, or in a support attached to the said post, is placed a loose pin, *q*, with its outer end resting against the inner side of the hinged bar *n*. The inner end of the pin *q* projects so as to be struck by the end of the downward extension of the side bars of the knife-sash *d*, so that the latch *h* will be pushed off the shoulder of the catch-bar *i* and allowed to drop to release the shingle, when the said knife-sash has completed its forward movement. The latch-bar *h* projects beyond the notched bar *i*, so that after it has been knocked off the upper notch by the pin *d* it may be replaced by lifting with the hand the projecting end of the latch-bar.

To the end parts of the stationary sash *e* and to and between the ends of the posts *b* is secured a stop-bar, *r*, for the outer ends of the shingles to rest against while being shaved. The inner ends of the shingles rest against teeth formed upon the forward edges of the plates *s*, which are secured to blocks *t*. The side edges of the blocks *t* slide in longitudinal grooves in the inner sides of the side bars of the stationary sash *e*. The toothed plates *s* are held forward against the inner ends of the shingles by the springs *u*, the lower ends of which rest against the inner or rear edges of the sliding blocks *t*, and their upper ends are attached to a standard, *v*, secured to the central part of the stationary sash *e*. The rear edge of each of the toothed plates *s* is bent upward to form a flange or shoulder for the rear edge of the knife *k* to strike against, so that the said knife, as it completes its inward movement, will force back the toothed plate *s* and release the shingle.

Beneath the rear parts of the ends of the knives *k* are placed small metal bars or blocks *w*, the rear ends of which project in the rear of the said knives *k*, and are provided with hand-screws *x*, so that by operating the said screws *x* the knives *k* can be adjusted to operate upon different kinds of timber. To the cross-bars of the knife-sash *d* are attached the ends of two pairs of chains or flexible straps, *y*, which cross each other upon the curved surface of the sector *z* of a cylinder. The sector *z* is pivoted at the axis of the cylinder of which the said sector is a part to the base-frame *a* of the shaving mechanism.

To the inner end of the sector *z* are attached

the lower ends of two levers, 1, which curve in opposite directions, so that they can be conveniently reached and operated by the two attendants that work the shaving mechanism. By using the levers 1 1 alternately the sector *z* is first tilted in one direction and then in the opposite direction, so that at each operation one of the knives *k* is made to shave and the other is retracted. By this construction the knives *k* are operated successively, each knife being drawn back while the other is being forced forward to do its work.

To the sector *z*, midway between the levers 1, is attached a third lever, 2, which is made short, and is provided with a crank-pin, 3, to receive a pitman or other connection, so that the machine can be operated by power, if desired.

The attendants that operate the shaving mechanism stand upon a platform, 4, attached to the sills A, between the inclined table W and the shaving mechanism, so that the attendants, without leaving their places, can remove the shingle-blanks from the said inclined table W and place them upon the stationary sash *e* to be shaved.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the notched posts *b*, connected by cross-bar *c*, of the horizontal sliding knife-sash *d*, having its connected middle parts extended downwardly, the fixed sash *e*, arranged between the side bars of sash *d*, the two hinged platforms, *f*, resting on stud *g*, rabbeted, and having vertical play, with the outer ends beneath the cross-bars of sash *e*, the mortised hinged latch *h*, and the catch-bar *i*, carrying an adjustable nut, *j*, having two shoulders and beveled below the lower shoulder, as shown and described.

2. The combination, with the latch *h*, of the spring *l*, the rod *m*, the slotted bar *n*, hinged to a support, *o*, the guide-arm *p* on post *b*, the loose pin *q*, arranged in a hole of post *b*, the knife-sash *d*, adapted to strike said pin, and the shouldered catch-bar *i*, whereby the shingle is released when the knife-sash reaches its forward movement, as described.

3. In a shingle machine, the combination, with the stationary sash *e* and the hinged platforms *f*, of the studs *g*, the latches *h*, and the catch-bars *i*, substantially as herein shown and described, whereby the said platforms can be adjusted to give the proper taper to the shingles, as set forth.

4. The combination of the stop-bar *r*, arranged between the ends of posts *b* and attached to the ends of sash *e*, the toothed rear flanged plates, *s*, the blocks *t*, sliding in grooves of sash *e*, the springs *u*, and the standard *v*, all said parts being arranged so that the knife will withdraw the toothed dog on its return-stroke, as described.

5. The combination, with the knife-sash *d*, of the flexible cross-straps *y*, the sector *z*, pivoted at the axis of the cylinder of which it forms a part, the two levers 1 1, curved in opposite directions, and the lever 2, having crank-pin 3, as and for the purpose specified.

JAMES MADISON HARVEY.

Witnesses:

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J. E. MOSELEY.