(No Model.)

I. A. DAVIS.

RIVING MACHINE.

No. 339,866. Patented Apr. 13, 1886.

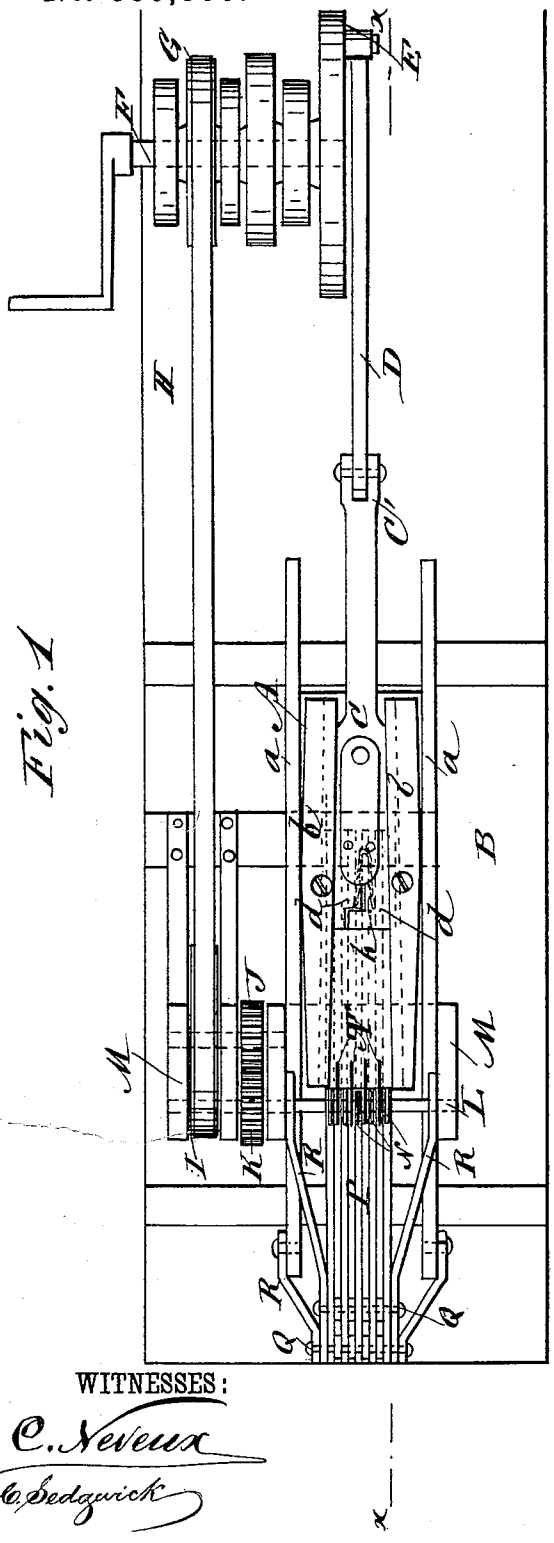


Fig. 1

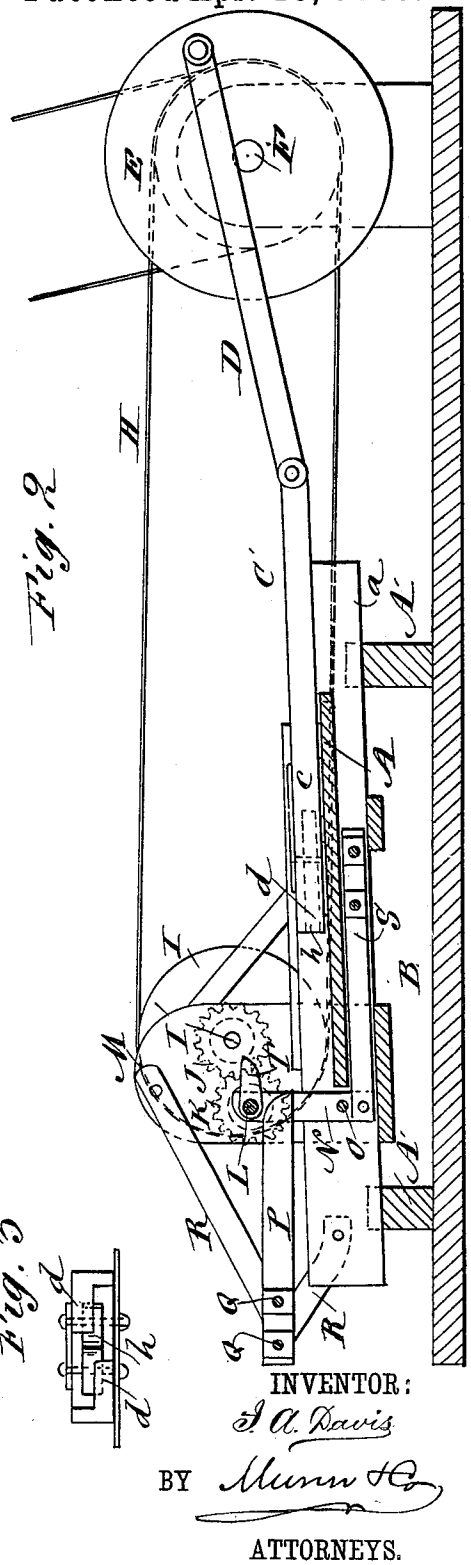


Fig. 2

Fig. 3

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ISRAEL A. DAVIS, OF ENGLEWOOD, CALIFORNIA.

RIVING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 339,866, dated April 13, 1886.

Application filed August 6, 1885. Serial No. 173,735. (No model.)

To all whom it may concern:

Be it known that I, ISRAEL A. DAVIS, of Englewood, in the county of Humboldt and State of California, have invented a new and Improved Riving-Machine, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved machine for riving or splitting boards, shingles, laths, pickets, &c.

The invention consists in the construction and combination of parts and details, as will be fully described and set forth hereinafter, and pointed out in the claims.

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 plan view of my improved riving-machine. Fig. 2 is a longitudinal sectional elevation of the same on the line *x x*, Fig. 1. Fig. 3 is an enlarged detail end view of the feeding device.

The platform A is held by supports A' above the base B, and on the same a head or block, C, slides, which will be described hereinafter. The block C is provided with an extension, C', connected by a connecting-rod, D, with a crank-pin on a wheel, E, on a shaft, F, carrying a belt-pulley, G, over which a belt, H, is passed, also passed over a pulley, I, on the shaft I', with a cog-wheel, J, engaging with a cog-wheel, K, on a shaft, L, and journaled in standards M.

Between the standards M a series of frows or wedges, N, are held upright at the end of the platform A, and through apertures in the upper ends of the frows the shaft L passes. A rod, O, is passed through apertures in the lower ends of the frows. The upper ends of the frows N are held in the forked front ends of the springs P, held at their rear ends on rods Q, held by braces R, projecting from the standards M. The lower ends of the frows N are held in the forked ends of springs S, below the platform A.

Between each pair of frows N an arm, T, is mounted on the shaft L, to turn with said shaft; but at the same time they move between the ends of the springs P and the upper ends of the frows N mounted to slide on said shaft.

The platform A has side pieces, *a*, and at the inner sides of the side pieces bars *b* are pivoted on the platform A, at the middle of the length of said bars, in such a manner that the ends of the bars *b* can swing toward and from the side pieces, *a*.

On the front end of the block C two jaws, *d*, are pivoted to swing laterally, and are rabbeted, so as to overlap when swung together. They are pressed from each other by a spring, *h*, between them.

The operation is as follows: A piece of wood is placed on the platform A, the block C being at its greatest distance from the frows or wedges N. When the block C moves toward the frows, it forces the piece of wood through the spaces between the wedges or frows and splits the same into laths, shingles, pickets, boards, &c., of equal width. While the wood is being forced through the spaces between the frows, it separates the frows equidistant. A greater or less number of frows are provided, according to the number of pieces to be obtained for each stroke of the block C. While the block C is being withdrawn the arms T on the shaft L are in such a position that they can strike the shingles, pickets, &c., and force them out of the spaces between the frows or wedges. Then another piece of timber is split, the pieces forced out by arms T, and so on, so that the timber is forced straight and not to one side, and as it widens in being split the head C must widen. This it does automatically as it approaches the frows, for the bars *b*, which have their outer edges beveled at the front part, are swung against the side pieces, *a*, and the spring *h* swings the jaws *d* from each other. While the block is being withdrawn the jaws *d* are pressed together again.

In riving shingles, short shakes, or boards the machine may be shortened in proportion, and large cog-wheels may be used instead of belts and pulleys.

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

1. The combination, in a riving-machine, with a plunger or head-block, of frows in advance of the same, and springs connecting the frows at their opposite sides to the machine, whereby a clear passage is afforded the material being operated upon between the frows, substantially as set forth.

2. The combination, with the frows of a riving-machine, of movable arms extending between the frows and constructed to remove the split material, substantially as set forth.

3. The combination of the platform, the plunger or head-block, and the expansible block on the end of the same, of the frows in advance of said block, substantially as set forth.

4. A riving-machine having a platform provided with side pieces forming guides and upright frows at one end of said platform, in combination with an expansible sliding block on the platform between the side pieces and in front of the frows, substantially as set forth.

5. In a riving-machine, the combination, with a series of frows, of revolving arms between their upper ends, a sliding block for forcing the wood through the spaces between the frows, which block and the revolving arms are operated from the same shaft, substantially as herein shown and described.

6. In a riving-machine, the combination, with a series of frows, of a rotary shaft passed loosely through their upper ends, and of arms mounted on the shaft between the frows and constructed to remove the split material, substantially as herein shown and described.

7. In a riving-machine, the combination, with the frows N, of the springs P and S, connecting the frows at their upper and lower ends to the machine, the rotary shaft L, journaled at the upper ends of the frows, and the arms T on the same and extending between the frows, substantially as herein shown and described.

8. In a riving-machine, the combination, with the frows N, of the platform A, in line with the frows, the sliding block C on the platform, the pivoted jaws *d* on the same, and the spring *h*, for pressing the jaws from each other, substantially as herein shown and described.

9. In a riving-machine, the combination, with the frows N, of the platform A, in line with the frows, the bars *b*, pivoted on the same, the sliding block C, the jaws *d*, pivoted on the same on opposite sides of the sliding blocks, and the spring *h*, for pressing the jaws apart, substantially as herein shown and described.

10. In a riving-machine, the combination, with the frows N, of the rotary shaft L, the arms T on the same between the frows, the cog-wheels K J, mounted on shafts L I′, respectively, the pulleys I G, mounted on shafts I′ F, respectively, the belt H, connecting the pulleys I G, the shaft F, the disk E on shaft F, the rod D, connected to the disk E and to the sliding block C, the platform A, on which the block C slides, and the jaws *d*, pivoted on the end of the sliding block C, substantially as herein shown and described.

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Witnesses:
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