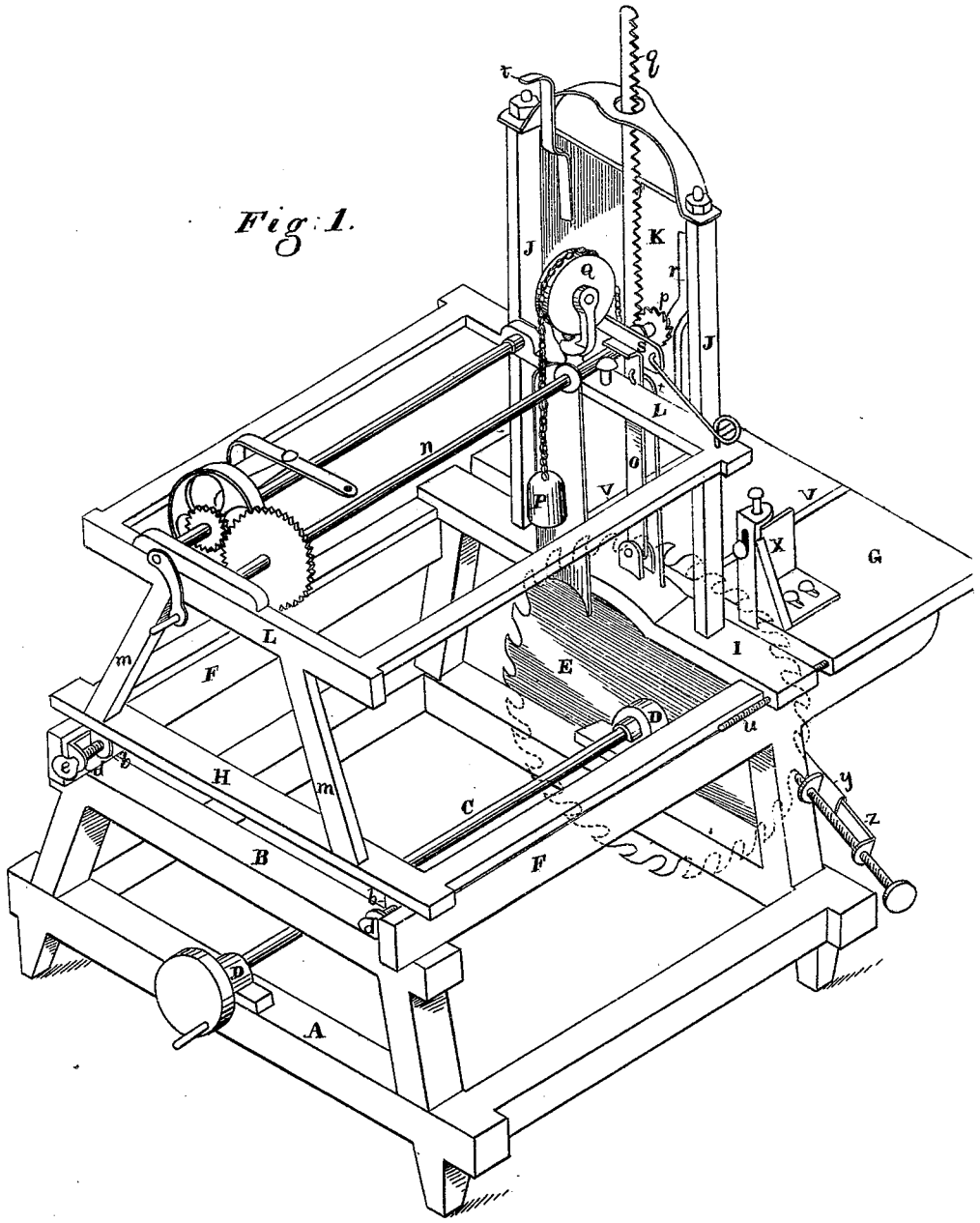
2 Sheets—Sheet 1.

S. PUTNAM.

MACHINE FOR RE-SAWING LUMBER.

No. 187,904. Patented Feb. 27, 1877.

Fig. 1.



Witnesses

Geo. H. Strong

Frank A. Brooks.

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2 Sheets—Sheet 2.

S. PUTNAM.

MACHINE FOR RE-SAWING LUMBER.

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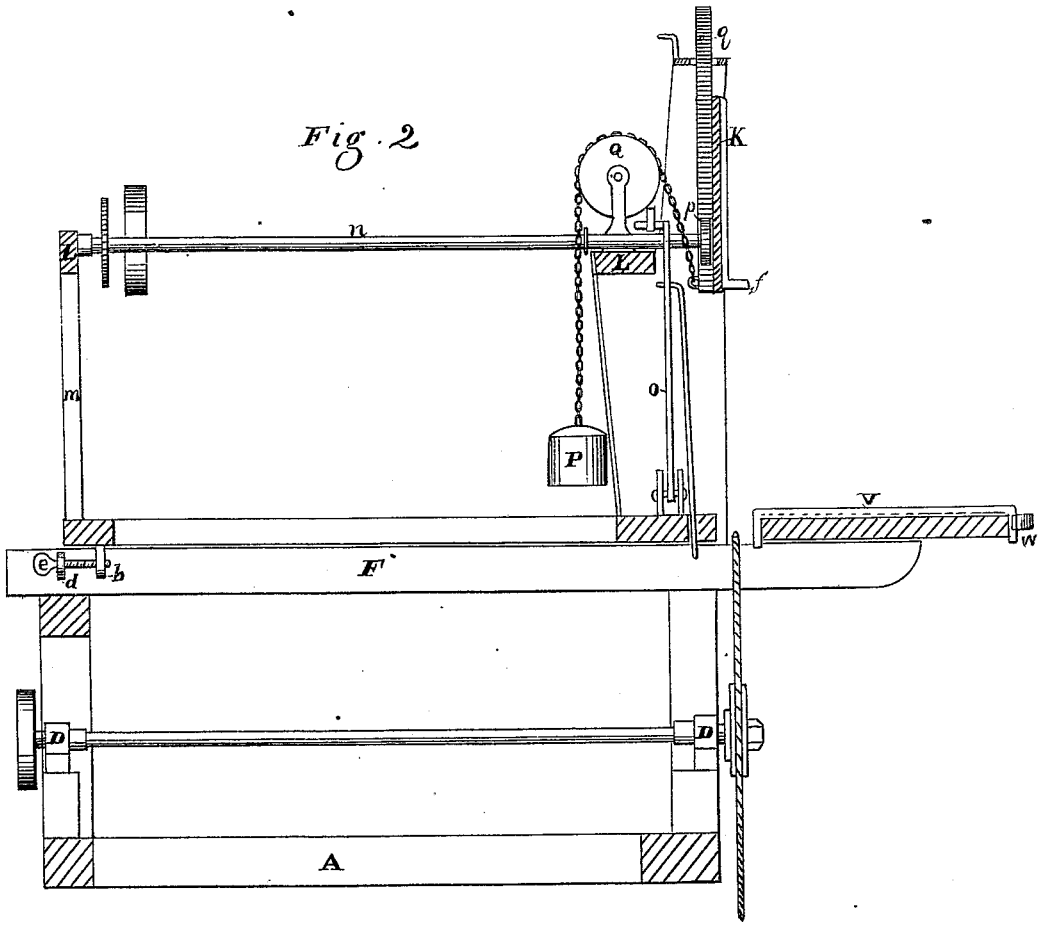
Fig. 2



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UNITED STATES PATENT OFFICE.

SAMUEL PUTNAM, OF EMIGRANT GAP, CALIFORNIA.

IMPROVEMENT IN MACHINES FOR RESAWING LUMBER.

Specification forming part of Letters Patent No. **187,904**, dated February 27, 1877; application filed November 6, 1876.

To all whom it may concern:

Be it known that I, SAMUEL PUTNAM, of Emigrant Gap, county of Placer, and State of California, have invented an Improvement in Machines for Resawing Lumber; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to an improved machine for accomplishing that class of work known as "resawing," in which ordinary boards, such as are turned out by a saw-mill, are split into thin boards for special uses, such as for making boxes and the like.

My improved machine is adapted for accomplishing the work with a circular saw, and the operation is automatic and continuous; and it consists in the combination of devices hereinafter described, referring to the accompanying drawings, in which—

Figure 1 is a perspective view. Fig. 2 is a vertical section.

In building my machine I first construct a double frame, the upper frame B being constructed upon the lower frame A. The whole, however, forms a single frame-work, as represented. The saw-shaft C extends horizontally across the lower frame, and is supported in boxes D D, while the saw E is secured to the extremity of the shaft, just outside of the frame, so that it will rotate in a vertical plane close up against the side of the frame. The side timbers F F of the upper frame B project beyond the saw, so as to provide a support for an adjustable platform, G, which will be more fully described hereafter. H is a frame, the side rails of which rest upon the side timbers F F of the upper frame. A lug, *b*, depends from each end of the rear cross-beams of this frame, inside of the timbers F, and a lug, *d*, projects out from the side of each timber a short distance in the rear of the lug *b*. A screw, *e*, passes through the lugs *d* and *b*, so that by turning the screw the frame H can be moved in either direction, as desired, for adjusting the front rail I of the frame H to or from the saw, according to the thickness of board to be sawed. Upon the front rail I of this adjustable frame I construct two upright guides, J J, between which a gate, K, is arranged to move up and down in the manner of a slide, for feeding the boards to the saw. Lugs or feet *f f* are secured to the lower end of this slide, which press upon the edge of the board as the slide moves down, and forces it against the saw. A frame, L, is supported horizontally upon the adjustable frame H, in a plane with the middle of the standards or guides J J, and is supported at its front end by said guides, and by means of legs *m* at the rear end. A shaft, *n*, extends across this frame, in line with the middle of the sliding gate K. The rear end of this shaft is supported in a box on the rear timber of the frame, while its front end extends out over the opposite beam, and is supported in a box on the upper end of a pivoted standard, O On the extremity of this shaft is a pinion, *p*, which engages with a rack, *q*, said rack being secured vertically to the rear side of the gate. A rib, *r*, is secured to or formed on the rear side of the gate, in such a manner that when the gate is raised this rib will force the pinion into engagement with the rack, and a spring dog or pawl, S, holds it in place until, by the descent of the gate, a trip-arm, *t*, is brought into contact with the dog or pawl, so as to free it from the shaft. A weight, P, is suspended from the gate by means of a chain which passes over a pulley, Q, so that the instant the dog is released from the shaft the weight will cause the pinion to disengage from the rack, thus releasing the gate, so that the weight will raise it to its elevated position again, the rib *r*, at the same time, forcing the pinion into engagement at the lower end of the rack.

A continuous rotation is imparted to the shaft *n*, while the gate K is automatically released, then elevated by the weight. At the same time the rack is automatically engaged with the pinion on the shaft, so that the same movement and operation is repeated as long as the motion of the shaft is continued.

The platform G, as above mentioned, extends out in front of the machine, resting upon the extension of the timbers F F of the frame B. This platform is connected at each end with the rail I by screw-rods *u*, by means of which the platform can be shifted to or from the rail, in order to adjust the size or width of the opening or passage between it and the rail to the thickness of the boards to be sawed.

V V are two rods which extend over the top of the platform, and have their ends bent down across its edges both in front and rear. A spring, W, is arranged to press upon the front ends of these rods, and thus force their opposite ends against the board as it passes down through the slot or opening between the platform and rail I. X is a head-block, which is secured to the table on one side of the upright guides J J, and this head-block is adjustable, so as to accommodate the length of the boards to be sawed. A guide or head, Y, is also attached, by means of an adjustable slide, Z, to the leg of the frame B, just behind the saw, by means of which the board is held in place as the saw passes through it.

I thus provide an automatic device for resawing boards, and the operation is performed as follows: Power being applied to the saw-shaft C, the saw is set in operation. Power is thus applied to the shaft *n*, so that the sliding gate K commences its automatic upward and downward movement. The boards to be sawed, having been previously cut to the desired length, (the machine being only intended to saw short boards,) are set up edgewise on the platform, in front of the gate, by the person who feeds the machine. As the gate is raised by the weight the feeder moves a board up against the upright guide-posts J J, so that the feet or lugs *f f*, which project out from the lower edge of the gate, will descend upon it and force it down through the slot or opening between the platform and rail I against the saw The downward motion of the gate K continues the pressure upon the board until the saw passes entirely through it.

In adjusting the machine and feeding the boards, I am careful to send the board to the saw at a slight angle, or obliquely, so that the middle of the board will not come directly over the center of the saw, and the object of this is to prevent the saw from hooking the boards down and splitting instead of sawing them. The operation is continuous. Every time the gate is raised a board is placed under it and carried down against the saw, as above specified.

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

1. The frame A B, having the saw-shaft C supported on the base portion A, so that the saw will rotate in a vertical plane close up against the side of the frame, in combination with the adjustable frame H, with its upright guides J J, automatically-operated gate K, with its lugs or feet *f f*, and the adjustable platform G, all arranged to operate substantially as and for the purpose described.

2. The sliding gate K, having the vertical rack *q* and curved rib *r*, arranged as described, and having the weight P suspended from its lower end, and the trip-arm *t* at its upper end, in combination with the shaft *n*, which is supported at one end by a pivoted standard, O, and having the pinion *p* on its opposite extremity, arranged to engage with the rack *q*, and spring dog or pawl S, all combined and arranged to operate substantially as and for the purpose above described.

3. In combination with the frame A B and adjustable sliding frame H, with its upright guides J J and automatically-operated gate K, the adjustable platform G, with its spring-rods V V and adjustable head-block X, substantially as and for the purpose described.

In witness whereof I have hereunto set my hand and seal.

SAMUEL PUTNAM. [L. S.]

Witnesses:
C. C. KOPP,
A. D. CAMPBELL.