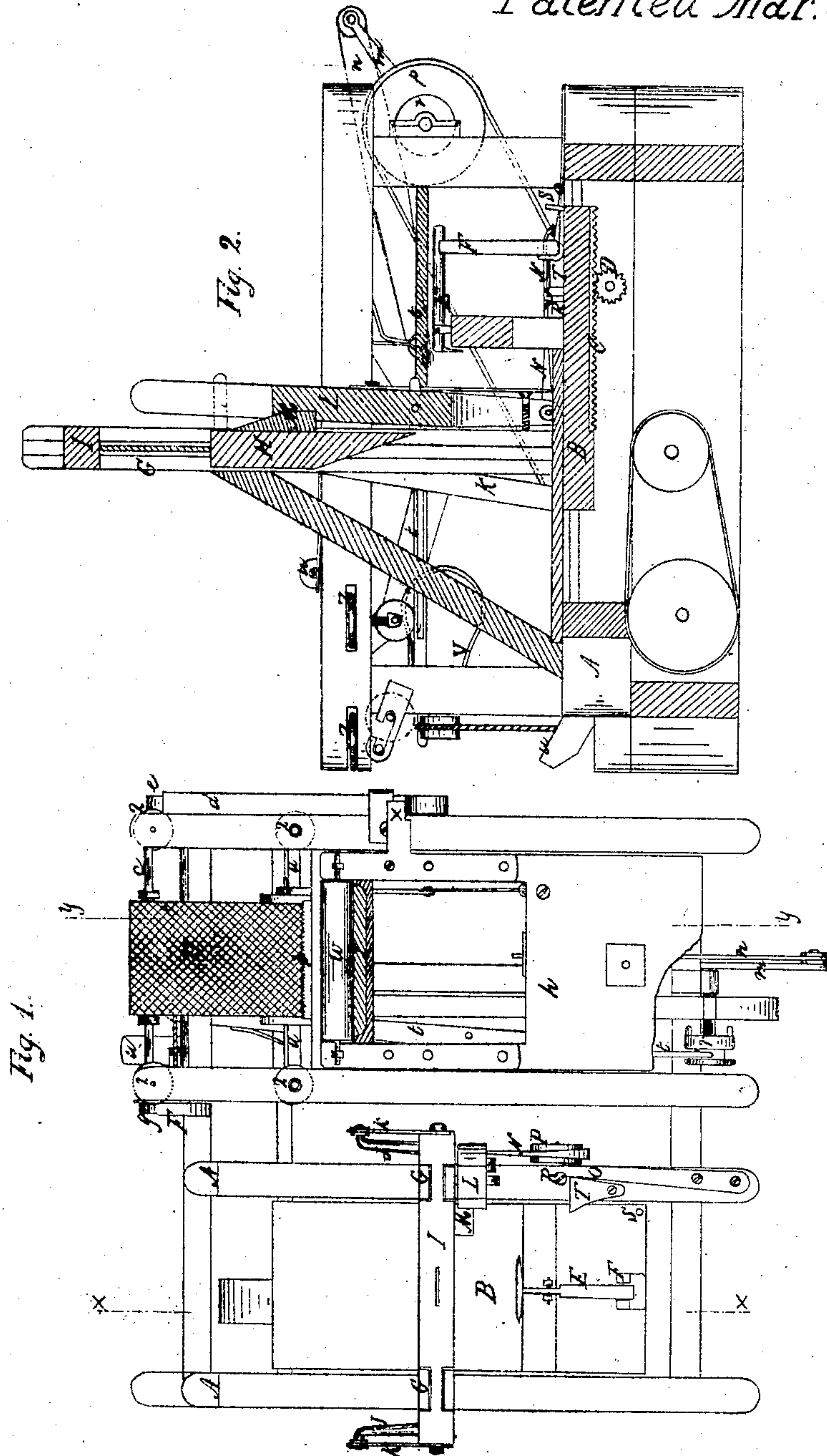


J. F. Chambers.

Shingle-Machine.

N<sup>o</sup> 76160

Patented Mar. 31, 1868



Witnesses

Geo. H. Strong

J. L. Borne

Inventor

John F. Chambers

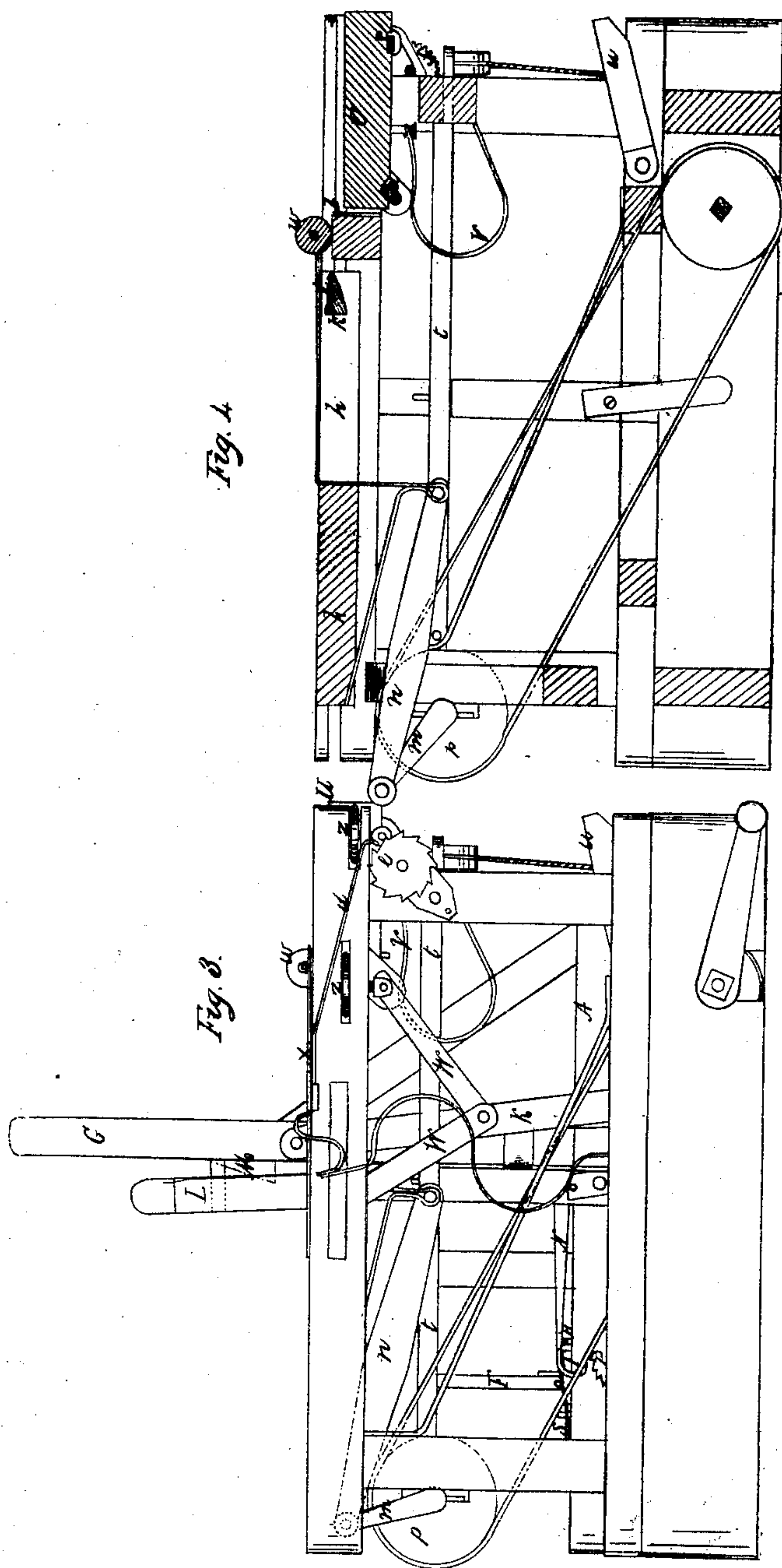
J. F. Chambers.

Sheet 2. 2S

Shingle-Machine.

N<sup>o</sup> 76160

Patented Mar. 31, 1868



Witnesses

Geo. H. Strong

J. S. Boone

Inventor

John F. Chambers



# United States Patent Office.

JOHN F. CHAMBERS, OF CALISTOGA, CALIFORNIA.

*Letters Patent No. 76,160, dated March 31, 1868.*

## IMPROVEMENT IN SHINGLE-MACHINES.

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

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN F. CHAMBERS, of Calistoga, county of Napa, State of California, have invented an Improved Shingle-Machine; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

The object of my invention is to provide an improved machine for riving and shaving shingles, which consists of a river, upon which the bolts of the proper length are clamped, and then split out. From this they are taken and placed on a roughened table, and a roller is made to pass over them, so as to hold them firmly down, one end of the table rising at the same time, so that the end of the shingle is firmly clamped and held by a dog, while the knife, passing directly behind the roller, shaves one side. One edge is jointed at the same time, after which the roller moves back, the table is depressed, and the shingle freed, when it may be turned over and the other side shaved and the other edge jointed. By a peculiar mechanism, one end of the table rises at each forward motion of the knife, so as to clamp the shingle, while the other end rises, at every alternate motion, and thus gives the shingle the requisite taper.

To more fully explain my invention, reference is had to the accompanying drawings, forming a part of this specification, of which—

Figure 1, sheet 1, is a plan.

Figure 2, sheet 1, is a side elevation, showing the river.

Figure 3, sheet 2, is a side elevation, showing the shaver.

Figure 4, sheet 2, is a side sectional elevation, showing the mechanism for raising and depressing the table.

Similar letters of reference in each of the figures indicate like parts.

The river consists of a framework, A A, between the sides of which the carriage B travels. This carriage is actuated and fed forward by a rack, C, and pinion, D. The dog E is supported and vibrates upon an upright standard, in front of which the bolt is placed, when the hinged standard F is raised under the end of the dog E, thus pressing the toothed end into the end of the bolt, and holding it firmly while being cut. Two upright posts, G G, serve as guides, between which the riving-knife H and its sliding frame I travel, reciprocating motion being given by means of the cranks J J and the connecting-rods or pitmen K K. A bar, L, is pivoted to one of the guides G, so that, as the frame I rises and falls, it carries a block, M, which moves L back and forward. A pawl, N, is attached to the lower end of L, and vibrates with it. The pawl slides back and forward on a projection on the spring O, so that, when this spring is up, the pawl is kept out of contact with the ratchet P, and does not feed the carriage forward, but when a bolt has been placed on the carriage, the spring O is pressed down and detained by a notch in the pin R, thus allowing the pawl and ratchet to act until the bolt is all split, when the pin S on the carriage releases the spring O, by pressing the block T to one side, so that the carriage is fed forward no farther, and can be run back at pleasure for another bolt, after the split bolt has been removed from the carriage. As fast as the shingles are split they fall to the back of the river, from whence they may be taken and placed on the roughened surface of the table U. This table is kept down by a stiff spring, V, and rests upon two shafts. The shaft *a* is eccentric, and is operated by the knee-lever W, so that, at each forward motion of the knife, the motion of the shaft *a* lifts the end of the table, thus bringing it nearer the clamp or dog, *b*, so that the end of a shingle would be firmly held in place. The other supporting-shaft, *c*, is made flat, and is operated by the pawl *d*, and ratchet *e*, and the wheel *f*, and pinion *g*, so that, at each motion, it is turned one-fourth around, thus presenting at one motion its edge and at the next its side, and alternately raising and lowering that end of the table, so that, after shaving one side of a shingle, it may be turned over, and by the rising of the table it will be tapered, as desired. A sliding frame, *h*, carries the shaving-knife *i* and the jointer *k*, and is operated by the crank *m* and pitman *n*. The driving-pulley *p* runs loosely on the crank-shaft, and when it is desired to throw the shaving-knife forward, it is done by means of a clutch, *r*, operated by the lever *t* and treadle *u*.

When shaving a shingle, it is placed upon the table U, and the foot pressed on the treadle *u*, thus throwing the clutch against the wheel. This moves the sliding frame *h* with the knife *i* and the roller *w* forward. The back end of the table being raised, by the knee-lever W acting on the eccentric-shaft *a*, the shingle is held firmly



against the dog *b*, while the roller *w* presses it down upon the table *U*, and corrects any winding or warping of the shingle, and so allows the knife to shave one side smoothly. The frame is then carried back and the shingle released, when, by removing the foot from *u*, time will be given to turn the shingle over, after which the knife may again be thrown forward and back to its stopping-place by one pressure of the foot. When the frame *h* moves back, a projecting arm, *x*, comes in contact with the curved ends of the pawl *d*, and moves it back, so far as to partially revolve the ratchet *e*. This turns the shaft *c* up edgewise, so that by the next movement of the knife the shingles will have the requisite taper.

Two sets of thumb-screws, *z z' z''*, serve to raise and lower the table, so as to vary the thickness of the shingle.

The river is intended to work much faster than the shaver, so that in a short time a sufficient number of shingles may be split to last the shaver the whole day, or one shaver may be placed on each side of the river.

The machine may be worked by hand, horse, or steam-power, but is intended to be portable and work by horse-power.

Having described my invention, what I claim, is—

The combination and arrangement of the dog *b*, movable table *U*, eccentric-shaft *a*, and levers *W*, for clamping and holding the shingle while it is being shaved; and in combination with the parts above claimed, I claim the sliding frame *h* and knife *i*, for shaving the shingle.

I also claim the combination and arrangement of the flat shaft *c*, pinion *g*, wheel *f*, ratchet *e*, and pawl *d*, to alternately raise and lower the end of the table *U*, to shave the shingles tapering.

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

JOHN F. CHAMBERS. [L. s.]

Witnesses:

C. W. M. SMITH,

J. L. BOONE.