

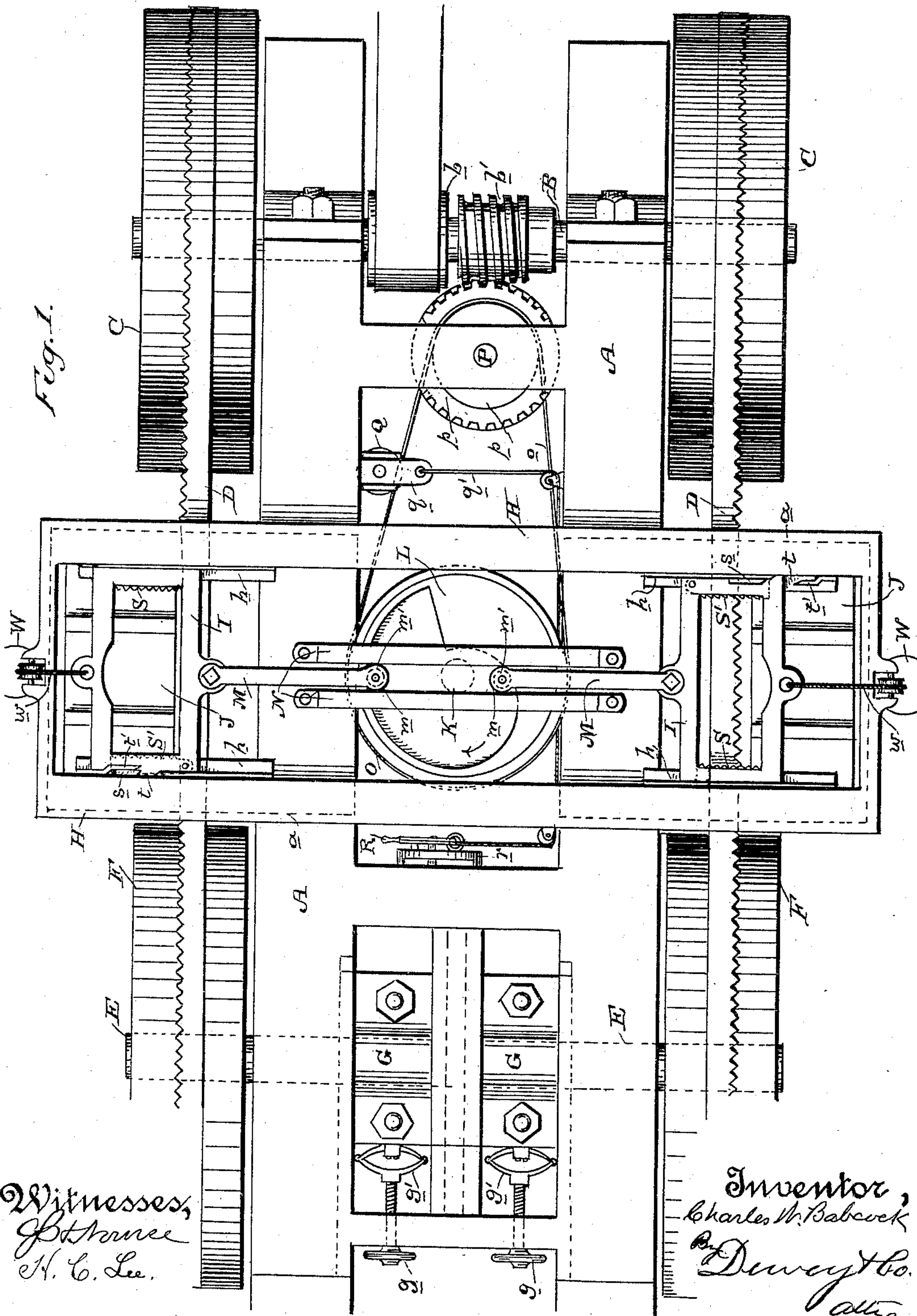
(No Model.)

2 Sheets—Sheet 1.

C. W. BABCOCK.
SHINGLE OR SHAKE MACHINE.

No. 445,742.

Patented Feb. 3, 1891.



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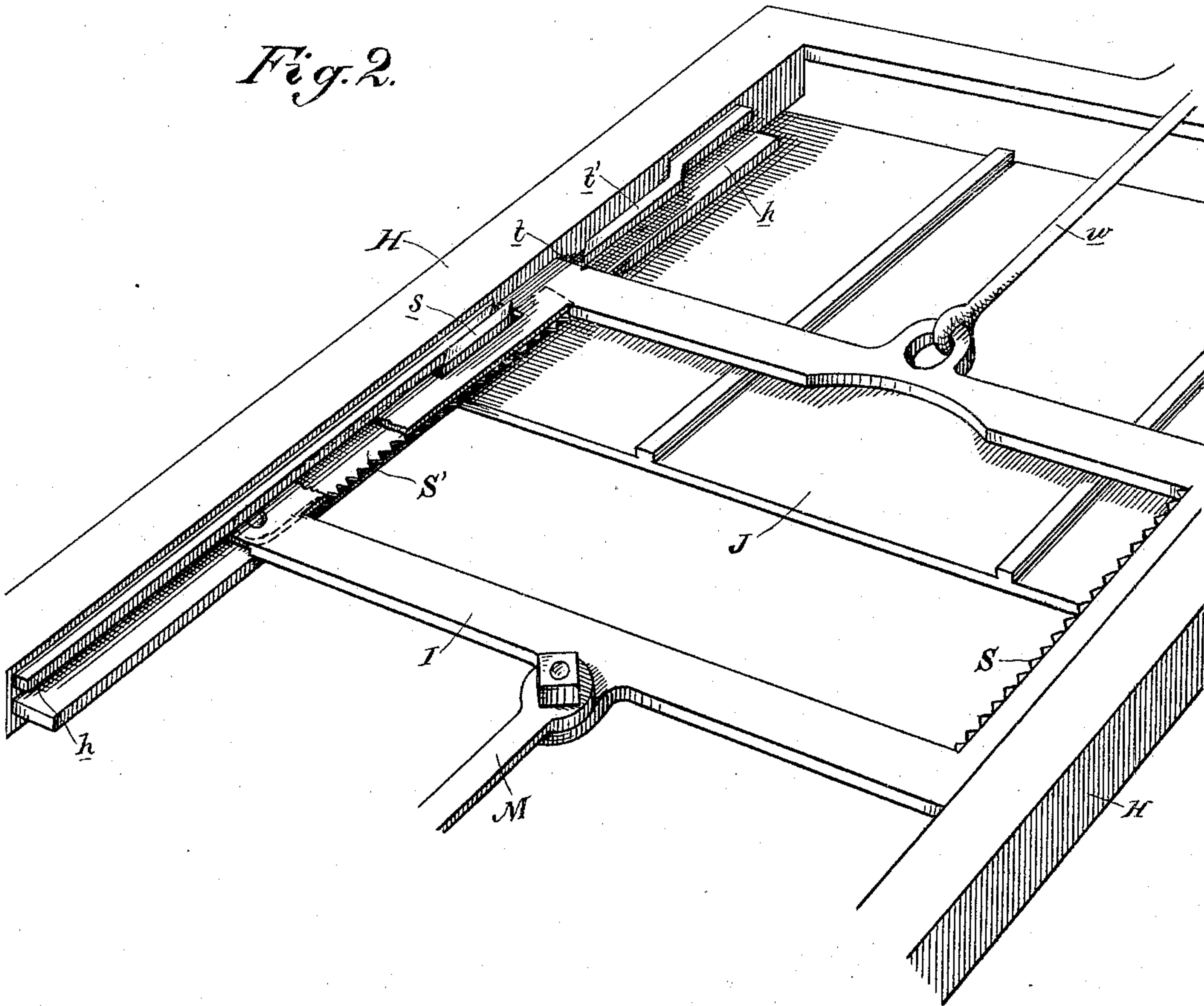
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Fig. 2.



Witnesses,
J. H. Hourse
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UNITED STATES PATENT OFFICE.

CHARLES W. BABCOCK, OF CRESCENT CITY, CALIFORNIA.

SHINGLE OR SHAKE MACHINE.

SPECIFICATION forming part of Letters Patent No. 445,742, dated February 3, 1891.

Application filed July 25, 1890. Serial No. 359,930. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. BABCOCK, a citizen of the United States, residing at Crescent City, Del Norte county, State of California, have invented an Improvement in Shingle or Shake Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the general class of shake or shingle cutting machines; and it consists in the novel constructions, combinations, and arrangement hereinafter fully described, and specifically pointed out in the claims.

The object of my invention is to provide a machine for operating upon two bolts, one on each side of the machine.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a plan of my machine. Fig. 2 is an enlarged perspective view showing the dogs and connections by which the bolt is held in the carriage.

A is the frame of the machine. In one end thereof is mounted horizontally the drive-shaft B, having the drive-pulley *b*, by which rotation is imparted to said shaft by means of a suitable belt.

On each end of the drive-shaft B is carried a sheave or pulley C, over which the endless band-saws D pass, one saw being on each side of the frame. In the other end of the frame are mounted the separate or independent shafts E, each carrying a sheave or pulley F on its outer end, over which said sheaves or pulleys the saws pass. These shafts are mounted in sliding boxes G and are adapted to be independently and separately adjusted by means of screws *g*, connected with them through the intervention of strong springs *g'*, whereby the pulleys or sheaves are adapted to yield separately or independently if the saw should strike a knot in the bolt or there should be other extraneous and sudden resistance. The object in having the independently adjustable sheaves F is to enable either sheave or pulley to be separately adjusted to accommodate the length of the particular saw passing over it, thereby affording an op-

portunity to repair a broken saw and use it again, even though of shorter length.

Transversely mounted upon the top of frame A is a frame H, having at each end tracks or guides *h*, in which are mounted and adapted to slide the bolt-carriages I. These carriages consist of open rectangular frames adapted to receive the bolts, the position of which is regulated by the tables J under the carriages.

The feed of these carriages is effected by the following mechanism: In the center of the frame is mounted a vertical shaft K, upon the top of which is the feed-cam L, said cam consisting of a plate or disk having its upper surface cut out, as shown, with a regular curved flange near one half of its rim and a curved flange tending centrally at the other half of it. From each carriage extends inwardly a link M, having a downwardly-extending end *m*, with an anti-friction roller *m'*. This roller fits within the flange of the feed-cam and impinges upon it. N are parallel guide-bars extending across the top of the feed-cam on each side of the links, whereby they are held to their position and engagement with the cam. A rotary motion is imparted to the cam by means of a pulley O on the shaft K and a belt *o*, extending to a pulley *p* on a vertical counter-shaft P, which carries a worm-gear *p'*, with which said gear a worm *b'* on the drive-shaft engages. Now it will be seen that by rotating the feed-wheel one of the carriages is drawn inwardly by means of the engagement of its link with the centrally-tending portion of the cam-flange, while the other carriage, whose link engages the outer or regular curved portion of the flange, is allowed to be drawn back fully by means of a weight W, connected by a cord *w* with its outer end. When the bolt of the inwardly-working carriage is operated upon so as to cut a shake therefrom, said carriage is relieved by the cam, and its weight W pulls it back, while the cam now feeds the other carriage forward so as to cut a shake from its bolt. Thus a shake is cut from a bolt on each side alternately.

In order to throw the mechanism into and out of gear, as desired, I have the tightener-pulley Q operating against the belt, said tight-

ener-pulley being mounted in the sliding frame q , which is adapted to be operated by a rope or cord q' , which is connected with and is operated by a lever R on top of the frame and engaging a rack r . By operating this lever the tightener-pulley is pressed against the belt, so that it becomes taut and transmits motion; but by releasing the lever the pulley does not bear tightly upon the belt, so that it does not transmit its power.

The tables J under the carriages may be made vertically adjustable in order to regulate the thickness of the shake.

The bolt is held in the carriage by means of a fixed toothed dog S on one side and a pivoted toothed dog S' on the other side. This pivoted dog has a flange s on its outer side, which operates against the vertical side of the carriage-track h , and thereby holds the clutch inwardly against the bolt. The vertical side of the carriage-track near the return limit of the carriage is cut away at t and provided with a projecting cam-flange t' . The flange s of the pivoted dog when it comes to this portion drops into the opening and gets behind the projecting end of the flange t' , whereby the dog is withdrawn from the bolt, thereby enabling it to be readily removed and readjusted.

In the frame are made the inclined chutes a , converging downwardly and adapted to receive and discharge the shingles or shakes. If desired, there may be a pivoted toothed dog like S' and devices to operate it on both sides of the bolt.

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

1. In a shingle or shake machine, the combination of a pair of band-saws, one on each side of the machine, and alternately-reciprocating bolt-carriages, one on each side, and a cam connection between the carriages, whereby the bolts are cut alternately, substantially as herein described.

2. In a shingle or shake machine, the combination of a pair of band-saws, one on each side of the machine, alternately-reciprocating bolt-carriages, one on each side and adapted to alternately feed their bolts to the saws, whereby a shake is cut from each bolt alternately, and a central feed mechanism comprising a cam and connections for operating the carriages, substantially as herein described.

3. In a shingle or shake machine, the combination of the band-saws, one on each side of the machine, the alternately-reciprocating bolt-carriages, one on each side of the machine, and the means for alternately feeding said carriages, consisting of the central rotating cam and the links from said carriages engaging the cam, substantially as herein described.

4. In a shingle or shake machine, the combination of the band-saws, one on each side, the sliding carriages, one on each side, the

means for alternately reciprocating the carriages, consisting of the rotating cam between them, the links from the carriages engaging the cam, and the weights for returning the carriages, substantially as herein described.

5. In a shingle or shake machine, the combination of the side saws, the sliding carriages, one for each saw, the central rotating cam, the links from the carriages engaging the cam, whereby said carriages are alternately fed, the weight for returning the carriages, and the transverse guide-bars for holding the links in place on the cam, substantially as herein described.

6. In a shingle or shake machine, the combination of the band-saws, one on each side, the sliding bolt-carriages, one for each saw, the central rotating cam, the links from the carriages engaging said cam, whereby the carriages are alternately drawn inwardly, the weights for returning the carriages, and the means for rotating the cam, consisting of the shaft on which it is mounted, the drive-shaft and the intervening worm, worm-gear, pulleys, and belt, by which the power of the drive-shaft is transmitted to the cam-shaft, substantially as herein described.

7. In a shingle or shake machine, the combination of the reciprocating bolt-carriages, one on each side of the machine, a centrally-placed cam and connections therefrom for operating the carriages alternately, the pulleys at each side of one end of the machine, the independently-adjustable pulleys, one at each side of the other end of the machine, and the endless-band saws passing over said pulleys, substantially as herein described.

8. In a shingle or shake machine, the combination of the sliding bolt-carriages, one at each side of the machine, the central cam and connections therefrom for operating the carriages alternately, the pulleys mounted at each side of one end of the machine, the pulleys mounted at each side of the other end of the machine, the independent shafts of said last-named pulleys, the independently-sliding boxes in which said shafts are mounted, the set-screws for independently adjusting them, and the intervening springs serving as a cushion, substantially as herein described.

9. In a shingle or shake machine, the combination of the endless-band saws, one on each side, the alternately-reciprocating carriages, the central cam and engaging links of the carriages, whereby the carriages are fed, the power-transmitting belt for operating the cam, the sliding tightener-pulley affecting said belt, the lever, and the rope or cord connecting the lever with the sliding tightener-pulley, substantially as herein described.

10. In a shingle or shake machine, the bolt-carriage having on one side the fixed toothed dog and on the other side the pivoted toothed dog having an outer flange, in combination with the carriage-track h , having an opening and a projecting flange for engaging the flange

of the pivoted toothed dog and swinging it to free it from the bolt, substantially as herein described.

11. In a shingle or shake machine, the bolt-
5 carriage having a pivoted toothed dog S', having an outer flange, in combination with the carriage-track h, having an opening and a projecting flange for engaging the flange of the pivoted toothed dog and swinging it to free

it from the bolt, substantially as herein described.

In witness whereof I have hereunto set my hand.

CHARLES W. BABCOCK.

Witnesses:

D. S. SARTWELL,
JOHN T. DAVIS.