

No. 670,177.

Patented Mar. 19, 1901.

J. D. GRIFFITH.  
SHINGLE SURFACING MACHINE.

(Application filed June 14, 1900.)

(No Model.)

Fig. 1.

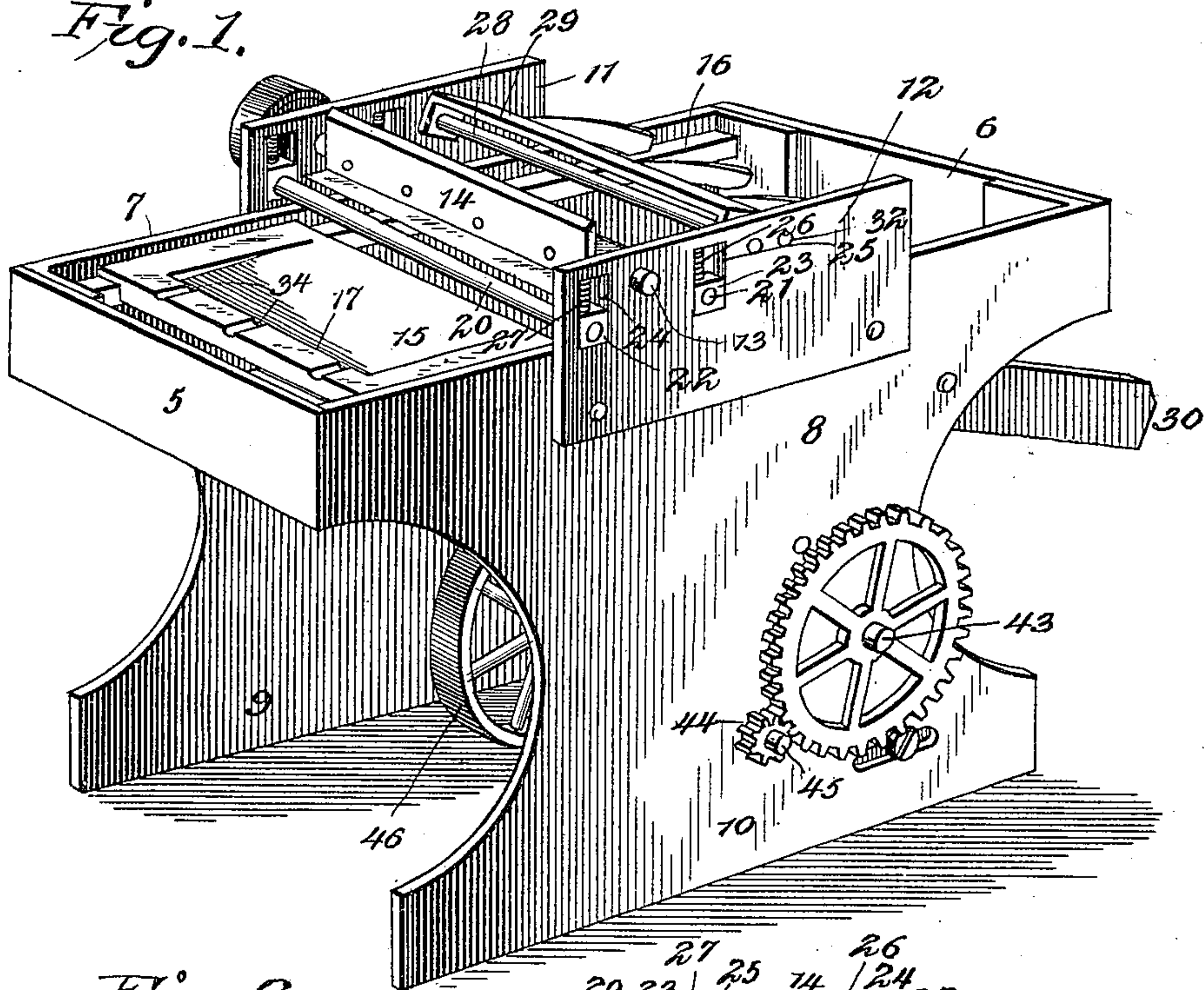
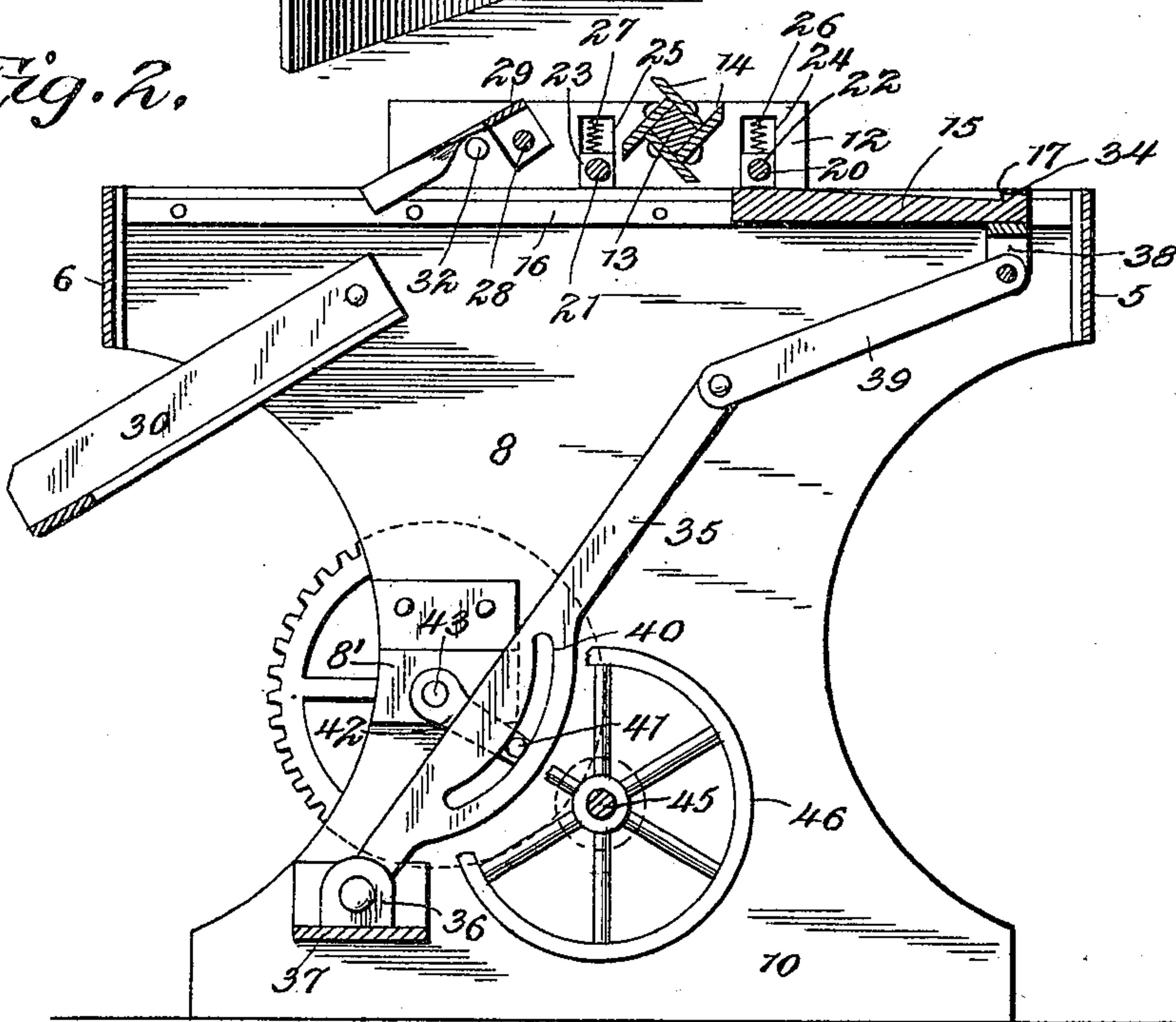


Fig. 2.



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# UNITED STATES PATENT OFFICE.

JAMES D. GRIFFITH, OF POINT ARENA, CALIFORNIA, ASSIGNOR OF ONE-HALF TO FORESTUS L. GRIFFITH, OF SAME PLACE.

## SHINGLE-SURFACING MACHINE.

SPECIFICATION forming part of Letters Patent No. 670,177, dated March 19, 1901.

Application filed June 14, 1900. Serial No. 20,339. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES D. GRIFFITH, a citizen of the United States, residing at Point Arena, in the county of Mendocino and State of California, have invented a new and useful Shingle-Surfacing Machine, of which the following is a specification.

This invention relates to woodworking-machines in general, and more particularly to that class employed in the manufacture of shingles; and it has specific reference to a machine for giving the taper to the shingles, the object of the invention being to provide a machine which is simple and cheap of construction and to which the shingles in their unfinished condition may be fed, the machine acting to automatically dress one side of the shingle at an angle to the other side and then to discharge the shingles and assume a position ready for the next charge of unfinished shingles.

Further objects and advantages of the invention will be apparent from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective view showing the complete machine with the parts in position to receive a charge of shingles to be treated. Fig. 2 is a longitudinal section of the machine with the parts in the same positions as shown in Fig. 1, the position of the machine being reversed bodily.

Referring now to the drawings, the machine of the present invention comprises a rectangular frame including end portions 5 and 6 and side portions 7 and 8, the side portions being continued downwardly and having supporting-feet 9 and 10 at their lower ends, as shown. Secured to the outer faces of the sides 7 and 8 are plates 11 and 12, which may, however, be formed integral with the sides, if desired, and these plates 11 and 12 carry the cutting mechanism, this cutting mechanism including a shaft 13, which is rotatably mounted at its ends in the plates 11 and 12, the central portion of the shaft being cross-sectionally angular to facilitate the attachment of the cutting-blades 14 thereto. The shaft has at one end and exterior to the

adjacent plate a pulley-wheel, through the medium of which the cutter may be rotated at the proper speed from a belt in the usual manner.

The shingles to be treated are carried upon a reciprocatory carriage 15, the ends of which are slidably mounted on rails 16, secured to the inner faces of the sides 7 and 8 adjacent their upper edges, the ends of the carriage being notched to receive the rails. The carriage is reciprocated beneath the cutters to present the shingles to the cutters and to return to a position to receive additional shingles, the carriage having a recessed upper face, the recess being gradually deepened from the front edge of the carriage to a point adjacent the rear edge thereof and terminating in a wall 17, which extends also along the sides of the recess and merges at its ends into the plate which forms the carriage. The shingles are in practice placed in the recess of the carriage with their thick ends against the wall 17, so that the upper faces of the shingles will be raised above the upper surface of the carriage to the same extent throughout their lengths, whereby the cutter-blades may engage and dress the shingles from end to end.

In order to hold the shingles down upon the carriage during the cutting operation, it being understood that the cutter is rotated in a direction to cause the cutting edges of the blades to operatively engage the shingles while moving in the direction of the rear ends of the shingles, presser-rolls 20 and 21 are disposed for engagement with the upper surfaces of the shingles as they are passed in operative relation to the cutter, these presser-rolls being journaled with their ends in blocks 22 and 23, which are slidably mounted in guideways 24 and 25 in the plates 11 and 12, the rollers being held yieldably in their operative positions by means of helical springs 26 and 27, each of which bears at one end against the end of a guideway and at its opposite end against its respective block.

As above stated, the shingles project above the wall of the carriage, and in order to discharge them from the carriage after being trimmed a shaft 28 is mounted at its ends in the plates 11 and 12, and upon this shaft is



pivoted a plate 29, having its ends turned downwardly and perforated for engagement with the shaft, said plate having a plurality of pawls or fingers secured thereto or formed integral therewith and disposed slantingly in the direction of operative movement of the carriage. The travel of the carriage is such and the fingers or pawls are so positioned that the shingles are carried slightly beyond the ends of the fingers or pawls, which latter drop behind the shingles, and when the carriage is returned the shingles are pushed from the forward end thereof and drop into a chute 30, which is pivoted to the sides 7 and 8 below the carriage, the shingles being discharged from the chute by gravity and the chute being preferably pivoted for adjustment to various conditions. A stop 32 limits the downward movement of the fingers, and in order to insure engagement of the fingers with the shingles when the latter are of such thickness as not to project above the rear wall of the carriage, slots 34 are cut in the rear wall in such positions that the fingers will pass through the slots and into engagement with the ends of the shingles when the carriage is returned.

It is desirable that the carriage be moved to present the shingles to the cutter with a comparatively slow motion and that it be returned with a much quicker motion in order that no time may be lost and the capacity of the machine may be as high as possible, and for this purpose the carriage is connected with a lever 35, which is pivoted at one end to an ear 36 upon a cross-brace 37, the opposite end of the lever being connected to an ear 38 upon the under side of the carriage through the medium of a link 39. Thus as lever 35 is oscillated upon its pivot the upper end thereof will be moved to reciprocate the link 39 and correspondingly move the carriage. To oscillate the lever 35 an arc-shaped slot 40 is formed therein with the chord of the arc longitudinally of the lever, and with this slot is engaged a wrist-pin 41 upon a crank-arm 42, carried by the shaft 43, which is journaled in the side 7 of the frame and in a bracket 8', attached thereto, the shaft 43 having a gear at its outer end meshing with a pinion 44 upon a shaft 45, journaled in the sides of the frame and provided with a band-wheel 46, through the medium of which said shaft is rotated to rotate the wrist-pin and operate the carriage. As the wrist-pin moves laterally at the upper side of its orbit it moves the lever 35 in one direction, and as it moves in the opposite direction through the lower half of its orbit it moves the lever 35 in an opposite direction and at a slower speed by reason of being nearer the pivot of the lever, all of which will be readily understood.

In practice various modifications of the invention may be made and any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention.

What is claimed is—

1. A shingle-machine comprising a frame, a cutter mounted in the frame, a reciprocating carriage mounted in the frame for traveling past the cutter, said carriage being adapted to receive and present a plurality of shingles edge to edge and in a common plane simultaneously to the cutter, and fingers pivotally mounted upon the frame beyond the cutter in a line across the frame and in the path of movement of the shingles upon the carriage, for engagement each with a shingle which is adapted to raise the finger and permit it to drop behind the shingle, whereby the shingles will be discharged independently and simultaneously when the carriage is returned, said fingers being held against bodily movement.

2. A shingle-machine comprising a frame, a cutter mounted in the frame, a reciprocating carriage mounted in the frame and traveling past the cutter and adapted to receive and present a plurality of shingles edge to edge and in a common plane simultaneously to the cutter, said carriage being movable to carry the shingles beyond the cutter, and fingers pivotally mounted beyond the cutter in a line across the frame and in the path of movement of the shingles for engagement each with a shingle, which is adapted to raise the finger and permit it to drop behind the shingle, whereby the shingles will be discharged simultaneously and independently upon return movement of the carriage.

3. A shingle-machine comprising a frame, a cutter mounted in the frame, a movable carriage having a recess adapted to receive the shingles and present them to the cutter, the rear wall of the recess having slots therein and fingers disposed for movement through the slots to engage the shingles beyond the cutter to hold them from return movement with the carriage, whereby they will be discharged therefrom.

4. A shingle-machine comprising a frame, a cutter mounted in the frame, a carriage slidably mounted in the frame and having a tapered recess in its face adjacent to the cutter and adapted to receive the shingles in a plane at an angle to the plane of movement of the carriage, the rear wall of the recess having slots therein, yieldable means for engagement with the shingles to hold them in the recess and fingers for engagement with the shingles through the slots beyond the cutter to hold them from return movement with the carriage, whereby they will be discharged therefrom.

5. A shingle-machine comprising a frame, a cutter mounted in the frame, a movable carriage in the frame and having a shingle-receiving recess having its bottom lying at an angle to the plane of movement of the carriage, said recess having slots through its rear wall, means for holding the shingles upon the carriage, fingers disposed to engage the shingles through said slots and discharge them



upon return movement of the carriage, and means for moving the carriage forwardly at one speed and rearwardly at a different speed.

6. A shingle-machine comprising a frame, 5 a cutter mounted in the frame, a carriage slidably mounted in the frame for movement beneath the cutter, said carriage having a tapered shingle-receiving recess in its upper face and a slotted wall at the rear of the recess against which the ends of the shingles 10 are adapted to lie, presser-rolls above the path of movement of the carriage to hold the shingles thereon, pivoted fingers mounted above

the carriage for movement through the slots of the wall into engagement with the ends of 15 the shingles to hold them against return movement with the carriage, means for moving the carriage and a chute to receive the discharged shingles.

In testimony that I claim the foregoing as 20 my own I have hereto affixed my signature in the presence of two witnesses.

JAMES D. GRIFFITH.

Witnesses:

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W. C. SCHNEIDER.