

No. 742,439.

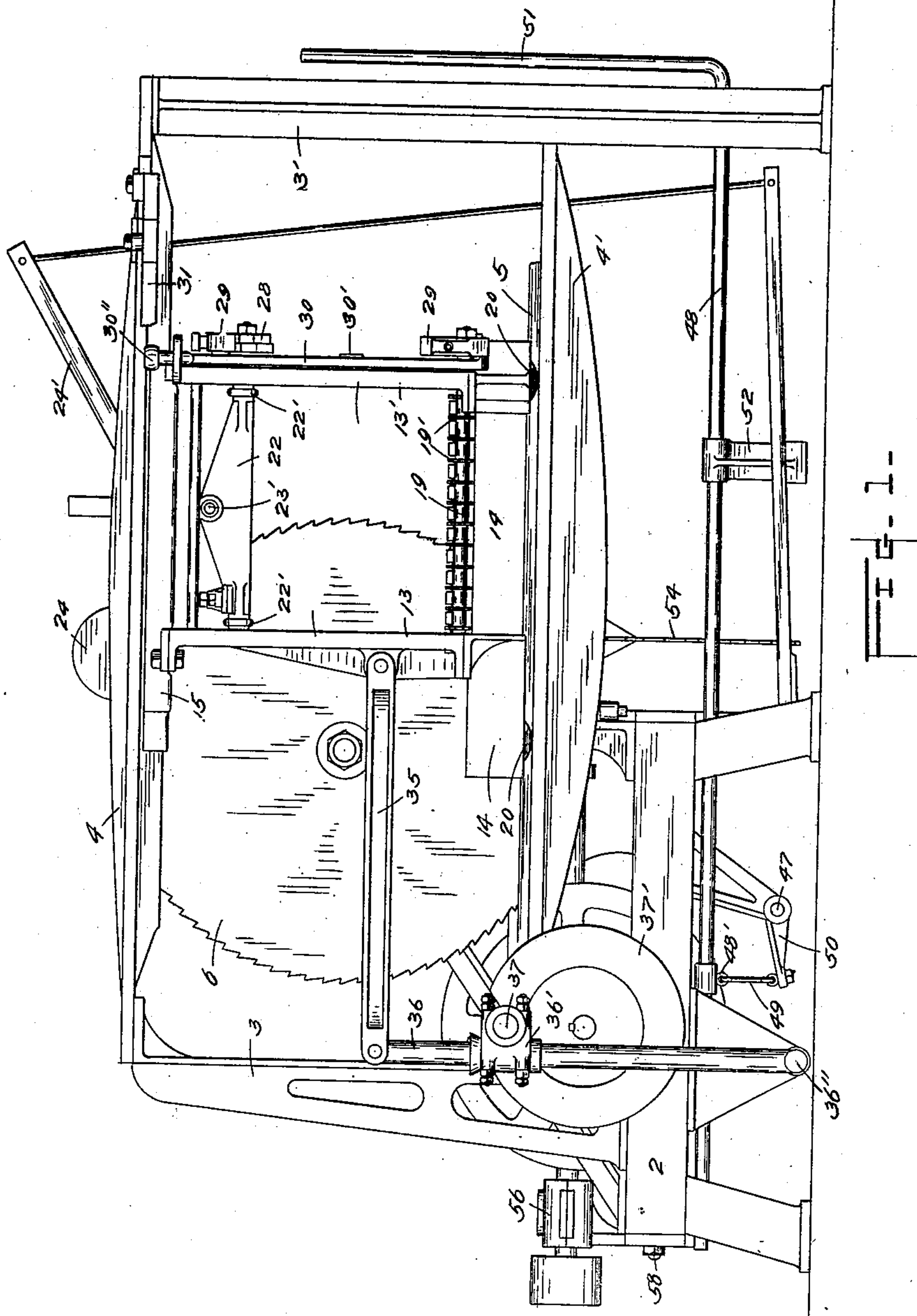
PATENTED OCT. 27, 1903.

F. L. JOHNSON.
SHINGLE MACHINE.

APPLICATION FILED APR. 28, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES:

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Ch. Golding

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Frank L. Johnson

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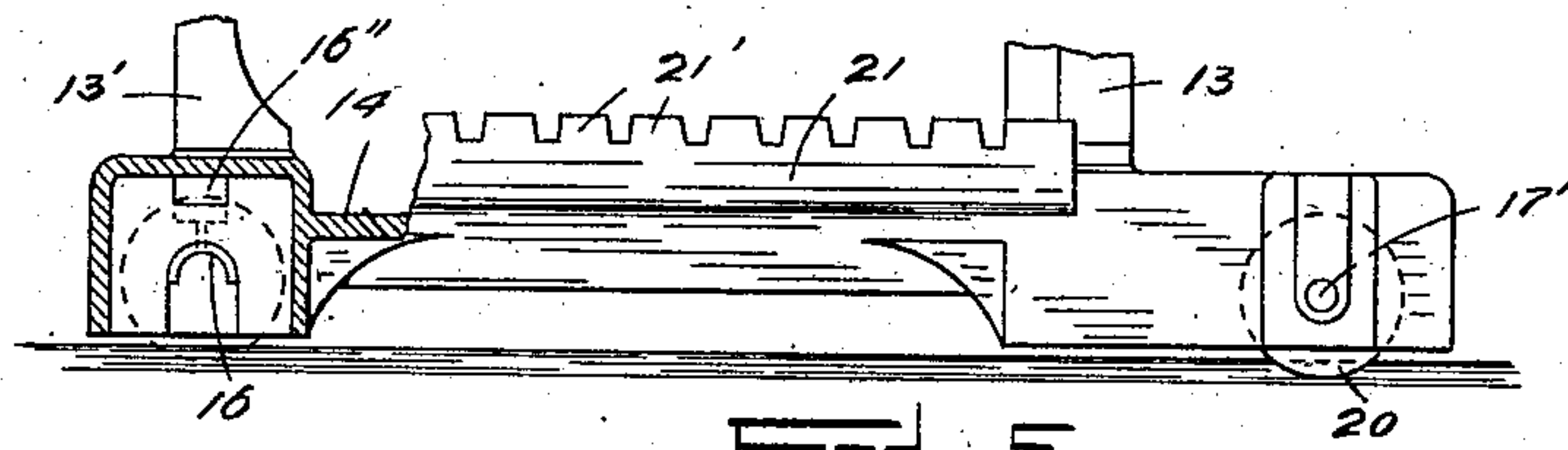


FIG. 5.

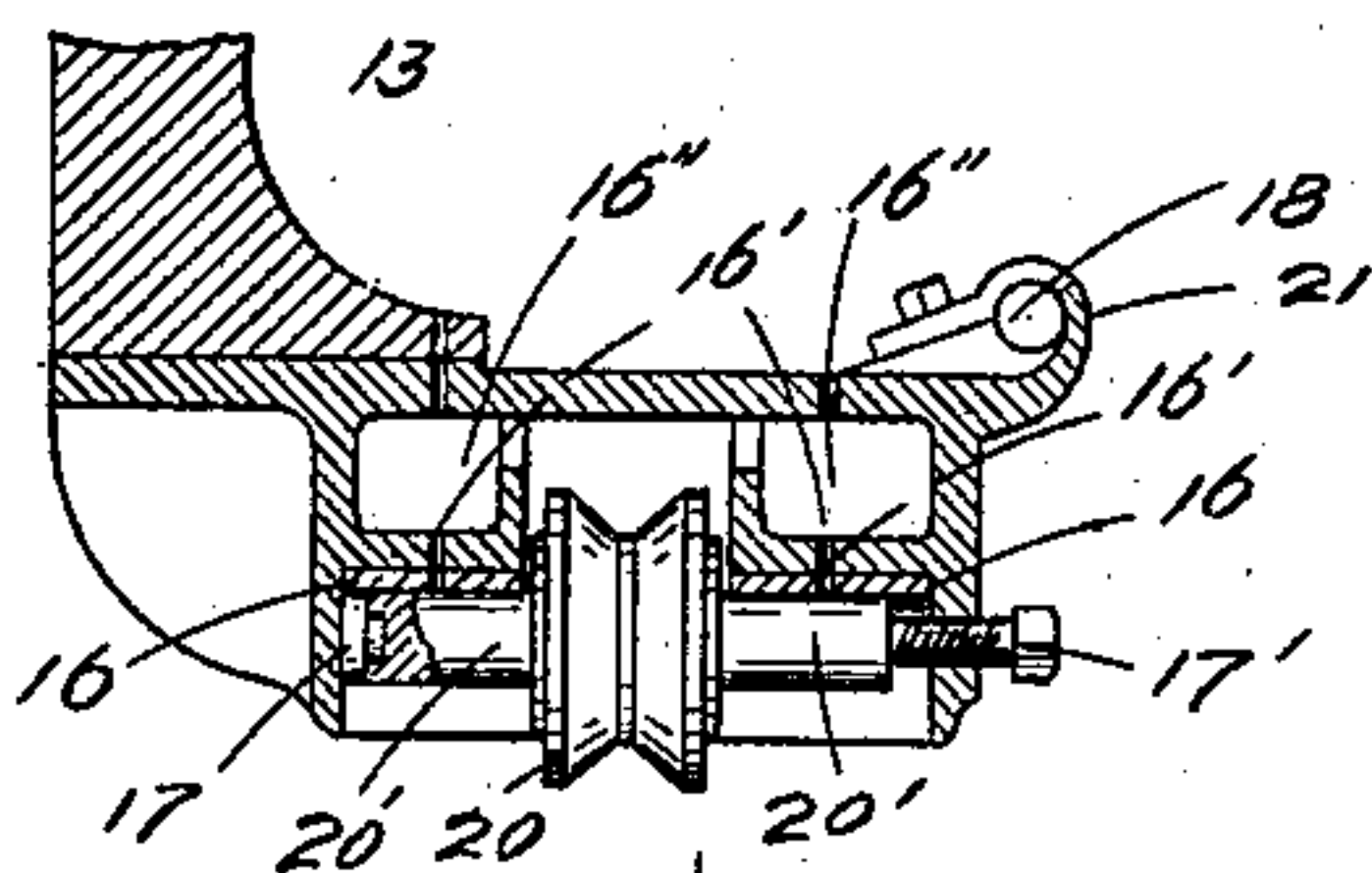


FIG. 6.

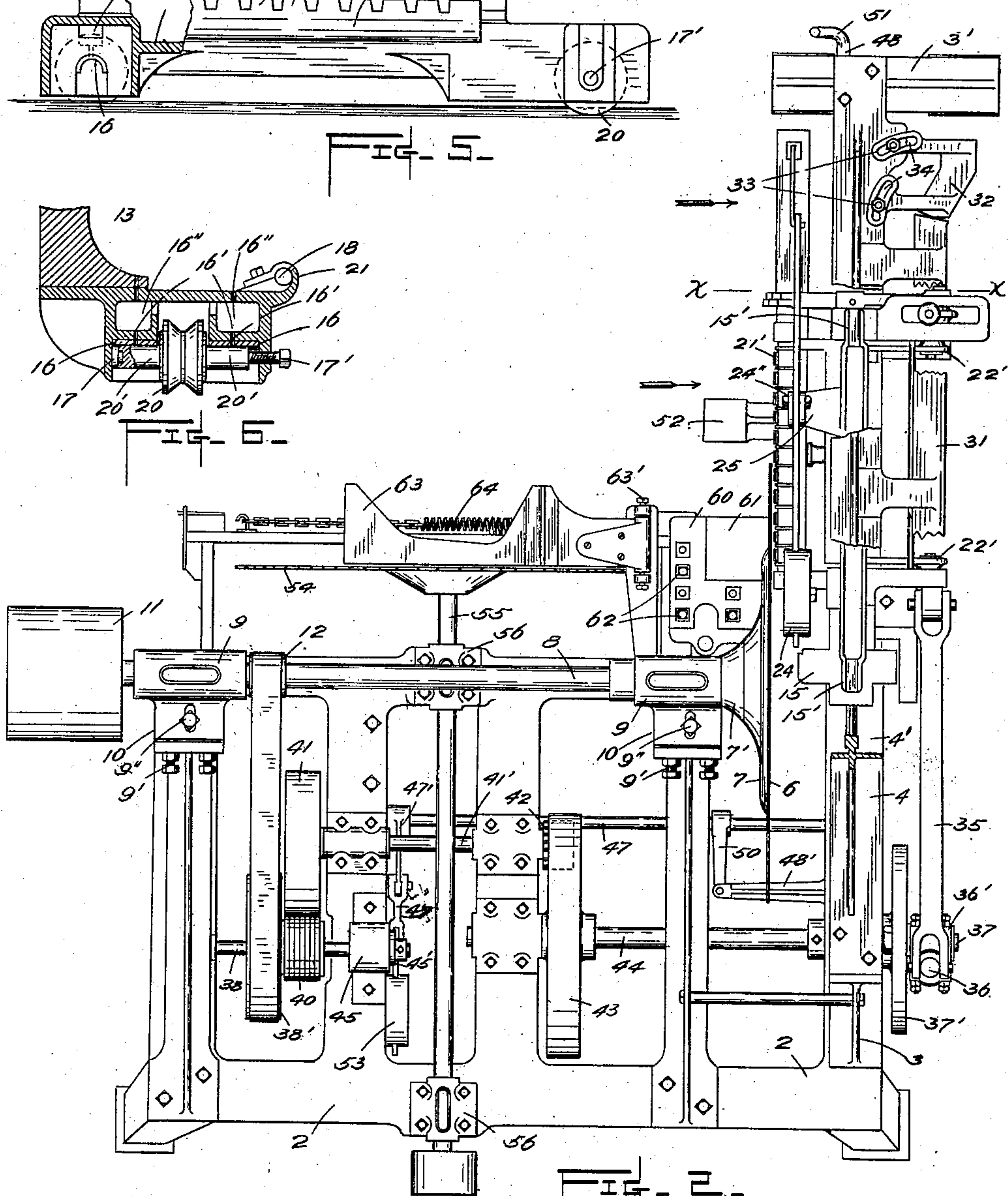


FIG. 2.

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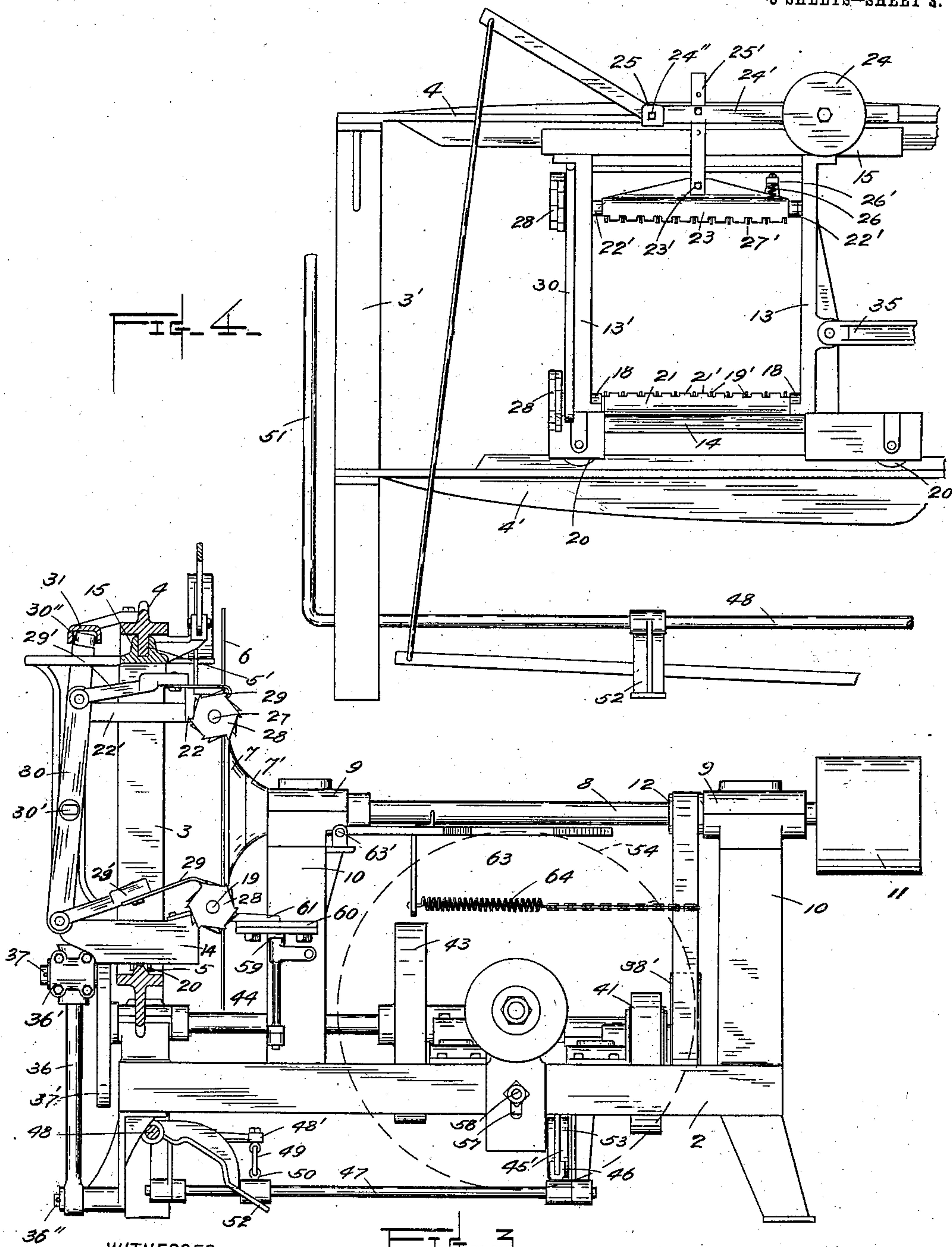
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8 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

FRANK LESLIE JOHNSON, OF SAPPERTON, CANADA.

SHINGLE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 742,439, dated October 27, 1903.

Application filed April 28, 1902. Serial No. 105,031. (No model.)

To all whom it may concern:

Be it known that I, FRANK LESLIE JOHNSON, a subject of the King of England, residing at Sapperton, in the Province of British Columbia, in the Dominion of Canada, have invented certain new and useful Improvements in Shingle-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates particularly to shingle-machines wherein the saw is rotated in an upright position.

This invention has for its object the provision of means by which shingles may be 15 more expeditiously cut from the block and jointed ready for packing into bunches.

A further object of the invention is to provide improved means whereby the set-up of the block may be controlled so as to more 20 nicely regulate the thickness of both butts and points of the shingles.

A still further object of the invention is the provision of features of construction pertaining to the carriage travel or feed where- 25 by the motion imparted to the carriage is better adapted to its work than in any other shingle-machine which has come to my notice.

The invention consists in the novel construction and combination of parts hereinafter described, illustrated in the drawings, and 30 finally pointed out in the claims.

In the said drawings, Figure 1 is a front elevation of a shingle-machine embodying my improvements. Fig. 2 is a plan view of the 35 same. Fig. 3 is a cross-section through line *x x* of Fig. 2. Fig. 4 is an elevation of a portion of the machine looking in the direction of arrows shown in Fig. 2. Figs. 5 and 6 are detail views of the lower end of the block- 40 carriage.

In the drawings the numeral 2 designates the main frame; 3 3', standards, the former, 3, being secured to the main frame and connected to the other, 3', which is seated upon the 45 floor, by two horizontal girders 4 4', provided, respectively, upon their top and bottom faces with planed carriage tracks or ways 5 5'.

The shingle-saw 6 is secured by counter- 50 sunk screw-bolts to its collar 7, which is bolted to the flange 7' of arbor 8, journaled in babbitted boxes 9, adjustably secured by set-

bolts 9' and lock-bolts 9'' to pedestals 10 of frame 2. Mounted upon the said saw-arbor are pulleys 11 12, the former, 11, being the 55 arbor drive-pulley, and 12 for operating the carriage feed-works, to be hereinafter described.

The carriage consists of upright ends 13 13', bottom or bed piece 14, and top piece 15, 60 rigidly secured together. The top piece 15 is channeled and babbitted at its opposite ends 15', so as to make a slidable fit with its track 5' of preferably rectangular cross-section. The bed-piece 14 is chambered adjacent to its 65 ends for the reception of annularly-grooved wheels 20, which run on V-track 5. The axles 20' of said wheels are seated in babbitted half-boxes 16, which are communicatively connected through holes 16' to oil-wells 16'', in 70 each of which is placed an absorbent material, such as felt, that will exude oil to the journals of said axles when raised to a high temperature. A thrust-plate 17, seated in one end of each of the said axles, and set- 75 screws 17' are provided for transverse adjustment of the axles of the carriage-wheels to compensate for the wear of the same. Adjacent to ends of said bed-piece of the carriage, journal-boxes 18 are provided for a 80 roller-shaft 19, having a plurality of spur-wheels 19' fixedly mounted thereon. Integral with the bed-piece is a jaw 21, having a number of teeth 21' disposed so as to receive the block spalt after it has run off of 85 the spur-wheels 19'. A swinging frame 22, pivotally connected by arms 22' to the end pieces 13 13' of the carriage, is utilized for supporting another toothed jaw, 23, by a swivel-pin 23' intermediate of its length, so as to 90 permit the said jaw to be tilted longitudinally of its length to accommodate blocks with ends out of parallel. A weight 24, attached to lever 24', fulcrumed at 24'' to a bracket 25 on the top frame-girder and a link 25', keeps 95 the jaw seated upon the block, and supplemental means for exerting local pressure upon the block is obtained by a compression-spring 26, introduced between a bracket 26' and the top of the jaw 21, adjacent to the end thereof. 100 Another roller-shaft, 27, with fixed spur-wheels 27', is seated in journal-boxes provided at the ends of the swinging jaw, and consequently is tilted coincidently there-

with. Mounted upon an end of each of the said roller-shafts is a pair of ratchet-wheels 28, one of each pair being fixed to its shaft and the other one being adjustably secured thereto for regulating, in connection with the cam hereinafter described, the thickness of the shingle cuts, both of points and butts. The roller-shafts are rotated step by step, so to speak, by means of pawls 29, connected by pawl-arms 29' to a vibrating lever 30 at equidistant points from its fulcrum 30'. The vibratory motion of said lever is accomplished by means of a wheel 30'' upon its upper extremity traveling in a channel-way 31, extending parallel to and along the top frame-girder until it reaches part 32 registering therewith, but free to be swung horizontally to vary the offset or vibration of the ratchet-lever. 33 represents stud-bolts passing through slots 34 of the last-named part 32 for securing the same to a set position.

Returning now to the carriage-feed, a pitman 35 connects the carriage to a rocking lever 36, actuated by sliding crank-box 36', journaled to crank-pin 37 of disk 37'. The fulcrum of said rocking lever is a pin 36'', suspended from the main frame and positioned at one side of a vertical line passing through the axis of shaft of said disk, but opposite to the shingle-saw, thereby imparting slow feed with a quick return motion to the carriage. Rotary motion to the said disk is obtained through shaft 38 from a belt passing around pulley 38' thereon and 12 on the saw-arbor by frictional contact of a paper pulley 40 with an iron pulley 41 on shaft 41' and thence through toothed pinion 42 and internal gear-wheel 43 on the disk-shaft 44. Shafts 41' and 44 are journaled in stationary bearings; but shaft 38 is journaled in eccentric-box 45, whereby the frictional gear of the feed mechanism is thrown into or out of operation. The eccentric-box is operated by lever 45', integral therewith, a toggle 46, shaft 47, connected by lever 47', mounted thereon, to said toggle, another shaft, 48, arm 48' thereon, and link 49, connecting said arm with an arm 50 upon shaft 47. A hand-lever 51 and foot-treadle 52 are provided upon the shaft for controlling the feed mechanism from either the end or front of the machine, as desired. The toggle 46 and its actuating-lever are arranged so that when the foot-treadle is depressed they will be in line and lock the eccentric-box; but when moved out of a right line by the hand-lever a counterweight 53, attached to an arm of eccentric-lever, rotates the eccentric to throw the aforesaid paper and iron friction-wheels into engagement.

A shingle-jointer is included in the machine and comprises a jointer-saw 54 and its arbor 55, disposed rectangulary to the aforesaid shingle-saw arbor and journaled in boxes 56, vertically adjustable by means of slots 57 in the said box-castings and screw-bolts 58. A bracket 59 supports a plate 60, to which is se-

cured another (wedge-shaped) plate, 61, beveled upon its top surface for tilting the shingles forward as they drop from the shingle-block. The bolts 62 are provided for moving inwardly as the saw is worn. A table 63, hinged at 63' to the machine, is used for holding the shingles while jointing, which is accomplished by placing the same thereon and pressing downward against the action of an extensible spring 64; the shingle edges coming in the path of the jointer-saw cuts and trims the same.

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

1. In a shingle-machine, the combination with the frame, a carriage mounted thereon, means for reciprocating the same, a swinging frame pivotally mounted on the said carriage, an adjustable jaw adapted to be longitudinally tilted carried by the carriage, means for holding said jaw seated upon the block, and supplemental means for exerting pressure upon said jaw, substantially as described.

2. In a shingle-machine, the combination with the frame, of a saw-arbor having a saw secured thereto mounted in the frame, means for rotating the same, ways formed in the said frame, a carriage having rollers secured thereto, mounted in said ways, means for giving a reciprocatory movement to the carriage, a swinging frame carried by said carriage, having an adjustable jaw thereto, means for holding said jaw seated on the block, shafts journaled in the carriage having ratchet-wheels secured thereon, a vibrating lever fulcrumed intermediate of its length to the carriage, engaging means between said lever and ratchet-wheels whereby said shafts are given a step-by-step rotation and means for governing the lateral movement of the lever, substantially as described.

3. In combination with the carriage of a shingle-machine, a swinging frame carried thereby, an adjustable member mounted in said frame for longitudinal tilting, means for holding said member seated upon the block, shafts journaled in said carriage, and vibrating means adapted to give a step-by-step rotation to the shafts, substantially as described.

4. A shingle-machine comprising a frame, a reciprocating carriage mounted therein, adjustable means for regulating the thickness of the saw-cuts, saw-carrying means, and a swinging frame pivotally mounted on the carriage having an adjustable member therein adapted to engage the block, substantially as described.

5. A shingle-machine having a reciprocating carriage, a swinging frame mounted on the carriage, a tiltable member adjustably mounted in the frame, means for holding said member seated upon the block, supplemental means for exerting a local pressure upon said member, shafts journaled in the carriage, vibrating means for giving the same a step-by-step rotation, and means for limit-

ing the lateral movement of said vibrating means, substantially as described.

6. In a machine of the character described,
the combination of a frame, a reciprocatory
5 carriage mounted thereon, saw - carrying
means, means for regulating the thickness of
the saw-cuts, means for simultaneously actu-
ating the saw and carriage, a swinging frame
mounted on the carriage, an adjustable block-
10 holding member carried in the said frame,

shafts mounted in the carriage, and means
for giving the same a step-by-step rotation,
substantially as described.

In testimony whereof I affix my signature
in presence of two witnesses.

FRANK LESLIE JOHNSON.

Witnesses:

C. G. MAJOR,

E. D. DAUPHINEE.