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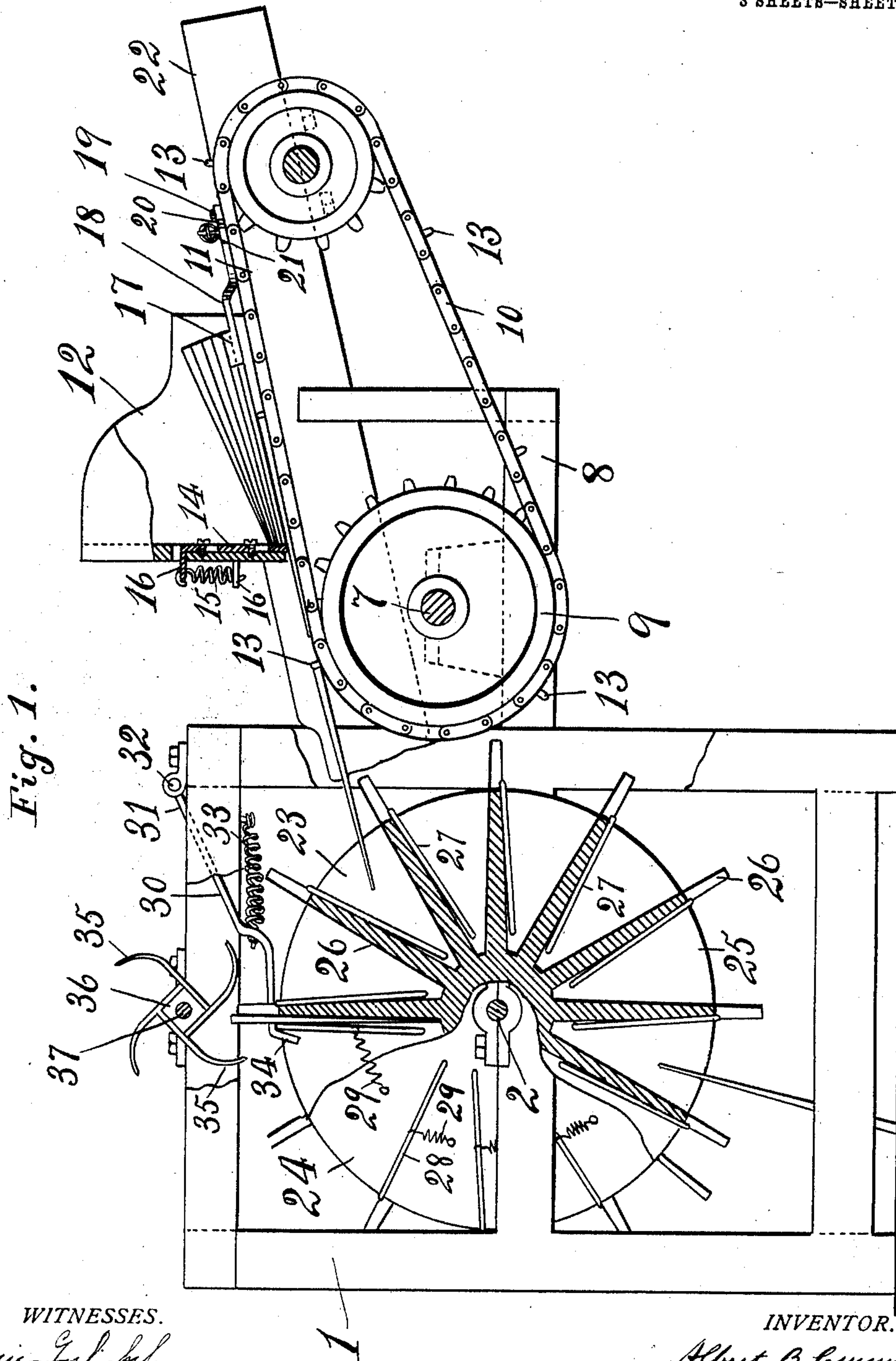
PATENTED MAY 17, 1904.

A. B. CUMMINS.  
SHINGLE MACHINE.

APPLICATION FILED APR. 27, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES.

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No. 759,867.

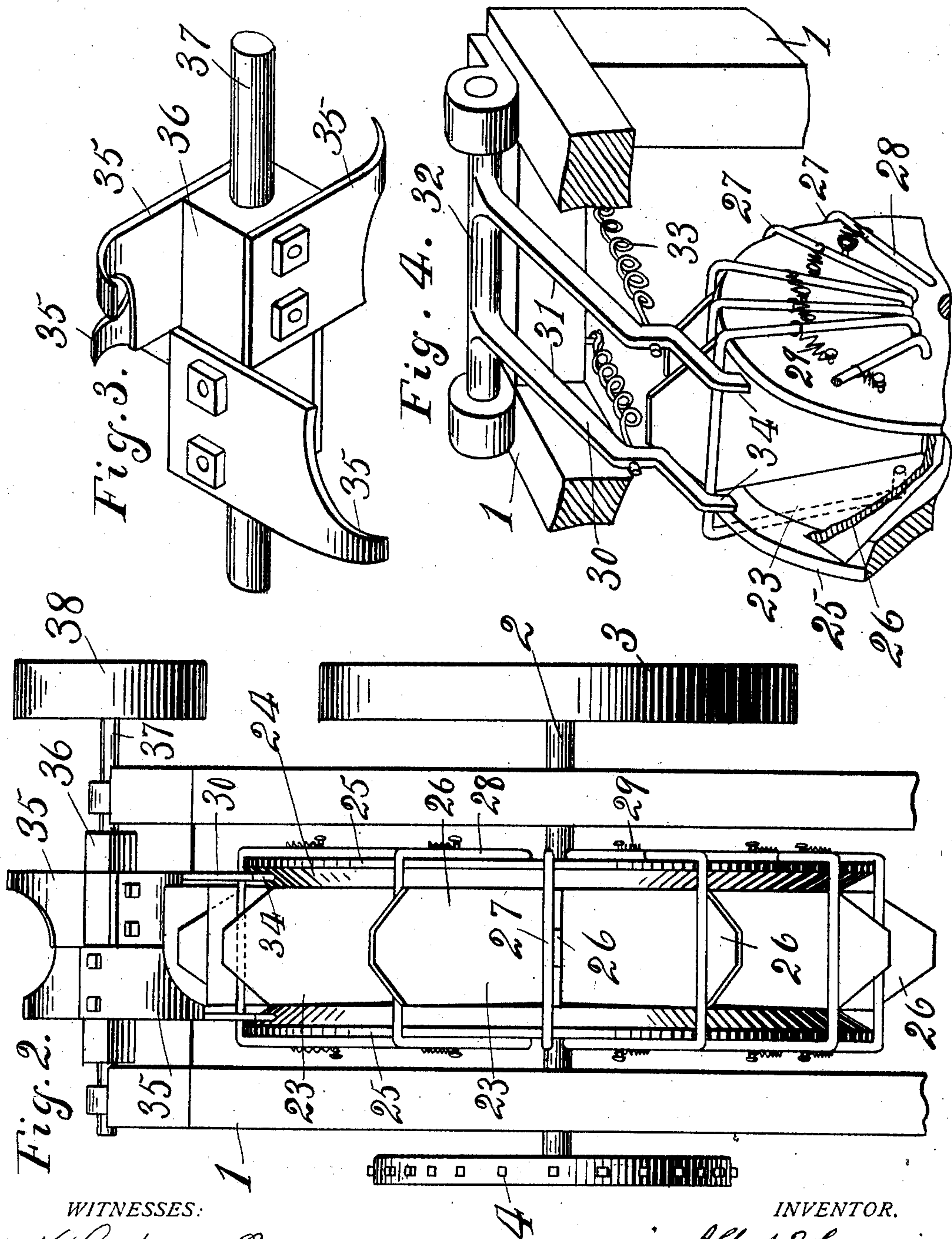
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3 SHEETS—SHEET 2.



WITNESSES:

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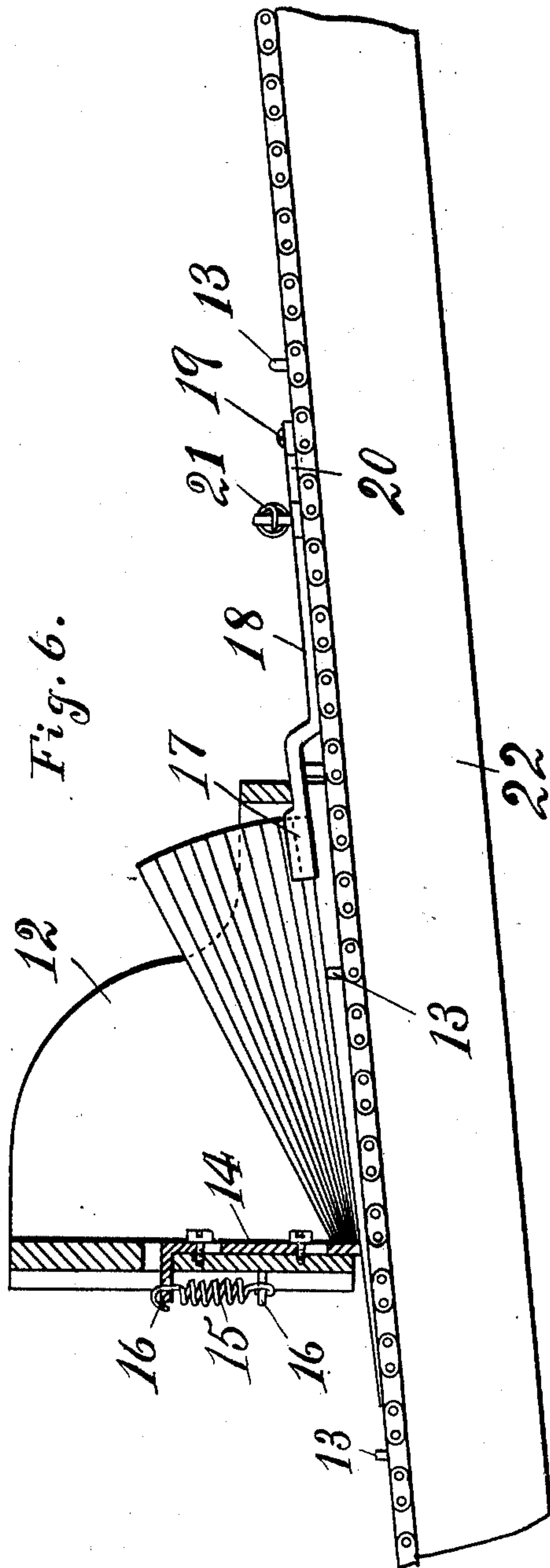
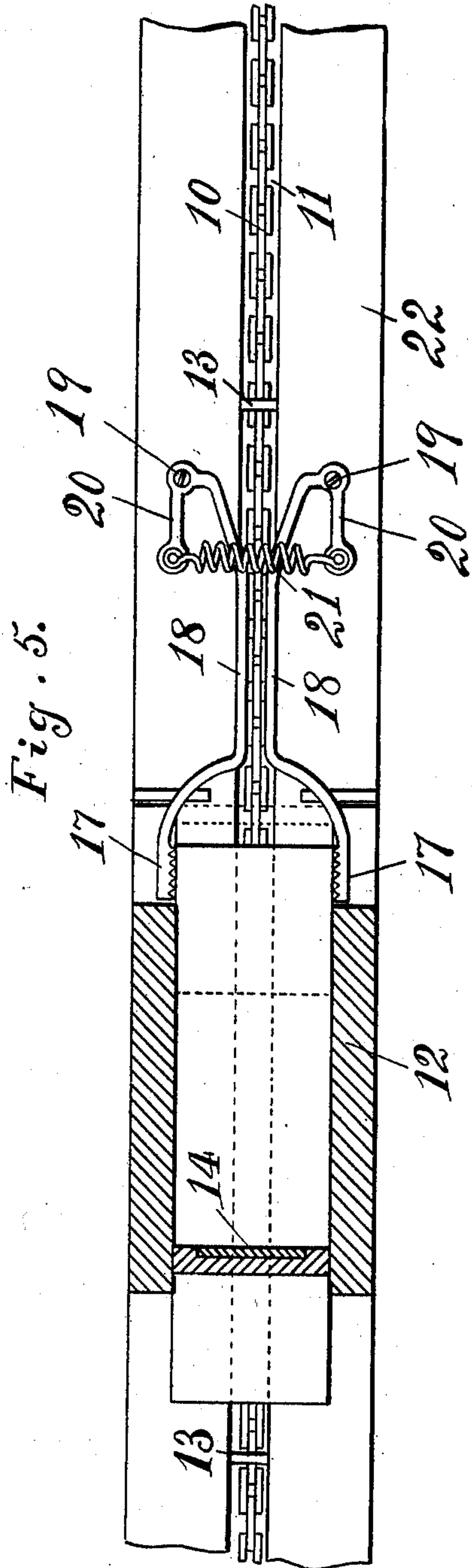
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NO MODEL.

3 SHEETS—SHEET 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ALBERT B. CUMMINS, OF EUREKA, CALIFORNIA.

## SHINGLE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 759,867, dated May 17, 1904.

Application filed April 27, 1903. Serial No. 154,446. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT B. CUMMINS, a citizen of the United States, residing at Eureka, in the county of Humboldt and State of California, have invented certain new and useful Improvements in Shingle-Machines, of which the following is a specification.

My invention relates to improvements in machines for cutting or shaping shingles, the object of my invention being to provide a machine of this character in which the shingles to be so cut or shaped may be segregated one at a time or in any desired uniform number at a time from the feed-supply, in which they may be securely and firmly held in position while being acted upon by the cutter, and in which they may be accurately and rapidly fed to and removed from the cutter.

My invention therefore resides in the novel construction, combination, and arrangement of parts for the above ends hereinafter fully specified, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved shingle-machine, certain parts being broken away. Fig. 2 is a front view of the machine. Fig. 3 is a detail perspective view of the cutter. Fig. 4 is detail perspective view of the pull-back. Fig. 5 is a longitudinal horizontal sectional view through the hopper, showing the clamping device in plan. Fig. 6 is a longitudinal vertical section of the feed device.

Referring to the drawings, 1 represents the main frame of the machine, having extending therethrough a counter-shaft 2, said shaft having at one extremity thereof a belt-wheel 3, adapted to be driven from any suitable source of power. At the opposite end of the counter-shaft is secured a sprocket-wheel 4, connected by a sprocket-chain 5 with a sprocket-wheel 6 upon a shaft 7, mounted in an extension 8 of the frame of the device, said shaft 7 carrying thereon a large sprocket-wheel 9 for the conveyer-chain 10, which runs around an idle wheel in a groove 11 in a chute 22, carried by said extension 8 and beneath the hopper 12, which contains the shingles fed to the machine. Said chain carries projec-

tions or lugs 13, which in the movement of the chain engage the rear ends of the shingles and feed them from the hopper to the shingle retainer or holder adjacent to the cutting mechanism. Said shingle-hopper 12 is in the nature of a box or chamber having an opening in the lower portion of the front side thereof, through which the shingles can pass, and having a sliding door 14, which is pulled down by a spring 15, secured to lugs 16 on said door and on the front side of the hopper. Said door is opened or forced upwardly against the force of said spring by a shingle when it is pushed forward toward the shingle-retainer, the object of this door being to prevent the remaining shingles from being forced out before the lowest has entirely left the hopper. It will be understood that the lug or projection 13 of the chain is sufficiently high to engage the rear edges of the desired number of shingles. Thus if one shingle at a time is to be cut then the height of the lug will be equal to the greatest thickness of a single shingle. If two or three shingles are to be cut in a single operation, then the height of the lug will be equal to the thickness of two or three shingles at their rear ends.

In order to prevent more than the desired number of shingles from being removed at one time, there is provided a clutch mechanism comprising two gripping-jaws 17, carried on the ends of arms 18 of levers pivoted at 19 upon the extension 8, said levers having also forwardly-extending arms 20, which are connected by a spring 21. Said spring has the effect of pulling inward the arms 20, and therefore also the arms 18. When the jaws 17 are gripping the edges of the shingles, the two arms 18 extend for the greater portion of their length parallel to and at a short distance from each other; but the lugs 13 carried upon the chains are of such width that when they come between said arms they separate the same and cause the jaws 17 to move outward from engagement with the shingles. Up to this time said shingles have been held up by said jaws, which extend upwardly as well as outwardly from the parallel portions of the arms 18, so as to grip the edges of the shingles.



at a point above the lowest shingle or group of shingles. They now, however, drop to the bottom of the hopper. After the shingles have so dropped the lug 13 comes along and  
 5 impinges against the rear edge of the lowest shingle, (or the lowest two or three, as the case may be) and carries said shingle along with it, the jaws 17 in the meantime having closed upon the other shingles under the action of  
 16 the spring 21, the lug having left the narrow path between the parallel portions of the arms 20. Thus only the shingle engaged by the lug is advanced and carried out of the hopper. After the shingle has been carried from the  
 15 feed-hopper and has been propelled down the chute by means of the lug 13 it is projected into one of a series of compartments 23 of a rotary wheel or cylinder 24. These compartments are sector-shaped, being bounded by  
 20 the parallel circular walls or plates 25 of the wheel or cylinder and by radial or diverging walls or partitions 26 between said parallel walls and are open only at the periphery, where the shingles enter. At their inner ends  
 25 said sector-shaped compartments are bounded by the hub of the wheel 24 and at such a distance from the peripheries of the walls 25 that the shingles projected into said compartments are arrested by said hub, so that their outer  
 30 end extends beyond said wall 25 only sufficiently far to permit said end to be cut or shaped. Against the front or leading wall of said compartment rests the middle portion of a U-shaped clamp 27, the sides 28 of which  
 35 extend over the outside of the walls of the wheel or cylinder and are pivoted in said walls at points near the center thereof, as shown. These clamps are normally drawn forward against said front walls by means of springs  
 40 29; but as the shingle arrives at the point where it is to be cut said clamp is drawn back against the shingle to clamp the same by means of a pull-back 30, comprising arms 31, extending from a rock-shaft 32 and drawn down by  
 45 means of coiled springs 33. Said arms have forwardly-extending fingers 34, which are adapted to engage the sides of said yokes and pull the yokes against the rear wall, thereby clamping the shingle against said wall while  
 50 passing the cutter. Said cutter comprises cutting-blades 35, mounted upon a head 36 upon a shaft 37, driven by a pulley 38 from any suitable source of power. The speed of the cutter is great compared with that of the rotating  
 55 wheel 24, so that the cutting takes place while the shingle is advanced through a very small distance, and on account of the oblique inward direction of the fingers 34 said fingers are gradually pushed out as the wheel advances, thereby releasing the U-shaped clamp,  
 60 so that the shingle is now no longer held thereby. When the shingle arrives at a lower position in the rotation of the wheel, it is projected from the compartment, and the shingles

thus projected may be collected from time to time. 65

I claim—

1. In an apparatus of the character described, the combination of a cutter, a rotating cylinder comprising parallel side plates, 70 and radial partitions between the side plates dividing the space between the plates into sector-like compartments, and means for automatically feeding the shingles into said compartments, substantially as described. 75

2. In an apparatus of the character described, the combination of a rotating cylinder comprising parallel side plates, radial partitions between the side plates dividing the space between the plates into sector-like com- 80 partments, said cylinder being provided also with means for arresting the end of a shingle projected into the compartment at such a point that the part to be operated by the cutter projects beyond the compartment, a cutter 85 wholly outside the cylinder, and means for automatically feeding the shingles into said compartments, substantially as described.

3. In an apparatus of the character described, the combination of a rotating cylinder 90 comprising parallel side plates and radial partitions between the side plates dividing the space between the plates into sector-like compartments, a normally inoperative clamping device in each compartment for holding 95 the shingle against the partition on one side thereof, a cutter, and means brought into operative connection with the clamping devices in succession as they pass the cutter to cause them to clamp the shingles, substantially as 100 described.

4. In an apparatus of the character described, the combination of a cutter, a rotating cylinder having radial supports for the shingles, pivoted U-shaped clamping devices for 105 clamping the shingles against said supports, springs for normally holding said clamping devices out of engagement with the shingles; and means for engaging said clamping devices to cause the same to hold the shingles when 110 passing the cutter, substantially as described.

5. In a device of the character described, the combination with the cutter, the means for carrying the shingles past the cutter, and the hopper, of the gripping device for grip- 115 ping the upper shingles comprising the pivoted levers having the arms first converging and then extending substantially parallel with each other and provided with terminal jaws engaging the sides of the shingles, the spring 120 for drawing said arms together, and the chain having lugs which pass between and in contact with the convergent portions of said arms and cause the same to diverge to release the shingles, substantially as described. 125

6. In a device of the character described, in means for feeding the shingles, the endless chain having links rising above said chain, in



combination with a gripping device for grip-  
ping the shingles, said gripping device com-  
prising pivoted spring-actuated arms having  
gripping-jaws, said arms first convergent and  
5 then extending substantially parallel with, and  
in close proximity to, each other, said lugs  
passing between and in contact with the con-  
vergent portions of said arms to remove said  
gripping-jaws, and being of such width as to  
10 separate the jaws sufficiently to release the

shingles when passing therebetween, substan-  
tially as described.

In witness whereof I have hereunto set my  
hand in the presence of two subscribing wit-  
nesses.

ALBERT B. CUMMINS.

Witnesses:

W. M. CROWN,  
E. P. CAMPBELL.