

H. L. GOOCH.

Improvement in Shingle Machines.

No. 123,392.

Patented Feb. 6, 1872.

Fig. 1.

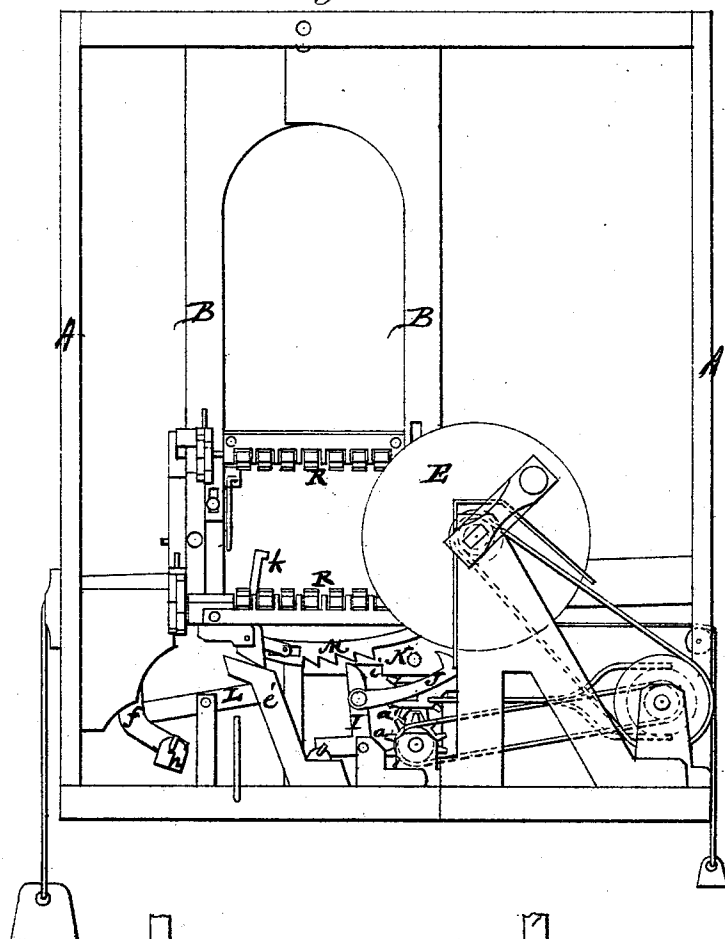
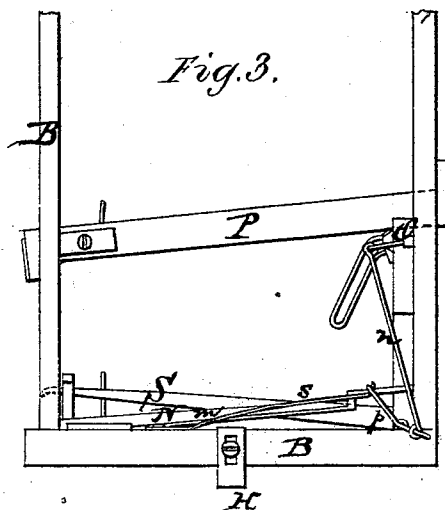


Fig. 3.



Witnesses

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Inventor

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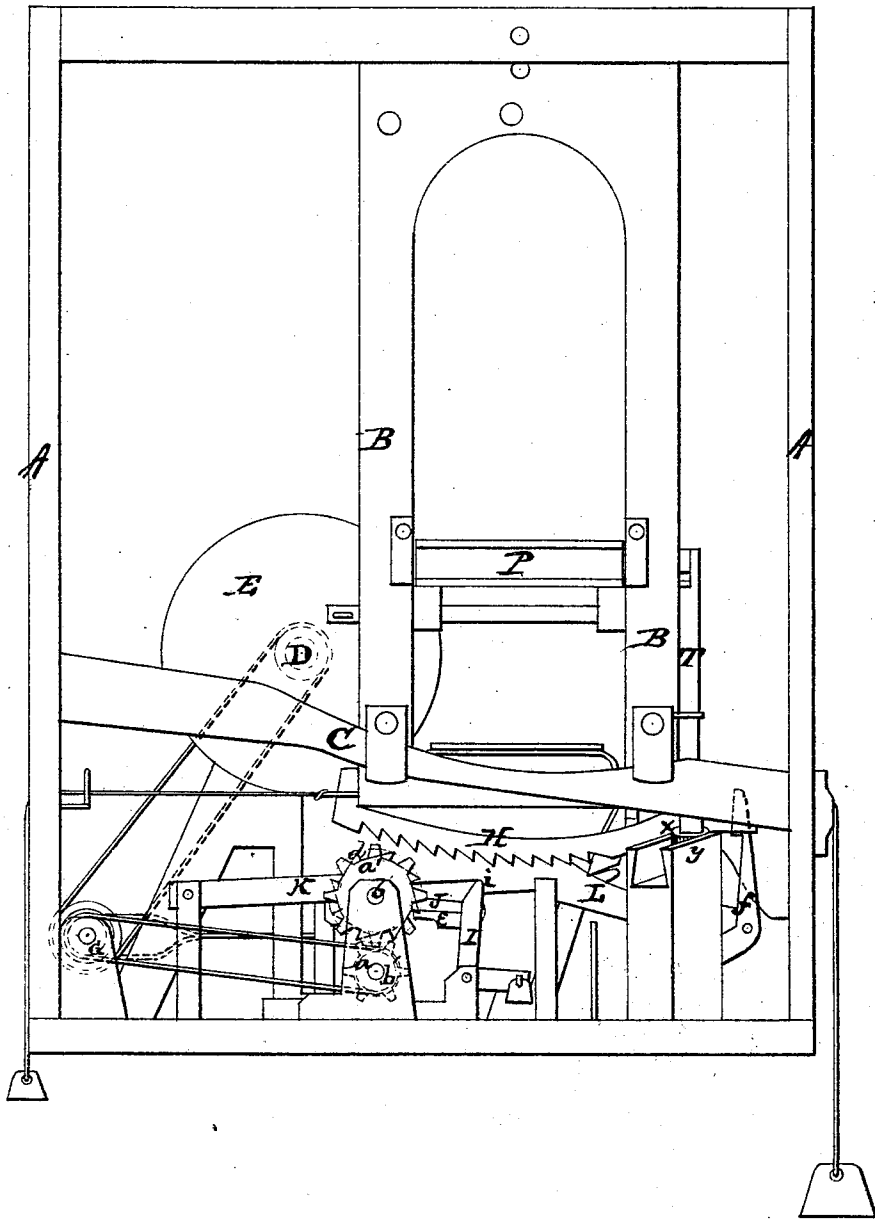
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Fig. 2.



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Fig. 4.

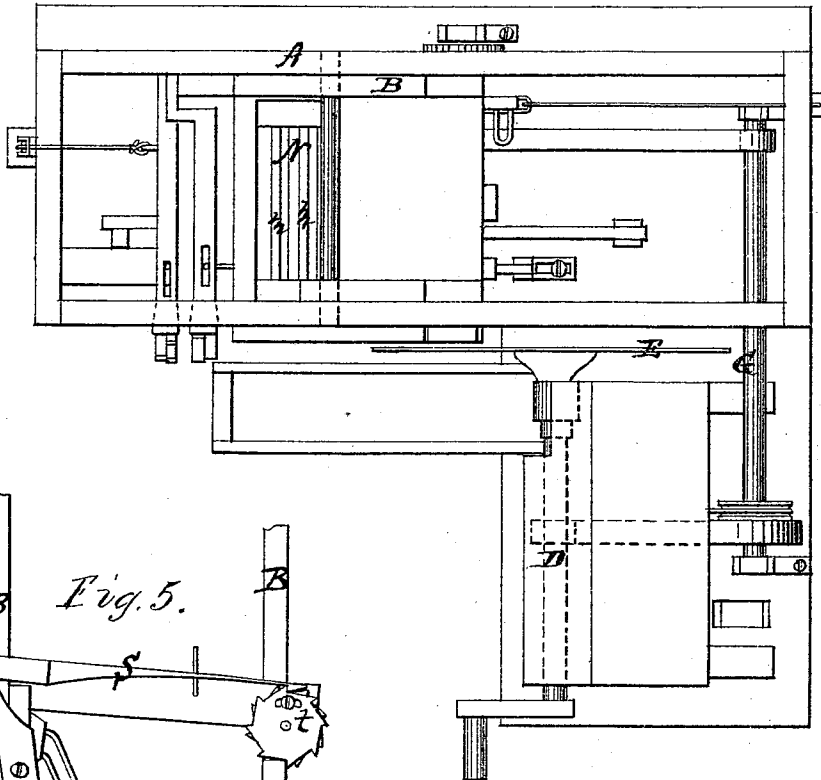
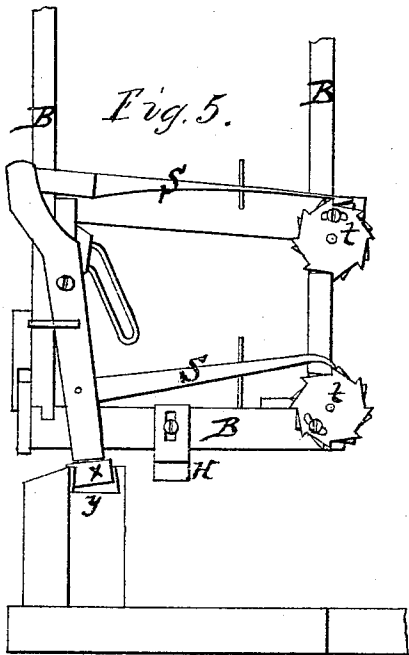


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY L. GOOCH, OF EAST MACHIAS, MAINE.

IMPROVEMENT IN SHINGLE-MACHINES.

Specification forming part of Letters Patent No. 123,392, dated February 6, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, H. L. GOOCH, of East Machias, in the county of Washington and State of Maine, have invented certain new and useful Improvements in Shingle-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a "shingle-machine," as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figures 1 and 2 are side views of the machine. Fig. 3 is an end view of the swinging carriage. Fig. 4 is a plan view of the entire machine, and Fig. 5 is a partial end view of the same.

A represents the frame of my machine. In the upper part is hung the swinging carriage B. By having it hung by the top in a swinging position it will move easy and require only light weights. It further runs in a slide, C, at the bottom, which keeps it steady and in its place. Upon one side of the main frame A is an additional frame supporting the shaft D, upon which is placed the saw E. The main shaft D is, by a suitable belt and pulleys, connected with a shaft, G, at one end of the frame, and running across the same near the bottom. This shaft is then, by a belt and pulleys, connected with a short shaft, *b'*, carrying a cog-wheel, *a*, which gears with a similar wheel, *a'*, upon a shaft, *b*. The arrangement of these parts within the frame A, while the saw is on the outside, brings all the machinery and belt away from sawdust and dirt; and if this belt is allowed to run over pulleys of equal size it will last a long time. To the under side of the swinging carriage B is attached a curved rack, H, so arranged as to be adjustable up and down by means of set-screws through its slotted ends, whereby the cog-work may be regulated by raising or lowering the rack. The rack is operated by toothed wheel *d* on the shaft *b*. I

is the trip-iron, made in the form of an L. The upper end of this iron is slotted, which keeps it in its place, the lower end being pivoted at the angle. On one side of the trip-iron is attached a slide-hook, J, one end of which moves in a slide, and at which end the regulator takes effect. There is also an arm, *e*, attached to the trip-iron, back of and parallel with the slide-hook J, which arm, if the weight of the cog-work will not cause it to drop from the rack, this arm will oblige it to do so by coming down upon the latch below, making all safe. K is the lever which holds the shaft *b* with gear-wheel *d*, one end of which lever is pivoted while the other rests in a slotted standard, so as to play up and down. On the under side of this lever, directly above the trip, is a notch, *i*. When the trip-iron is in this notch the gear-wheel is free from the rack, and when it is raised enough, by means that will be hereinafter explained, the trip-iron will drop out of this notch and hold up the gear-wheel *d* until the regulator trips it. L is an additional lever, which raises the lever K. When the machine is hard back it presses back the L-shaped lever *f* off from the catch that holds it, and the weight *h* on the same raises the levers L and K and throws the wheel *d* in gear. *k* is that part of the regulator that drops against the bolt when the machine starts, thus causing the under part M of the regulator to catch on the slide-hook J. In sawing very small bolts it will catch on the first cog on the regulator; in larger ones it will take effect as the bolts press it back, thus making it a perfect self-regulator. N is a plate, with knives *m m* running across the surface, and it is pivoted in the swinging carriage B.

In all machines where set rollers are used there is a general complaint about the bolts turning or moving around; and where there is a spiked roller used back of the set-rolls to come up under the bolt, they are of very little use. If the bolt is pressed hard enough to hold it from turning around, it is apt to set imperfect shingles, and it requires more than double the weight that should be used on the upper roller frame. My plate N is a remedy for all this trouble. The knives *m m* run in the same direction the bolt moves, which will follow the bolt until it passes the place where the plate is made fast. The back ends of the knives, com-

mencing on the brake side, are dropped a little lower. This is one reason why it does not require much strength in holding the bolt. The bolt always slants toward the brake side of the machine. When the bolt is put in the knives raise up against it and the knives on the brake side bring up first on that side. The knives will form a crevice which they will follow until the bolt passes off the plate.

O represents the brake or device for raising and lowering the upper roller-frame P. When the brake is raised to put the bolt in, the wire *n*, connecting the same with a rod, *p*, under the plate N, will cause said plate with the knives to drop, and when it is down the spring *s* will raise the plate up until it touches the bolt. By having the bolt held so steadily by the knives the rollers R R on which the bolt sits may be made much smaller, thereby enabling the operator to saw the bolts up to a thin sap. On the ends of the rollers R R are toothed wheels *tt*, operated by pawls S S, which are attached to a pivoted lever, T, having a roller, *x*, at its lower end. This roller slides in an inclined groove, *y*, so as to operate the pawls by the motion of the swinging carriage.

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

1. The combination of the swinging carriage B, roller-frame P, and pivoted plate N, constructed and operating substantially as set forth.

2. The L-shaped trip-iron I, in combination with the slide-hook J and arm *e*, substantially as and for the purpose set forth.

3. The combination of levers K, L, and *f* with the frame P, all arranged substantially as described.

4. The regulator *k* M, in combination with stud *e'*, substantially as and for the purpose specified.

5. The hinged or pivoted plate N, provided with knives *m m*, in combination with the feed-rolls R R, substantially as and for the purpose set forth.

6. The combination of the brake O, link *n*, lever *p*, and spring *s* with roller-frame P and plate N, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HENRY LORING GOOCH.

Witnesses:

A. M. TALBOT,
BARBARA J. FRYE.