

(No Model.)

2 Sheets—Sheet 1.

H. D. HATHAWAY.

REAPER AND MOWER.

No. 354,191.

Patented Dec. 14, 1886.

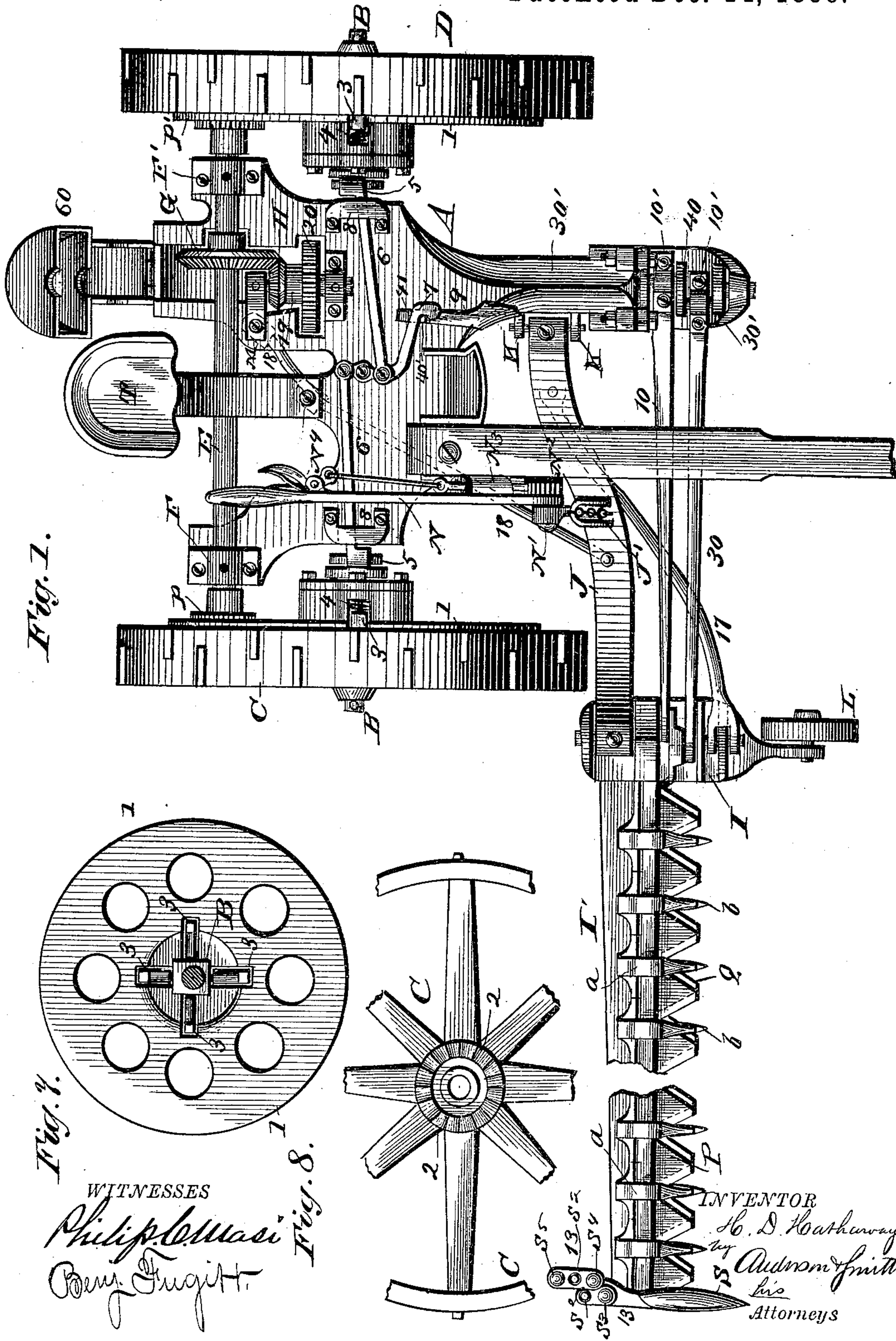


Fig. 2.

WITNESSES

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Fig. 8.

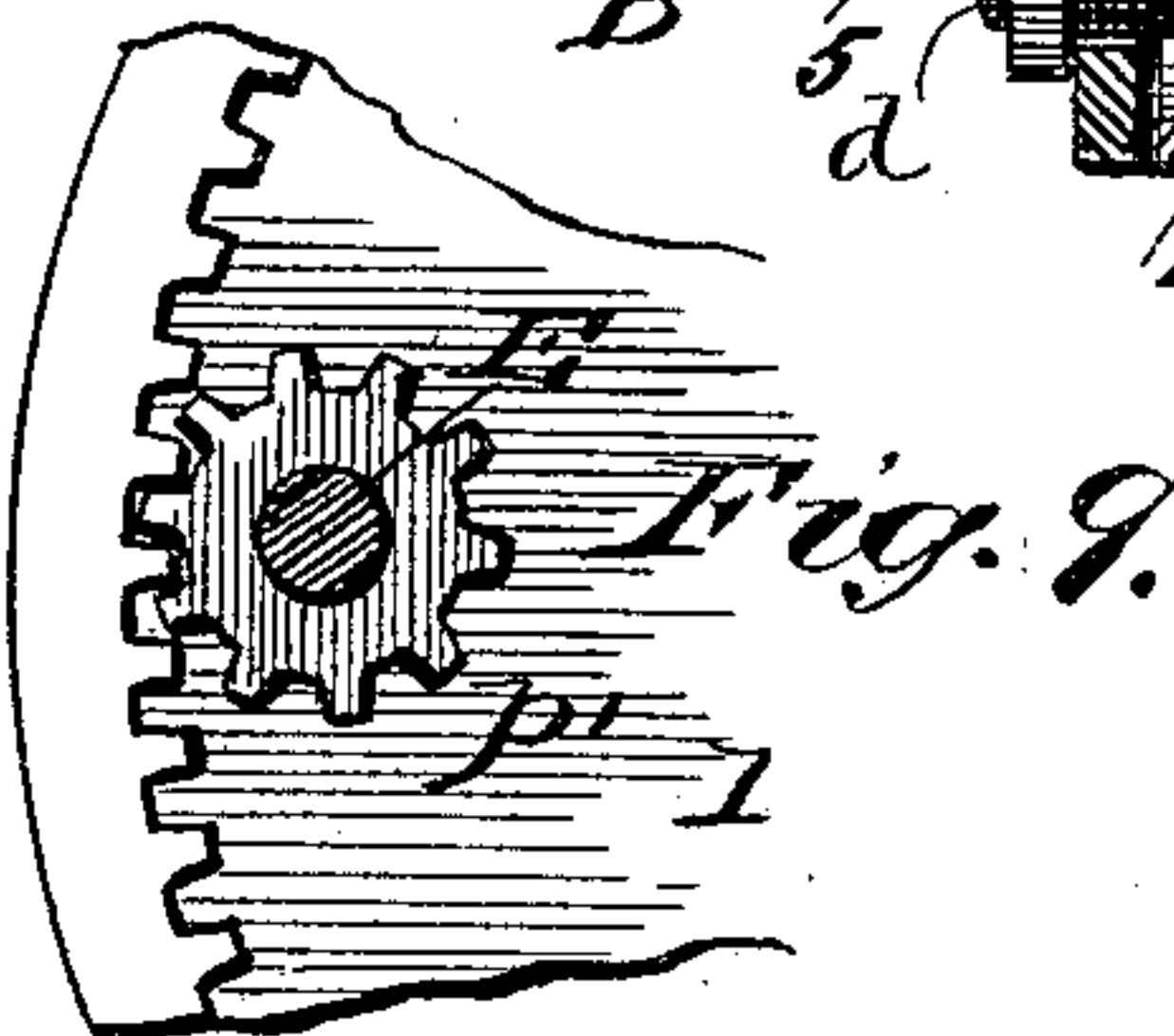
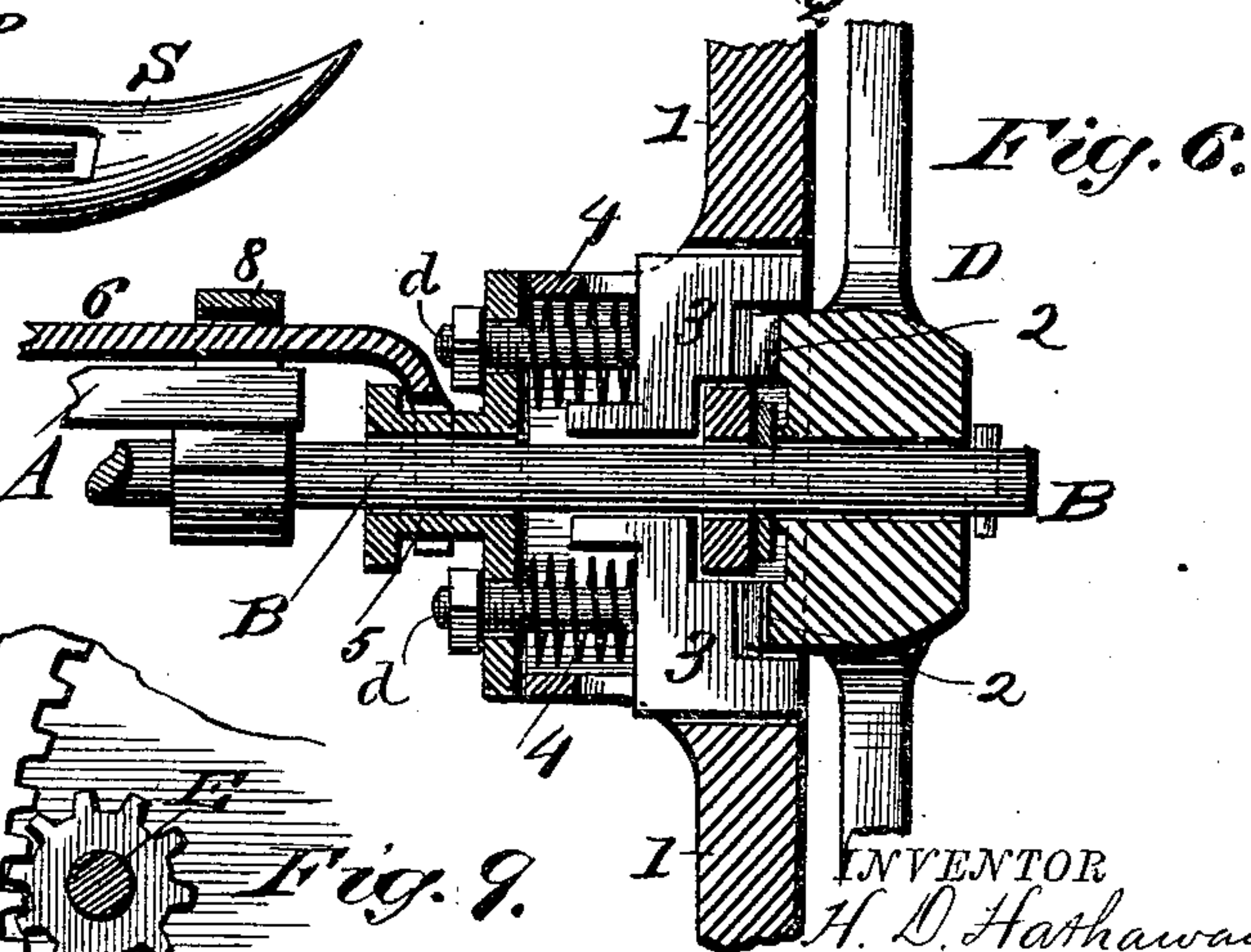
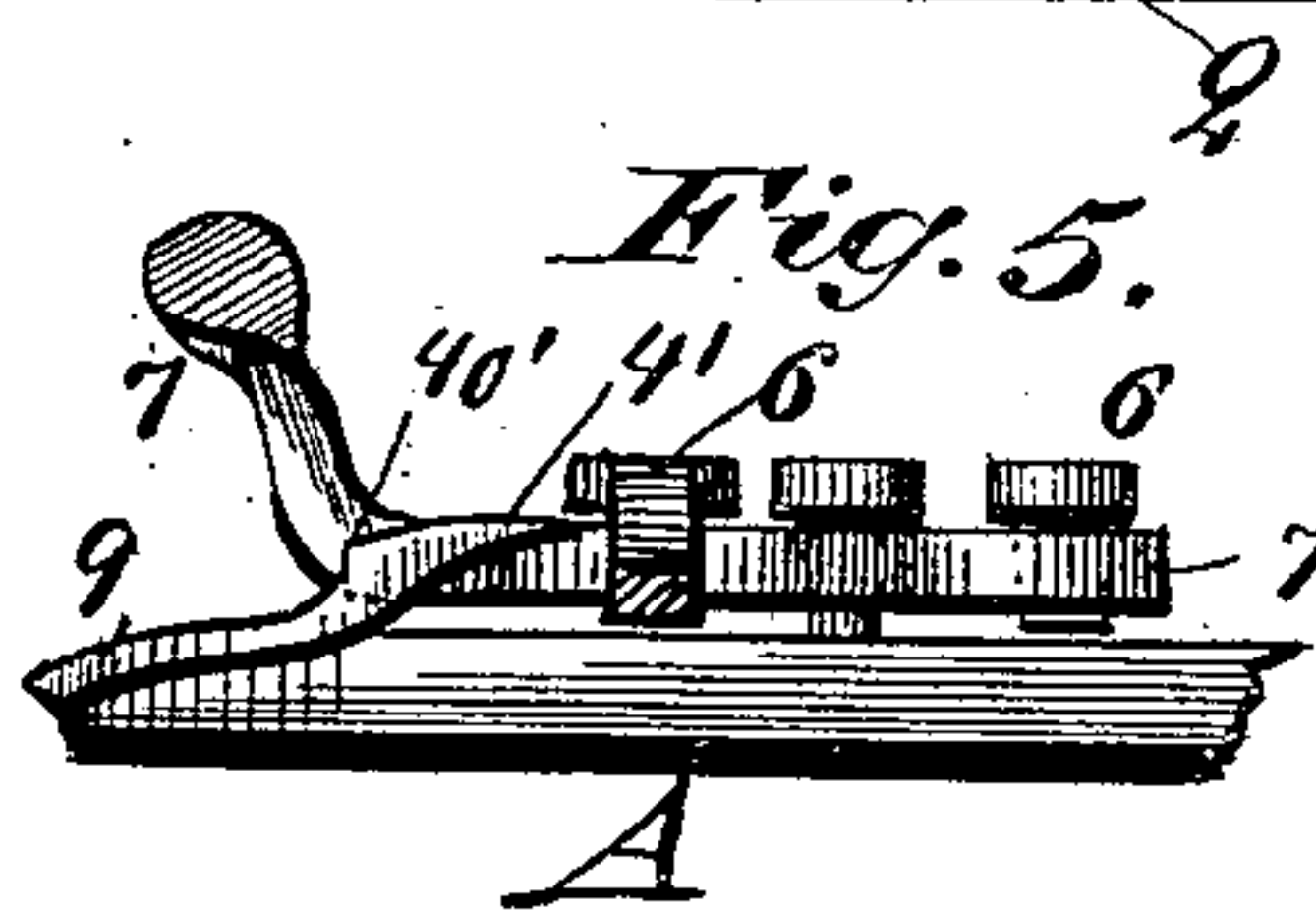
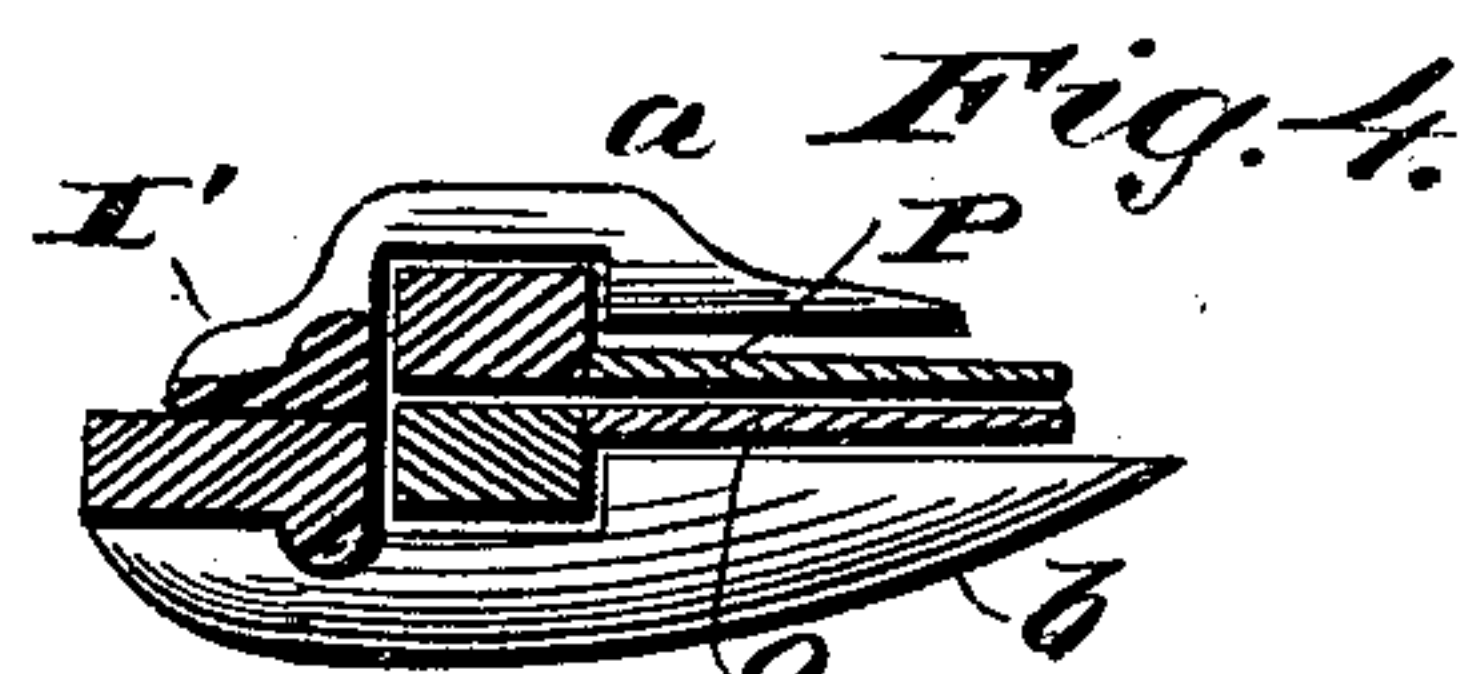
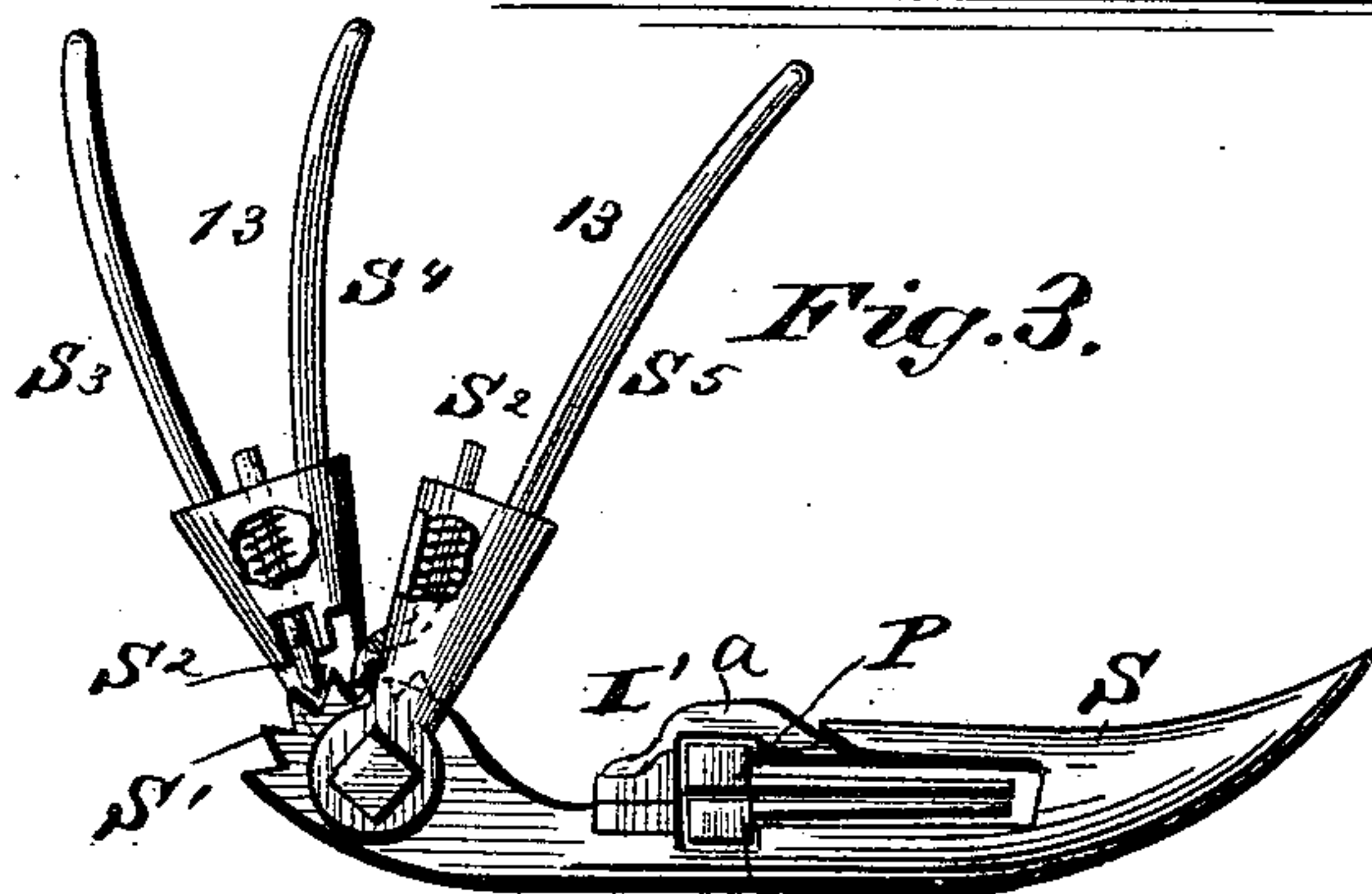
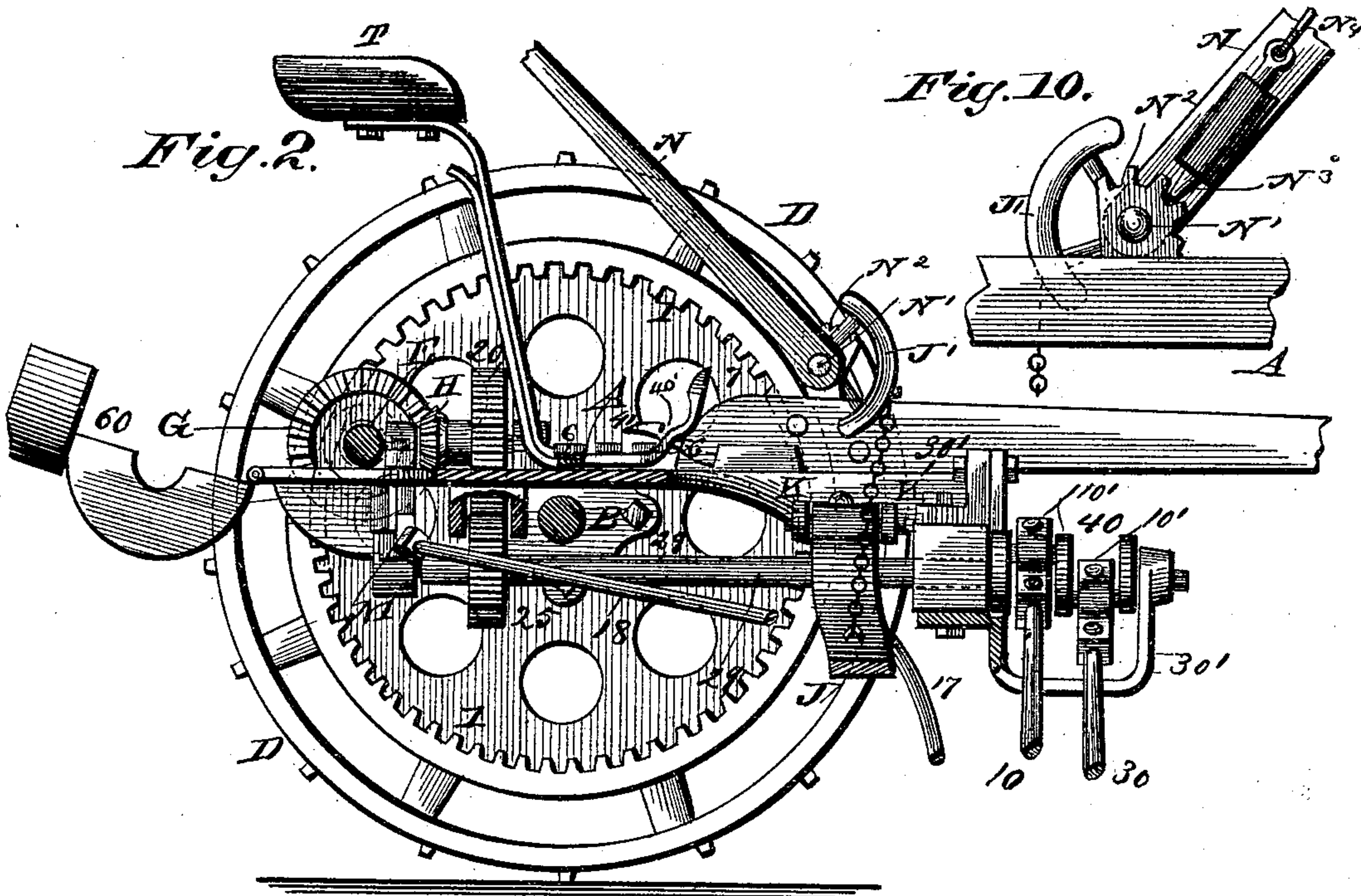
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2 Sheets—Sheet 2

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UNITED STATES PATENT OFFICE.

HARLOW D. HATHAWAY, OF ANTWERP, NEW YORK.

REAPER AND MOWER.

SPECIFICATION forming part of Letters Patent No. 354,191, dated December 14, 1886.

Application filed April 3, 1886. Serial No. 197,688. (No model.)

To all whom it may concern:

Be it known that I, HARLOW D. HATHAWAY, a citizen of the United States, residing at Antwerp, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Reapers and Mowers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a plan view of a mower, showing my improvements applied. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a detail view of the track-cleaner, showing its arms attached. Fig. 4 is a cross-sectional view of the double cutter, showing the upper and lower guard. Fig. 5 is a detail view of the devices for releasing the foot-lever and throwing the operating mechanism into gear. Fig. 6 is a sectional view of the clutch and its actuating parts, showing the same in connection with one of the supporting-wheels. Fig. 7 is a view of the inner side of one of the gears 1 and a cross section of the axle, showing the bolts in position. Fig. 8 is a detail view of one of the supporting-wheels, showing a ratchet applied thereon. Fig. 9 is a detail view of one of the gears 1, showing the axle E in cross-section and a pinion thereon engaging the said gear; and Fig. 10 is a detail view of the hand-lever, showing its locking device and attachment to the main frame.

My invention relates to reapers and mowers; and it consists in the construction and novel combination of parts, as hereinafter described, and pointed out in the claims.

Referring by letter and number to the accompanying drawings, A designates the main frame of the machine, which is mounted on the axle B, the latter being supported by the driving-wheels C and D.

1 1 designate the internally-toothed gears, which are keyed fast to the driving shaft or axle B, and the teeth of the gears 1 1 engage pinions p p' on the ends of the rear transverse driving-shaft E, which is journaled on the main

frame in boxes F F', and is provided with a miter-gear, G, which engages a miter-pinion, H, on a sleeve, 19, which is also provided with a cog-gear, 20, which latter gear engages a pinion, 25, on the rear end of the double-crank shaft 29. The pitman-rods 10 and 30 are connected at their inner ends to the double crank 40 of the shaft 29 by collars 10' 10' at the forward end of the arm 30'.

I is the inner shoe of the finger-bar I', which shoe I is connected to the outer end of the curved coupling-bar J, the inner end of said bar J being hinged between bearings K K, projecting from the forwardly-projecting arm 30' of the main frame.

I' is the finger-bar, which is connected at its inner end to the inner shoe, I, which latter is provided at its forward end with a small guide-wheel, L, and is connected by pivoted or hinged brace-rods 17 and 18 to the curved bar J, and to a bearing, M, near the rear end of the main frame on the under side of the latter. The coupling-bar J is connected intermediately of its ends with a quadrant, J', projecting from the fulcrum-point of the lifting-lever N. The bearing N' for the lever N is provided with teeth N² on its upper edge, which are engaged by a spring-actuated detent, N³, which is controlled by a small lever, N⁴, connected with the lever N, to withdraw the detent N³ from the teeth of the bearing N'.

There are two sickles, P Q, connected one to each of the pitman-rods 10 and 30, so as to be reciprocated at the same time in opposite directions one above the other.

The finger-guards are each made in two parts—an upper part, a , and a lower part, b —the latter part being the longer of the two. The teeth or knife points project beyond the upper finger-guards.

13 is the track-cleaner at the outer end of the sickle-bar. This track-cleaner is double, and is pivoted to the rear end of the outer shoe, S. The rear end of the outer shoe, S, is provided with teeth S', which are engaged by spring-detents S², seated in the sockets of the track-cleaner, S³ S⁴ S⁵ being the arms of the track-cleaner.

T is the driver's seat, which is so located as to permit the driver to conveniently handle

the lifting-lever, and also to permit him to operate the foot-lever 7, to throw the machine in and out of gear.

2 2 designate ratchets on the inner faces of the hubs of the drive-wheels.

3 3 are dogs inside of the hubs of the internally-toothed gears 1 1.

4 designates the springs, four at each side, that hold the dogs 3 3 normally in place in engagement with the ratchets 2 2.

5 5 are the clutches that draw the dogs 3 3 out of engagement with the ratchets 2 2.

6 6 are the gear-shifters, which are connected at their outer ends to the clutches 5 5, and at their inner ends to a foot-lever, 7, on opposite sides of its fulcrum.

7 indicates pins or bolts, which pass through the springs 4, and are secured at their outer end to the dogs 3. These pins or bolts have a stop-nut on their outer ends, and pass freely through an aperture in the clutch.

Guide-caps 8 8 are connected to the upper face of the frame of the machine, near the edges of the same, and the clutch-shifters 6 6 work beneath the guide-caps 8 8.

9 designates a spring-catch provided with a shoulder, 40', and a projecting foot-piece, 41, the latter of which may be pressed down upon to release the foot-lever 7 and throw the operating mechanism in gear. By pushing the foot-lever 7 forward, it will be forced into engagement with the spring-catch 9, and the mechanism for operating the sickles will be thrown out of gear.

The miter-gears and cog-gears on the main frame are covered by a hinged cap, 60, which protects these gears from the weather.

The boxes in all instances in this construction are provided with rawhide linings, which lining possesses the advantage of preventing any two pieces of metal from coming together at the points where used, and never wears the shaft out of true or round, runs stiffer and easier, and does not become heated, and never needs refilling.

Having described this invention, what I

claim, and desire to secure by Letters Patent, is—

1. The combination, with the main frame and the supporting and driving wheels provided with ratchets on the inner ends of their hubs, of the internally-toothed wheels keyed to the axle inside of the driving-wheels, and provided with the spring-pressed dogs in their hubs, the gear-shifters connected to the foot-lever, the shouldered spring-catch for engaging the foot-lever, the transverse driving-shaft provided with the end pinions and the intermediate miter-gear, the sleeve 19, provided with the miter-pinion H and cog-gear 20, the double-crank shaft, the pitman-rods 10 and 30, the hinged brace-rods connecting the inner shoe to the frame, the cutter-bar pitman-rods, and the double knives, substantially as specified.

2. The combination, with the main frame secured to the axle mounted in the supporting and driving wheels, provided with ratchets on the inner faces of their hubs, the internally-toothed gears secured to the axle and provided with the spring-pressed dogs in their hubs, of the gear-shifters 6 6, secured at their inner ends to the foot-lever 7, the spring-catch 9, the rear transverse driving-shaft with end pinions and an intermediate miter-gear, the double-crank shaft with pinion near its rear end, the pitman-rods secured to the double-crank shaft and to the reciprocating knives, the hinged lifter-bar, and the chain and levers for raising, holding, and lowering the lifter-bar and cutter-bar, substantially as specified.

3. The combination, with the finger-bar and the outer shoe, provided at its rear end with the teeth, of the track-cleaner comprising the spring-pressed detents and the arms held in the sockets, substantially as specified.

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

HARLOW D. HATHAWAY.

Witnesses:

HENRY ROBINSON,
ALEXANDER PRICE.