

No. 635,181.

Patented Oct. 17, 1899.

S. Y. PENROD.  
NAILING MACHINE.

(Application filed Mar. 11, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

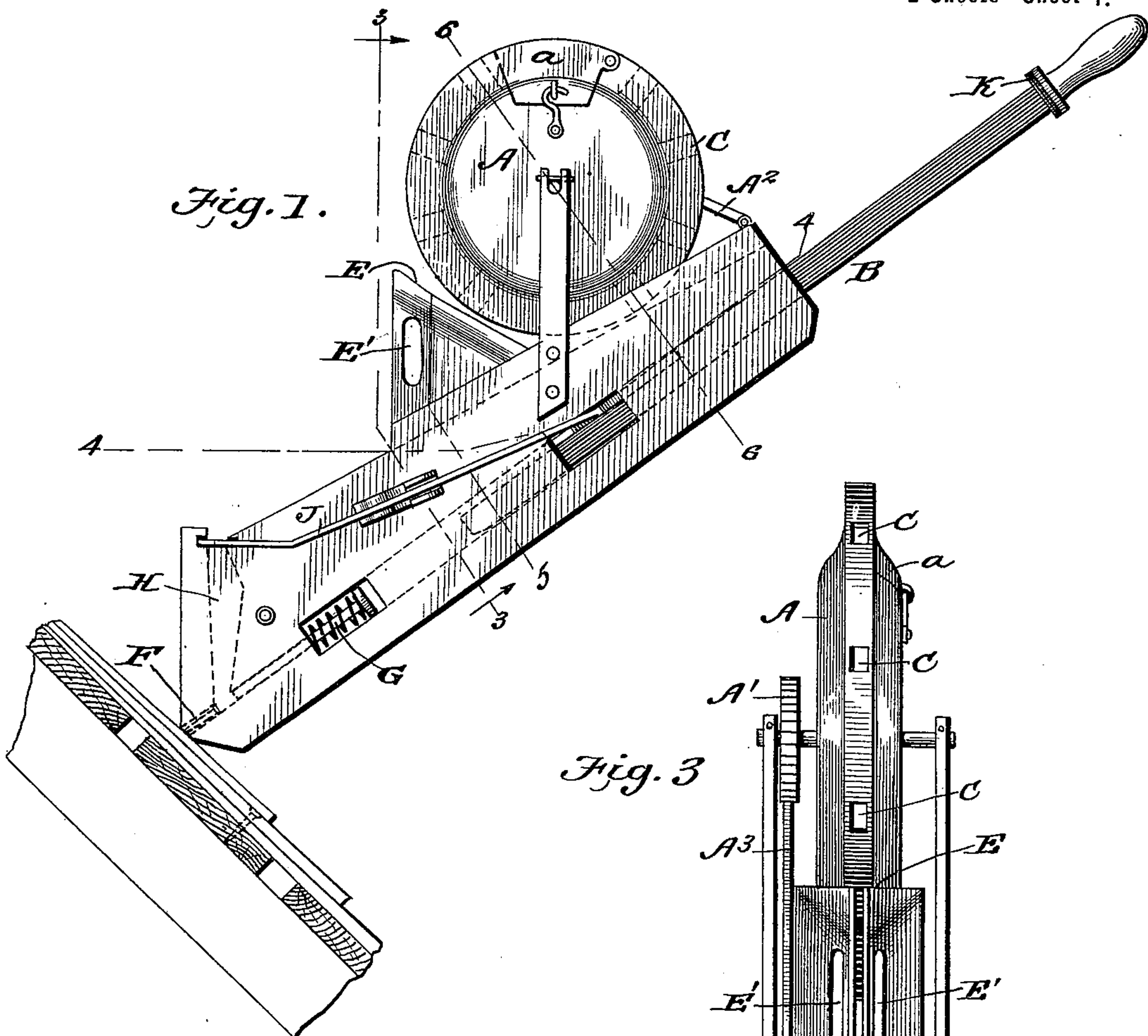


Fig. 2.

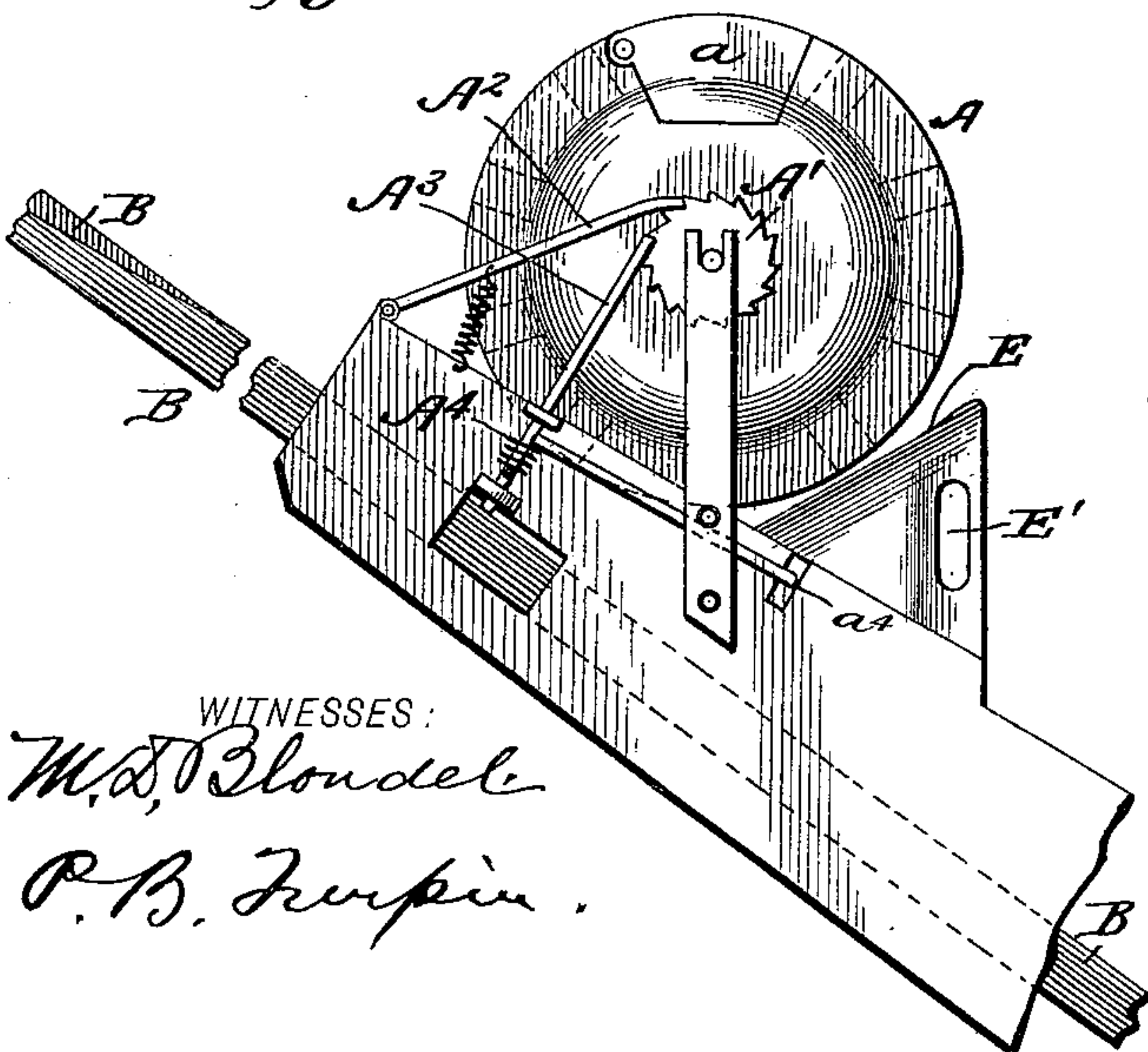
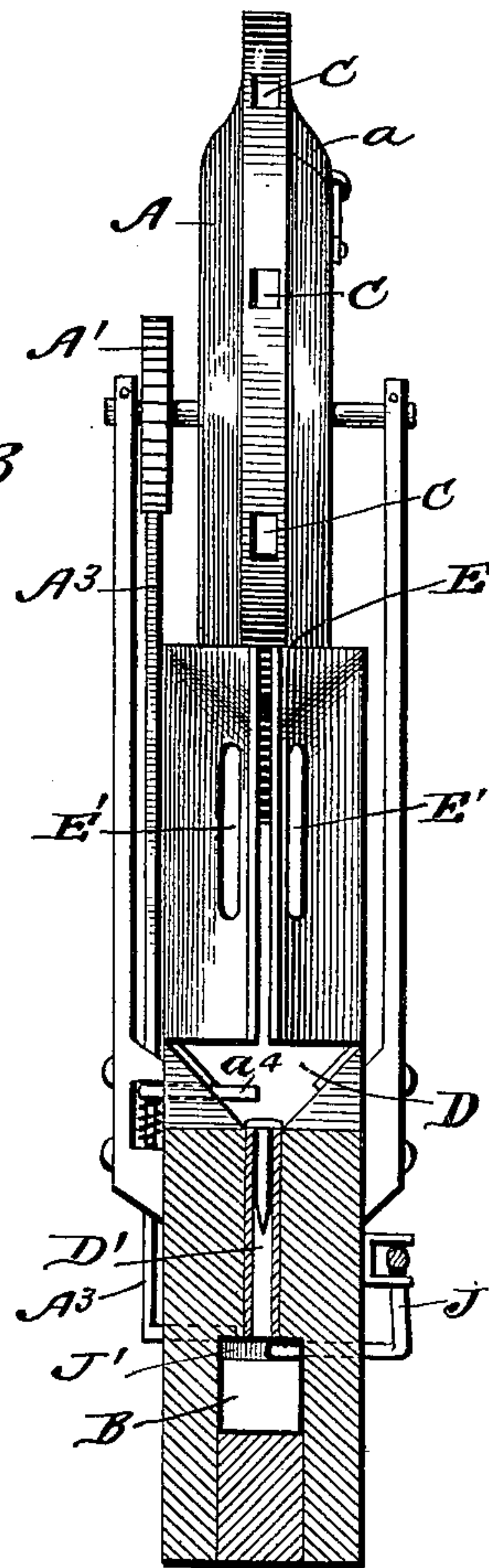


Fig. 3.



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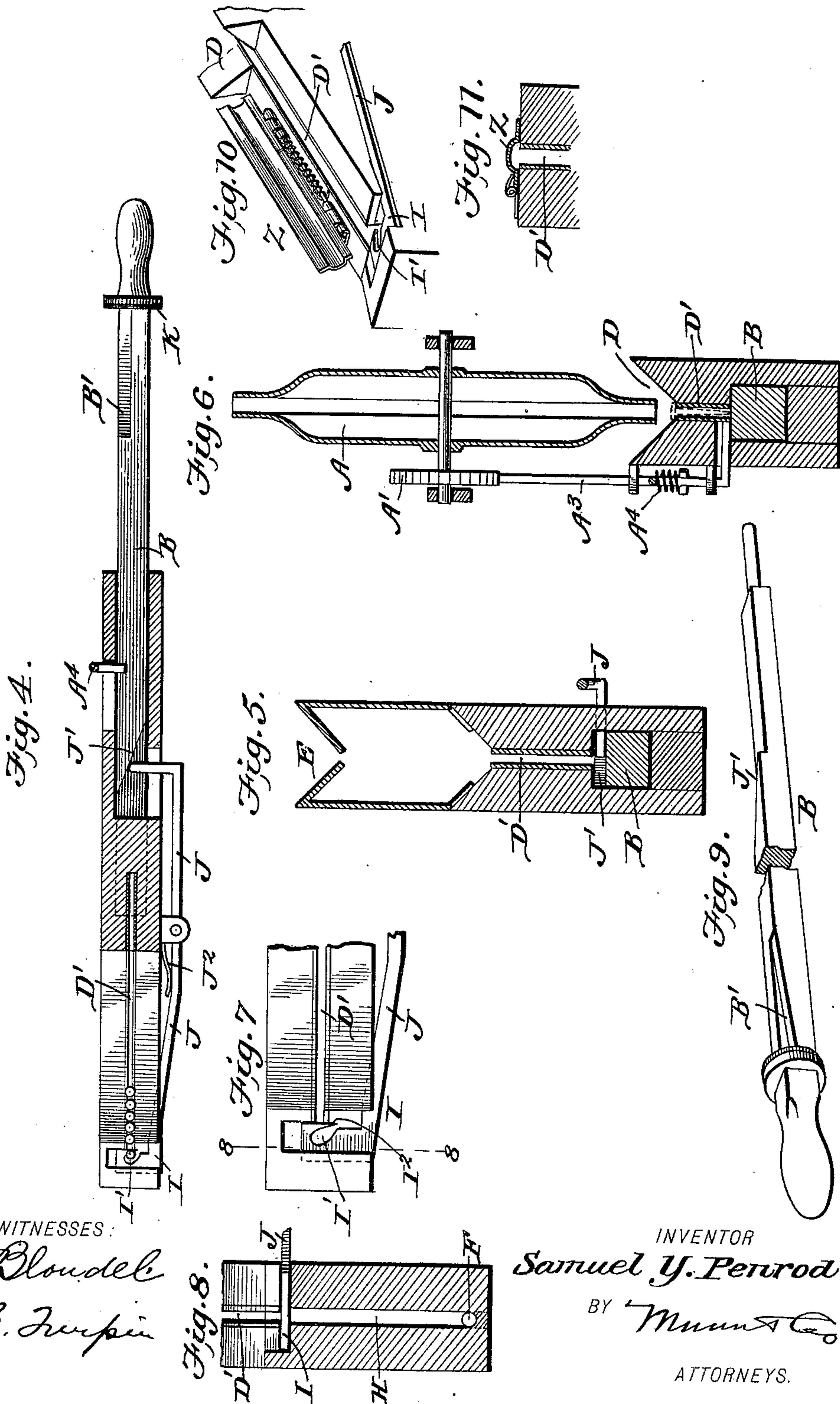
S. Y. PENROD.

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(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

SAMUEL Y. PENROD, OF CHOTEAU, MONTANA.

## NAILING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 635,181, dated October 17, 1899.

Application filed March 11, 1898. Serial No. 673,489. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL Y. PENROD, a citizen of the United States, residing at Choteau, in the county of Teton and State of Montana, have invented certain new and useful Improvements in Nailing-Machines, of which the following is a full, clear, and exact specification.

My invention is an improved nailing-machine designed especially for use in nailing shingles on roofs; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a side view of my machine. Fig. 2 is a partial elevation of the opposite side from that shown in Fig. 1. Fig. 3 is a sectional view on about line 3 3, Fig. 1. Fig. 4 is a sectional view on about line 4 4, Fig. 1. Figs. 5 and 6 are sectional views, respectively, on about lines 5 5 and 6 6 of Fig. 1. Fig. 7 is a detail plan view of the discharge end of the machine. Fig. 8 is a detail section on about line 8 8 of Fig. 7, and Fig. 9 is a detail view of the rammer or hammer bar. Fig. 10 is a detail perspective view showing the cover for the nail-chute, and Fig. 11 is a detail cross-sectional view showing such cover.

My machine is designed to be held by the operator in one hand while it is operated by the other hand and includes a suitable framing provided with bearings for the nail-holding cylinder A, which is provided with a ratchet-wheel A', stopped by a detent-pawl A<sup>2</sup>, and operated by a pawl A<sup>3</sup>, which is actuated by the rammer or hammer bar B, which is reciprocated longitudinally in the framing. In the construction shown the pawl A<sup>3</sup> is actuated in one direction by a spring A<sup>4</sup> and in the other direction by a cam-surface B' on the rammer, which surface is engaged by the end of the pawl A<sup>3</sup>, so such pawl will be moved longitudinally at each return stroke of the rammer. By this construction the nail-holder A is partially turned with each stroke of the rammer to effect a discharge of the nails to the guide-chute, by which they are directed to the driving devices.

The nail-wheel A has its rim narrowed and provided with discharge-openings C, spaced apart to prevent a too-rapid feeding of the

nails, which drop from such openings C as the holder is turned into the inclined feed-chute D, which has at its bottom the longitudinal slot D', too narrow for the passage of the nail-heads, but fitted to receive the shanks of the nails, so the latter when dropped into the feed-chute D will automatically adjust, as shown in Fig. 3, with their shanks lying in the slots D' and their heads overlying the walls of such slot, as will be understood from said Fig. 3. This chute D lies below the wheel A, and a supplemental chute E discharges onto the said chute D and extends up alongside the periphery of the wheel A for the purpose of preventing too great a drop of the nails, which may be discharged before the holes C reach their lowermost position. This supplemental chute E may be arranged as shown in Fig. 1 and have its framing adapted at E' to form a handhold to be grasped by the operator.

The wheel A may have a suitable feed-door a, secured by a hook or other suitable latch, so the wheel may be filled with nails when desired.

The framing is provided with a nail outlet or orifice at F, through which the nails are driven into the shingles by means of a plunger G, which is struck by the lower end of the rammer B, or, where desired, the plunger G may be omitted and the rammer be supplied at its lower end with a shank to operate directly against the nails, as will be understood from Fig. 9. The nails, passing down the feed-chute D by gravity, pass into a connecting-channel H, which leads to the discharge-outlet F, and in order to supply the nails singly to the driving devices I provide a separating feeding device I, which is operated by the hammer-bar and feeds the nails one at a time to position for operation by the driving device, one nail being dropped for each hammer-stroke of the rammer. This feeding device I is preferably a plate operating across the feed-chute D and provided with an opening I' to receive the nails and a point I<sup>2</sup>, which passes between the nail to be discharged and the next upper nail, and so separates it from the column of nails being fed down to the discharge-point. I operate this feeding device by means of a lever J, connected at one end with the plate I and arranged at its other end to be operated by a cam J' on the bar B, the lever be-



ing operated in the opposite direction by a spring J<sup>2</sup>. The operation of this construction will be understood from Fig. 4.

To prevent the feeding of the nails when the feed-chute is full, I provide means for throwing the feed-pawl out of operation at such time. This is effected by providing such pawl A<sup>4</sup> with a projection a<sup>4</sup>, which extends into the feed-chute D above the position occupied by the head of the nail, so the nails when fed into the chute up to the said pawl A<sup>4</sup> will extend beneath the projection a<sup>4</sup> and hold the pawl A<sup>4</sup> in its uppermost position, so it will not be operated by the further movements of the rammer until the nail has passed from beneath the projection a<sup>4</sup>, which will readily result from the jarring of the machine by the operation of the rammer when the chute empties.

A leather or other suitable pad K may be provided to reduce the shock of the driving stroke of the rammer.

My invention will be found especially useful in shingling, as by it a workman can drive the nails about twice as fast as with a hammer and can shingle in cold weather, when the necessity of wearing gloves makes it practically impossible to handle shingle-nails.

In Fig. 10 I show a hinged spring-actuated cover Z for the lower end of the nail-chute to prevent the nails from jumping out of the chute from the rebound as they strike the lower end of such chute.

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

1. In a nail-driving machine the combination of the feed-chute, the nail-holding wheel arranged vertically edgewise over the feed-chute, and the supplemental chute extending over the feed-chute and lying partially between such chute and the wheel, the feed-chute and supplemental chute being extended in the same plane with the wheel and with each other substantially as set forth.

2. In a nail-driving machine the combination of the framing having the feed-chute, the nail-holding wheel having openings by which to discharge the nails to such chute, the operating-pawl for turning such wheel, the rammer arranged to operate said pawl, and devices whereby the pawl will be held from operation by said rammer when the feed-chute is full of nails, substantially as set forth.

3. The combination of the framing, the nail-holding wheel, the feed-chute arranged to receive nails from said wheel, the rammer, and the pawl arranged for operation by the rammer and adapted to turn the wheel and provided with a portion projecting into the feed-chute in position to be engaged by nails fed in such chute, substantially as set forth.

SAMUEL Y. PENROD.

Witnesses:

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