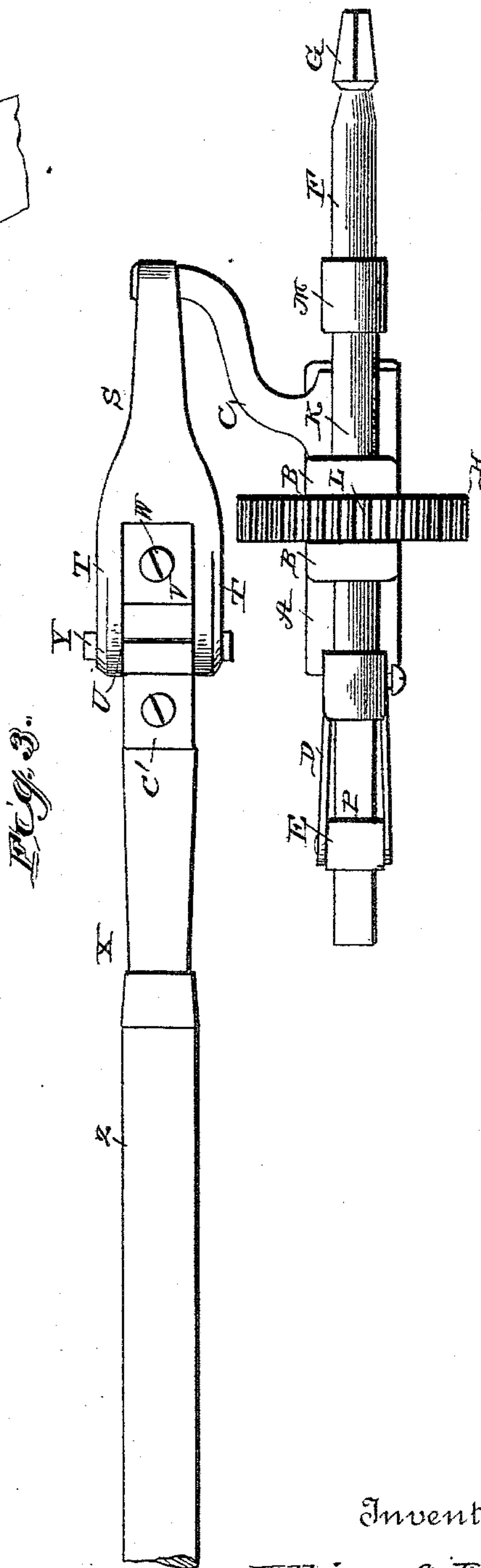
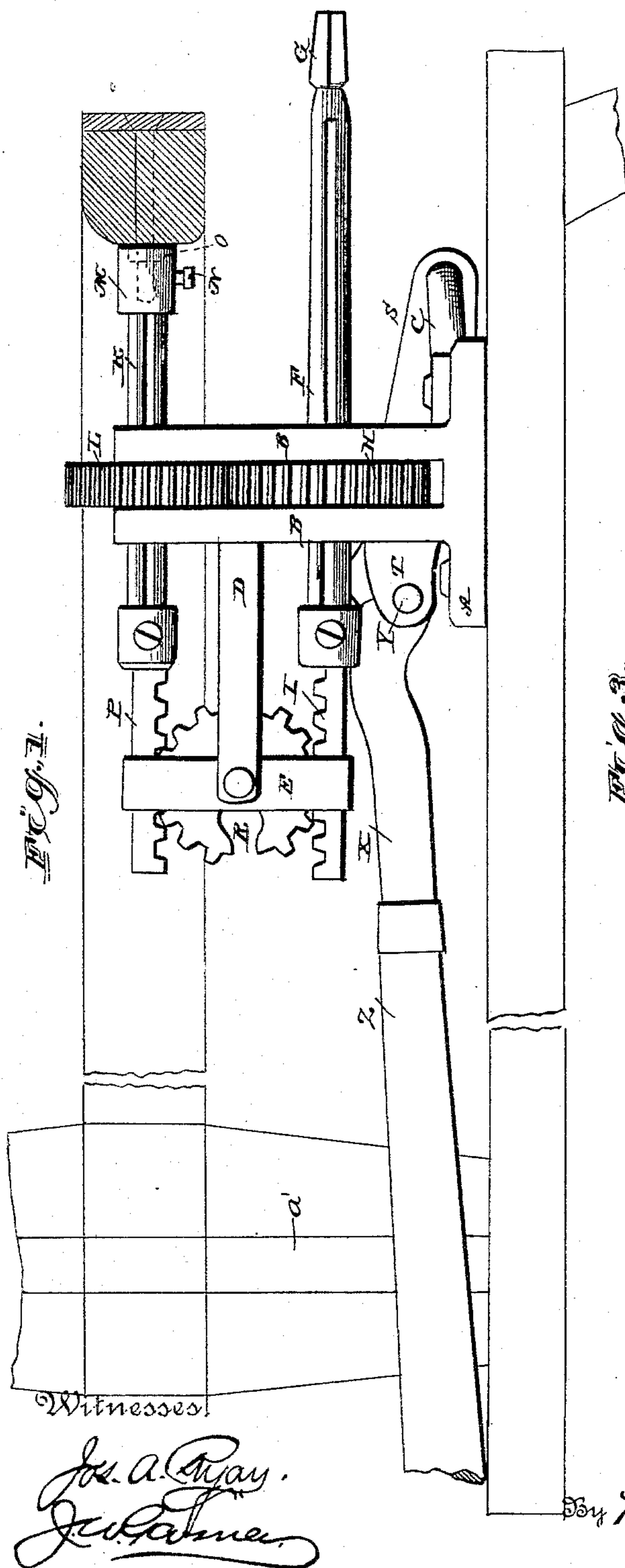


2 Sheets—Sheet 1.

No. 388,778.

Patented Aug. 28, 1888.



Inventor,

William A. Johnson

By his Attorneys

C. A. Snowball

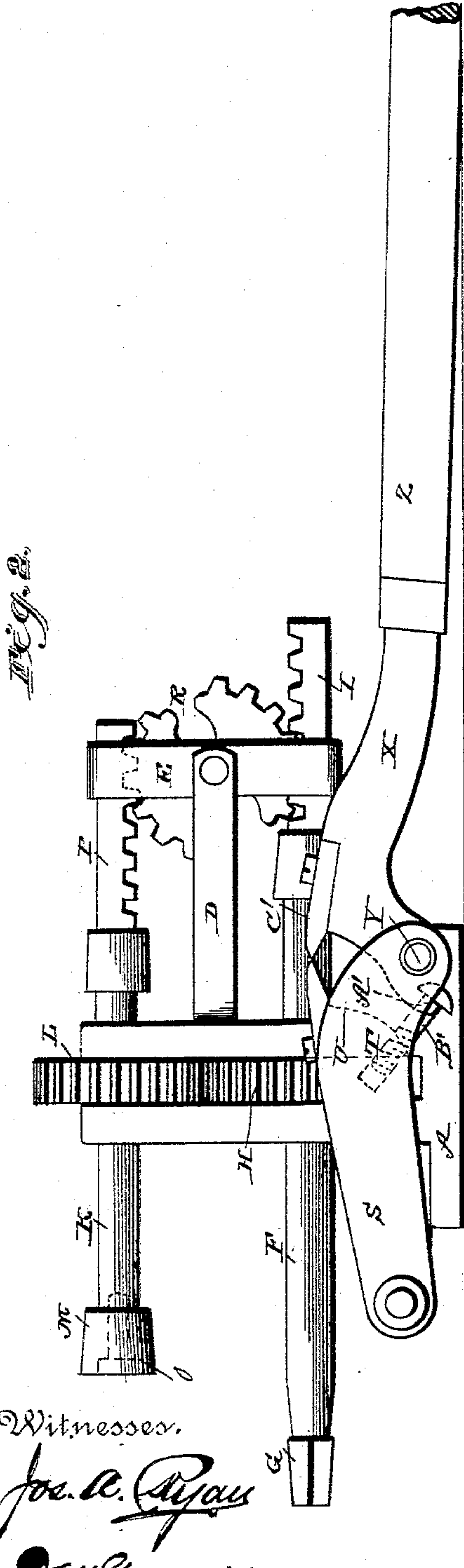
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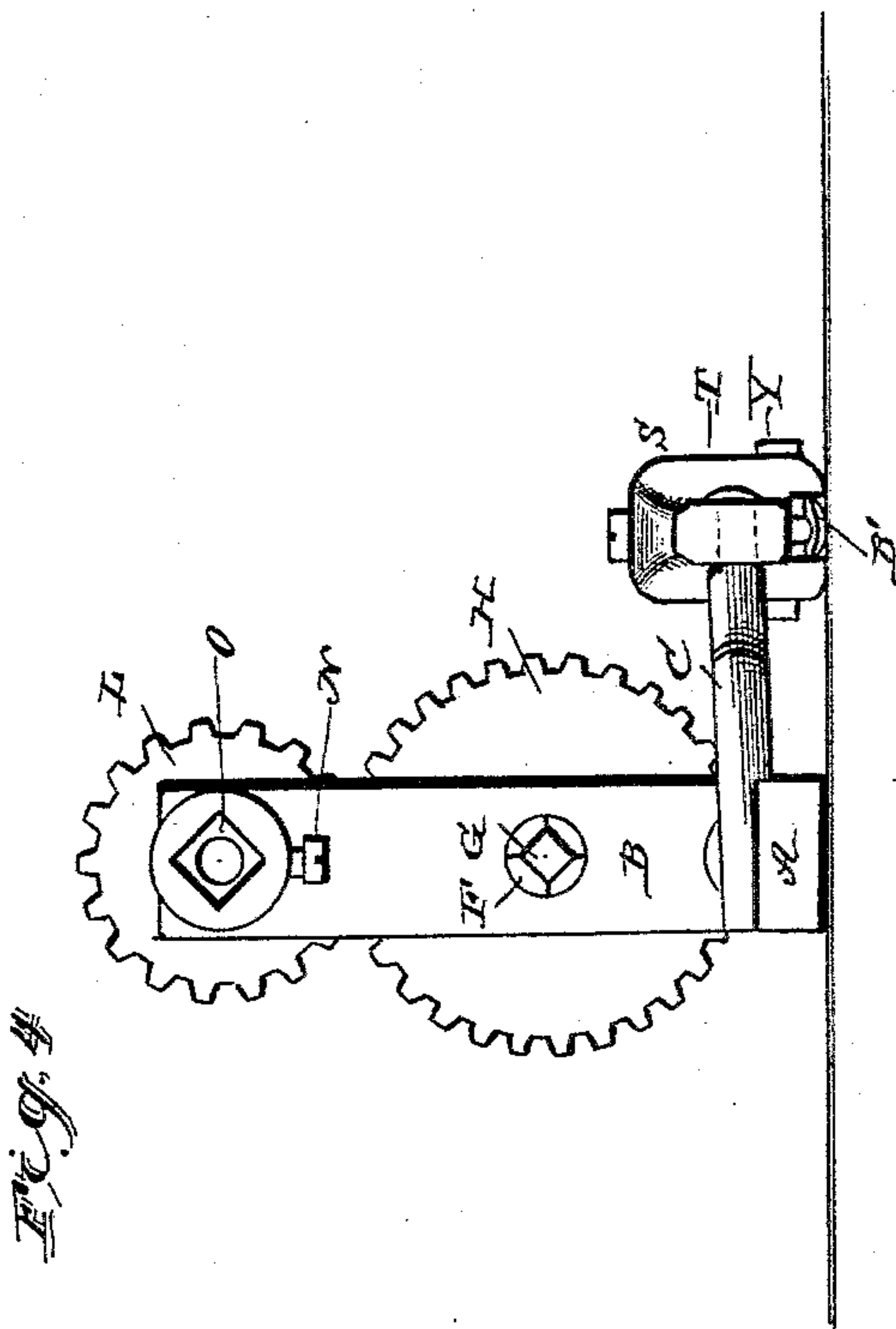
W. A. JOHNSON.
TIRE BOLTER AND CUTTER.

No. 388,778.

Patented Aug. 28, 1888.



Witnesses.
Jos. A. Ryan
J. C. Garner



Inventor,
William A. Johnson
By his Attorneys
C. A. Snowdon

UNITED STATES PATENT OFFICE.

WILLIAM A. JOHNSON, OF AURORA, ILLINOIS, ASSIGNOR OF ONE-HALF TO
A. WALTER JOHNSON, OF COUNCIL BLUFFS, IOWA.

TIRE-BOLTER AND CUTTER.

SPECIFICATION forming part of Letters Patent No. 333,778, dated August 28, 1888.

Application filed May 10, 1888. Serial No. 273,396. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. JOHNSON, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented new and useful Improvements in Tire-Bolters and Cutters, of which the following is a specification.

My invention relates to an improvement in machines for bolting the tires to vehicle-wheels and cutting the projecting ends of the tire-bolt; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a tire-bolter and cutting-machine embodying my improvement. Fig. 2 is a similar view of the opposite side of the same. Fig. 3 is a top plan view. Fig. 4 is a front elevation.

A represents a base-plate, which is adapted to be bolted to a suitable bench or horse on the upper side thereof, and is provided with a pair of vertical standards, B. To one end of the base-plate is bolted a sigmoidal-shaped arm, C, which extends forward and laterally therefrom.

D represents a pair of rearward-diverging arms, which extend from the rear side of one of the standards B, at a suitable distance above the base-plate, and connecting the rear ends of the said arms is a loop or keeper, E.

F represents a shaft, which is journaled in openings near the lower ends of the standards B, and is arranged in a horizontal plane. The outer or front end of the said shaft is tapered and squared, as at G, to enable the same to be secured in the socket of an ordinary bit-stock, such as are employed by carpenters, wheelwrights, and other workers in wood, and whereby the shaft F may be rotated, as will be readily understood.

A spur-wheel, H, is arranged between the standards B, and is feathered or splined on the shaft F, so that the latter is free to slide longitudinally in its bearings and through the wheel H. To the rear end of the shaft F is swiveled a socket or head, which is formed on the front end of a rack-bar, I, that is arranged in the lower end of the loop or keeper E.

K represents a shaft, which is similar to the

shaft F and is shorter than the same, and is journaled in openings near the upper ends of standards B. On this shaft K is feathered or splined a wheel, L, which is arranged between the standards B, the said shaft K being adapted thereby to slide longitudinally through said standards and through said wheel. The front end of the shaft K is provided with a movable head, M, that is secured there- to by a set-screw, N, and has a socket, O, in its front end adapted to receive a nut to be applied to the spindle of a tire-bolt. To the rear end of the said shaft K is swiveled a socketed head for the rack-bar P, which is arranged in the upper end of the guide or loop E.

R represents an idle-wheel, which is journaled in the loop or keeper P and engages the rack-bars, and is thereby adapted to communicate longitudinal motion from one shaft to the other.

On the outer end of the arm C is pivoted the lower end of a link, S, which has its upper end provided with a pair of ears, T, and has a recess, U, in its front side, at its upper end, in which recess is arranged a lower cutting jaw or blade, V, the upper edge of which is beveled on opposite sides, the said jaw or blade being held into position in the link by a set-screw, W.

X represents a lever-arm, which is pivoted at its lower end, between the ears T, on a bolt, Y, and has a handle, Z, at its outer end. At the lower end of the arm X is formed a shoulder or abutment, A', which is adapted to be engaged by the head of an adjustable stop or bolt, B', which is screwed to the upper end of the link, so as to limit the motion of the arm X. A cutting jaw or blade, C', is secured to the outer side of the arm X, and is similar to the lower jaw or blade, V.

The operation of my invention is as follows: The vehicle-wheel is journaled temporarily on a vertical spindle, a, that projects from the upper side of the bench or horse, so that the said wheel is disposed in a horizontal plane and is adapted to be rotated. My improved machine projects up between two spokes of the wheel, with the shaft K on the level of the tire-bolt. A nut is applied to the inner end of the tire-bolt by hand until the nut is started, and the operator then attaches a bit-stock to

the outer end of the lower shaft, presses inward against the same so as to cause said shaft, by reason of the rack-bars and the idle gear-wheel, to force the upper shaft outward until
 5 the socket-head of the latter receives the nut, and the operator then rotates the lower shaft by means of the bit-stock, and consequently imparts rotary motion to the upper shaft by reason of the gear-wheels, before described,
 10 which connect the said shaft, and thereby drives the nut home on the bolt, as will be readily understood. Having secured the bolt, the operator then draws outwardly on the lower shaft, so as to cause the upper shaft to
 15 move inward from and disengage the nut, the wheel is partly turned so as to bring the bolt in the same vertical plane with the link, and the handle-lever X is then grasped and swung upward and turned on its pivoted bolt, so as
 20 to cause the cutting-blades to open and receive the projecting ends of the bolt between them, and the operator then draws outward on the upper end of the handle-lever, and consequently exerts such leverage on the cutting
 25 blades or jaws as to cause the same to completely sever the projecting end of the bolt.

Having thus described my invention, I claim—

1. The combination, in a machine for bolt-
 30 ing tires, of the frame, the two shafts sliding longitudinally therein and oppositely movable, and gearing between the same to impart a rotary motion from one to the other, one of said shafts having a socket adapted to receive the
 35 nut of a bolt, substantially as described.

2. The combination of the base or frame having the standards B, the shafts F K, journaled in said standards and movable longitudinally in their bearings, said shafts having the rack-bars, and one of said shafts being provided
 40 with the socketed head, for the purpose set forth, the gear-wheel journaled in a suitable support and meshing with the rack-bars, and the gear-wheels feathered or splined on the shafts and meshing with each other, substan-
 45 tially as described.

3. The combination of the frame or base, the link S, having one end pivotally connected to the frame and the other provided with a cutting
 50 jaw or blade and an adjustable stop, and the lever X, pivoted to the free end of the link and having a cutting jaw or blade, substantially as described.

4. The combination of the base plate or frame, the link S, pivoted or hinged thereto
 55 and having the adjustable stop D' on one side and the cutting jaw or blade V on the opposite side at its free end, and the lever X, pivoted to the free end of the link, adapted to be engaged by the adjusting stop or bolt, and
 60 having the cutting blade or jaw C', adapted to operate in conjunction with the blade V, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in
 65 presence of two witnesses.

WILLIAM A. JOHNSON.

Witnesses:

ANDREW G. JOHNSON,
 GEORGE SAXTON.