

No. 607,278.

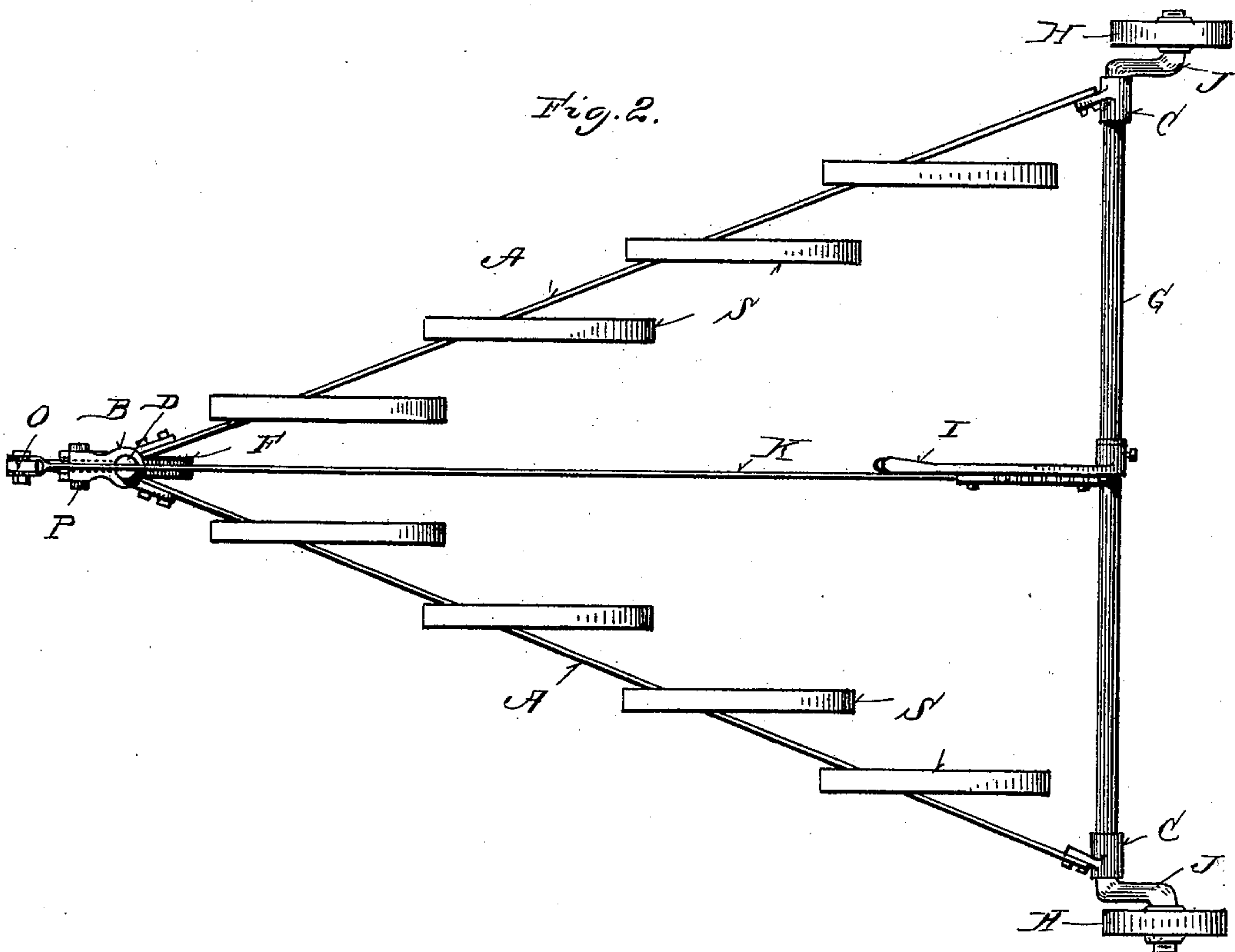
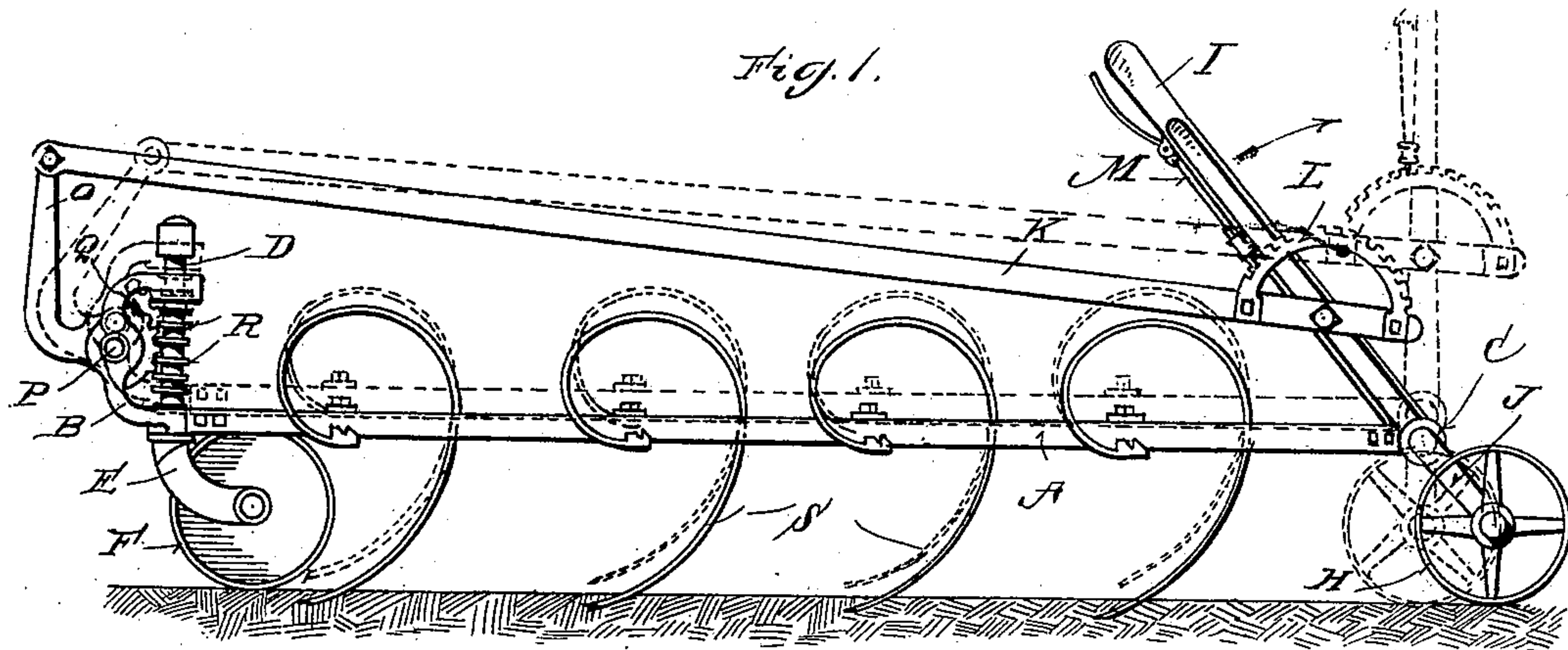
Patented July 12, 1898.

A. V. RYDER.

HARROW.

(Application filed May 24, 1897.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

ANDREW V. RYDER, OF SCIO, OHIO.

HARROW.

SPECIFICATION forming part of Letters Patent No. 607,278, dated July 12, 1898.

Application filed May 24, 1897. Serial No. 637,843. (No model.)

To all whom it may concern:

Be it known that I, ANDREW V. RYDER, a citizen of the United States, residing at Scio, in the county of Harrison and State of Ohio, have invented certain new and useful Improvements in Harrows, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain new and useful improvements in harrows of that class wherein mechanism is employed for raising and lowering the harrow-frame, so as to adjust the teeth to, into, and above and out of the ground.

The leading object of my invention is to provide a harrow in which by the operation of a single hand-lever lifting and supporting wheels are manipulated at one end, and the frame of the harrow is manipulated at the other end relatively to the supporting-wheel at that end, so that by such manipulation the altitude of the harrow-frame may be varied as desired, so that the weight will come wholly upon such wheels or partially upon them and partially upon the teeth or wholly upon the teeth, all as hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings, on which like reference-letters indicate corresponding parts, Figure 1 is a side elevation of my improved harrow, and Fig. 2 a plan view of the same.

The letter A designates bars, preferably of metal, which constitute the frame of my harrow. In the present form of machine I have converged these bars at one end and secured them to a casting B and at the other end secured them to bearings C. In the casting B, I have mounted the shank D of the wheel-bars E of a caster-wheel F, which carries the forward end of the frame. In the bearings C is mounted an arched axle G, on the outer ends of which are mounted supporting and carrying wheels H, and to this axle is secured a hand-lever I, by which the axle is partially rotated when the lever is swung back and forth, throwing the arched portions J into more or less of an inclined position or even to a vertical position, so as to raise or lower that end of the frame. This lever is pivoted to a long pitman-bar K, which carries a toothed segment L, adapted to be engaged by a detent device M, carried by the lever I, so that the lever can be locked in different positions.

The forward end of the pitman-bar K is pivoted to one arm of a lever O, pivoted at P in the casting B and provided at the other end with teeth Q, which engage with a series of spaced bands or collars R on the shank D, so that when the lever O is manipulated its teeth will engage with these bands R and lift or lower the casting B to different positions on the shank, and thus vary the height of the forward end of the harrow-frame.

Thus it will be seen that by the manipulation of the single hand-lever I both ends of the harrow-frame are raised or lowered, and the teeth, spring-teeth in the instance illustrated, (shown at S,) will be lifted from the ground either enough to clear it or enough to make them run shallower, or will be let down into or upon the ground enough to make them run deep and, if desired, to sustain the whole weight of the frame and their own weight. The dotted and full line positions shown in Fig. 1 indicate the extreme adjustments. This organization and construction are simple and cheaply made and are very efficient in action. It will be seen that as the bands or collars R are circumferential they will still engage with the teeth Q of the lever O notwithstanding the different positions to which the caster-wheel may be swung.

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

In a harrow, the combination with a frame and its teeth, an arched axle in its rear end and having wheels, a hand-lever secured to said axle, a forward extension to said frame, a lever pivoted in said extension, caster-wheel bars carrying a caster-wheel and having a shank, said shank being behind said extension and having circular bands projecting therefrom and engaging with said toothed lever, a pitman pivoted to said toothed lever and to said hand-lever, a toothed segment carried by said pitman, and a detent on the hand-lever to engage with said toothed segment, whereby the harrow is held in adjusted positions.

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

ANDREW V. RYDER.

Witnesses:

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