

No. 707,799.

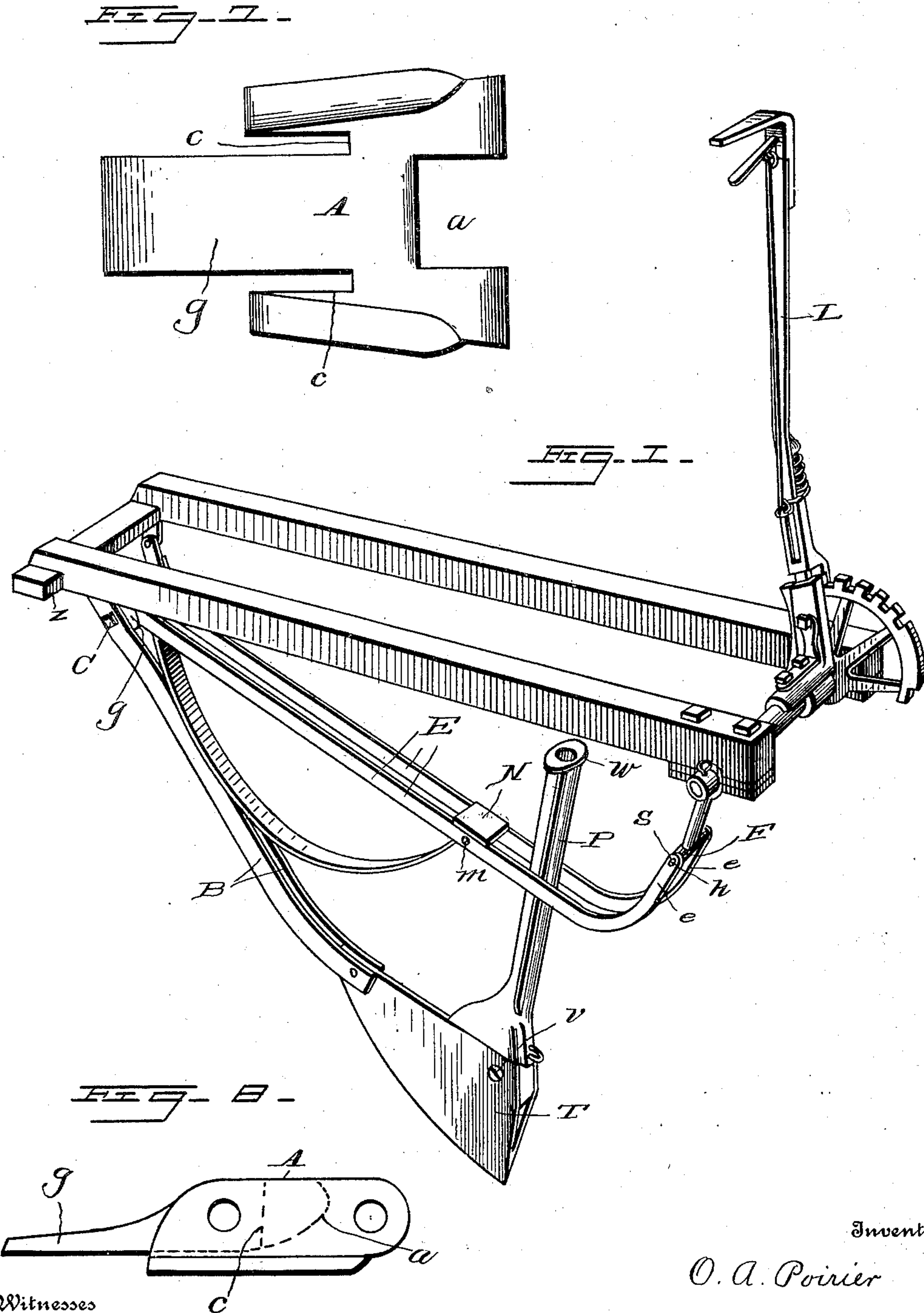
Patented Aug. 26, 1902.

O. A. POIRIER.
GRAIN DRILL.

(Application filed June 9, 1902.)

(No Model.)

3 Sheets—Sheet 1.



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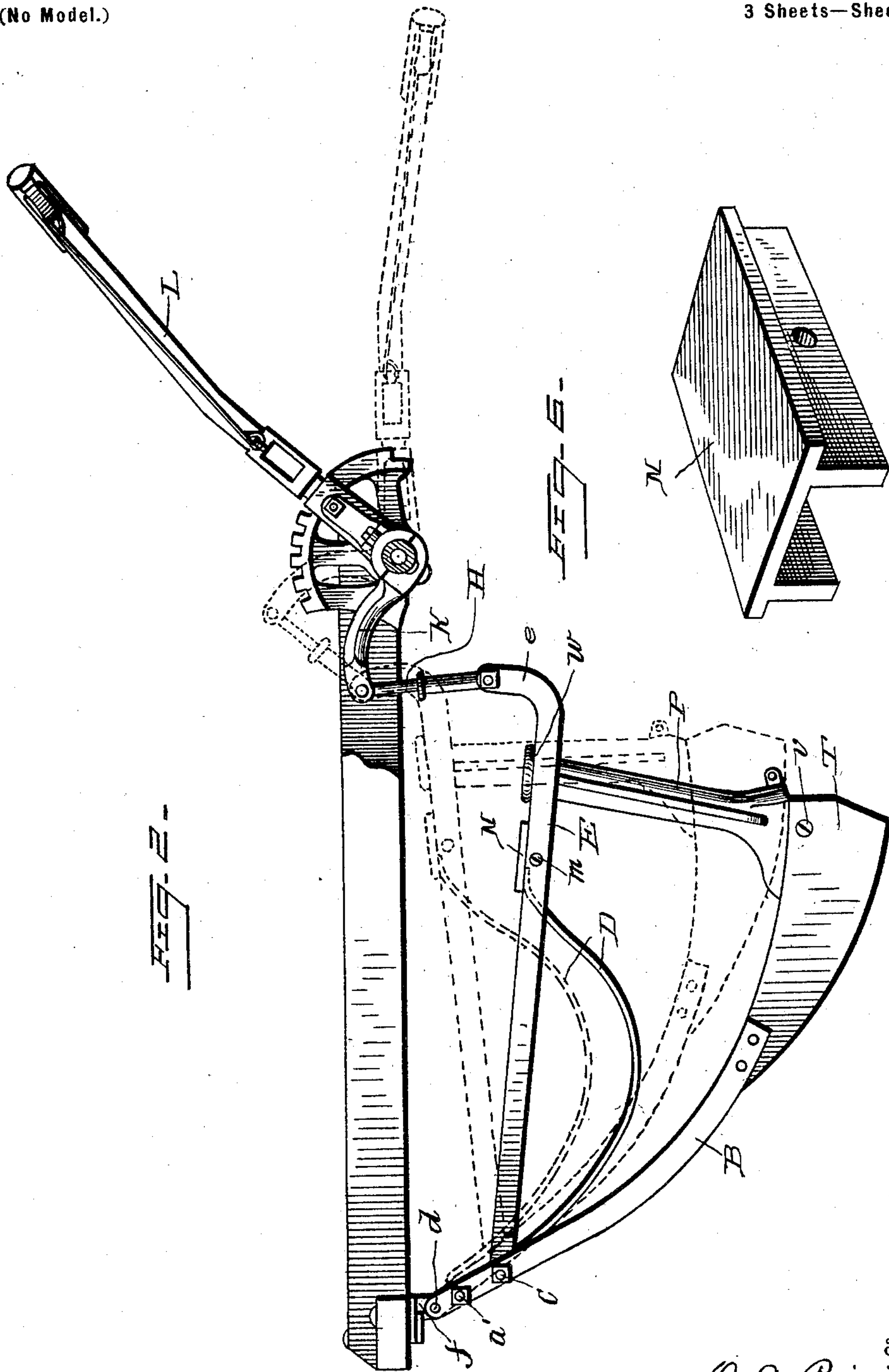
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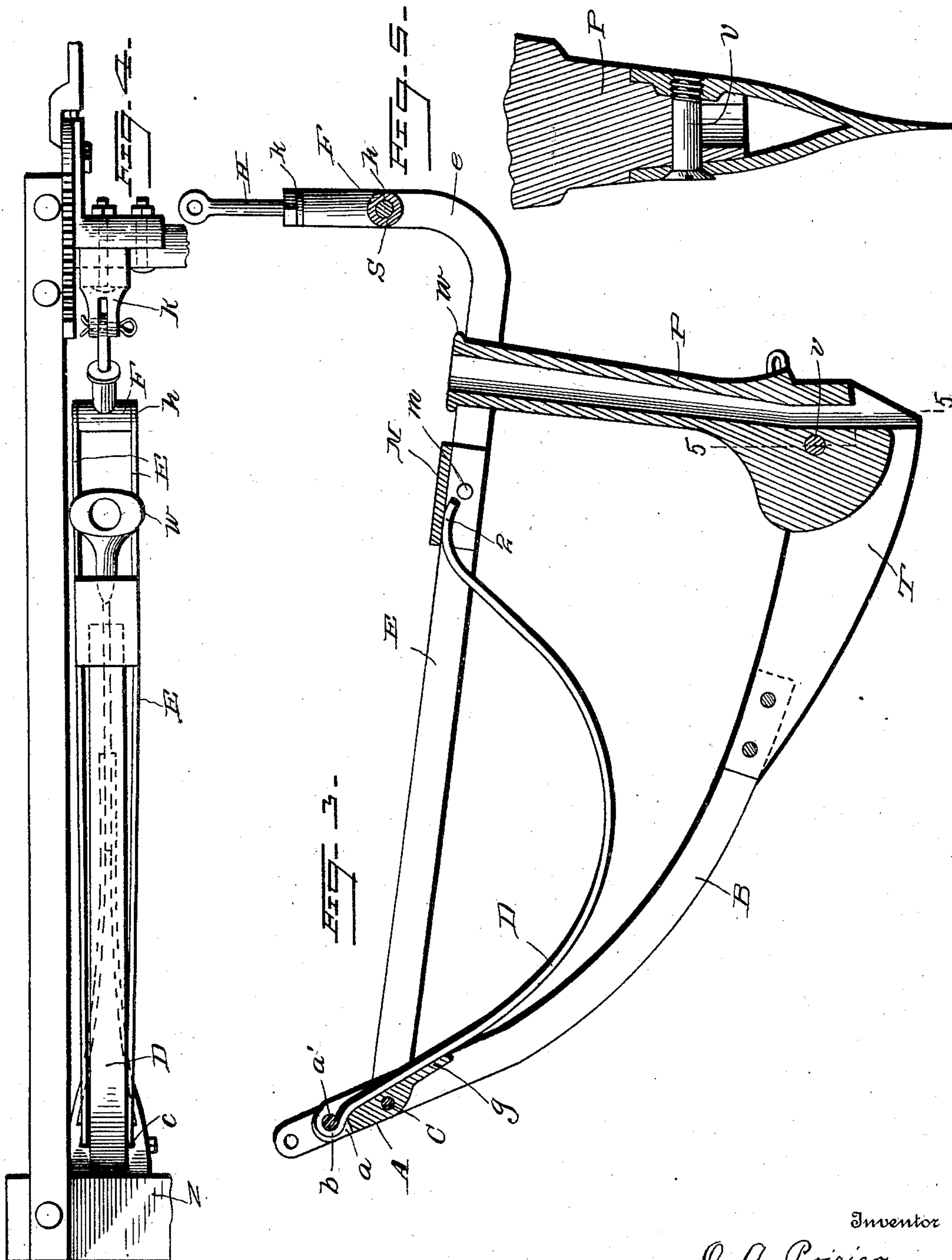
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

OCTAVE A. POIRIER, OF MINNEAPOLIS, MINNESOTA.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 707,799, dated August 26, 1902.

Application filed June 9, 1902. Serial No 110,902. (No model.)

To all whom it may concern:

Be it known that I, OCTAVE A. POIRIER, a citizen of the United States, and a resident of Minneapolis, in the county of Hennepin and State of Minnesota, have made a certain new and useful Invention in Grain-Drills; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it ap-
10 pertains to make and use the invention, reference being had to the accompanying drawings, and to letters and figures of reference marked thereon, which form a part of this specification.

15 The invention relates to grain-drills; and it consists in the novel construction and combinations of parts, as hereinafter set forth.

Figure 1 is a perspective view of portion of a grain-drill embodying my invention.
20 Fig. 2 is a side elevation of same, showing the shoe in dotted lines in its elevated position. Fig. 3 is a longitudinal vertical section. Fig. 4 is a plan view, and Figs. 5, 6, 7, and 8 are details.

25 In the accompanying drawings, illustrating the invention, the letter A designates the head-block, which is secured between the forward ends of the draw-bars B by means of the bolt C. This head-block has a rectangular
30 notch *a* in its forward end above the bolt C, said notch receiving the bent upper end *b* of the spring D, which is designed to be hooked around the bolt without removing the latter from the head-block. This head-block is also
35 provided with lateral rearward slots or seats *c* to receive the ends of the guide-bars E, which extend rearward horizontally and have their rear ends *e* usually bent upward, as indicated. The guide-bars E are pivoted to the
40 head-block by means of a transverse bolt C. The draw-bars are connected to lugs *f* of the main frame Z by their forward ends. The head-block is also provided with a rearward and downward extension *g*, which is of the
45 width of the spring D. This extension is flush with the upper edges of the draw-bars and forms a bearing and support for the forward end portion of the spring D when the latter is put under tension. The rear ends
50 of the guide-bars E are provided with perforations or bearings *h* for the bolt *s* of the cross-head F. This cross-head is tubular

and in the preferred construction is formed with a threaded seat *k* for the reception of the end of the adjustable connection H, the
55 upper end of which is pivoted, by means of a cotter or bolt, to an arm K of the lever L.

N is a bearing or plate which is seated on the guide-bars E, spanning the pair of them, and is provided with lateral downward flanges
60 or wings which are perforated for the reception of a transverse bolt *m*, whereby this bearing-plate is secured to the guide-bars. The rear upwardly-extending end of the spring D is formed with a bent or offset end 2, which
65 is parallel to the bottom of the bearing-plate N and bears against the same in a sliding manner when pressure is put on the spring. This spring D is a long and strong ribbon-spring, which is bowed downward between
70 its forward hook attachment to the bolt of the head-block and its rear bearing against the plate N. It has a fixed bearing on the extensions of the head-block and a sliding bearing against the plate N of the guide-bars,
75 also a downward bearing upon the draw-bars, adapting itself in a manner to the same, said plate having sufficient extent to provide for such bearing under all the positions which the rear end of the spring may take under
80 tension. In rear of the bearing-plate N and between the guide-bars E is located the drill-boot P, the lower end of which is connected to the shoe or furrow-opener T, the forward end of the latter being bolted to the lower
85 ends of the draw-bars. The lower end of the drill-boot is designed to be connected to the rear end of the shoe in a detachable manner by means of a screw-fastening *v*, which passes
90 through the side walls of the shoe and through a tang or lugs at the lower end of the boot in such a manner as to hold these parts firmly together, this secure connection being aided
95 by fitting the lower edge of the boot to the edges of the side walls of the shoe in an exact manner. The ends of the screw-fastening are made flush with the sides of the shoe, so that they will not wear away in use, and yet the fastening can be readily and quickly re-
100 moved when necessary for purposes of inspection or repair.

The lever L is provided with a spring-pawl adapted to act in conjunction with an arc-ratchet in the frame in securing the adjust-

ment of the guide-bars. The upper end of the guide-boot is provided with lateral projections or flanges *w*, which extend laterally over the guide-bars sufficiently to be engaged by the same when said guide-bars are raised by the lever high enough to lift the shoe above the ground. These flanges do not extend in front or rear sufficiently to prevent removal of the guide-bars when turned half around.

By the operation of the lever the guide-bars are raised or lowered, thereby taking off or putting on more or less spring tension. When the guide-bars are depressed, the pressure of the spring on the shoe is increased, so that it is forced into the ground. At the same time the pressure being elastic the shoe is allowed sufficient freedom to permit it to ride over obstructions and to conform easily to irregularities of the ground. In this manner it is designed to give the drill great flexibility and range of action, thereby securing in soils of different character a steadiness and certainty of operation which it is believed will prove of material benefit in machines of this character.

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

1. The combination, with a suitable frame and the draw-bars pivotally connected to said frame, of guide-bars pivotally connected to said draw-bars, a head-block secured to the forward ends of the draw-bars and a spring having one end connected to said head-block,

its opposite end forming a sliding bearing with a plate on the guide-bars and its intermediate portion bearing upon the draw-bars, substantially as described.

2. The combination, with the frame and the draw-bars pivoted thereto, of the guide-bars pivoted to said draw-bars and provided with means for adjusting them and the spring having one end secured to said draw-bars and its other end forming a sliding bearing with a plate on the guide-bars, substantially as described.

3. The combination, with the pivoted draw-bars, of the head-block arranged between the forward ends of said draw-bars, the guide-bars pivotally connected to said draw-bars and a spring having one end secured to said head-block and its other end forming a sliding bearing with a plate on the guide-bars, substantially as described.

4. The combination, with the draw-bars, of the head-block secured to the forward portions of said draw-bars, the guide-bars arranged above said draw-bars and the spring having one end connected to said head-block and the other end forming a sliding bearing with a plate on said guide-bars, the intermediate portion of spring forming a bearing on said draw-bars, substantially as described.

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

OCTAVE A. POIRIER.

Witnesses:

L. A. McREYNOLDS,
J. H. ABRAMS.