

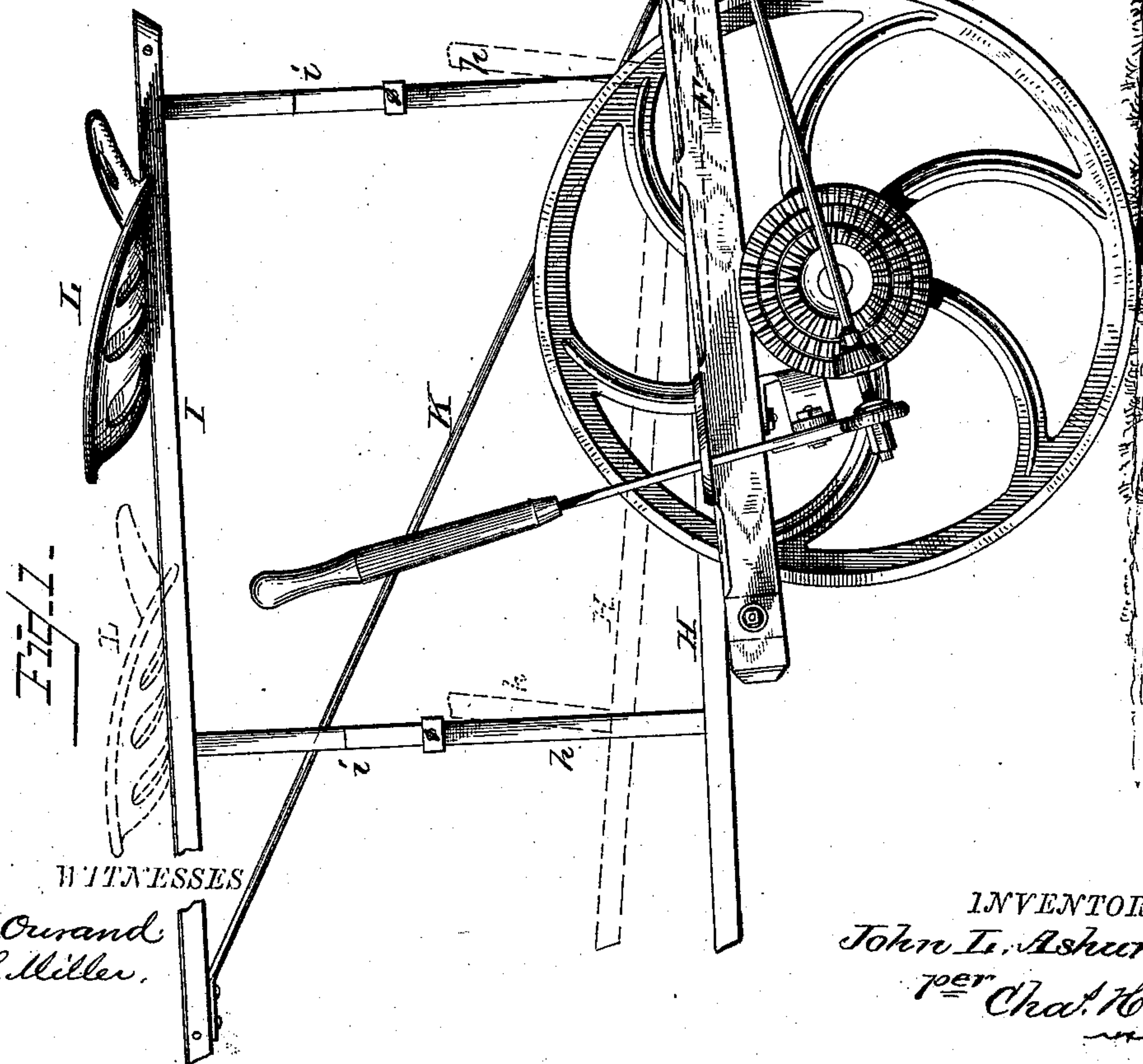
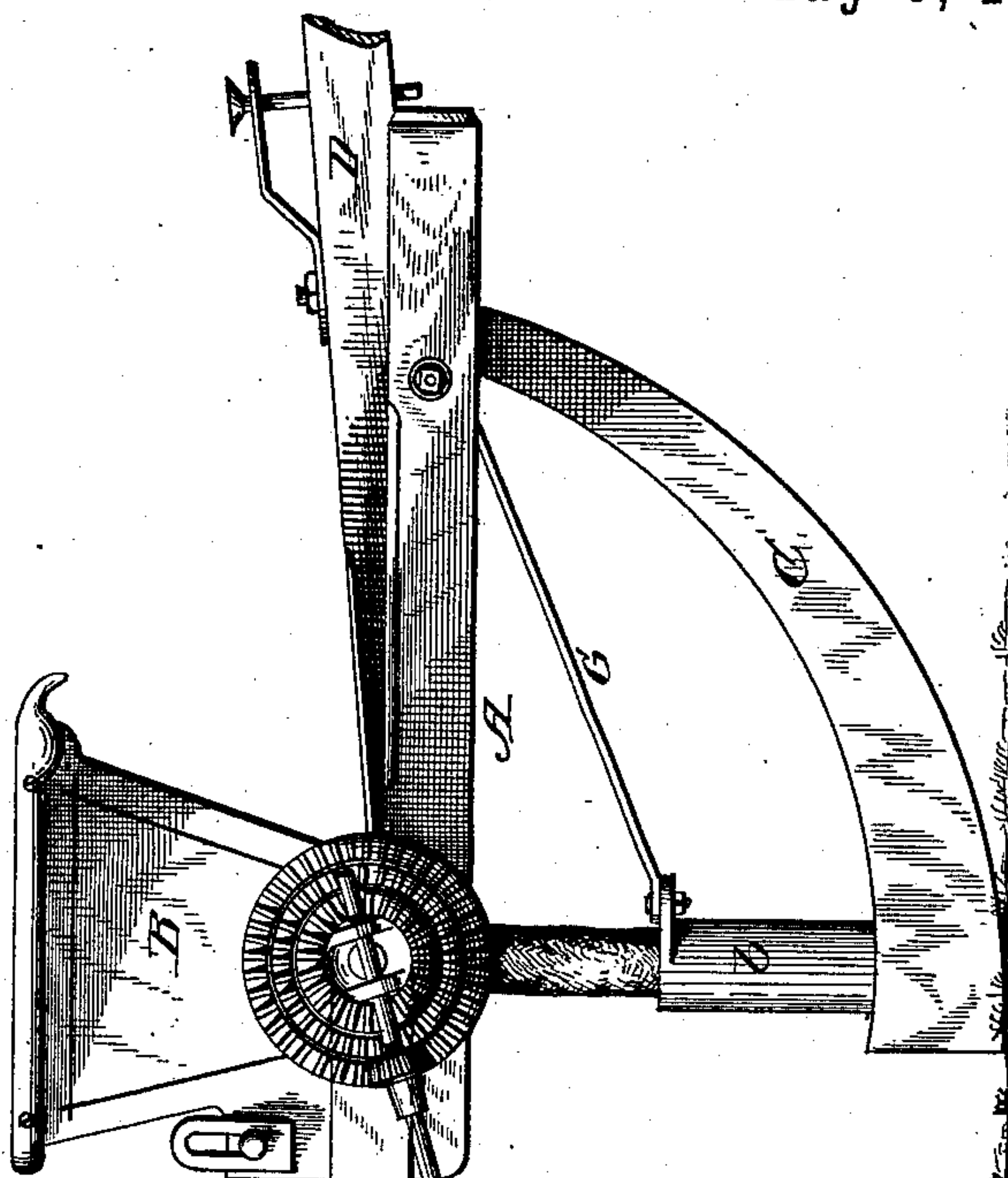
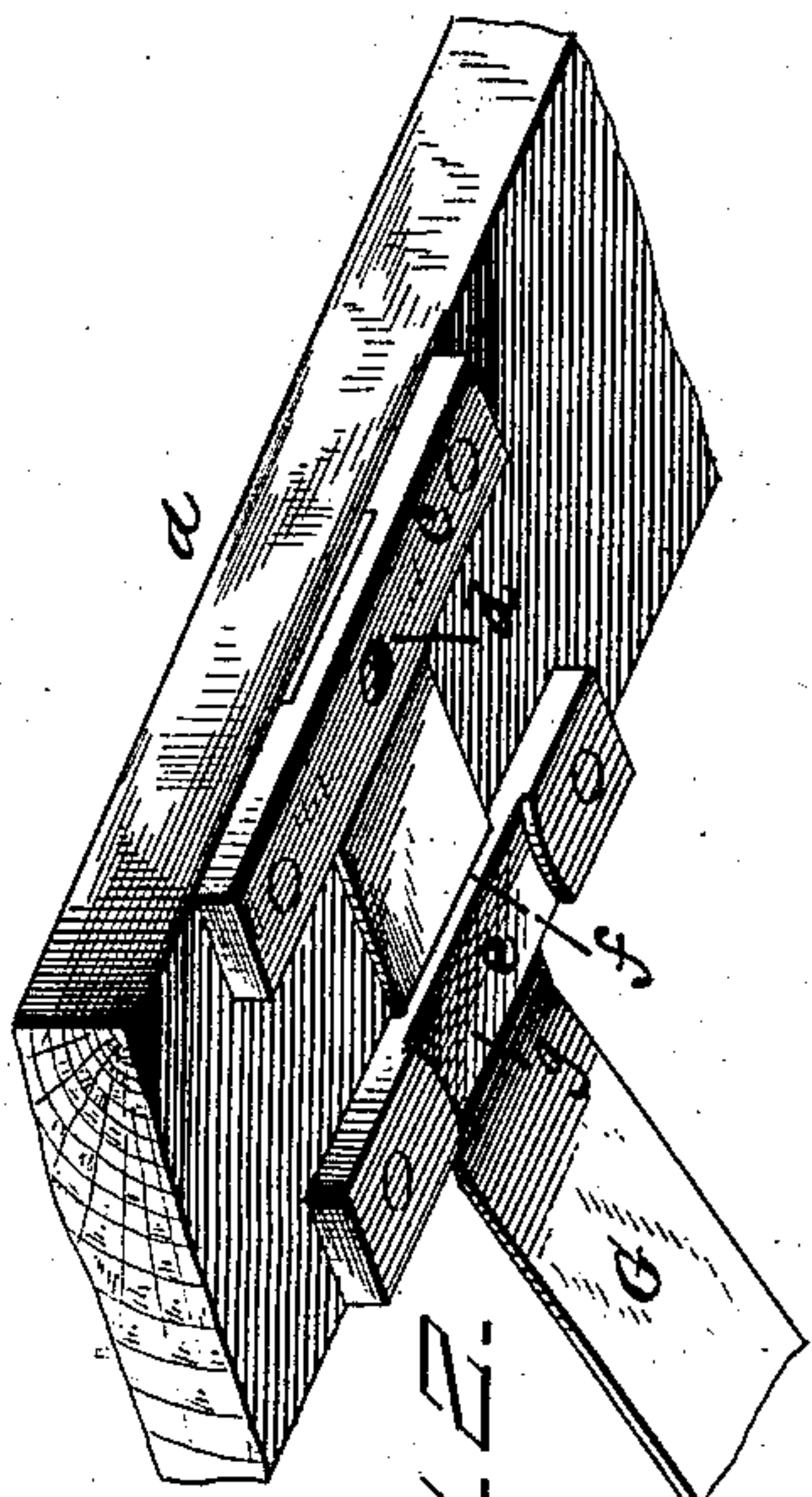
(No Model.)

J. L. ASHURST.

GRAIN DRILL.

No. 297,961.

Patented May 6, 1884.



WITNESSES

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JOHN L. ASHURST, OF HAVANA, ILLINOIS.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 297,961, dated May 6, 1884.

Application filed January 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. ASHURST, a citizen of the United States, residing at Havana, in the county of Mason and State of Illinois, have invented certain new and useful Improvements in Grain-Drills; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a side elevation of a grain-drill, showing my improvements; Fig. 2, a detail view of a portion of the forward frame's front cross-piece and the manner of connecting the flat springs thereto.

The present invention has relation to certain new and useful improvements in grain-drills; and it consists in the details of construction, substantially as shown in the drawings, and hereinafter described and claimed.

In the drawings, A represents the front frame of a grain-drill, to which are secured the hopper B, runners C, and tongue D, this front frame being hinged to a rear frame, E, at each end of the hopper, thereby forming the joint in line with the dropper, said rear frame supported upon the press-wheels F.

Suitably secured to the front cross-piece, *a*, of the front frame, A, are a series of springs, G, preferably flat, and sufficiently strong, said springs extending back and connecting with the top of the shanks or boots *b*, attached to the rear end of the runners C, so that pressure applied on these springs acts directly on the heel of the runner to press it into the earth, the front frame resting entirely on the springs independent of any side wheels to support the same, or hand-levers for adjusting the runners. Though the springs G may be connected to the front cross-piece, *a*, of the front frame, A, in any suitable or convenient manner, I prefer to secure them in the manner represented by Fig. 2, which consists in a clamp or binding-piece, *c*, placed over each spring at its front end, a bolt or screw, *d*, acting as a pivot, being passed through said clamp, spring, and front cross-piece. At the rear of the cross-piece, upon its under side, is placed another clamp or binding-piece, *e*, which is recessed, as shown at *f*, to form a seat for the spring, this latter clamp

being of the same length as the former, and arranged with relation to springs in the same manner, though, if found more convenient, these clamps or binding-pieces may be each made of one continuous piece, the runners at their front ends being pivotally connected to the cross-piece *a* between the clamps. If desired to give the springs G greater lateral motion, the rear clamp, *e*, may be reversed, the recess forming a seat for the spring being of greater width in this instance, as shown at *g*.

Hinged to the front frame, A, and extending back over the rear cross-piece of the rear frame, E, are foot-rests H, to which are secured vertical standards *h*, to which are clamped or otherwise connected similar standards, *i*, secured to a seat-slide, I, so as to admit of the latter being vertically adjusted to suit the height of the driver, a pivoted brace-rod, K, extending from the front frame to the rear of said seat-slide.

In order to force the runners C deeper in the earth, the driver upon the seat L moves forward with his feet upon the rests H, thus exerting his weight upon the forward portion of the machine, by which the desired object is accomplished, and to cause the runners to enter the ground a less depth he merely slides backward sufficiently to relieve said front portion of the machine of so much weight as is necessary, while to remove the runners entirely from contact with the soil he slides back nearly or entirely the length of said slide, thus having greater control and adjustment of the drill than is possible with those of the ordinary construction.

For conveying the seed from the dropper, so as to allow of the shanks and runners being adapted to inequalities in the ground, I employ rubber or other flexible pipes extending from the seed-openings in the bottom of the hopper to the interior of said shanks or boots, thus admitting of the same with relation to the runners having a free and easy vertical as well as lateral play, this being a great advantage in lumpy or stony soil.

Connecting the shaft of the presser-wheels F and the seed-dropper in the hopper B is the usual and ordinary gearing, controlled by a hand-lever within easy reach of the driver.

Having now fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. In a grain-drill, the combination, with a front and rear frame hinged together, and carrying, respectively, the hopper and runners and the press-wheels, of a hinged foot-rest provided with a seat-slide and means for regulating its height by vertical adjustment, substantially as and for the purpose set forth.
2. In a grain-drill, the combination, with the runners thereof, provided with the usual

shanks or boots, of spring connected thereto and to the cross-piece of the front frame by means substantially as shown and described, and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN L. ASHURST.

Witnesses:

ISAAC N. MITCHELL,
N. C. KING.