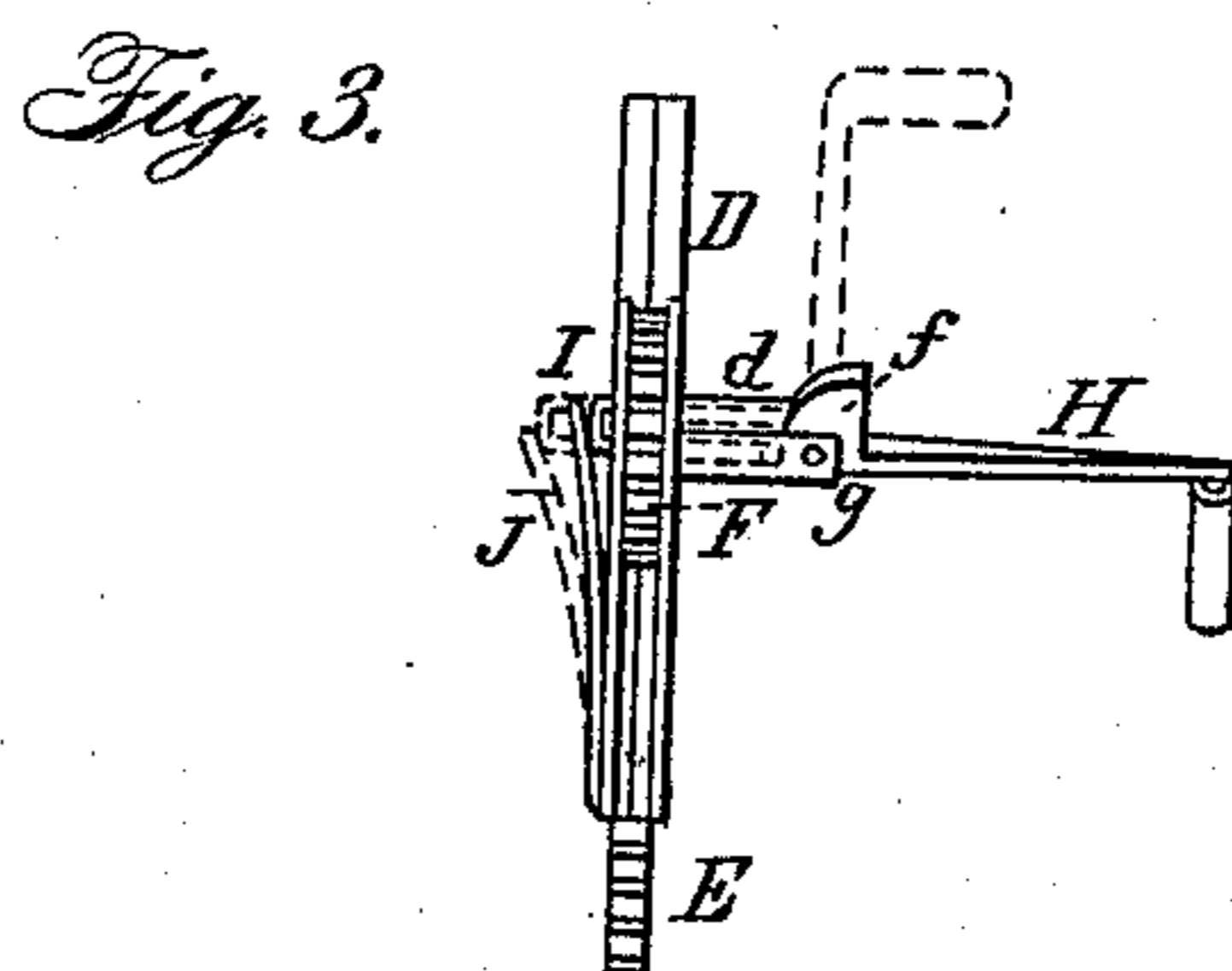
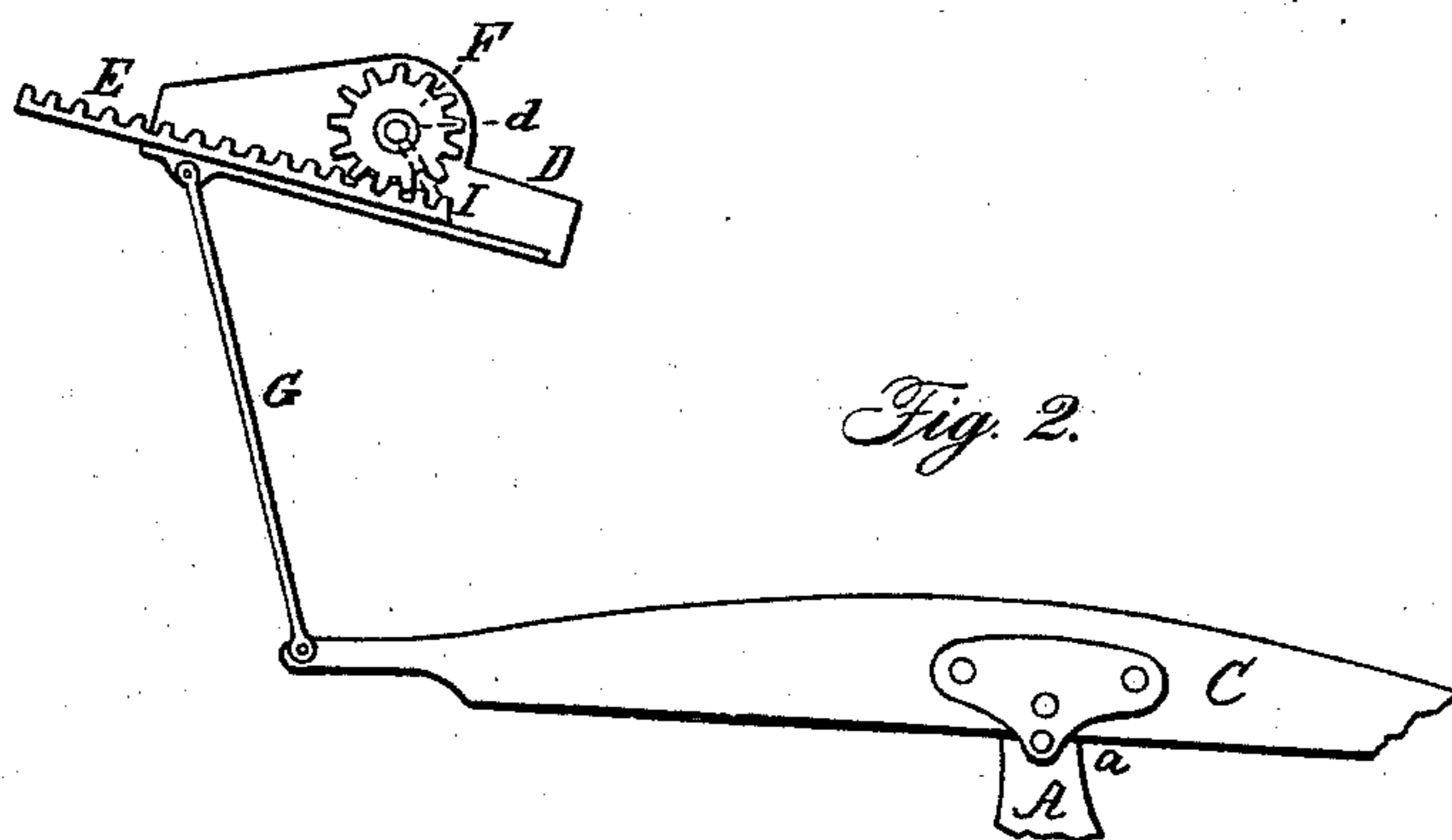
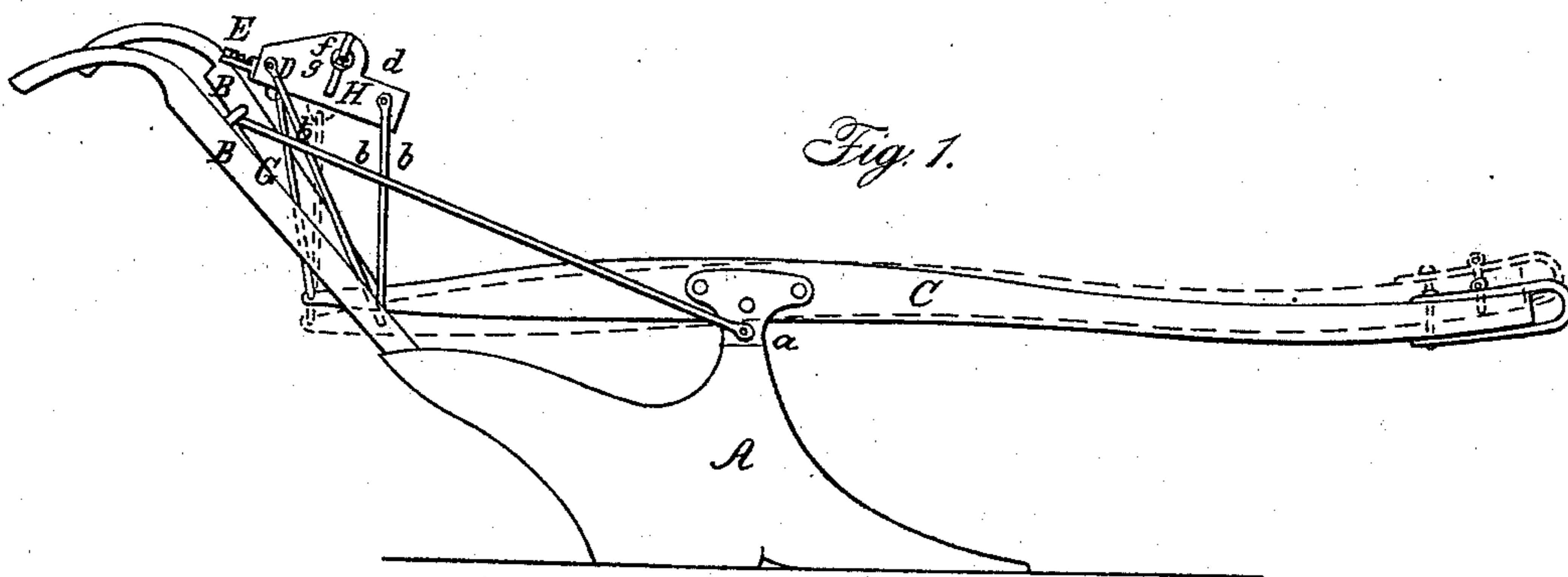


T. F. CHAPIN.

Plow.

No. 11,356.

Patented July 25, 1854.



UNITED STATES PATENT OFFICE.

THOMAS F. CHAPIN, OF WALPOLE, NEW HAMPSHIRE.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. 11,356, dated July 25, 1854.

To all whom it may concern:

Be it known that I, THOMAS F. CHAPIN, of Walpole, in the county of Cheshire and State of New Hampshire, have invented a new and useful Improvement in Plows; 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, in which—

Figure 1 is a side view of my improved plow. Fig. 2 is a detached view of the device by which the beam is operated. Fig. 3 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and useful improvement in plows; and it consists, first, in having the beam attached to the mold-board or iron-work of the plow by a pivot, so that the outer end of the beam may be elevated or depressed, as desired, and thereby give the point of the share a greater or less tendency to enter the earth and causing the furrow to be of the required depth.

My invention consists, second, in the peculiar device or means employed for elevating and depressing the outer end of the beam.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, Fig. 1, is the mold-board of the plow constructed as usual; and B B are the stilts or handles, attached to the mold-board and lower parts of the plow in the ordinary manner.

C is the beam, of the usual form and construction, attached to the upper part of the mold-board A by a pivot, *a*. (See Figs. 1 and 2.)

D is a box or socket, having within it a rack, E, and pinion F. The rack and pinion are both seen in Fig. 2. The box or socket is placed near the upper ends of the stilts or handles B B, and is supported in an inclined position by braces *b b b*, attached to any convenient part of the plow. (See Fig. 1.)

G is a rod attached by pivots *c* to the under surface of the rack E and to the inner end of the beam C. (See Figs. 1 and 2.)

The axis of the pinion F (represented by *d*) extends through the box or socket D at one side, (see Fig. 3,) and is provided with a slot, *e*, in which a cam, *f*, fits, said cam working on

a pivot, *g*, which passes transversely through the axis. To this cam is attached the handle H.

I is a piece of wire, bent in the form of a staple, one end or leg of which passes longitudinally through the axis *d*, (see dotted lines, Fig. 3,) and the other end or leg passes through the side of the box or socket D and catches into the teeth of the rack E, as shown in Fig. 2.

J is a spring at the outer end of the staple I, said spring keeping one end or leg of the staple I in or between the teeth of the rack.

In order to operate the beam the handle H is raised in an upright position, as shown by the dotted lines in Fig. 3, and the cam *f*, as it turns on the pivot *g*, will throw the leg of the staple I, which is within the axis *d*, outward, and the other leg of the staple will also be thrown outward and freed from the rack E. By turning the handle H around in either direction the pinion F will move the rack E forward or backward, and the rod G will consequently raise or depress the inner end of the beam C, and as the beam C works on the pivot *a* the outer end will be raised or depressed inversely to the inner end. When the handle H is turned downward in a horizontal position the spring J will throw one leg of the staple between the teeth of the rack and secure the beam in the desired position. By raising and depressing the outer end of the beam the share will have a greater or less tendency to enter the earth. For instance, if the outer end of the beam be raised, the point of the share, owing to the line of draft, will incline downward to a much greater degree than if the outer end of the beam were depressed.

The advantage of the above invention is that the furrow may be made of the required depth throughout an entire field, however much the earth may vary in hardness or unevenness of surface. It is evident that in plowing a field the share will have a tendency to be thrown upward when passing through hard ground, owing to the resistance the hard ground offers to the share. The plowman may always compensate for this resistance by operating the beam and giving the share a greater or less tendency to enter the earth, according to the character of the ground, and thus cause the furrows to be of a uniform depth throughout.

I do not claim the employment or use of an

adjustable beam, irrespective of the mode of attachment, as herein shown, for adjustable beams have been previously used. Neither do I claim the use of the rack and pinion separately or irrespective of its arrangement or peculiar connection to the beam.

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

1. Attaching the beam C to the mold-board A by a pivot, *a*, for the purpose of allowing the outer end of said beam to be raised or depressed, as desired, and thereby give the share a greater

tendency to enter the earth and causing the furrows to be of the desired depth.

2. The means herein shown and described for operating the beam C, viz: the box or socket D, having within it a rack, E, and pinion F, the rack being connected to the beam by a rod, G, the above parts being constructed and arranged substantially as set forth.

THOS. F. CHAPIN.

Witnesses:

GEO. PERRY,
ALEXANDER S. CAMPBELL.