

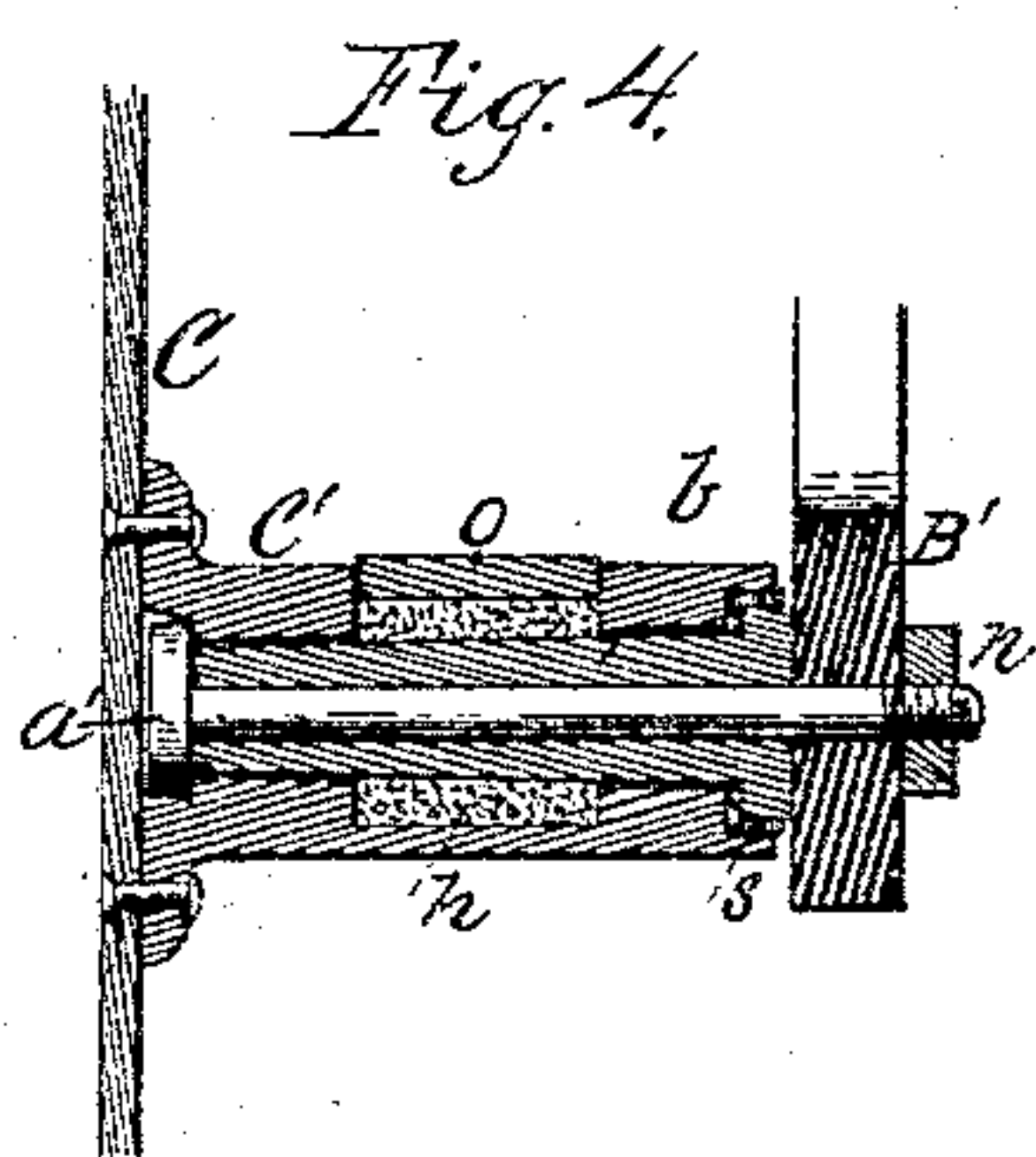
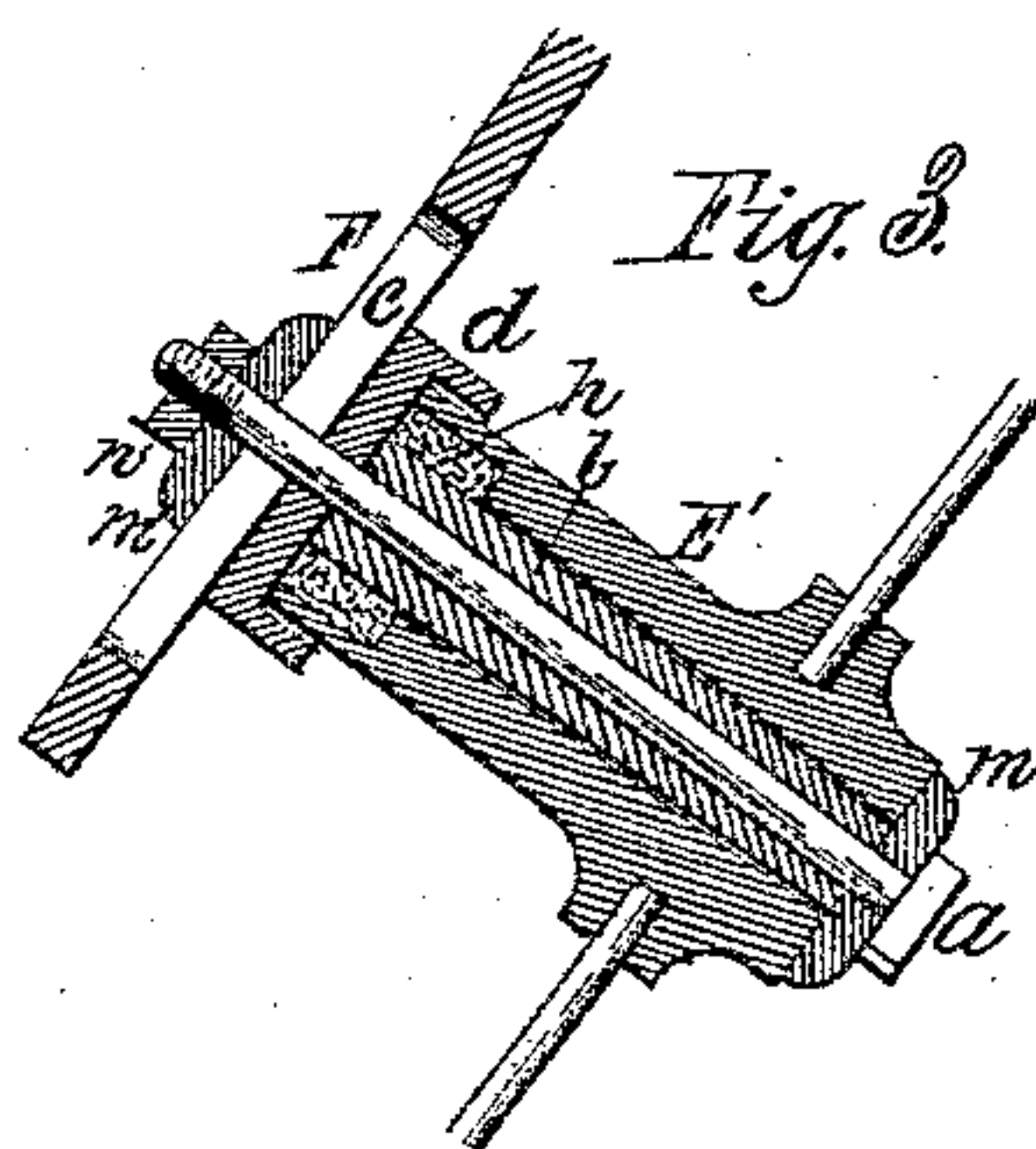
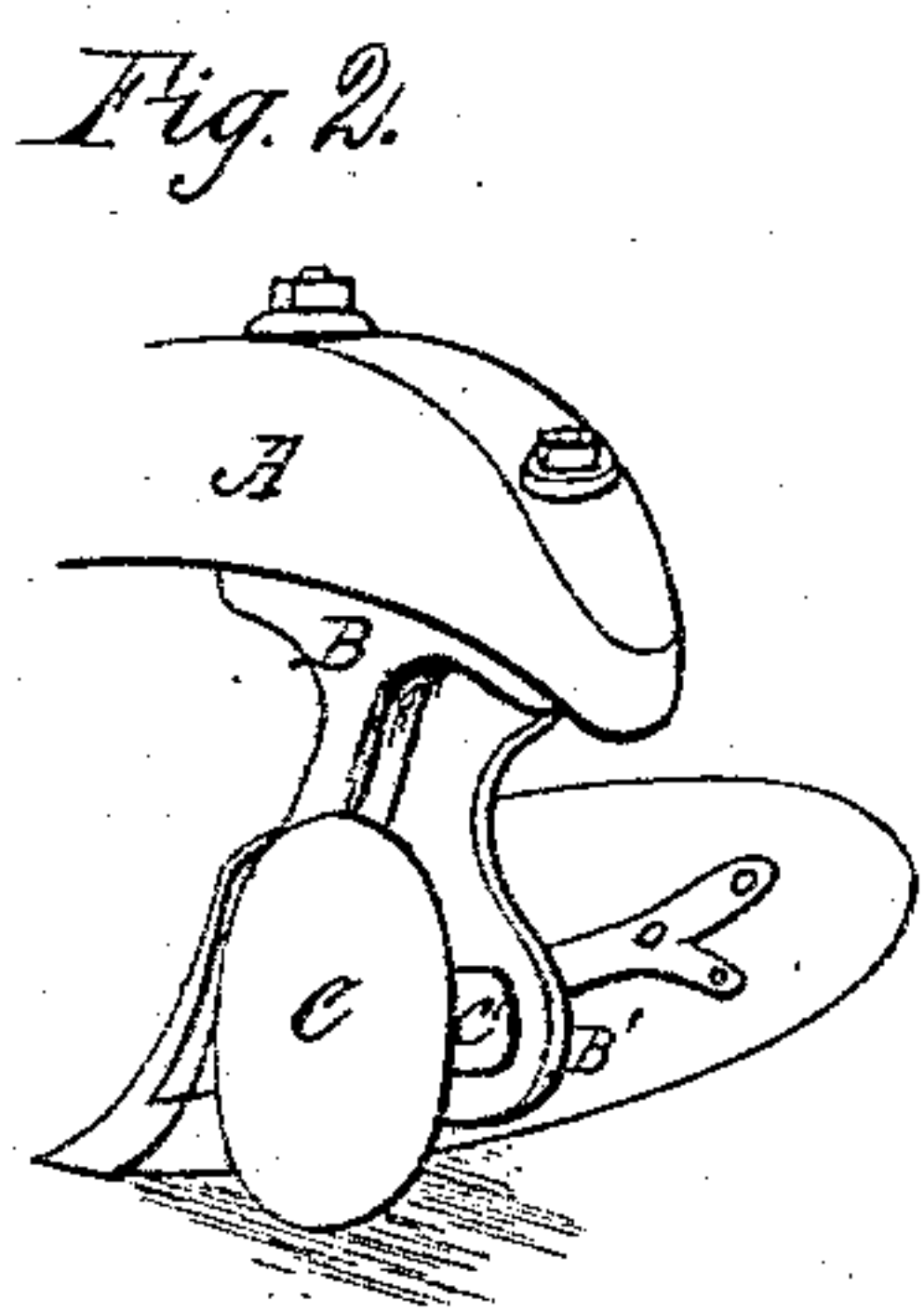
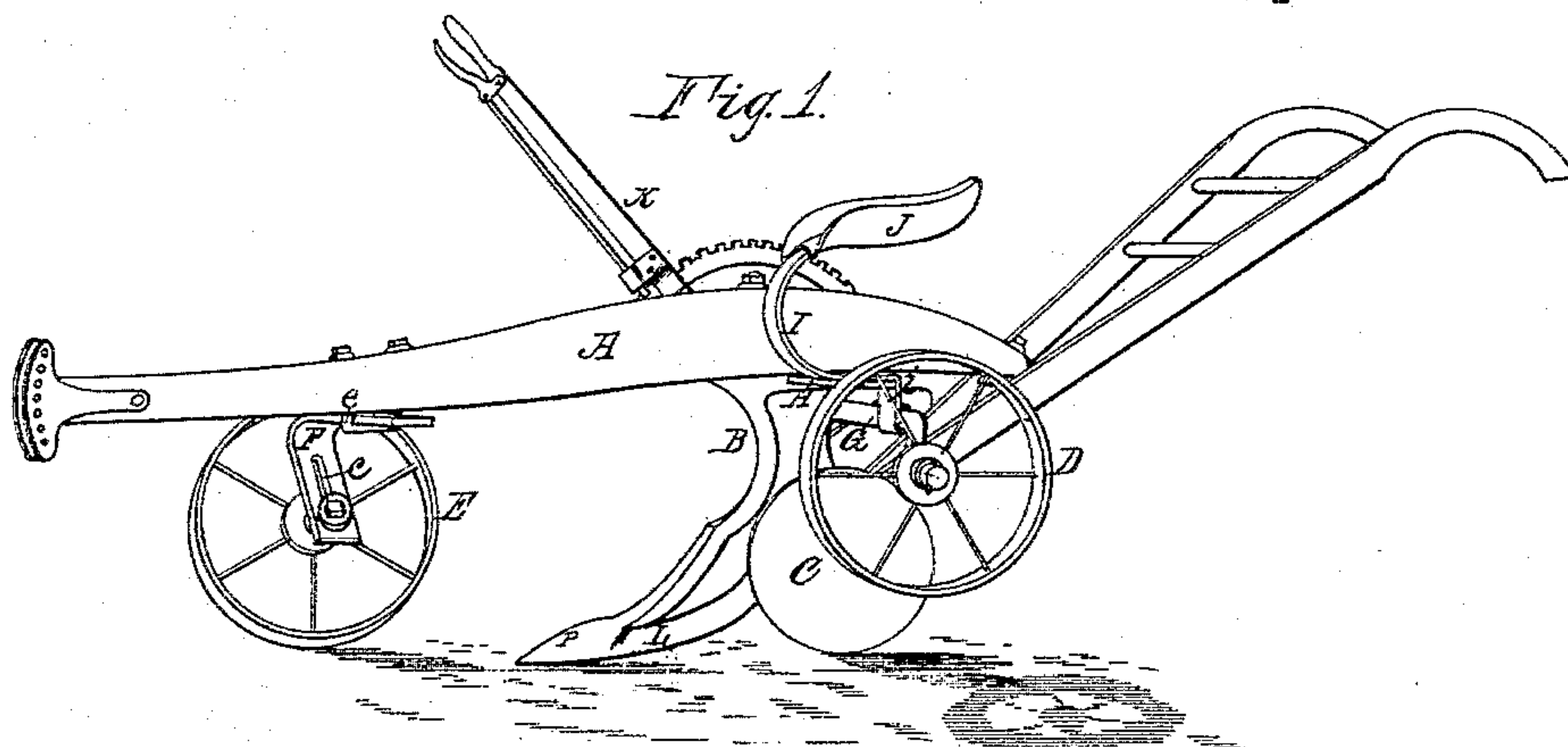
(No Model.)

G. B. ST JOHN.

PLOW.

No. 339,593.

Patented Apr. 6, 1886.



Witnesses.

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His Atty.

UNITED STATES PATENT OFFICE.

GARLAND B. ST. JOHN, OF KALAMAZOO, MICHIGAN.

PLOW.

SPECIFICATION forming part of Letters Patent No. 339,593, dated April 6, 1886.

Application filed October 5, 1885. Serial No. 178,989. (No model.)

To all whom it may concern:

Be it known that I, GARLAND B. ST. JOHN, a citizen of the United States, residing at Kalamazoo, in the county of Kalamazoo and State Michigan, have invented certain new and useful Improvements in Plows, of which the following is a specification.

The object of my invention is to adapt an ordinary handle-plow to either riding or walking, and to render more durable and efficient certain of its operative parts, as will hereinafter more fully appear.

The invention consists in the construction, arrangement, and adaptation of the several parts of the plow, as will be hereinafter fully set forth and described.

In the accompanying drawings, forming a part of this application, Figure 1 is an elevation in perspective of the invention; Fig. 2, a rear perspective of a portion of the plow, showing the attachment of the disk-landside to the standard; Fig. 3, a longitudinal section of the hub of the inclining gage-wheel, and Fig. 4 a similar view of the hub of the disk-landside.

Similar letters of reference indicate corresponding parts.

The plow A is in the main of the ordinary form and construction, and need not be particularly described. To the fore part of the plow is attached, by means of a suitable bracket or arm, F, an inclined wheel, E, so arranged as to run in the corner of the furrow in advance of the plow, and thereby gage the width and depth of the furrow at the same time. Lateral movement of the supporting-arm is secured by the clamp-iron *e*, which fastens the arm to the plow-beam. A slot, *c*, in the inclined part of the arm permits the wheel to be adjusted diagonally. Evidently this arm may be a simple bracket of stiff cast or wrought iron; but in practice I make it of comparatively thin steel or other suitable flexible material, for the purpose of giving the wheel a limited freedom of movement in passing over obstructions in the furrow. By so constructing the arm the passage of the wheel over stones, clods, &c., does not materially affect the course of the plow, which runs the more easily and turns the better furrow than it would otherwise do. The spring of the arm is of course stiff enough to hold the plow to place at all times and only

yield sufficiently to secure the result specified. At the rear of the plow, and practically opposite the mold-board, is set another wheel, D, which, running on the unplowed land, carries the rear of the plow, and also gages the depth of the furrow. This wheel is designed to revolve in a vertical plane, and for the purpose of adjustment to varying depths of furrows is provided with a crank-axle, G. Obviously, this wheel may be supported on a rigid arm or bracket; but for the same reasons stated above I prefer to use a flat steel spring-arm, H, secured to the beam or standard of the plow. The crank-shaft may be journaled directly to the arm or to an extension of the spring I, which supports the seat J, the part being marked *i* in Fig. 1. The seat, which is of convenient height for the plowman to reach when the plow is in motion, is placed above and partially over the wheel D, so that it carries the most of the driver's weight, and forms its own fender to keep the clothing of the operator off the wheel, these being essential points in the adaptation of the plow to both walking and riding. It is also desirable to set the wheel opposite the mold-board, as it admits of the plow being thrown over upon it and the landside in transporting from field to field and in running around headland, the operator bearing down on the handles and correspondingly throwing up the front end of the plow. It thus forms a natural and easy fulcrum over which to balance the plow in working among stones or other obstructions and in drawing it back in the ground. It will be evident that the weight of the operator on this seat, and to a limited extent the weight of the wheel and its attachments alone, will create side-draft on the landward side of the plow, and in a corresponding degree react against the pressure of the turning furrow upon the mold-board and relieve the sliding or disk landside of so much of its burden. This arrangement of the seat also relieves the front wheel of much of its work, and thereby admits of its being made much lighter than it could otherwise be, thus rendering easy in proportion the tilting up of the front end of the plow, as above mentioned.

An improvement in the construction of the standard B is shown in Fig. 2. To specially adapt the same to the application of a disk-

landside, C, a lug or shoulder, B', suitably offset to allow for the inward projection of the hub C', is formed upon the standard and made an integral part thereof. To this the axle of the disk-landside is secured, as hereinafter set forth.

In Fig. 4 is shown an improvement of the hub of the disk-landside and the connective parts. The hub C' is provided with a central chamber, *h*, adapted to receive a liberal quantity of waste or other suitable material for the retention of a large amount of oil, thus securing a more perfect and long-continued lubrication of the wearing parts. The chamber may extend entirely or partially around the hub, and at the external opening may be provided with a stopper or plug, *o*, as shown. The spindle *b*, which is secured to the lug B by a central bolt, *a'*, has an annular shoulder at the base. A corresponding chamber is formed in the end of the hub C', and between these parts is pressed a ring of leather or other pliable material, *s*, which, closing snugly around the shoulder of the spindle, excludes every particle of dust, and retains the oil within. The hub of the inclined gage-wheel E (shown in Fig. 3) is made in the ordinary way, except that the upper end of the hub is chambered, and in this chamber is placed the packing *h*. The upper end of the spindle is thus kept continually oiled, whereas without some such device it would become dry and cut. The escaping oil, running down the spindle, lubricates the whole.

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

1. In combination with an ordinary handle-plow, an inclined guide-wheel adapted to run in the corner of the furrow in advance of the share and gage the depth and width of the succeeding furrow, and a rear carrying-wheel adapted to run on the unplowed land opposite the mold-board and gage the depth of the furrow at that point, both of said wheels being secured to the plow by flexible arms, substantially as and for the purpose set forth.

2. A plow having a disk-landside, forward gage-wheel, and rear carrying-wheel supported on flexible arms, substantially as and for the purpose set forth.

3. In combination with a plow having a disk-landside, a gage, and carrying-wheel set opposite to the mold-board, so as to run on the unplowed land, with means for vertical adjustment, and having a seat set partially over it, substantially as and for the purpose set forth.

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

GARLAND B. ST. JOHN.

Witnesses:

T. F. GIDDINGS,
A. M. STEARNS.