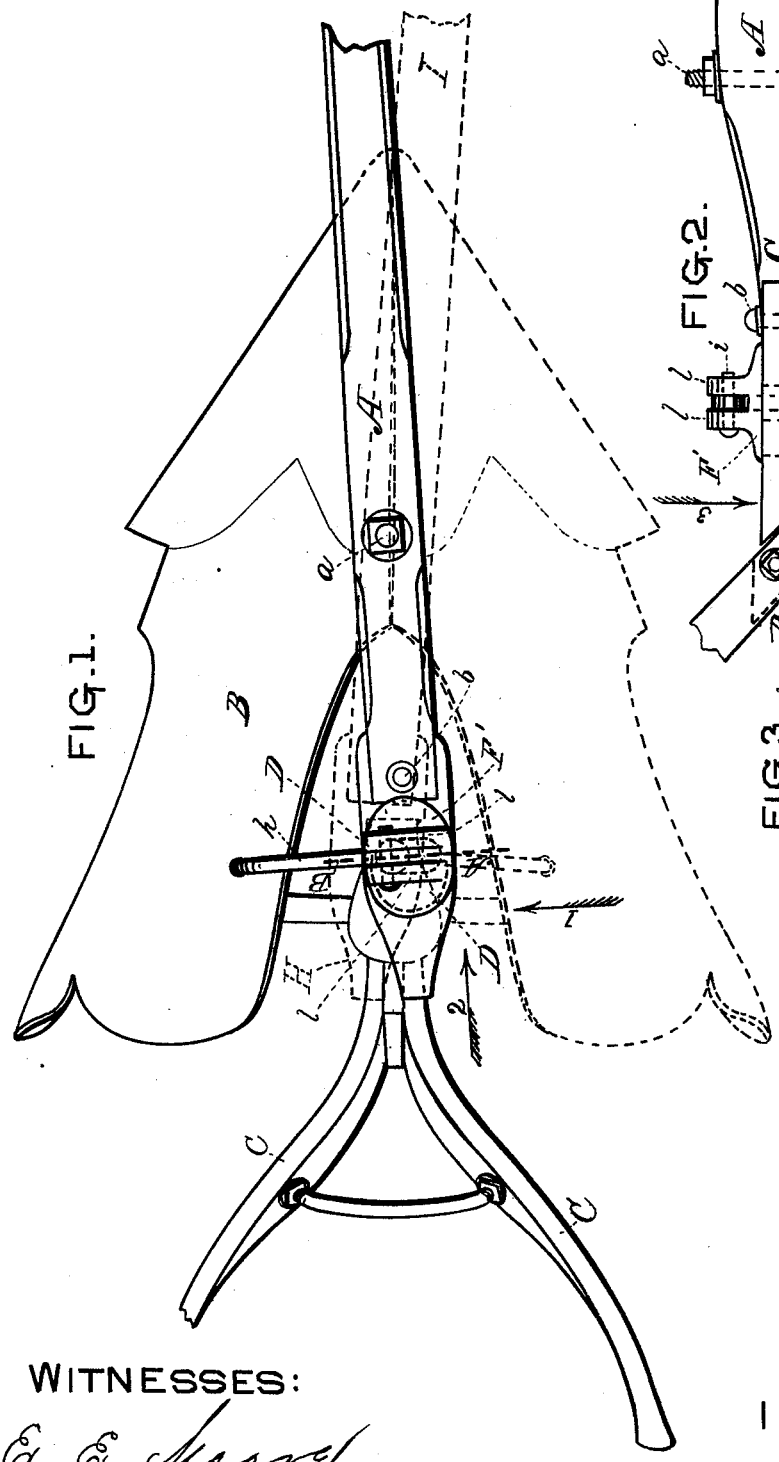
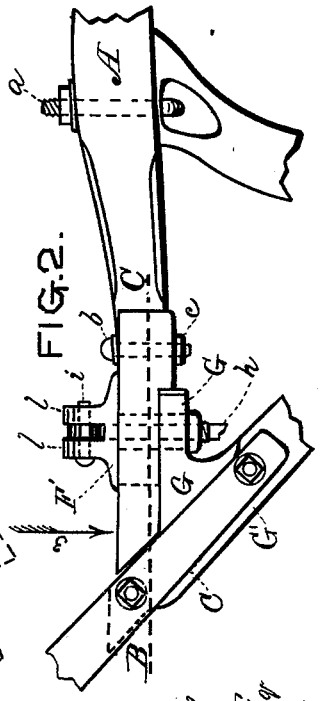
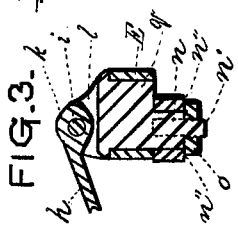
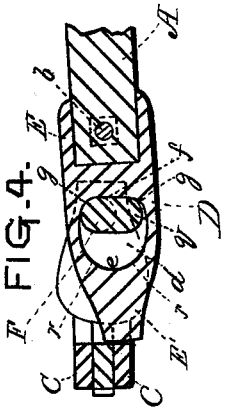
F. E. SESSIONS.
Plow.

No. 196,048. Patented Oct. 9, 1877.









WITNESSES:

E. E. Moore
Albert A. Baker.

INVENTOR

Francis E. Sessions

UNITED STATES PATENT OFFICE.

FRANCIS E. SESSIONS, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **196,048**, dated October 9, 1877; application filed May 3, 1877.

To all whom it may concern:

Be it known that I, FRANCIS E. SESSIONS, of the city and county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Swivel or Side-Hill Plows; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents, in full and dotted lines, a top or plan view of so much of my improved swivel or side-hill plow as is necessary to illustrate my present invention, the mold-board being shown upon the left-hand side in full lines and upon the right-hand side in dotted lines, as will be hereafter more fully described. Fig. 2 represents a side view, looking in the direction of arrow 1, Fig. 1, of so much of the plow as is necessary to illustrate my present invention. Fig. 3 represents a vertical section through the rear part of the plow-beam and through its adjusting-cam and a portion of its connecting-rod, as will be hereafter more fully explained. Fig. 4 represents a horizontal section, taken on line B C, Fig. 2, looking in the direction indicated by arrow 3 of the same figure.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings, the part marked A represents so much of the plow-beam as is necessary to illustrate my present invention, the rear end of which is combined with the rear standard of the plow, in a manner which enables the attendant to adjust the plow-beam every time the mold-board is changed from one side to the other in a unique and novel manner never before attained in swivel or side-hill plows, whereby very valuable and important practical results are obtained, as will be hereinafter more fully set forth.

B is the mold-board, and C the handles. Movable plow-beam A is pivoted upon a rod, *a*, secured to the front standard of the plow, and is operated by a double-action cam device, D, arranged upon the end of said beam.

The part E of cam device D, in this instance, is made of cast metal, and is secured to the end of plow-beam A by means of a bolt, *b*, and nut *c*, and is provided with a hole or opening, *d*, which passes entirely through said part E. Opening *d* is made in the form represented by full and dotted lines, Figs. 1 and 4, of the drawings, the side *e* being made circular in form, while the side *f* is made nearly straight, with rounded corners, as shown at *g g*.

In the opening *d* works a cam, F, operated, in this instance, by the connecting-rod *h* hinged upon a pin, *i*, which passes through the flattened end *k* of said rod *h*, and through ear-pieces *l* upon the upper side of the part F′ of cam F, the outer end of rod *h* being bent down and adapted to hook into a hole, *m*, in mold-board B, as represented in Fig. 1 of the drawings.

The rear end E′ of piece E rests and is supported upon a projection, G, cast with, and forming a part of, the rear standard of the plow. Through the forward end of said projection G passes the rounded part or journal *n* of the cam-piece F, and from the lower end of this rounded or journal part *n* projects a screw-stem, *n′*, upon which a nut, *o*, is screwed, the journal part *n* projecting below the lower urface of the supporting-piece G, wh ereby, when nut *o* is screwed up against the shoulder *n″*, it takes a firm bearing against said shoulder, while at the same time the cam device D can be turned freely without binding, and at the same time the parts are not liable to be detached or become disconnected while the plow is in use.

When the plow is used with the land-side to the right, as represented in full lines, Fig. 1 of the drawings, the cam device D is in the position represented by that figure, as well as all the other figures of the drawings; but when the mold-board is swung around upon the other side of the plow, as represented by dotted lines, Fig. 1, so that the land-side comes to the left of the plow, the attendant then takes hold of connecting-rod *h* and swings that around, and hooks it into the mold-board, as represented by dotted lines of the same figure, which operation swings around the part *q* of cam F from right to left, with the end bearing against the inner surface *r* of piece E, formed by opening *d*, and, being formed as before explained, carries the rear end H of the beam (pivoted

at *a*, as before explained) around, as shown by dotted lines in Fig. 1, a sufficient distance to throw the forward end I of the beam around past the center, enough to allow the horse (this being a single-horse plow) to travel in the previously-made furrow and still have the point of the plow stand landward the desired distance to cut the requisite furrow.

Thus it will be seen, from the foregoing description, that by my present invention a one-horse swivel or side-hill plow is produced, whereby the farmer, with a single horse, can plow not only his hill-lands, but also his meadow-lands, without leaving dead-furrows, and that, too, without requiring any skill scarcely in the adjustment of the mold-board and beam of the plow, since the construction is such that the very act of the attendant in locking the mold-board, by means of the connecting-rod *h*, insures the proper resetting of the plow-beam to correspond with the readjustment of the mold-board upon the other side of said beam.

In making the parts *q*, *n*, and *n'*, I prefer to make the projecting stem part *n'* of wrought metal, and to that end insert a short piece in the mold, so as to cast the metal parts *n* and *q* around it.

By casting the supporting part G with the rear standard G' of the plow, great strength with lightness of parts is obtained.

Although I prefer the cam device D for adjusting the rear end of the plow-beam, in view of its simplicity of construction and ease of operation, still other devices may be used without departing from the principle of my invention.

The mold-board B, it will be understood, is swiveled to the base of the plow-standards in the usual manner, while the mold-board itself is made according to the invention of Samuel A. Knox, for which he is about to make application for Letters Patent, and therefore I disclaim such invention.

Having described my improvements in swivel or side-hill plows for facilitating their use with a single horse, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with the rear end of the plow-beam, of cam F, recess or opening *d*, and the slotted and socketed metal piece E, substantially as and for the purposes set forth.

2. The combination, with the plow-beam swiveled to the front standard at *a*, and the swiveled mold-board B, of the cam-adjusting device D, and combined mold-board-locking and cam-reversing connection-rod *h*, substantially as and for the purposes set forth.

FRANCIS E. SESSIONS.

Witnesses:
EDWIN E. MOORE,
ALBERT A. BARKER.