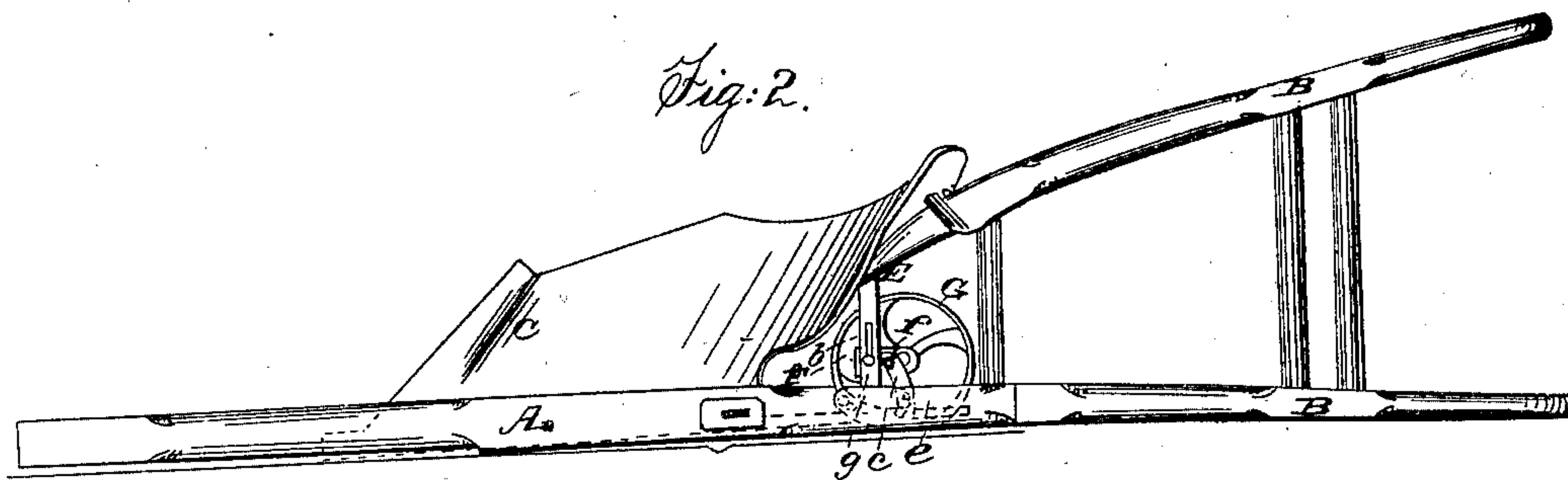
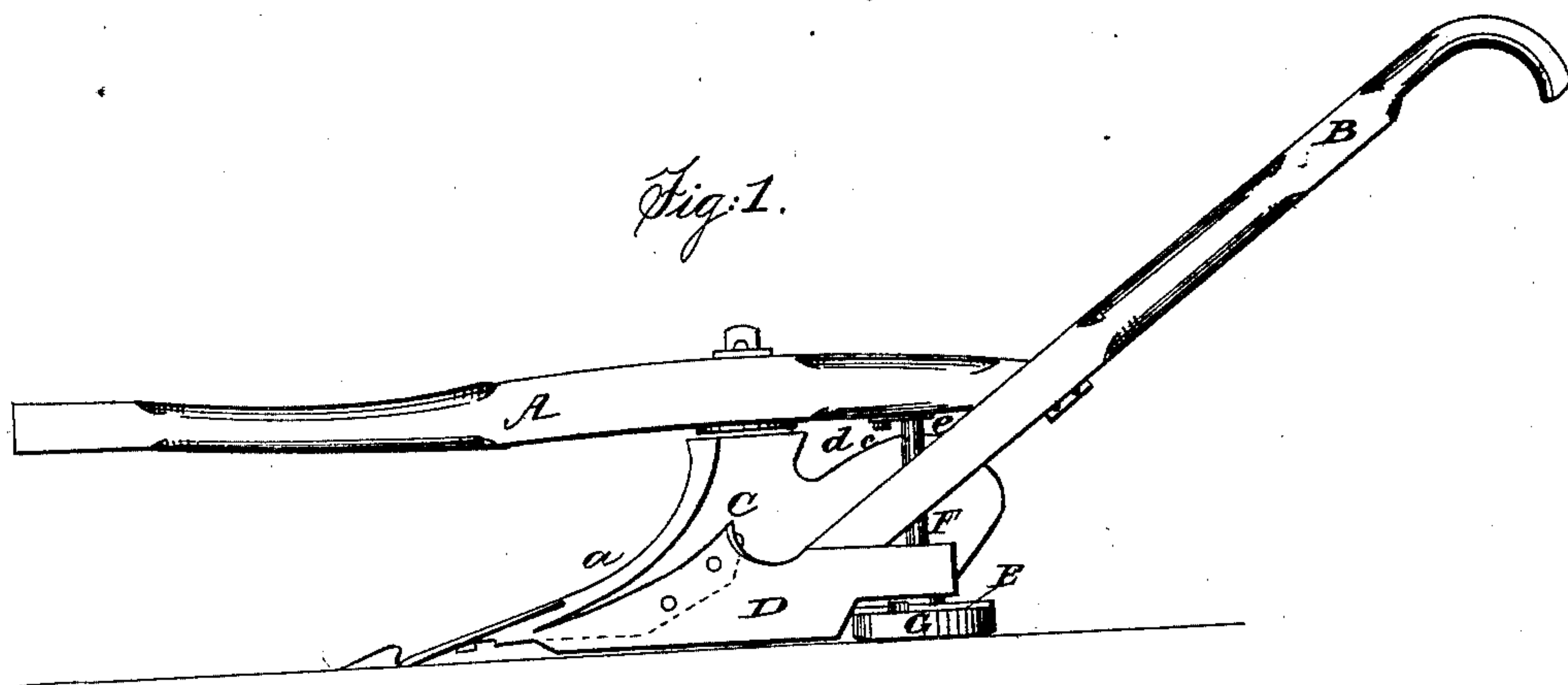


S. WILLIAMS, Jr.

Plow.

No. 23,211.

Patented Mar. 8, 1859.



Witnesses:

Dr. Insch
at right

Inventor:

S. Williams Jr.

UNITED STATES PATENT OFFICE.

SOLOMON WILLIAMS, JR., OF HUME, NEW YORK.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **23,211**, dated March 8, 1859.

To all whom it may concern:

Be it known that I, SOLOMON WILLIAMS, JR., of Hume, in the county of Allegany and State of New York, have invented a new and useful Improvement in Plows; and I do hereby declare 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 elevation of my invention. Fig. 2 is a plan or top view of the same.

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

The object of this invention is to render, by a very simple means, the draft of the plow as light as may be by diminishing the friction attending the passage of the landside and mold-board through the soil, and also by the same means regulating the plow, so that it will form furrows of greater or less width, as may be required.

The invention consists in a novel arrangement of an adjustable wheel with the landside of the plow, as hereinafter described, whereby the desired result is attained.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the beam of a plow. B B are the handles, C the mold-board, and D the landside. The beam, handles, and mold-board are of the usual construction, and so, also, is the forward part of the landside D; but instead of the latter being secured to the plow, so as to be flush with the edge of the mold-board at *a*, the landside is secured to the mold-board a short distance within it or from the edge *a*, as shown clearly in Fig. 1.

To the back part of the landside D and mold-board C a traverse-bar, E, is attached, said bar having a longitudinal slot, *b*, made in it, and to the under side of the beam A a bent arm, *c*, is attached by a pivot, *d*, said arm being slotted and having a screw, *e*, passing through it into the beam to secure the arm at different points, as may be desired. (See dotted lines, Fig. 2.) The outer end of the arm *c* forms a bearing for the upper end of a shaft, F, and the lower end of the shaft has its bearing in a block, *f*, which is secured to the bar E by a screw, *g*, said screw passing through the slot *b* and allowing the block *f* to be adjusted laterally on bar E. On the lower part

of the shaft F a wheel, G, is placed. The shaft F is somewhat inclined, so that the wheel G will not be in a horizontal plane, but have its left side somewhat lower than the opposite side, so that the left side of the wheel will bear on the ground, as shown clearly in Fig. 1. The wheel G is also adjusted laterally by moving the shaft F, so that the left side of the wheel will project beyond the outer side of the landside, the shaft being secured in the desired position by adjusting the screws *e g*.

The operation is as follows: As the implement is drawn along, the front part of the sole—that is to say, the underside of the share—runs on the ground at the bottom of the furrow, and the edge *a* of the mold-board C bears against the land side of the furrow in connection with the left side of the wheel G. The landside D, therefore, does not touch the land side of the furrow and the wheel G prevents a great deal of friction. This wheel G also, in consequence of its left side resting or bearing on the ground at the bottom of the furrow, prevents the sole of the landside bearing on the bottom of the furrow, and the wheel G is therefore allowed to rotate and diminish friction in two ways: first, by taking the bearing of the landside D off from the land side of the furrow, and second, by taking the bearing of the sole of the landside off from the bottom of the furrow.

The shaft F, as before stated, being adjustable, in consequence of the block *f* being connected with the bar E, as described, and the upper end of the shaft being fitted in the arm *c*, the wheel G may be adjusted laterally, so as to project more or less beyond the outer side of the landside, and thereby gage the width of the furrow as desired. For instance, if a wide furrow is desired, the wheel G is moved and adjusted to the right, in order to let the plow run more to land, and moved and adjusted in the reverse direction when a narrow furrow is desired. It will be seen, therefore, that the wheel G will effect the desired result. The invention is extremely simple and its adoption will not materially increase the expense of the implement to which it is applied.

I am aware that friction-wheels have been previously applied to plows and arranged in various ways. Some have been applied to relieve the friction attending the bearing of the landside against the side of the furrow. Oth-

ers, again, have been so applied as to obviate the friction attending the bearing of the sole of the plow on the bottom of the furrow; but, so far as I am aware, no plow has been provided with a single friction roller or wheel arranged substantially as herein shown and described, for the purpose of obviating the friction produced by the landside and sole of the plow as they pass through the ground. I do not claim therefore, broadly, the application of friction rollers or wheels to plows; but,

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

The arrangement of the adjustable wheel G with the landside D of the plow, substantially as herein shown and described, for the purposes set forth.

S. WILLIAMS, JR.

Witnesses:

W. TUSCH,

A. R. HAIGHT.