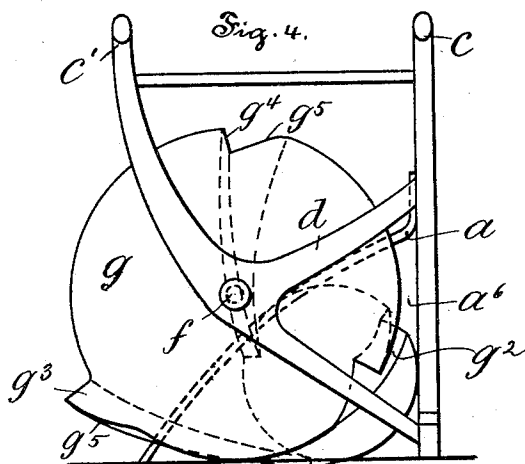
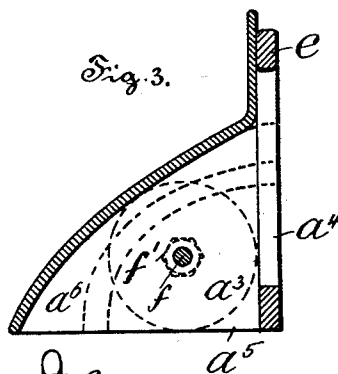
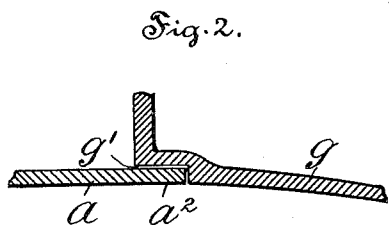
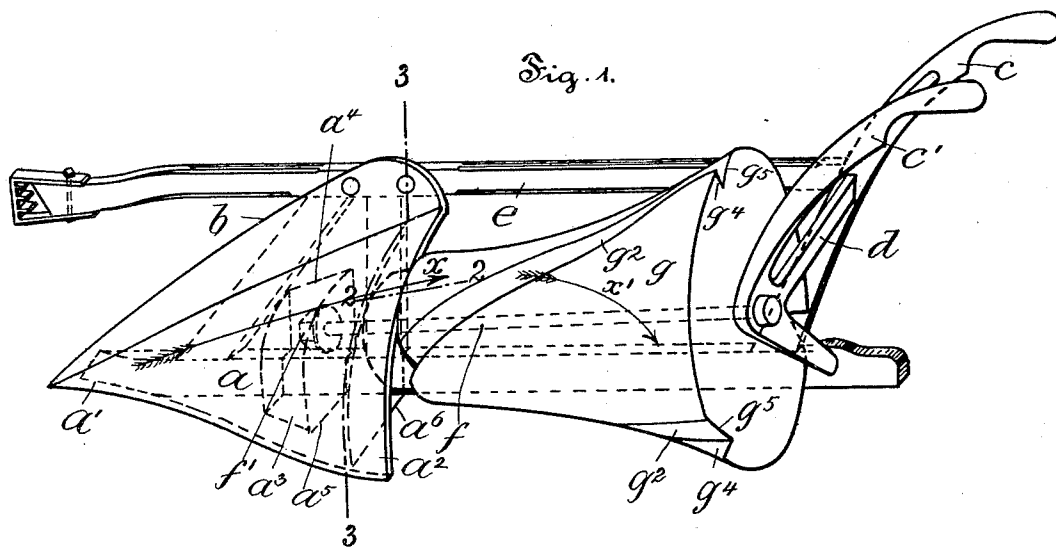


(No Model.)

N. C. SAMPLE. PLOW.

No. 477,230.

Patented June 21, 1892.



Witnesses:
Hermann Bormann
Thomas M. Smith.

Inventor:
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att'y.

UNITED STATES PATENT OFFICE.

NEWTON C. SAMPLE, OF PHILADELPHIA, PENNSYLVANIA.

PLOW.

SPECIFICATION forming part of Letters Patent No. 477,230, dated June 21, 1892.

Application filed March 18, 1892. Serial No. 425,434. (No model.)

To all whom it may concern:

Be it known that I, NEWTON C. SAMPLE, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Plows, of which the following is a specification.

My present invention relates in general to plows, and more particularly to the construction, arrangement, and mode of operation of the mold-boards thereof.

The principal object of my invention is to increase the efficiency and reduce the draft of the plow; and to this end my invention consists in the improvements hereinafter described and claimed.

The nature and object of the invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a perspective view of a plow embodying features of my invention. Fig. 2 is a section on the line 2 2 of Fig. 1, illustrating the continuous surface of a two-part mold-board, over which the furrow-slice is delivered and deposited to one side of the plow. Fig. 3 is a section on the line 3 3 of Fig. 1, illustrating appliances for supporting the front end of the axis of the rotatable portion of the two-part mold-board; and Fig. 4 is an end view of Fig. 1, showing devices for supporting the rear extremity of the axis of the rotatable portion of the two-part mold-board, and also showing the configuration or shape of the spirals formed in or on the same.

In the drawings, *a* is a mold-board connected with the front portion of the framework *b*, constituting the landside of the plow, and provided at the front thereof with a plowshare *a'*, and at the rear thereof with an overhanging lip *a²*, for purposes to be hereinafter described. The interior of the body portion of the mold-board *a* is provided with a chamber *a³*, to which access may be had through openings *a⁴* and *a⁵*, located, respectively, at the landside and sole of the plow, for a purpose to be presently explained. One of the handles *c* is carried by the framework *b*, constituting the landside of the plow, and the other handle *c'* is carried by a two-arm

bracket *d*, whereof one arm is connected with the sole of the landside and the other with the draft-beam *e*.

f is an axis or spindle disposed at an angle of about twenty degrees with respect to the landside. The rear extremity of this axis *f* is carried by the bracket *d*, and the front extremity of this axis penetrates the rear wall *a⁶* of the mold-board *a* and is secured to place by a nut *f'*, located in the chamber *a³*, so that the openings *a⁴* and *a⁵* afford access to this nut or collar *f'*, and also serve to reduce the weight of the plow.

g is a hollow conical body or furrow-slice deliverer rotatably mounted on the axis *f* and provided at its front extremity with an annular recess or beveled end *g'*, adapted to fit under the lip *a²* of the mold-board *a*, Fig. 2, so that the operative surfaces of the mold-board *a* and body *g* are in alignment and form in effect a continuous two-part mold-board, of which the rear section is rotatable and serves to deliver the furrow-slice to one side of the furrow. The surface of the conical body or deliverer *g* is provided with convex or concave spirals, (designated, respectively, *g²* and *g³* in Fig. 4.) These spirals extend the entire length of the body *g* and may have a pitch of about one-third of the circumference of the same. The wall *g⁴* of these spirals that engages the furrow-slice is radial and the other wall *g⁵* is inclined, as is clearly illustrated in Fig. 4, for a purpose to be presently explained.

The mode of operation of the hereinabove-described plow is as follows: The plowshare *a'* serves to cut the furrow-slice, which slides upward and rearward on the mold-board *a* in the direction indicated by the arrow *x* in Fig. 1, and then travels onto the rotatable deliverer *g*, above and to one side of the axis thereof, so that the furrow-slice is by the rotation of the deliverer *g* thrown out of the furrow in the direction indicated by the arrow *x'* in Fig. 1, and more or less broken up. The travel of the furrow-slice from the fixed part *a* to the rotatable part *g* of the two-part mold-board *a* is greatly facilitated by the practical continuity of the operating-surfaces of these members, which is due to the employment of the lip *a²* and annular recess *g'*. The spirals *g²* are engaged by the furrow-slice, and thus insure the rotation of the deliverer *g*. More-

is, with the upper surface thereof moving
5 away from the landside of the plow. The rotation of the deliverer *g* not only effects the delivery of the furrow-slice, but also reduces the friction of the plow as a whole, thereby materially diminishing the draft thereof.

10 The hereinabove - described construction possesses many obvious advantageous features that have not been specifically pointed out. For example, the front end of the axis *f* may be readily connected with fixed mold-
15 boards of the type usually employed, with the addition of only slight and comparatively inexpensive changes or modifications in the pattern from which such mold-boards are cast, and the employment of an axis *f* permits the
20 body *g* to be made hollow, whereby the weight of the plow is greatly reduced.

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

25 1. The combination, in a plow, of a conical furrow-slice deliverer rotatably mounted upon a substantially horizontal axis and a fixed mold-board having its rear convex surface
30 conforming to the curvature of the front end of the conical furrow-slice deliverer, whereby

poses set forth.

2. The combination, in a plow, of a rotatable 35 furrow-slice deliverer provided at its front end with an annular recess and a convex mold-board carried by the landside of the plow and provided with a lip fitting said recess and conforming to the curvature of the surface of the 40 front end of the furrow-slice deliverer, substantially as and for the purposes set forth.

3. The combination, in a plow, of a fixed mold-board provided with a convex rear surface and an internal chamber, a bracket connected with the landside, an axis mounted in 45 said bracket and attached to said mold-board by a nut in said chamber, and a rotatable furrow-slice deliverer mounted on said axis and having its operative surface curved in conformity with the rear convex surface of the 50 mold-board, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my signature in the presence of two subscribing 55 witnesses.

NEWTON C. SAMPLE.

Witnesses:
THOMAS M. SMITH,
RICHARD C. MAXWELL.