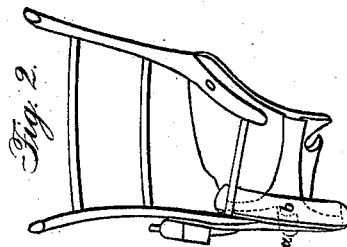
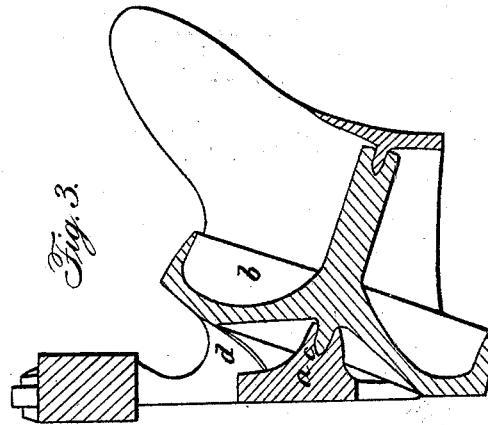
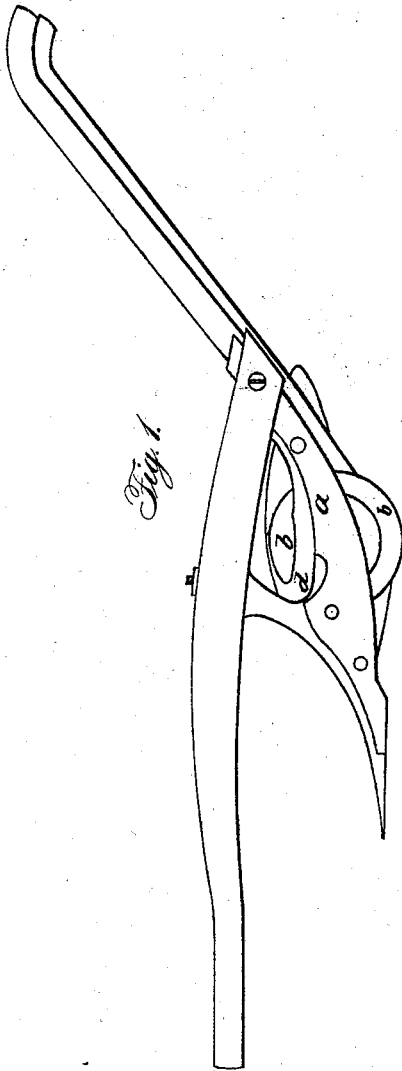


T. D. BURRALL.

Plow.

No. 3,320.

Patented Oct. 28. 1843.



UNITED STATES PATENT OFFICE.

THOMAS D. BURRALL, OF GENEVA, NEW YORK.

IMPROVEMENT IN WHEEL-PLOWS.

Specification forming part of Letters Patent No. **3,320**, dated October 23, 1843; anti-dated August 25, 1843.

To all whom it may concern:

Be it known that I, THOMAS D. BURRALL, of Geneva, in the county of Ontario and State of New York, have invented a new and useful Improvement in the Wheel-Plow; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a view of the landside; Fig. 2, the plow from behind; Fig. 3, section through the wheel.

The nature of my invention consists in removing the sole of the landside and placing an inclined wheel (which is hereinafter described and denominated a "shell wheel") between the landside and mold-board, with its face in a line with the cut of the colter. The landside *a* curves up from the point of the share and backward to the junction of the handle and beam. The beam is halved onto the landside on the outside, and the handle is affixed to the inside of it, the whole being secured by a screw-bolt passing through them. This forms a secure joint without tenon or mortise, and without materially weakening the beam or handle.

The shell-wheel *b*, formed of cast-iron, or other suitable material, is situated between the landside *a* and mold-board, the axis standing at an angle of about fifteen to twenty degrees, the end next the landside being the highest. The tread or periphery of the wheel is conical and broad, and it should be somewhat convex in its cross-section. The face of the wheel, from the periphery inward, about four inches, more or less, is beveled, so that when the wheel is in its inclined position the lower side will be perpendicular (this is shown in Fig. 3) from this beveled face to the axle. The wheel is hollowed out enough to allow a gudgeon to project without coming beyond the face of the wheel. This gudgeon turns in a box, *c*, thimble-shaped, which is connected

with the landside *a*. In the opposite end of the shaft a hole is cast that receives and turns on a pin projecting from the mold-board. This mode of hanging the wheel protects the journals from dirt, and thus renders them more durable. The wheel is placed so far back in the plow, and at such a height, that its lower surface falls in place of the heel of the landside, and throws the weight of the plow and pressure of the furrow onto it in such a manner as to let the plow run fair and even when in motion.

The space between the mold-board, landside, and the tread and face of the wheel in front is filled with a scraper, *d*, which is attached to the landside by bolts or otherwise, and has such an inclination as to throw the dirt scraped from the wheel off on that side. This serves as a guard to keep stones, sods, &c., from lodging between the wheel and plow, and also as a scraper to clear the wheel.

To insure greater durability, the bearings of the wheel and sockets may, if necessary, be cast upon iron chills.

Another modification of my scraper is to carry it entirely over the upper side of the wheel, incasing that part of it above the landside, and scraping the dirt off behind.

Having thus fully described my improvement and the operation thereof, what I claim as my invention, and for which I desire Letters Patent, is—

1. The shell-wheel, constructed substantially as herein described, combined with the plow, in the manner and for the purpose above set forth.

2. The guard or scraper, in combination with the shell-wheel, as described.

3. The mode of connecting the beam, landside, and handle above described in wheel-plows and other plows.

THOMAS D. BURRALL.

Witnesses:

HENRY HUDSON,
H. P. ROSE.