TAVENNER & NESMITH.

Plow.

No. 12,838. Patented May 8, 1855.

Fig. 1.

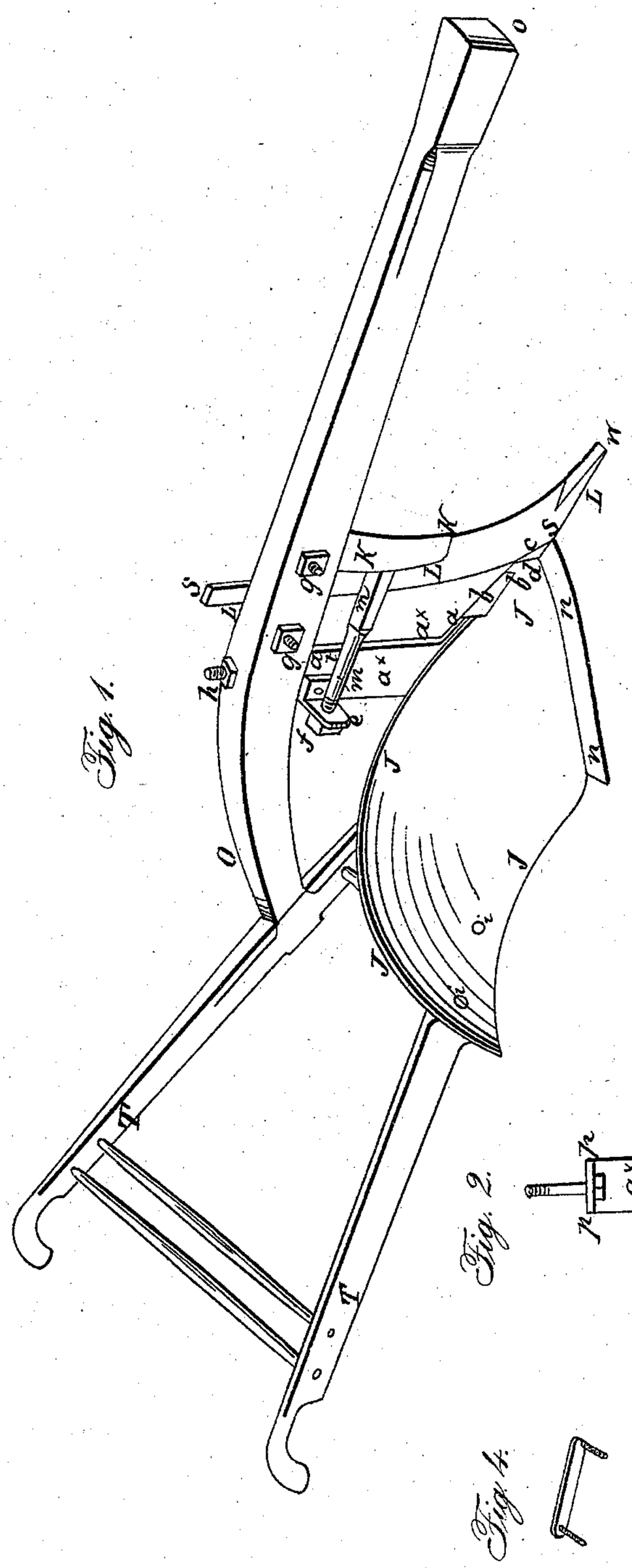

Fig. 2.

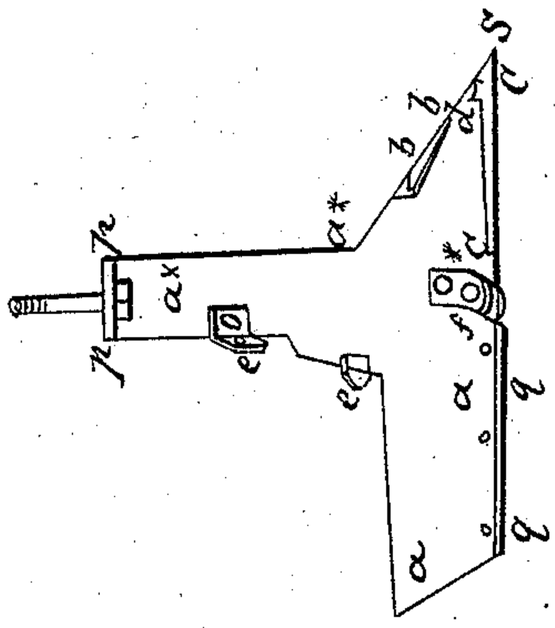

Fig. 3.

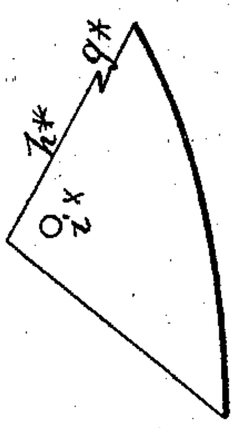

Fig. 4.

UNITED STATES PATENT OFFICE.

E. C. TAVENNER AND O. NESMITH, OF HAMILTON, VIRGINIA.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **12,838**, dated May 8, 1855.

To all whom it may concern:

Be it known that we, E. C. TAVENNER and OSCAR NESMITH, of Hamilton, in the county of Loudoun and State of Virginia, have invented and made certain new and useful Improvements in the Construction of Plows; and we do hereby declare that the following is a full, clear, and exact description of the method of construction and mode of operating the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the plow complete: *a a a a*, the compound or solid landside-plate; *b b*, the lip-piece or holdfast; *c*, end of grooved rest-place; *d*, the front of grooved rest-place; *e*, the screw-rest; *f*, the tap or nut to brace or stay rod; *g g*, nuts and screw-bolts by which the colter or cutter is confined to plow or draft beam; *h*, nut and screw-bolt confining the upper end of standard to the beam of the plow; *i i*, rivets or bolt-fastenings to the mold J J J; *k k*, the fend-off or colter-cleaner; L L L, the colter or cutter; *m m*, the tightening or brace bar; *n n*, the share.

Fig. 2 shows the landside-plate detached from the plow; *a* a**, the standard; *a a*, the landside; *b b*, the lip-piece; *c c*, the grooved rest-piece; *d*, the catch-place; *e e f**, screw-rests; *s*, the toe-point; *q q*, heel-plate.

Fig. 3 is the share, showing the clip *g**; *h**, the land edge; *i†*, bolt or screw hole.

Fig. 4 shows yoke-staple.

To enable others to be skilled in the use and application of our improved plow, we will herewith describe the mode or manner of constructing the same, which is as follows:

We use a plow draft-beam, O O, with helves T T, Fig. 1, and distribute the weight of the plow so as to make a balance-plow, and this is accomplished by attaching the landside and standard *a* a** and the colter L L to the draft-beam O O at such points thereof as to divide the weight of the mold-board J J and the landside and standard *a a a a a* a* a**, Fig. 2, the center line of weight being at the standard *a* a**, which should be midway between the ends of the beam O O and end of helves T T, by which arrangement, together with using a shorter beam than is ordinarily used, any undue leverage, draft, or strain forward from the point W is diminished, and whereby also is prevented the irregular tilting or dipping forward while in draft, as well as affording uniformity in the depth of plowing.

The new features of invention presented in our improvements consist, first, in constructing a solid or compound landside and standard *a a a a a* a**, Fig. 2, showing one piece of metal, cast or formed in any suitable manner, and having constructed therewith a lip or bent piece, *b b*, and a grooved rest-place, *c c*, with a holdfast-place, *d*, and bolt-rests *e f**, and a flanged attachment-plate, P P, and toe point or rest *s*, Fig. 2. Now, the advantage of this compound landside and standard *a a a a* a* a**, Fig. 2, over other devices for a similar purpose is that by not having the mold-board J J J cast or formed in one piece with the standard *a* a** the mold-board, when worn out, can be replaced by a new one, attached, as described, to the original standard and landside combined. Then, again, the advantage of having the standard *a* a* a** cast on the landside part *a a a a o o*, Fig. 2, is that a projection or lip or flange, *b b*, is formed or cast therewith, this lip-piece *b b* answering as one of the attachment devices by which the mold-board J J J and the landside *a a a a* are connected and made attachable or detachable at pleasure—a very important desideratum, found essential by practical plowmen.

Another feature of our improvements is the construction of a share or wing similar to the ordinary plowshare in general form, but has a piece clipped out on its landside edge *h**, as at *g**, and as shown in Fig. 3. This share or wing is combined in use with the compound-standard landside, Fig. 2, and the clipped piece *g**, Fig. 3, conforms to the recess shape at *d*, Fig. 2; and *c c* of same figure is the toe part or rest for the share, Fig. 3, and *n n*, Fig. 1.

The advantage of our form of wing or share is that the clip or barb-like formation *g** answers as a device for connection to landside *a a a a*, which connection is readily done without requiring bolts or rivets to confine the wing in its place. Thus simplicity of construction and facility of attachment or detachment are produced, together with less expense in construction, and greater strength is attained by the wing or share being confined by aid of

the catch-plate *d* and the being stayed by contact with the grooved rest-place or toe-plate *c c*, Fig. 2.

Another feature of our improvements is the construction, use, and application, in combination with the landside *a a a*, standard *a* a**, and colter L L L, of a fend-off or cleaner, K K, formed of a folded piece or a solid grooved piece of metal, conforming to the shape and lapping around or resting on each side of the front part or edge of the colter; and connected with this fend-off or cleaner is a stay-rod or tightening-bar, *m m*, connecting by rests *c c* and taps *f* with the standard part *a* a* a** of the landside, Fig. 1.

It will be observed that the shank part L S of the colter L L L, Fig. 1, does not pass through a mortise formed in the draft-beam O, but instead thereof is attached to the landside of the beam and confined to its place by a yoke-staple, Fig. 4, the screw ends of which pass transversely through the draft-beam, and are confined or held in place by nuts or screw-taps *g g*, Fig. 1. This arrangement of the colter admits of graduating it either forward or backward to suit the depth of plowing. This adjustability or graduating of the colter is admitted of through the loosening of the screw-taps *g g*, Fig. 1, and the retightening thereof, which last operation draws the yoke-staple up so that it clamps or holds the shank part L S up against the landside of the plow-beam.

Having established the utility of our improvements the past year by actual test, we deem it unnecessary to dwell in detail description of the minor parts of our improvements, and will simply state that the construction of our plow involves less expense, affords greater strength in all its parts, operates with less strain or resistance in the draft, turns the soil and sod with more uniformity than any other implement of the kind. It forms a regular furrow, and from the manner of attaching the share *n n* to the mold-board J J J and landside *a a*, Figs. 1, 2, 3, there is no danger of roots, stumps, rock, stones, or other natural obstructions forcing off or loosening the share from its position. Again, too, the colter or cutter does not clog or choke, the fend-off K K effectually preventing the clogging because of its oval form or convex surface, and thereby the soil is prevented from hugging or sticking fast, which would be the case if the surface of the fend-off was concave.

Another advantage of our improvements is that our mold-board is distinct from the landside and standard, and thus in case of wearing out of the mold-board a new one can readily be attached to the plow, which could not be done where the mold-board and standard are cast together solid. Again, much time is saved and expense obviated in the mechanical arrangement, because we dispense with a separated standard and landside, which are generally used.

In the use of our compound solid-standard landside the wearing away of its surface is obviated by attaching an ordinary heel-plate, *q q*, to the landside, as shown in Fig. 2. In the use of our improved plow we have ascertained that as much and better plowing can be done by the aid of two horses as has heretofore been done by three with the use of other plows.

We do not claim the lip-piece *b b*, toe-piece *s*, or grooved rest-piece *c;* but

Having given as full and clear a description as is essential to a mechanical and practical knowledge of the construction, use, and operation of our plow, we will here set forth that what we claim as new and useful and of our own invention, and as entitled to the protection of Letters Patent of the United States, is as follows, viz:

The landside-plate *a a a a*, in combination with the fend-off or cleaner K K, constructed and arranged substantially in the manner and for the purpose set forth.

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OSCAR NESMITH. [L. S.]

Witnesses:
H. N. TAVENNER,
ADDISON GREAR.