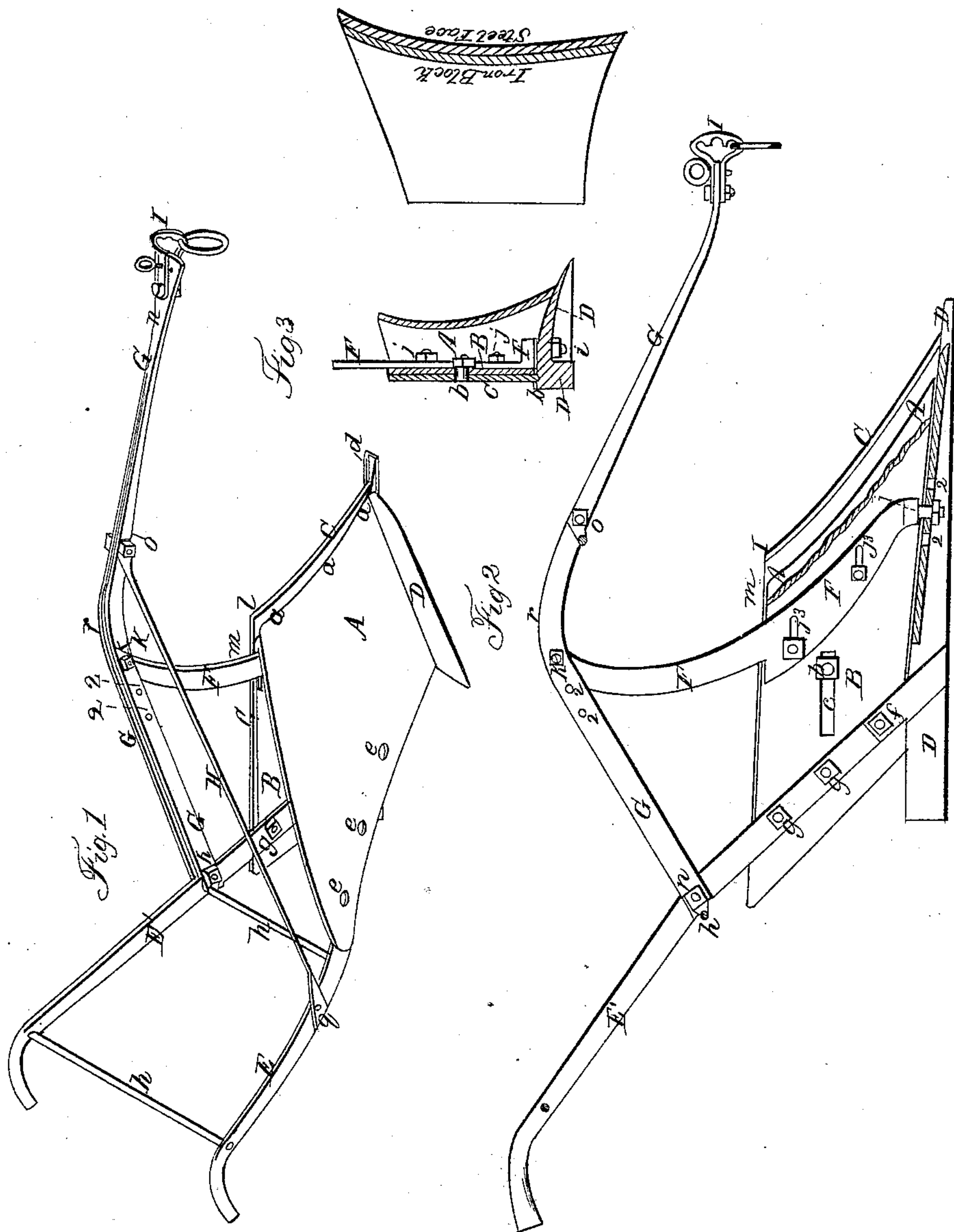


W. MORRISON.

Plow.

No. 34,262.

Patented Jan. 28. 1862.



Witnesses,
John Mathey
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UNITED STATES PATENT OFFICE.

WILLIAM MORRISSON, OF CHADD'S FORD, PENNSYLVANIA.

IMPROVEMENT IN COMBINED IRON AND STEEL PLOWS.

Specification forming part of Letters Patent No. **34,262**, dated January 28, 1862.

To all whom it may concern:

Be it known I, WILLIAM MORRISSON, of Chadd's Ford, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Combined Iron and Steel Plows; and I do hereby declare the following to be a full, clear, and exact description of the construction thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a perspective view of the plow. Fig. 2 represents an elevation of the interior of the landside of the plow, the mold-board being cut away to show the parts concealed by it. Fig. 3 represents a vertical transverse section through the mold-board, landside, and sole of the plow.

Similar letters of reference, where they occur in the separate figures, denote like parts of the plow in all the drawings.

To make a mold-board of steel, highly enough tempered to resist cutting by sharp sand or gravel, and not too highly tempered to break by the blows and strains it is subject to, has heretofore been a matter deemed by plow-makers impossible. I have, however, discovered that by welding plate iron and steel together, so that the face of the mold-board shall be of steel and the back of it of iron, a plow can be made that will resist the cutting by gritty matter, while the iron will protect the highly-tempered steel from being broken. This making of a mold-board with a steel face and an iron back constitutes one of the main features of my invention, not meaning, of course, to lay any claim to the welding of steel and iron, but to claim only a mold-board for a plow the face of which is of highly-tempered steel and the back of which is of iron, so as to get the two necessary properties of hardness and strength in one piece; and my invention further consists in an adjustable steel cutter bolted to the landside and supported in the bar-share, and which can be moved forward as it wears away, thus avoiding the necessity of a colter, which catches the clay, weeds, &c., and tends so much to clog the plow.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A represents the mold-board of the plow. It is made of steel and iron combined, the face being of steel and the back of iron, the two

being welded together by rolls or by hammering, and the steel tempered afterward in the usual way.

The landside B is made of iron and welded to the mold-board A at the point *a*. Outside of the landside and next the land there is a steel cutter, C, fastened to the landside by a screw-bolt, *b*, passing through a slot, *c*, in the landside, so that the cutter, as it wears away, may be set forward. The bottom of the cutter rests in a groove, *d*, in the bar-share D, which may be of steel or steel and iron combined.

The handles E E', for the sake of lightness with strength, are made of steel, the former, E, being bolted at *e* to the rear of the mold-board A, and the other, E', being bolted or otherwise fastened to the bar-share D at *f* and to the landside B at *g g*. The two handles are braced together by the rungs *h h*.

The standard F is bolted to the bar-share D at *i* and to the landside B at *j j*, and is further bolted to the beam D at *k*, so as to firmly unite all the parts together. The upper part of the standard stands back of the edge *l* of the cutter, so as to leave an unobstructed space, *m*, at the top of the cutter for the earth and other material to pass over, and thus prevent clogging at this point. By using the cutter C a colter is dispensed with, and dispensing with a colter avoids the clogging that is always incident to its use. The standard may be still farther set back than is represented in the drawings, and this may be done permanently or by holes 2 2, &c., in the bar-share and beam and slots 3 3 where the bolts at *j j* pass through, as the maker or user may prefer.

The beam G, for the sake of lightness and strength, may be made of steel bars, united at the point *n* by welding, but separate in the rear of that point, so that the standard F and handle E' may pass between them and be bolted through and through, as at *o*, *k*, and *p*, the top of the standard being so bent and extended forward as to receive both of the bolts *o k*.

A brace-rod, H, extends from the beam, at or near the point *o*, to the handle E at the point *q*, so as to strengthen the beam and handle.

The beam G is arched up at the point *r*, for the purpose of leaving free unobstructed space underneath it for the passage of earth, grass, &c., which is apt to lodge there and choke the plow. The point of the beam descends from

its highest point or part to bring the draft-point in proper position. A clevis, I, is made and attached to the point of the beam in the usual well-known way.

By this construction I am able to make a light, strong, and very efficient plow, and one, too, that will run easily through the soil without clogging, which is very important, as it enables the farmer to do his plowing when the soil is wet as well as when it is dry.

The setting of the standard F so far back prevents it from firmly bracing the forward part of the beam G, but to compensate for this I use the brace H, which in no wise interferes with the open space at *m*.

Having thus fully described my invention, what I claim is—

A mold-board for a plow, composed of a steel face and an iron back, made and united to the plow substantially as described.

2. In combination with a permanent landside and a bar-share, as described, a steel cutter that is united to the outside of said landside, and by a groove to the bar-share, in such manner as to be adjusted thereon as it wears away, as herein set forth and described.

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Witnesses:

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