I. Reynolds.

Plow.

No. 12,398. Patented Feb. 13, 1855.

Fig. 1

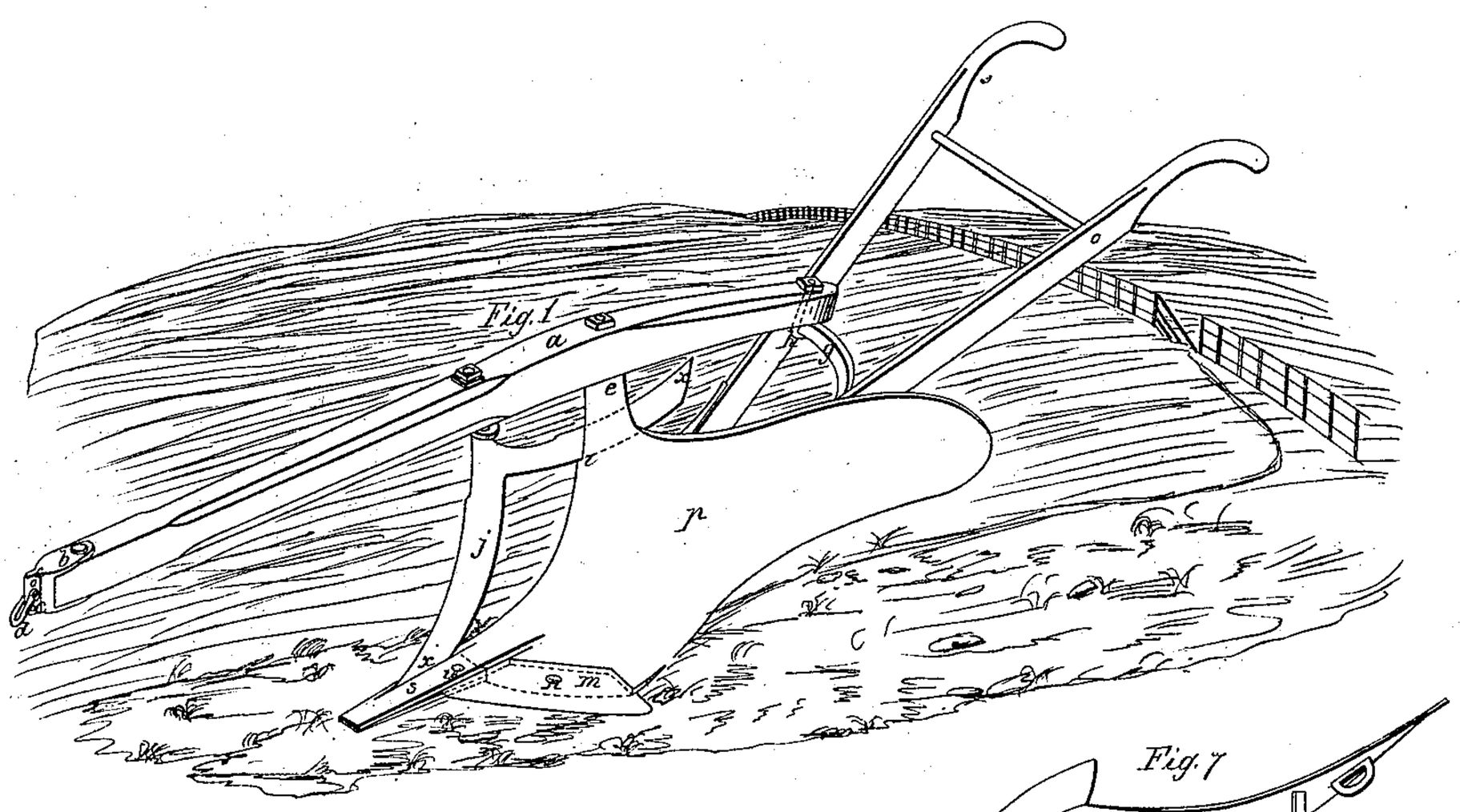


Fig. 7

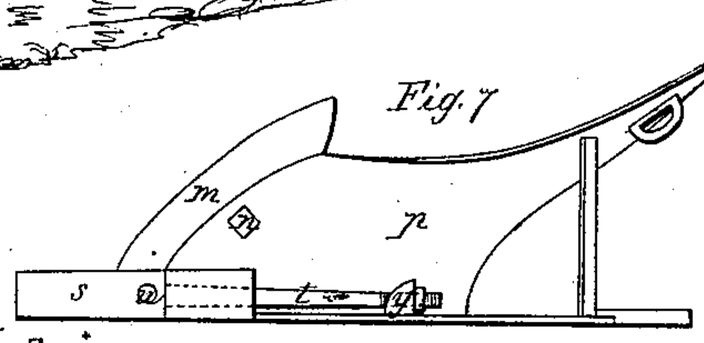


Fig. 5

Fig. 6

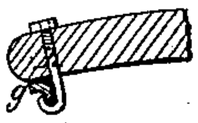


Fig. 2

Fig. 8

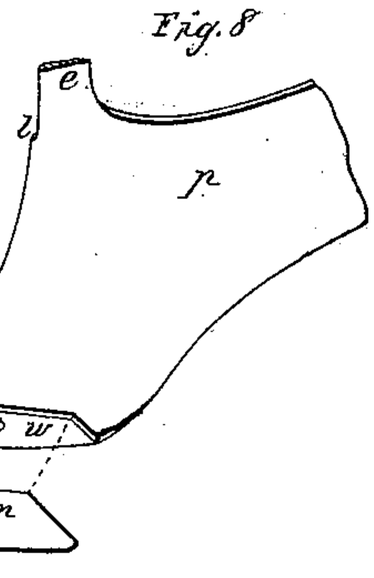


Fig. 3

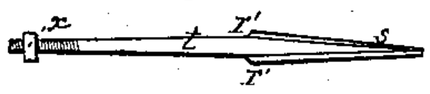
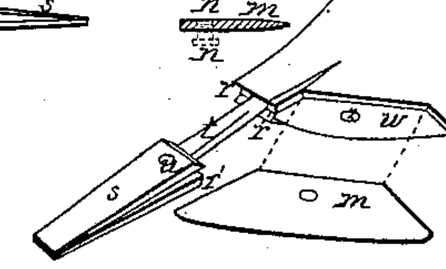


Fig. 4



UNITED STATES PATENT OFFICE.

IRA REYNOLDS, OF REPUBLIC, OHIO.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **12,398**, dated February 13, 1855.

To all whom it may concern:

Be it known that I, IRA REYNOLDS, of Republic, in the county of Seneca and State of Ohio, have invented certain new and useful Improvements in Plows, which are described as follows, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making part of this specification.

Figure 1 is a perspective view of the furrow side of the plow. Fig. 2 is a landside elevation. Fig. 3 is a side elevation of the reversible point. Fig. 4 is a cross-section of the reversible share. Fig. 5 is an end view of the inclined slide. Fig. 6 is a cross-section, representing the peculiar form of the index with a portion of the beam attached. Fig. 7 is a bottom view, showing the fastening of the reversible point. Fig. 8 is a view of the front portion of the mold-board with share and point removed.

The same letters indicate the same parts in all the figures.

The nature of my invention consists, first, in constructing and securing a reversible point in such manner that the strain of the shank shall be distributed through its whole length for the purpose of increasing its strength; secondly, in making a simple, cheap, and efficient reversible steel share, the same being cut from a piece of plate-steel, with its shoulders at right angles with the surface, and securing the same by means of a screw-bolt, the female screw being formed in the steel share and the screw-bolt inserted from the lower side, by which arrangement the nut in common use is dispensed with; and, thirdly, in constructing a peculiar form of reversible self-fastening colter.

a represents the beam of the plow, constructed of any suitable form and material.

b is a clevis, in this instance covering the entire end of the beam, and secured thereto in the ordinary way by a strong bolt.

The rear portion of the beam is secured to a cast-iron index, *g*, by a hooked screw-bolt, *h*, which passes through the beam and clasps the front and lower portion of the index, as seen in Figs. 1, 2, and 6.

The index *g* is made of cast-iron, and so constructed that its front and upper surfaces form an angle of about ninety degrees. The two sides are made thin and curved on the inside, so as to form a concave surface on the lower side, as seen in Fig. 6. The front portion of this index is made to describe a segment of a circle, the bolt *f* forming the fulcrum, so that in shifting the beam the hook-bolt may describe the same circle and bear against the front and lower portion of the index, which is rounded in such manner that the hook, when drawn up against it, as seen in Fig. 6, binds firmly on both sides of its lower edge and secures the beam in its several positions. The index may be secured to the handles of the plow in any convenient manner.

The reversible colter is made of rolled steel of suitable size. The steel being cut the right length, with suitable angles at each end, is then cut nearly off in its center on the side intended for the cutting-edge, when its two ends are bent inwardly, forming nearly a right angle, as seen in Figs. 1 and 2. The blades of the colter being then curved in the usual manner, the ends *x x* are beveled to correspond with the upper surface of the point *s*, as seen in Fig. 1.

In order to form that portion of the colter which bears against the inclined slide *k*, a piece of iron is welded thereto, extending the curves of the two blades nearly to a point. It is then fitted to the inclined slide *k*, beveled notch *l*, and groove in the point, and when forced back by the operation against the earth or otherwise secures itself firmly in place on the three several bearings.

The inclined slide *k* is made of cast-iron. That portion against which the colter bears being made thick, with an inclined groove, as seen in dotted line, Fig. 2, forces the colter down into the groove on the point, when it is driven back. The balance of this slide is made flat, with a slot in its center, through which a bolt, *o*, passes, securing it to the beam in such manner that it may be so adjusted as to always keep the colter in a direct line with the landside.

The reversible share *m* is made from a plate of rolled steel of any desired thickness. The steel is cut the proper angle, and about one-fourth of its width drawn down to form the cutting-edge. The balance or rear portion, being left straight and flat, forms the nut for the screw-tap *n*, and is so arranged that when the share is reversed the screw-tap *n* will fit either slide, while the straight flat portions will correspond with the face of the mold-board,

and when inserted therein will appear as seen in Fig. 1.

The mold-board *p* and landside *q* are cast in one piece, with connections, loops, and flanges for the securing of the several parts and bracing the plow.

The front portion, constituting that part on which the reversible point bears, is made strong and solid, with a socket or mortise for the reception of the shank of the point, as seen in Fig. 8. It is also formed with two strong shoulders, *r r*, which are beveled inward and correspond with the two shoulders of the reversible point, which rest thereon. The importance of the correctness of these shoulders is apparent when it is remembered that they direct the course of the point, from the fact that the shoulders of the point are drawn back firmly against them, in order that the dip of the point may always be the same when secured in its place. Therefore, in order that this portion of the plow may always be the same, it is formed over a core or chill corresponding in shape to that of the shoulders and shank of the point. The great difference existing between this part of the plow and all others of a similar kind is that the shoulders on which the reversible point bears are beveled inward and made at right angles with the center of the socket or shank of the point, so as to facilitate and cheapen the manufacturing the point and secure a positive position for the same by drawing it back against the aforesaid beveled shoulders, thus throwing the force and strain against the shoulders, instead of throwing them on the shank of the point, which is the case with all other self-sharpening plows.

The reversible point *s* is made of two plates of steel about two and one-fourth inches wide by one-half of an inch thick. These plates are tapered and made thin at their forward ends, while the rear ends are beveled to form the shoulders *r' r'*. They are then grooved for the reception of the lower ends of the reversible colter, after which they are secured to an iron shank, *t*, by means of a rivet, *u*, which passes through and secures the three several pieces near the shoulders *r' r'*, as seen in Figs. 1 and 8, after which the three pieces are welded at their forward or thin ends and drawn down to form the cutting-edge of the point.

The shank or stem *t* is made of any desired size, and is tapered from the shoulders forward, so as to pass between the two plates of steel about three-fourths of their length. Thus it will be seen that when the three pieces constituting the front portion of the point are secured as above described they form a complete wedge-shaped point, with grooves in either side for the reception of the reversible share, which enters the point and rests upon the lower plate, as shown in Fig. 1. To place this point in position the stem *t* is inserted into the mortise, as shown in Fig. 8, drawing the beveled ends of the point against their seat formed in the front portion of the plow, and firmly secured thereto by means of a nut, *x*, fitted to the rear end of the stem *t*, and bearing against two projections or lugs, *y*, cast upon the inner side of the landside, as shown in Figs. 2 and 7.

Having fully described the nature of my invention and improvement, and being aware that plow-points have been constructed with oblique shoulders, a corner of which was made to bear somewhat like the shoulders in my plow-point, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The laterally-extending shoulders *r' r'*, drawn back against and somewhat between the two shoulders *r r*, in order to hold the point securely in place and prevent the breaking of the shank *t* near the shoulders in the operation of plowing, substantially as set forth.

2. The arrangement of the within-described reversible steel share as secured to the face of the mold-board by means of a screw-bolt inserted from the lower side, the female screw being formed in the steel share, as set forth.

3. The reversible self-fastening colter, constructed, secured, and arranged in manner and for the purposes herein set forth.

In testimony whereof I have hereunto set my name before two subscribing witnesses.

IRA REYNOLDS.

Witnesses:
J. H. PHILLIPS,
S. W. WOOD.