

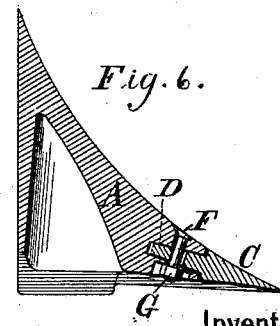
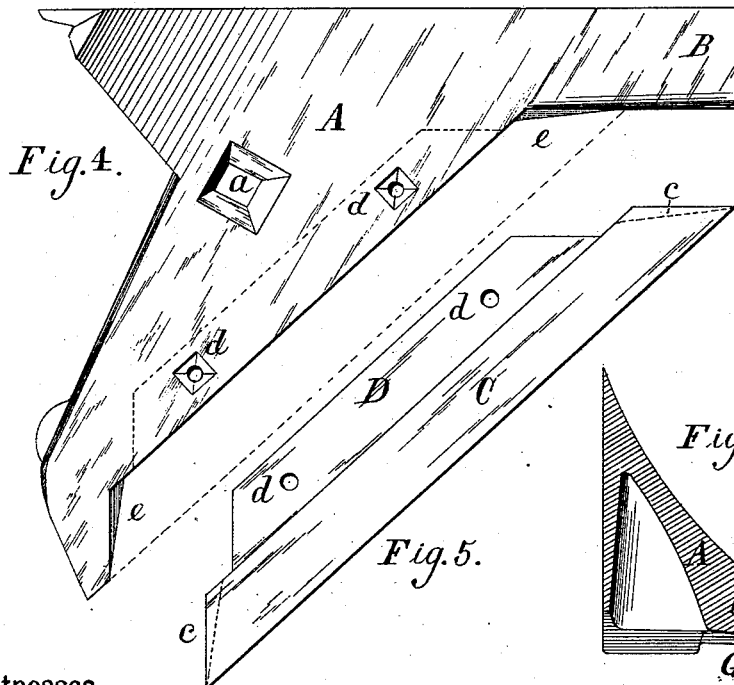
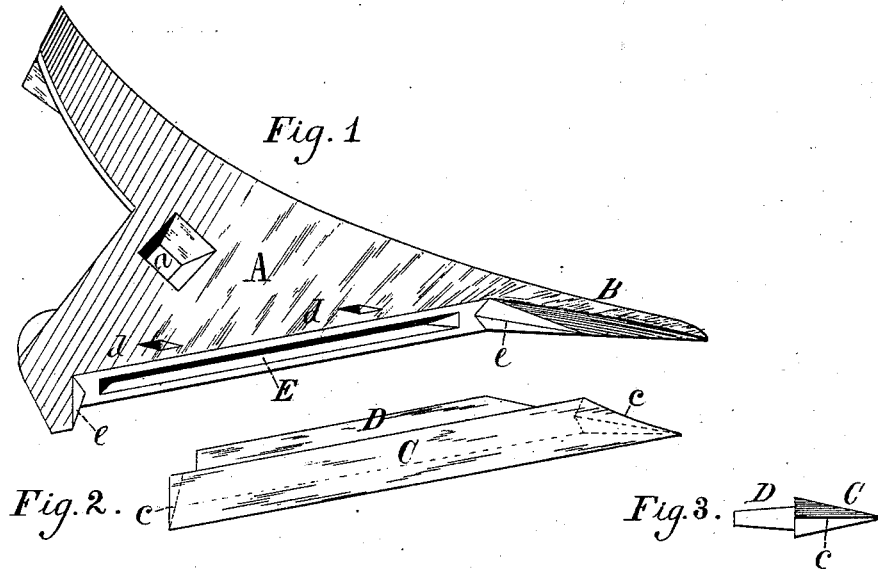
(No Model.)

T. COX.

SELF SHARPENING PLOW.

No. 304,706.

Patented Sept. 9, 1884.



Witnesses
David Welch
Charles D. Dilley

Inventor
Thomas Cox
by *Curtis & Crocker*
Attys

UNITED STATES PATENT OFFICE.

THOMAS COX, OF DOVER, DELAWARE, ASSIGNOR OF ONE-HALF TO JOHN R. NICHOLSON, OF SAME PLACE.

SELF-SHARPENING PLOW.

SPECIFICATION forming part of Letters Patent No. 304,706, dated September 9, 1884.

Application filed February 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, THOMAS COX, a citizen of the United States, residing at Dover, in the county of Kent and State of Delaware, have
5 invented a new and useful Improvement in Reversible Self-Sharpener Cutting-Edges for Plows, of which the following is a specification.

Many different forms of self-sharpening reversible plows have been devised to enable the
10 share and point to be turned over and used again after they have become worn and rounded off on the under side enough to change the inclination of their cutting-edges and cause the plow to rise to the surface, instead of burying
15 itself in the ground, as it should do, which wearing off is a well-known cause of great trouble and expense to farmers; but these plows, as heretofore constructed, have been too expensive and complicated, liable to break, the
20 parts liable to break first are the most costly, and their reversible shares or cutting-edges require to be held in place by means of bolts or other clamping contrivances. They also require specially-formed mold-boards adapted
25 to receive these cutting-edges.

The object of my invention is to construct a plow with a reversible self-sharpening cutting-edge, which may be readily reversed and
30 secured in place without the use of bolts or other clamping devices, and which, moreover, shall be capable of being easily adapted to the forms of plows now manufactured in large quantities with only a slight modification of the share-casting of such plows as they are
35 now made.

I will describe my invention by reference to the accompanying drawings, in which Figure 1 is a side view of a plowshare constructed according to my invention, showing the reversible
40 cutting-edge removed. Fig. 2 is a corresponding view of my cutting-edge. Fig. 3 is an end view of my cutting-edge. Fig. 4 is a plan or top view of the share. Fig. 5 is a corresponding view of the cutting-edge; and Fig. 6 is a cross-section of the share, showing the
45 manner of attaching the cutting-edge to the share, the same letters of reference indicating identical parts in all the figures.

A represents the share, which has its point
50 B cast integral with it, and which may be made

in any of the well-known forms and secured to the mold-board in any desired manner, as by a bolt passing through the hole *a*, having its head countersunk flush with the face of the share. The cutting-edge is not cast upon this
55 share, but a space is left in casting, as shown, into which fits a reversible cutting-edge, C, the shape of which is such that its upper surface, when in place, forms a continuation of the curved surface of the share down to the edge. 60
In casting this share a groove or slot, E, is formed to receive the tongue or rib D, cast upon the back of the wedge-shaped cutting-edge C, and this tongue also slightly tapers in thickness, (as is clearly seen in Figs. 3 and 6,) so that
65 the cutting-edge may wedge itself tightly in place, in order to allow for slight irregularities in the castings; but of course the tongue need not be made tapering in thickness, as shown. In the ends of this cutting-edge are
70 cast V-shaped grooves *c* and *c*, into which fit the tongues or projections *e* and *e*, cast upon the share, and these tongues serve to hold the cutting-edge more firmly in place, and also partly to relieve the tongue D of the strain
75 produced by the earth-pressure on the upper side of the cutting-edge. The cutting-edge, with its tongue, is made perfectly symmetrical, both transversely and longitudinally, so that
80 it will fit into the share equally well, whichever side is on top. When the under side of the cutting-edge has become ground off by the soil, this cutting-edge may be taken out, turned
85 over so as to bring the rounded-off side on top, and then quickly secured in place again, thus converting the worn cutting-edge into a sharpened one having the proper inclination to make the plow hold itself in the ground. The
tongue D is held in the slot E by suitable pins, bolts, or screws, which pass through holes *d d*,
90 bored or cast through the share A and the tongue D, the holes in the tongue being slightly nearer the cutting-edge, in order that when the pins or bolts are driven in they will tend to wedge the tongue still farther into the share. 95
I prefer to make these holes smaller than represented, and secure the tongue in the share by means of ordinary nails driven through the holes, and clinched, if desired, on the under
100 side, which may easily be done by a hammer,

though the clinching is not necessary, this being effectual and extremely simple. If desired, however, bolts F may be used in place of nails or pins with square countersunk heads and nuts G sunk in recesses cast in the under side of the share, as I have represented in Fig. 6.

It is evident that my invention may be applied to any form of plow or plowshare, it being only necessary that the share or mold-board, or whatever portion it is desired to attach the cutting-edge to, should have cast in it a slot to receive the tongue D, and a space for the cutting-edge to fit into.

It is also evident that my invention may be readily applied to the large chilled-iron shares—such as are now used in great quantities—with only a slight modification of their form in which they are now cast.

My reversible cutting-edge may be made of cast-iron, either chilled or not, or of steel or other material, and its width, the inclination of its sides, and the thickness and width of the tongue may be varied to suit the shape of the share to which it is to be attached.

The great advantages of my invention are, that it may easily be applied to the shares of the various forms of plows now in common use, and being manufactured in large quantities, without requiring any modification in the mold-board or any other part of the plow; that the cutting-edge is attached to the share in such a manner as to be rigidly held in place entirely by the share itself, thus dispensing with bolts or other complicated clamping devices; that the cutting-edge may be immediately removed by simply driving out a couple of nails, and resecured in place by driving them in again, thus making a wrench or other tools unnecessary, and that the cutting-edge, which

costs much less than the share, is made the weaker part, thus insuring its breaking first.

I do not claim, broadly, a plowshare provided with a reversible cutting-edge attached to the share by a tongue or rib cast upon the cutting-edge and fitted to the share in any manner; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The plowshare A, provided with the reversible cutting-edge C, shaped substantially as shown and described, said cutting-edge having the tongue or rib D cast upon its back and mortised into the slot E, extending part way but not entirely through the share, so as to have the said rib inclosed and held on all sides by the metal of the share-casting itself, the said cutting-edge being held in the share by pins passing through the share and rib and by end locking devices, substantially as described, whereby the cutting-edge is rigidly attached to the share without the use of bolts or other clamping devices.

2. The plowshare A, provided with the reversible cutting-edge C, said cutting-edge having a tongue or rib, D, cast upon its back and mortised into the slot E in the share, so as to have the metal of the share-casting both above and below the rib, said cutting-edge also having cast in its end the grooves *e e*, which fit over the projections *e e*, whereby the cutting-edge is rigidly attached to the share and held in place by pins or bolts passing through the share and rib, substantially as described.

Signed and witnessed this 11th day of February, 1884.

THOMAS COX.

Witnesses:

I. B. SLAYMAKER,
DAVID C. HOFFECKER.