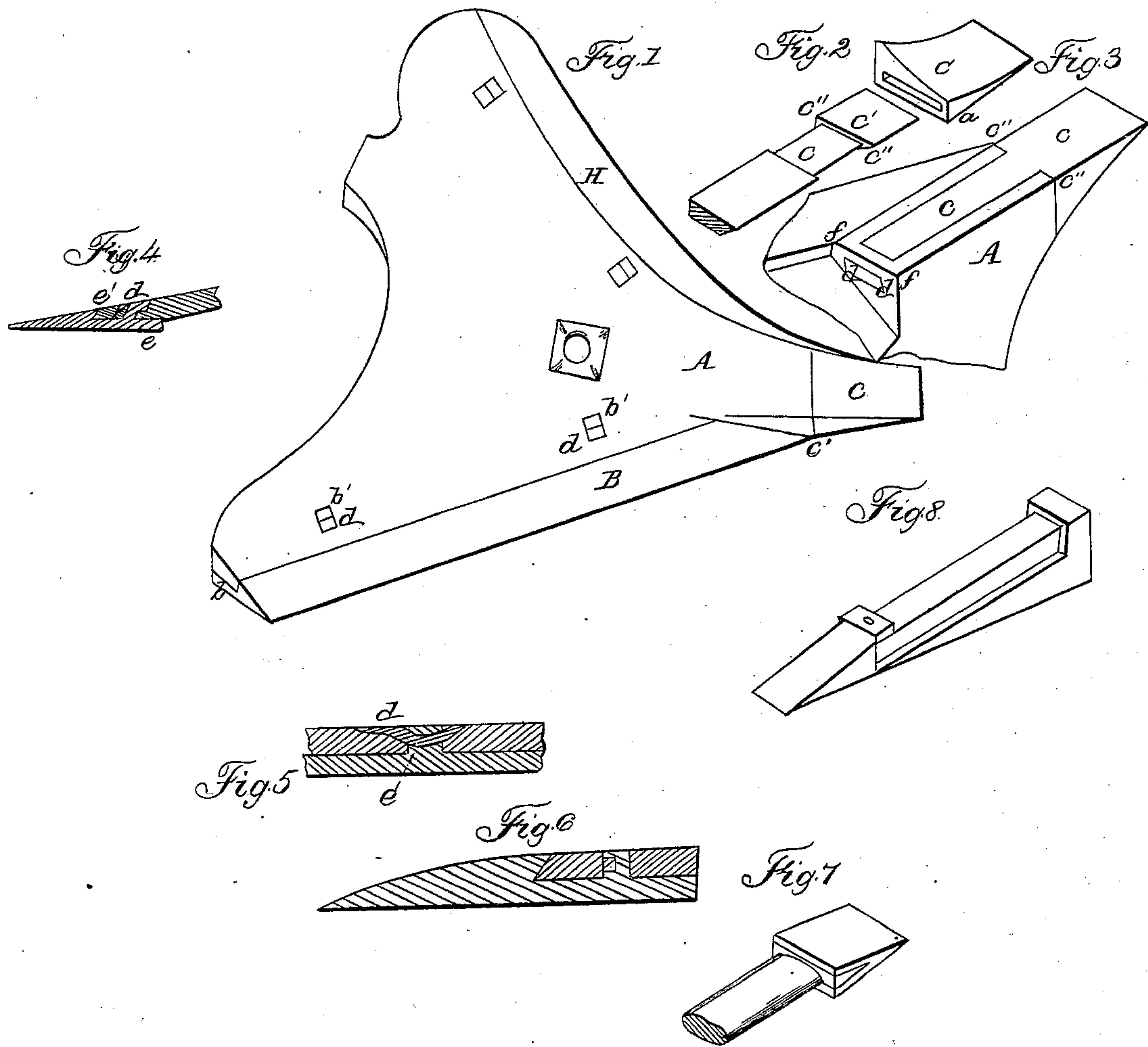


H. G. & E. L. HALL.

Plow-Point.

No. 64,974.

Patented May 21, 1867.



WITNESSES:

Chas A Pettit
J C Kemon

INVENTOR:

W G Hall
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United States Patent Office.

HENRY G. AND E. L. HALL, OF PUTNAM, OHIO

Letters Patent No. 64,974, dated May 21, 1867.

PLOUGHES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, HENRY G. HALL and E. L. HALL, of Putnam, in the county of Muskingum, and State of Ohio, have invented a new and useful improvement in Plough-Points and Shares; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 shows the detached point of a plough with our improvements.

Figure 2 shows the cutting-point and the means of attaching the cap at its extremity.

Figure 3 shows the means of attaching the cutting-point to the plough-point.

Figures 4, 5, and 6 show the method of fastening the side-plate and the coulter to the plough.

Figure 7 shows a self-sharpening point.

Figure 8 shows a method of attaching a self-sharpening point to the plough.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is the construction of a plough-point, the cutting extremity and cutting edge of which shall be detachable, so that they may be removed when worn out.

In the drawings, A represents the point of a plough detached from the plough, and having a side-plate, B, which forms the cutting edge, and a point, C, which forms the anterior and cutting extremity of the plough-point. The side-plate and cutting-point are independent pieces of metal, of the proper shape for their purpose, and made so as to be easily attached or removed, as may be desired. The side-plate B we make of wrought or chilled iron or steel, with a side-flange, *b*, upon which the edge of the plough-point A rests, and to which it is attached. At the point where the flange *b* leaves the side-plate, the edge of the latter, rising above the flange, is bevelled inward or dove-tailed. The outer edge of the plough-point is bevelled in the opposite direction and fits under the projecting shoulder of the side-plate to insure greater strength and a more perfect union of the parts. The side-plate is further secured to the plough-point by two or more hooked or shouldered pins, *b'* *b'*, attached to the side-plate and acting in the slots in the plough-point. We fasten the pin in its place sometimes by means of a little key, *d*, running under the shoulder or hook of the pin and preventing the latter from being withdrawn while the key is in that position; the key when in place fitting smoothly into a little bed in the surface of the metallic board, so as to form an even, smooth surface, and sometimes by means of a pin shouldered or hooked in the opposite direction, the hook or shoulder passing over and resting upon a little ledge, *e*, in the wall of the slot, and the pin being confined in that position by means of a wedge, *e'*, as shown in the drawing, or by any other method of fastening that will answer the purpose. The cutting-point C is composed of two parts, a shank, *c*, of wrought iron, and a cap or false point, *c'*, of cast iron, cast upon the end of the shank, the latter being dove-tailed or furnished with projecting shoulders, *c''* *c''*, so that when the casting has been made the cap cannot come off. The shank of the cutting-point thus formed is the means by which it is held in its place in the plough-point A, running into a dove-tailed groove, *a*, in the plough-point, and keyed or wedged in by means of a little wedge behind the shoulder *f* under the plough.

We do not claim a mortise-socket, for that has been already patented, and besides it does not accomplish our purpose as we desire; but we use a groove or bed cast in the under surface of the plough-point, having dove-tail edges to confine the shank *c*, and running nearly back to the shoulder *f*, beneath which is an opening on a level with the bottom of the bed to admit the passage of the wedge which confines the shank *c* in the bed. The cutting-point C may be made reversible or self-sharpening. When this is the case, the extremity of it, which is of cast iron, must be made in the shape of a wedge, with equally inclined surfaces; the edges of the shank must be made symmetrical; and the edges of the bed in the plough-point must be made so as to fit the shank and hold it firmly whichever side of the shank may happen to be uppermost. This can be accomplished in several ways; as, for instance, by making the dove-tail edges of the bed not straight, but in the shape of a groove which shall be the arc of a circle or of any other symmetrical figure, and making the edges of the shank *c* to correspond with the groove.

We do not limit ourselves to the use of the straight edges shown in the drawings, but may use any of the methods of constructing the dove-tail edges which we have referred to, or which we may find best adapted to secure the shank firmly, and yet to permit of its being reversed for self-sharpening. The cap *c'* may be chilled

for greater durability. We also construct a cutter or coulter, H, of cast or chilled iron or steel, in a separate piece, and attach it to the plough-point in such a manner that it may be removed and replaced with a new one when worn out. The cutter or coulter may be for this purpose fastened to the plough-point by a similar arrangement of pins, keys, and slots to that above described for fastening the side-plate B to the plough-point, or any other suitable fastening may be used instead.

Our invention is designed to apply to plough-points made independent of, and detachable from, the mould-board or body of the plough, and the whole plough-point or share, when the invention is attached to it, may be fitted to and used upon any of the varieties of ploughs now in use.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The detachable side-plate B of the plough-point A, substantially as and for the purpose specified.
2. The cutting-point C, composed of a wrought-iron shank, *c*, and a cast or chilled-iron cap, *c'*, substantially as and for the purpose described.
3. The method above described of attaching the side-plate B to the plough-point A by means of shouldered pins *b' b'* projecting from the side-plate B into slots in the body of the plough-point, where the shoulders of the pins rest on ledges or keys in the walls of the slots, substantially as and for the purpose specified.
4. The method of attaching the shank *c* to the plough-point A, above described.
5. The independent cutter or coulter H, substantially as and for the purpose described.
6. The construction of the cutting-point C and the groove or bed *a*, as above described, so that the cutting-point may be self-sharpening, substantially as and for the purpose specified.

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