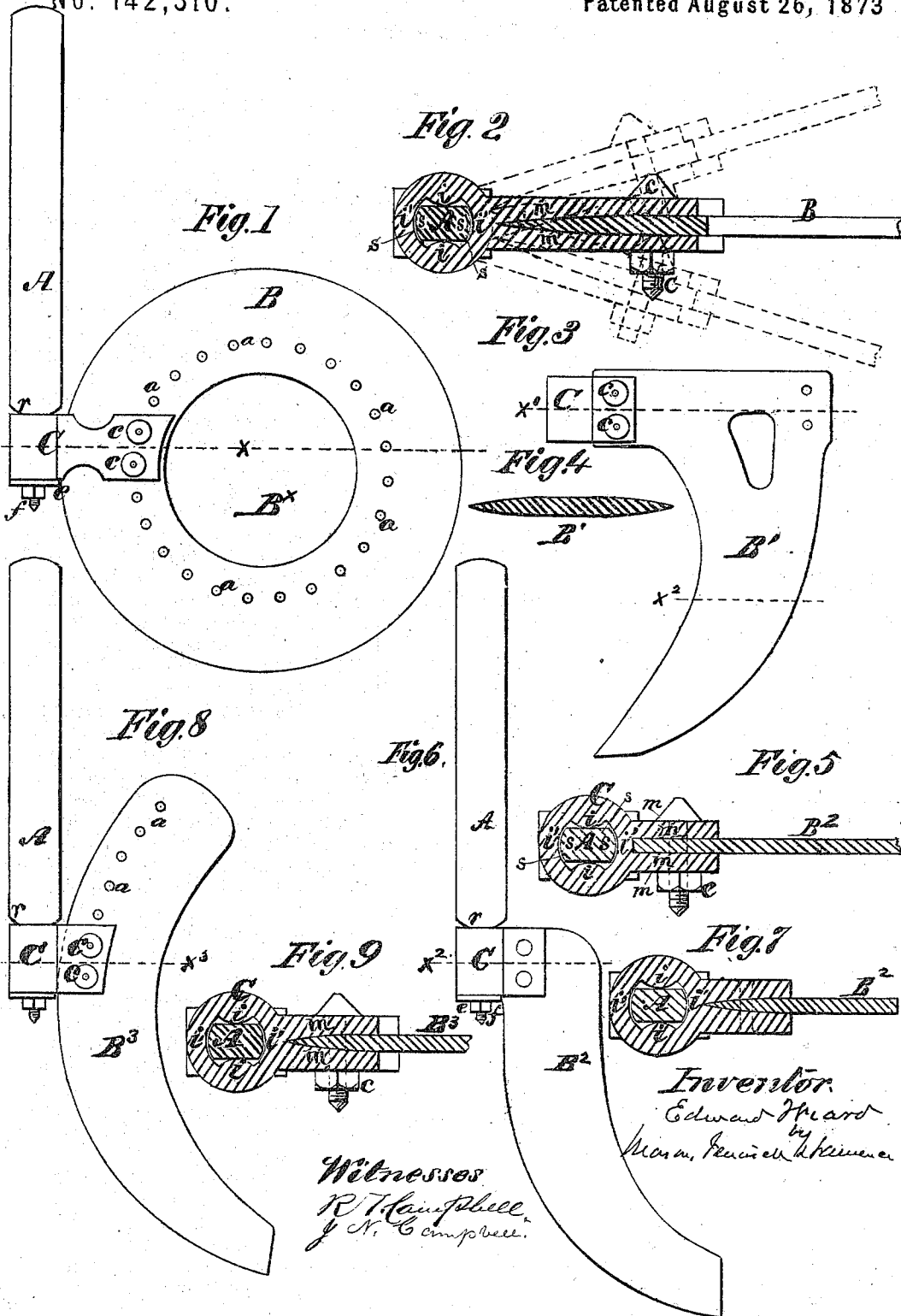


E. WIARD.
Plow-Colters.

No. 142,310.

Patented August 26, 1873



UNITED STATES PATENT OFFICE.

EDWARD WIARD, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO BENJAMIN F. AVERY, OF SAME PLACE.

IMPROVEMENT IN PLOW-COLTERS.

Specification forming part of Letters Patent No. 142,310, dated August 26, 1873; application filed June 14, 1873.

To all whom it may concern:

Be it known that I, EDWARD WIARD, of Louisville, in the county of Jefferson and State of Kentucky, have invented an Improvement in Colters for Plows; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a side view of my improved colter. Fig. 2 is a section, taken horizontally through the same, in the horizontal plane indicated by dotted line *x*. Figs. 3, 4, 5, 6, 7, 8, and 9 are modifications of Fig. 1.

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

This invention relates to improvements on plow-colters, which are allowed to swivel about their standards. My objects are, first, to so construct the lower end of a colter-standard, and a clamp which connects the colter thereto, that a limited laterally-vibrating motion is allowed the colter; second, to so construct a colter for a plow, and connect it to its standard, that when one part of the cutting-edge of the colter becomes dull by use another part of the cutting-edge can be adjusted into position for cutting, as will be hereinafter explained.

The following description of my invention will enable others skilled in the art to understand it.

In the accompanying drawings, A represents the standard for attaching the colter to a plow, which standard is shouldered at *r*, and below this shoulder its sides are flattened, and its edges *s s* are rounded, as shown in the sectional views, Figs. 2, 5, 7, and 9. The extremity of the standard is reduced and screw-threaded for receiving a washer, *e*, and a nut, *f*, by means of which a clamp-swivel, C, is attached to the standard, or removed therefrom, at pleasure. The clamp-swivel C consists of a tubular portion having two perforated clamping-jaws, *m*, formed on it, between which jaws the colter is adjusted and rigidly held in place. The bore of the tubular portion of this swivel presents two curved surfaces, *i' i'*, which are diametrically opposite each other, and two convex surfaces, *i i*,

which bear against the flat surfaces of that portion of the standard A below its shoulder *r*, and afford fulcrums for the colter in its movements. This mode of connecting the colter to its standard affords a very substantial joint, which will not readily clog with earth, and which allows the full extent of lateral vibration required without allowing the colter to swing entirely around like a "caster-wheel" colter. The colter B, represented by Figs. 1 and 2, is a complete circle, with a large opening, B^x, centrally through it, which opening diminishes friction on the two sides of the colter, and also allows earth, stones, &c., to pass freely through it. The entire circular edge of the colter of Fig. 1 is a cutting-edge, although not more than one-fourth (the lower front fourth) of this edge is in a position for cutting at one time. The other three-fourths of the cutting-edge are held in reserve ready to be adjusted into play, successively, as one part of the cutting-edge is dulled. By this form of colter I have supplemental cutting-edges, which can be brought into cutting position, or adjusted out of such position, at will; thus, consequently, it will not be necessary to sharpen such a colter very often. A number of perforations, *a*, are made through the colter B, and arranged at suitable distances apart around its axis. When the colter thus constructed is adjusted between the two jaws of the swivel-clamp C it is secured rigidly to the latter by means of nuts and bolts *c c*. If desired, the colter can be adjusted one or two holes (*a*) at a time, or one quarter around, as may be required. The colter B¹, of Figs. 3, 4, and 5, presents a lower crescentic portion, which presents two cutting-edges, as shown by Fig. 4, and a broad upper portion, which is perforated at both ends, for attachment to the swivel-clamp C. This reversible colter is attached to its standard, by the swivel-clamp C, precisely as described for the circular colter. Figs. 6 and 7 show a half-crescentic colter, B², with only one cutting-edge, which colter is also attached to its standard by the swivel-clamp C. Figs. 8 and 9 show a vertically-adjustable single cutting-edge colter, B³, which is also attached to its standard by means of the swivel-clamp C.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The laterally-vibrating swiveling-clamp C, perforated, as described, for receiving the flattened end of the standard A below the shoulder *r*, for the purpose specified.

2. An open circular adjustable colter, B, constructed substantially as described.

EDWARD WIARD.

Witnesses:

HENRY H. McDOUGALL,
WM. GRULL.