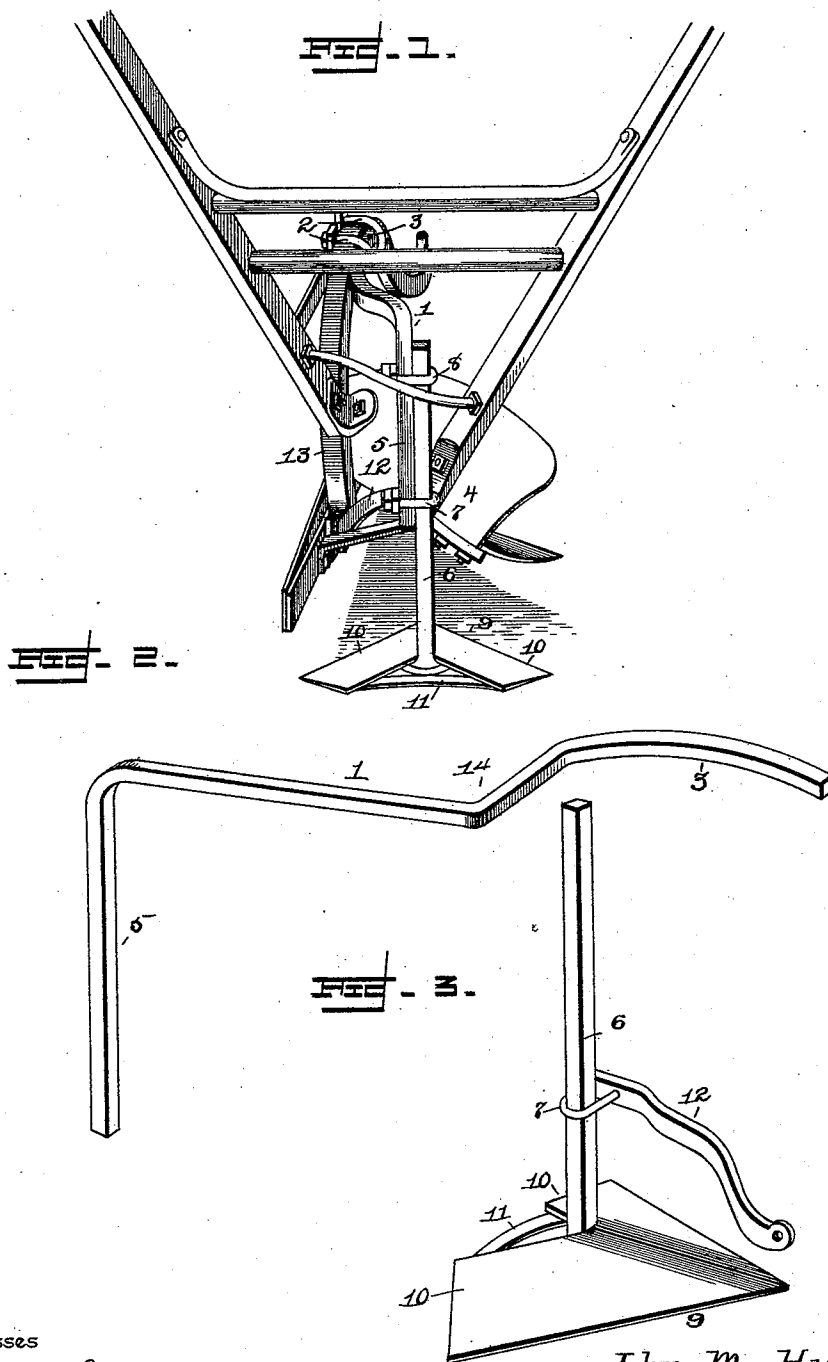


(No Model.)

J. M. HURLEY & J. R. WESTING.
SUBSOIL ATTACHMENT.

No. 475,042.

Patented May 17, 1892.



Witnesses

E. S. Duval Jr.
H. P. Riley

By their Attorneys,

Inventors

John M. Hurley and
John R. Westing.

Cashow & Co.

UNITED STATES PATENT OFFICE.

JOHN M. HURLEY AND JOHN R. WESTING, OF LANCASTER, WISCONSIN.

SUBSOIL ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 475,042, dated May 17, 1892.

Application filed September 4, 1891. Serial No. 404,712. (No model.)

To all whom it may concern:

Be it known that we, JOHN M. HURLEY and JOHN R. WESTING, citizens of the United States, residing at Lancaster, in the county of Grant and State of Wisconsin, have invented a new and useful Subsoiler Attachment, of which the following is a specification.

The invention relates to improvements in subsoil attachments for plows.

The object of the present invention is to provide a simple and inexpensive subsoil attachment adapted to be readily attached to the ordinary construction of plow-beams and capable of ready vertical adjustment to regulate the depth of the cut.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

In the drawings, Figure 1 is a perspective view of a plow provided with a subsoil attachment constructed in accordance with this invention. Fig. 2 is a detail perspective view of the subsoil-beam. Fig. 3 is a similar view of the subsoil standard and blade.

Referring to the accompanying drawings, 1 designates a subsoil-beam, which is adapted to be attached by clips 2 to an ordinary plow-beam and which is approximately right angular and has its front end curved at 3, and it extends rearward from the plow 4 and has a vertical portion 5, to which a subsoil-standard 6 is secured by clips 7 and 8. The subsoil-standard is vertically adjustable by means of the said clips, and it carries at its lower end a horizontally-disposed blade 9, which is approximately triangular—that is, its sides or blades are arranged at an angle to each other—and the said blade 9 forms a perfect subsoiler and is adapted to be adjusted to the desired depth by means of the subsoil-standard 6 and the clips, and it makes a perfectly level or horizontal cut and does not operate simply as a shovel. The sides or blade portions 10 of the horizontal blade 9 are braced by a cross-bar 11, secured to the lower faces of the sides or blade portions 10 and ar-

ranged in the rear of the subsoil-standard 6. The lower end of the vertical portion 5 of the subsoil-beam 1 and the standard 6 are strengthened and supported by a brace 12, which extends from the said subsoil-beam and subsoil-standard to the standard 13 of the plow 4. The front end of the brace 12 is bolted to the plow-standard 13 and its rear end forms a tie-plate for the lower clip 7, which secures the subsoil-standard 6 to the vertical portion 5 of the subsoil-beam 1.

It will be seen that the subsoil attachment may be readily secured to any ordinary plow and at either side of the same, that it makes a perfectly level or horizontal cut, and that it is vertically adjustable to vary the depth of the cut. The subsoil-beam has its horizontal portion curved upward at 2 to conform to the configuration of the plow-beam, and it is curved laterally at 14 to bring the blade directly in the rear of the plow or to throw it to one side if the subsoil-beam be secured to the opposite side of the plow-beam.

What we claim is—

In a subsoil attachment, the combination of the subsoil-beam having an approximately horizontal portion curved upward at 2 and laterally at 14 to enable it to be secured to the ordinary construction of plow-beam and having a vertical portion 5, the subsoil-standard 6, clips 7 and 8, adjustably securing the subsoil-standard 6 to the vertical portion 5, a brace supporting the subsoil-beam and the subsoil-standard and having its rear end formed into a tie-plate for the lower clip 7 and designed to have its front end secured to the plow, and a horizontally-disposed blade arranged at the lower end of the standard, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JOHN M. HURLEY.
JOHN R. WESTING.

Witnesses:

DELPHIA A. OSWALD,
MARTIN OSWALD.