

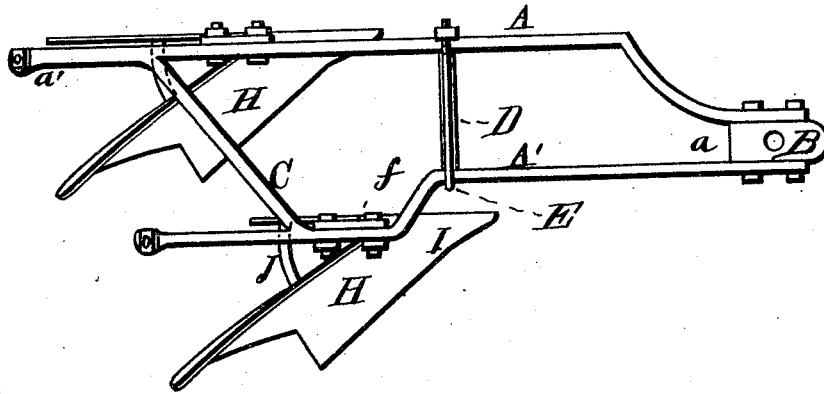
W. M. RICHARDSON.

GANG-PLOW.

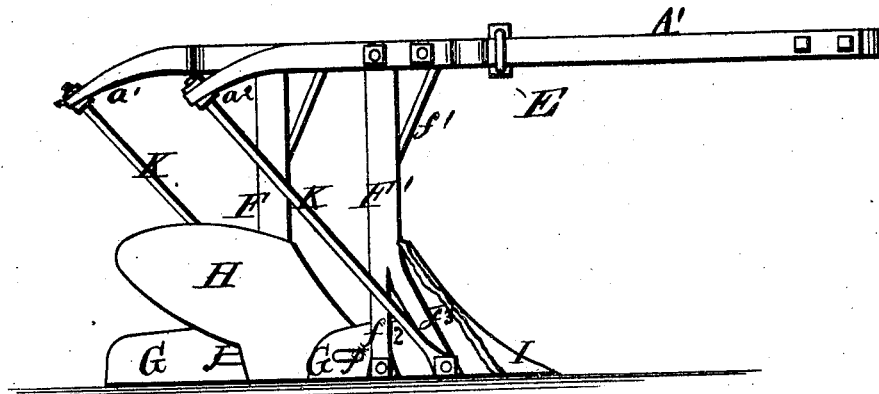
No. 184,665.

Patented Nov. 21, 1876.

*Fig. 1.*



*Fig. 2.*



WITNESSES

*Robert Conant*  
*George E. Upham.*

INVENTOR

*William M. Richardson.*  
*Gilmore, Smith & Co.*

ATTORNEYS

# UNITED STATES PATENT OFFICE.

WILLIAM M. RICHARDSON, OF ROSCOE, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO F. W. WARNER, OF SAME PLACE.

## IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. **184,665**, dated November 21, 1876; application filed August 26, 1876.

*To all whom it may concern:*

Be it known that I, WILLIAM M. RICHARDSON, of Roscoe, in the county of Winnebago and State of Illinois, have invented a new and valuable Improvement in Gang-Plows; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of plan views of my gang-plow, and Fig. 2 is a side view of the same.

This invention relates to gang-plows; and the nature of said invention consists in certain improvements therein, as will be hereinafter set forth and claimed.

In the annexed drawings, A A' indicate the two longitudinal bars of my metal beam or frame, which converge in front at *a*, where they are securely bolted together with a wooden attaching-block, B, between them. Bar A curves outward and backward from neck *a*, and then runs straight back to its rear end *a*<sup>1</sup>, which curves downward. Bar A' runs straight back for some distance from neck *a*, then curves outward, and then runs straight backward again to its rear end *a*<sup>2</sup>, which curves downward like the rear end *a*<sup>1</sup> of bar A. Bar A' is somewhat shorter than bar A, so that the curved end *a*<sup>2</sup> is obliquely in advance of the curved end *a*<sup>1</sup>. Bars A and A' are connected near their rear ends by an oblique metal cross-piece, C, and also near their middle parts by a cross-piece, D, at right angles to the line of draft. Clip E embraces bars A and A' just outside of cross-piece D, and prevents them from straining apart.

The construction above described produces, as a whole, a frame or compound plow-beam, which has, first, a narrow neck, then a broader though still somewhat narrow portion to the rear of said neck, and mainly on one side of its central longitudinal line, and, finally, a broad rear portion, which lies mainly on the other side of said central longitudinal line.

F F' designate the standards of the plows, and each of said standards is provided with a horizontal longitudinal arm, *f*, for attach-

ing the same to the inside of beam above described, and also with a brace-rod, *f*<sup>1</sup>, extending from the end of arm *f* to the main part of the standard. Each of said standards is also bifurcated at the bottom so as to present a vertical extension, *f*<sup>2</sup>, and an oblique forward and downward extension, *f*<sup>3</sup>. These extensions or feet *f*<sup>2</sup> *f*<sup>3</sup> are secured in each case to the inside of the land-side G of one of the plows. Said plows are constructed alike, and after the usual manner, H H being the mold-boards, I I the shares, and J J curved brace-rods, connecting in each case the rear of land-side G with the rear of share I and mold-board H. Standard F is secured to longitudinal arm A of the above-described compound plow-beam at a point somewhat more to the rear than that at which standard F' is attached to longitudinal bar or arm A' of said beam, so that one of said plows is obliquely in the rear of the other. Their furrows will, however, lie parallel. K K designate oblique brace-rods, each of which extends from the curved end of one of the aforesaid beam arms or bars A or A', as the case may be, to the obliquely-downward-projecting extension or foot *f*<sup>3</sup> of the standard F or F', secured to said bar or arm. The lower end of brace-rod K is rigidly secured by bolting or otherwise to the said oblique extension *f*<sup>3</sup>. The upper end of said brace-rod is screw-threaded, and passes through a perforation in the curved end *a*<sup>1</sup> or *a*<sup>2</sup> of bar A or A', as the case may be, and is secured by nuts above and below said perforation, so as to be adjustable lengthwise.

By this construction the said brace-rod K may be used with plows of different sizes, and may also be so adjusted as to compensate for any contractions or expansions produced by changes of temperature, while it firmly braces the plow and standard. Rods K K are exactly alike in construction, attachment, and use.

The front block B is vertically perforated at *b*, or otherwise adapted to be fastened to a plow attachment of any ordinary construction. Excepting said block, all the parts described in this specification are preferably made of metal, though some of them may be of wood or other suitable materials.

The form and arrangement of the beam, standards, braces, &c., may be modified in various ways without departing from the spirit of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

The gang-plow herein described, consisting of the bent longitudinal bars A A', connected by the bars C D, all made in one piece, and standards F F', having upper extensions *f*

and lower extensions *f*<sup>2</sup> *f*<sup>3</sup> bolted to the land-sides G G of plows, substantially as described, and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM M. RICHARDSON.

Witnesses:

CORNELIUS VINCENT,  
JESSE BLACKINTON.