

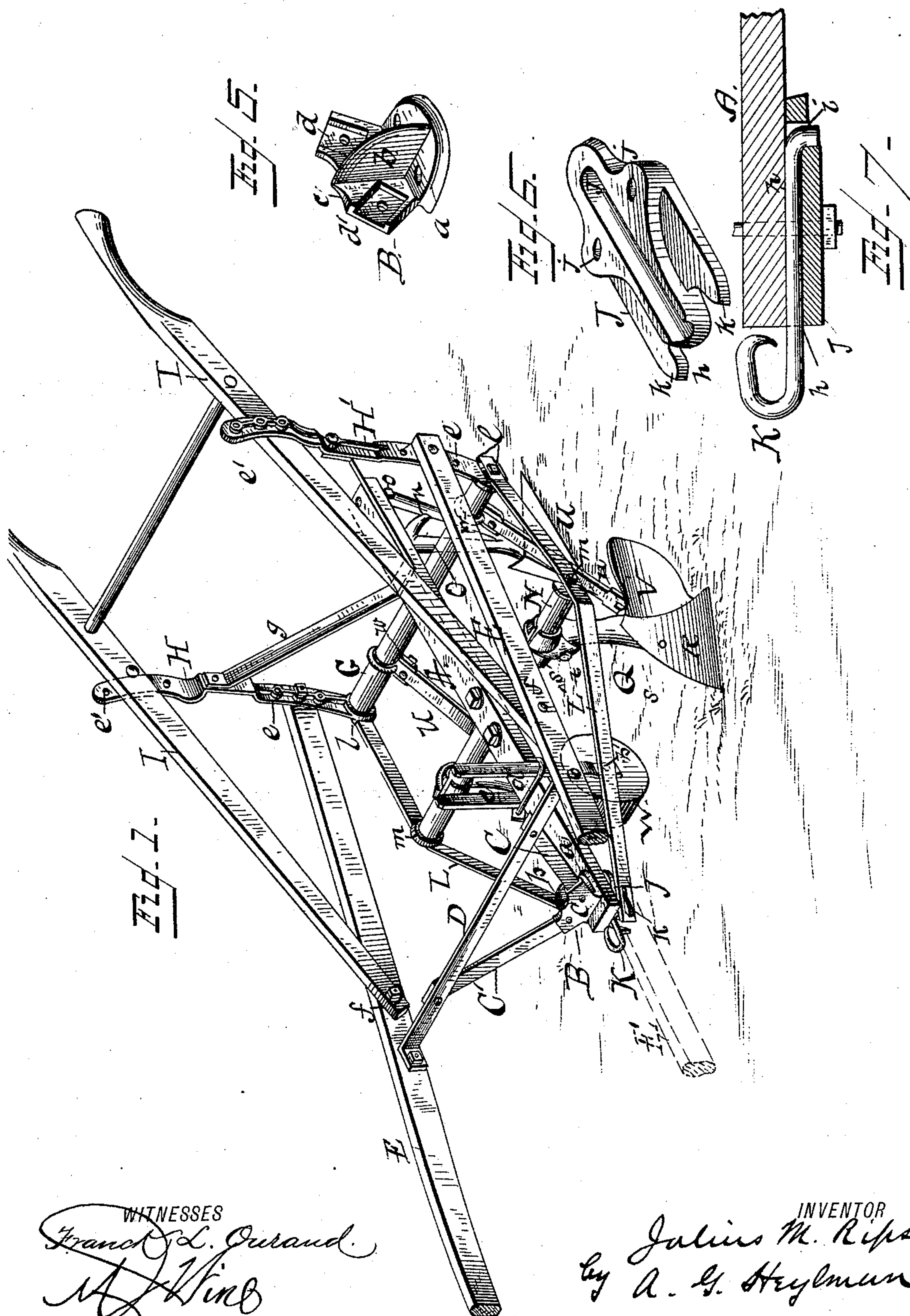
(No Model.)

2 Sheets—Sheet 1.

J. M. RIPSON.  
THILL CULTIVATOR.

No. 304,957.

Patented Sept. 9, 1884.



WITNESSES  
*Francis L. Durand.*  
*A. H. Wink*

INVENTOR  
*Julius M. Ripson.*  
*by A. G. Heylman.*

Attorney.

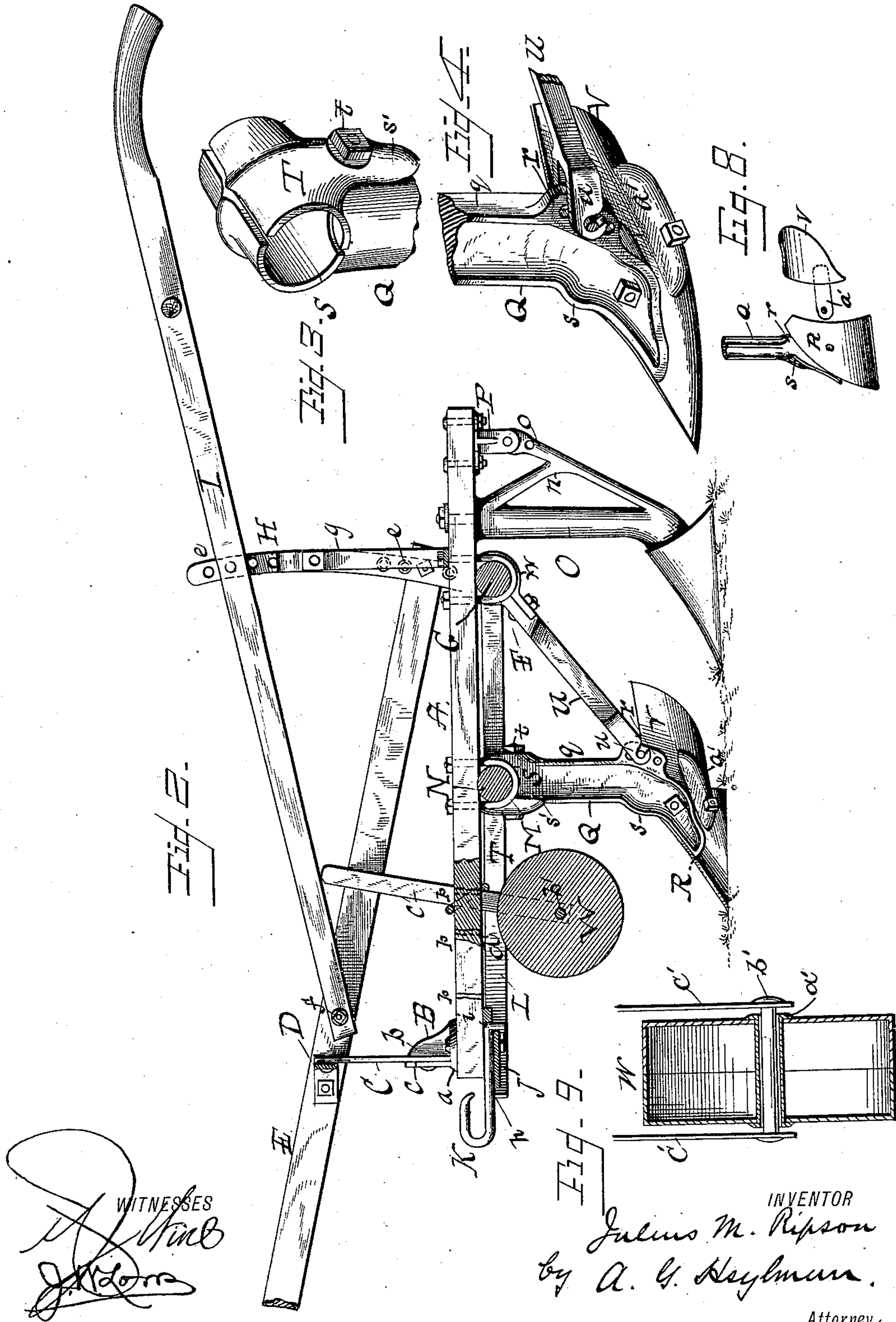
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# UNITED STATES PATENT OFFICE.

JULIUS M. RIPSON, OF YOUNGSTOWN, NEW YORK.

## THILL-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 304,957, dated September 9, 1884.

Application filed March 21, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JULIUS M. RIPSON, a citizen of the United States of America, residing at Youngstown, in the county of Niagara, in the State of New York, have invented a new and useful One-Horse or Thill Cultivator, of which the following is a specification.

My invention has relation to cultivators of that class known as "thill-cultivators," being especially adapted to be drawn by one horse. The objects are to provide an implement of the kind named which is adjustable in its thills, handles, and draft, and which in the construction and arrangement of its frame and tilling adjuncts is detachable and separable, and may be changed from a weeding or tilling implement to one suited for hilling purposes.

My invention therefore consists in the novel construction and combination of the parts, as will be hereinafter more fully described, and as specifically and distinctly pointed out in the claims.

I have fully illustrated my improved cultivator in the accompanying drawings, wherein Figure 1 is a perspective view of the complete implement. Fig. 2 is a vertical and longitudinal sectional view showing the construction of the standard or leg and the adjusting attachments. Fig. 3 is a view of the upper end of the standard and the clip with its bolt. Fig. 4 is an enlarged view of the foot of the front standards and adjusting-link. Fig. 5 is a view of the bracket fixed to the front end of the draw-beam, in which the front braces of the frame are fixed. Fig. 6 is a view of the bracket or plate which secures the draw-hook or clevis to the draw-beam. Fig. 7 is a sectional view of the same, showing the draw-hook inserted therein. Fig. 8 is a detail view of the sectional shovels or shoes, and Fig. 9 is a vertical sectional view of the beam-wheel.

The letter A represents the draw-beam, to the forward end of which is secured a metal bracket, B, consisting of the base-plate *a*, vertical central strengthening-flange, *b*, and transverse vertical section *c*, formed with inclined sockets *d d'*, in which the metal braces C C' are fitted and secured. To the upper ends of these braces C and C' is secured the metal cross-bar D, having its ends struck at right angles to the bar and pivotally bolted to

the shafts E. In the rearward part of the draw-beam is secured the staple or clip F, through which a wooden bar or rod, G, is passed and gripped securely against the under side of the draw-beam. To each end of the bar G are secured the curved metal standards H H'. The lower ends of these standards are formed with sockets or caps fitted over the end of the bar, and both the lower and upper parts of the standards are provided with a series of perforations, *e e'*, in the former of which a bolt held by the rear end of the shafts is passed, and in the latter the handles I are pivotally and detachably secured, the forward end of the handles being pivotally bolted to the shafts at *f*. These standards H H' are curved substantially as seen, in order to meet the varying positions of the ends of the shafts and the bolt of the handles in the vertical adjustments of one or of both of them, and the standards are braced by the bar *g*, substantially as seen in Fig. 1 of the drawings. It will be readily observed that by means of adjusting the shafts and handles they may be set at any desired height to suit the draft or the workman.

To the under side of the draw-beam is secured a metal plate, J, formed with a circular groove, *h*, terminating at the rear in a perforation, *i*, to receive and retain the draw-hook K, which is of the form seen in Figs. 2 and 7 of the drawings. The metal plate J is provided with bolt-holes *j*, registering with the holes in the bracket B, in order that the same bolts may fasten both to the draw-beam. The forward end of the metal plate J is formed or provided with projections or hooks *k*, on which the side bars, L L', are hooked, and, extending from thence rearward, have their rear ends fitted between flanges *l*, formed on the lower ends of the standards H H', and are securely fastened by a bolt through the end of the standard. It will be seen that the draw-hook K is secured in place by the plate J, and held against forward or backward displacement by having its rear end, which is struck down as shown, passed into the hole in the rear of said plate.

About midway of the length of the draw-beam is secured a staple or clip, M, and through this staple or clip is passed a wooden bar, N, the ends of which are provided with metal caps



*m*, and secured to the side bars *L* by bolts or any other suitable means.

The letter *O* represents a standard or leg, consisting of a cast casing or shell and a wrought-iron center piece or bar, (shown in dotted lines,) which center bar projects above the cast metal, and is provided with screw-threads. The projecting part is passed through a hole in the draw-beam, and fastened by a screw-threaded nut. The hole in the beam through which the screw-threaded projection of the leg is passed is made somewhat larger than the bolt, in order that the leg may be to a limited extent adjusted in pitch backward and forward. The standard or leg *O* is formed with an elbow-brace, *n*, and is provided at the intersection of the arms of the brace with a lug, *o*, having a series of holes, as shown, and this lug is pivoted between the arms of a bracket, *P*, secured to the under side of the draw-beam. The standard *O* and bracket *P* may be detached and shifted to the front end of the beam, holes *p* being provided for the purpose, and the implement thus converted into one suitable for hilling, as hereinafter stated.

The letter *Q* represents the standards or legs to which the side working shares or shoes are attached. These standards or legs consist of the leg *q*, preferably strengthened by ribs, as shown, and formed with a projecting lug, *r*, with holes, as shown, and the point extended and adapted to have secured to it a share or shoe, *R*, by a single bolt. At the point *s* the leg has a flange, which extends outwardly and serves as a seat for and stay to prevent the share from turning around. The upper end of the leg is formed with a circular rest or clip, *S*, the under side of which reaches a little forward of the center of the bar to which it is applied.

The letter *T* represents a clip fitted to embrace the part of the bar not inclosed by the circular part of the top of the leg, and is formed with a downward-extended part, *s'*. This clip *T* and the top part of the leg *Q* are secured together about the bar *N* by a bolt, *t*, passed through both, as shown. This standard or leg *Q* can be adjusted by means of the arm or brace-bar *U*. This arm or bar is provided with two hooked prongs, *u*, at the lower end, which hook over a pin passed through one of the holes in the lugs *r*, and the upper end of the brace-bar is formed in a half-circle, and is provided with a clip, *w*, which is bolted to the main bar, thus forming a ring or collar, which loosely surrounds the bar *G*, as seen in Figs. 1 and 2 of the drawings. By forming the ring of the arm *U* large enough to be easily adjusted or shifted over the bar *G*, it is only necessary to release the clips of the standards in adjusting them on the bar.

The letter *V* represents a mold-board having rigidly secured thereto a coupling-piece, *a'*, the projecting end of which is perforated to receive a bolt. This mold-board is secured

to the rear of the share or shoe by a screw-bolt passed through the piece and the share, as seen in Figs. 1 and 8.

As heretofore stated, the rear standard or leg may be detached from the bar and shifted to the front part of the draw-beam when the implement is intended to be used as a hiller, in which case it is also necessary to detach the side standards from the bar and braces, and shift the one into the other's place, which change reverses the direction of the throw of the shares, so as to throw the dirt into a hill between them.

The letter *W* represents the wheel. This wheel consists of two sections or parts, which, being placed together, form a hollow wheel, the sections being secured together by a hollow shaft or tube, *a<sup>2</sup>*, the ends of which are riveted or drawn down over the bore in which it fits, and through this tube is passed the loose shaft *b'*, the projecting ends of which are riveted to secure the bars *c'*, which are adapted to fit the draw-beam, and these bars *c'* in turn are held to the beam by a staple and clip, *d'*, as shown.

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

1. The rear cross-bar, *G*, secured to the draw-beam, and having the curved standards *H H'*, provided with perforations *e e'*, in combination with the shafts pivotally supported from the front end of the draw-beam, and their rear ends adjustably secured to the said standards, and the handles pivotally secured to the shaft and adjustably attached to the said standards, substantially as described.

2. The bracket *B*, consisting of the bottom plate, *a*, vertical central strengthening-flange, *b*, and transverse vertical section *c*, formed with inclined sockets or ways *d d'*, substantially as described.

3. The bracket *B*, formed with the bottom plate, *a*, vertical central flange, *b*, and transverse vertical section *c*, having sockets or ways *d d'*, in combination with the braces *C C'* and bar *D*, substantially as and for the purpose set forth.

4. The draw-plate *J*, formed with a longitudinal groove, *h*, terminating at its rear in a perforation, *i*, through the plate, and having the side extensions, *k k'*, and means for attaching the same to the draw-beam, substantially as described.

5. In combination with the draw-beam and draw-hook *K*, formed with its rear end struck down, as shown, the draw-plate *J*, formed with the longitudinal groove *h*, terminating at its rear in a perforation, *i*, and having side extensions, *k k'*, substantially as described.

6. The frame substantially as shown and described, consisting of the draw-beam *A*, the draw-plate *J*, adapted to receive and retain the draw-hook, and formed with projections or hooks *k k'*, the cross-bars *G* and *N*, and side bars, *L L'*, the whole arranged and combined substantially as set forth.



7. In combination with the draw-beam and cross-bars N and G, the standard or leg Q, formed with a circular seat at its upper end and provided with a clip, and having a lug, *r*, at its lower end, and the brace rod or arm U, formed with a separable ring at its upper end adapted to loosely fit over the rod G, and having hooks at its lower end adapted to engage with a pin passed through perforations in the lug *r*, substantially as and for the purpose set forth.

8. The standard or leg O, consisting of a cast-iron casing and wrought center piece or bar, the end whereof projects above the outer cast casing, said leg or standard being formed with the elbow-brace *n*, having perforated lugs *o*, substantially as and for the purpose set forth.

9. In combination with the draw-beam having fixed thereto the bracket P, the leg O, formed with an elbow-brace, *n*, and lug *o*, substantially as and for the purpose set forth.

10. The wheel W, consisting of two sections secured together at the center by a tubular rivet, and provided with a loose shaft or bearing passed through the bore of the rivet, and the ends of said shaft secured to standards adapted to be secured to a plow-beam, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand in the presence of two attesting witnesses.

JULIUS M. RIPSON.

Attest:

WM. RIPSON,  
JOHN JAMISON.