

E. Ward,

Cultivator.

No. 98,214.

Patented Dec. 21, 1869.

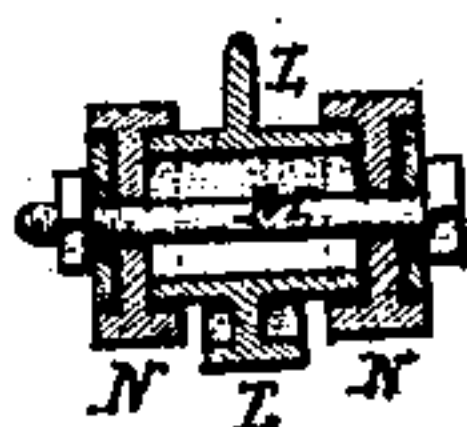
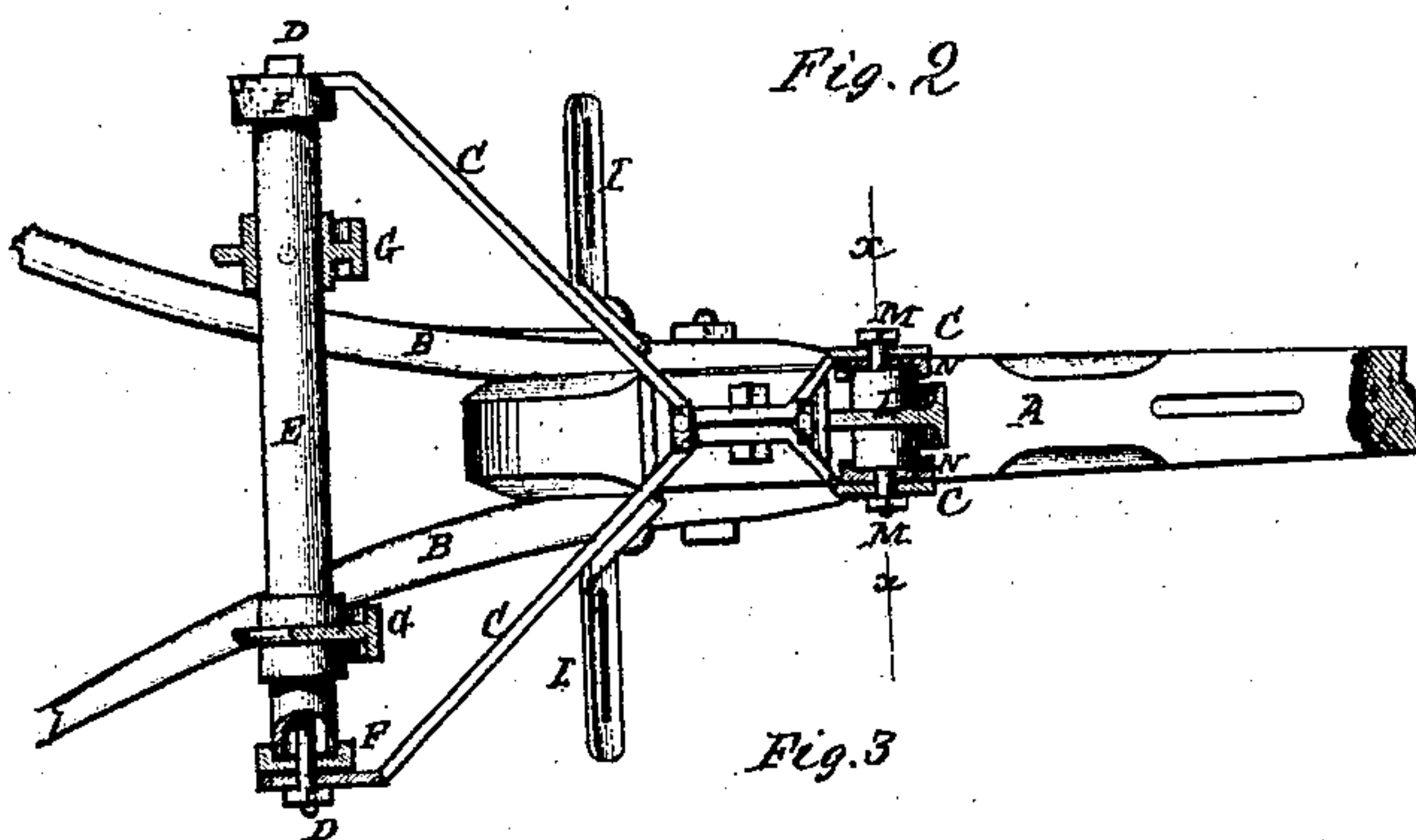
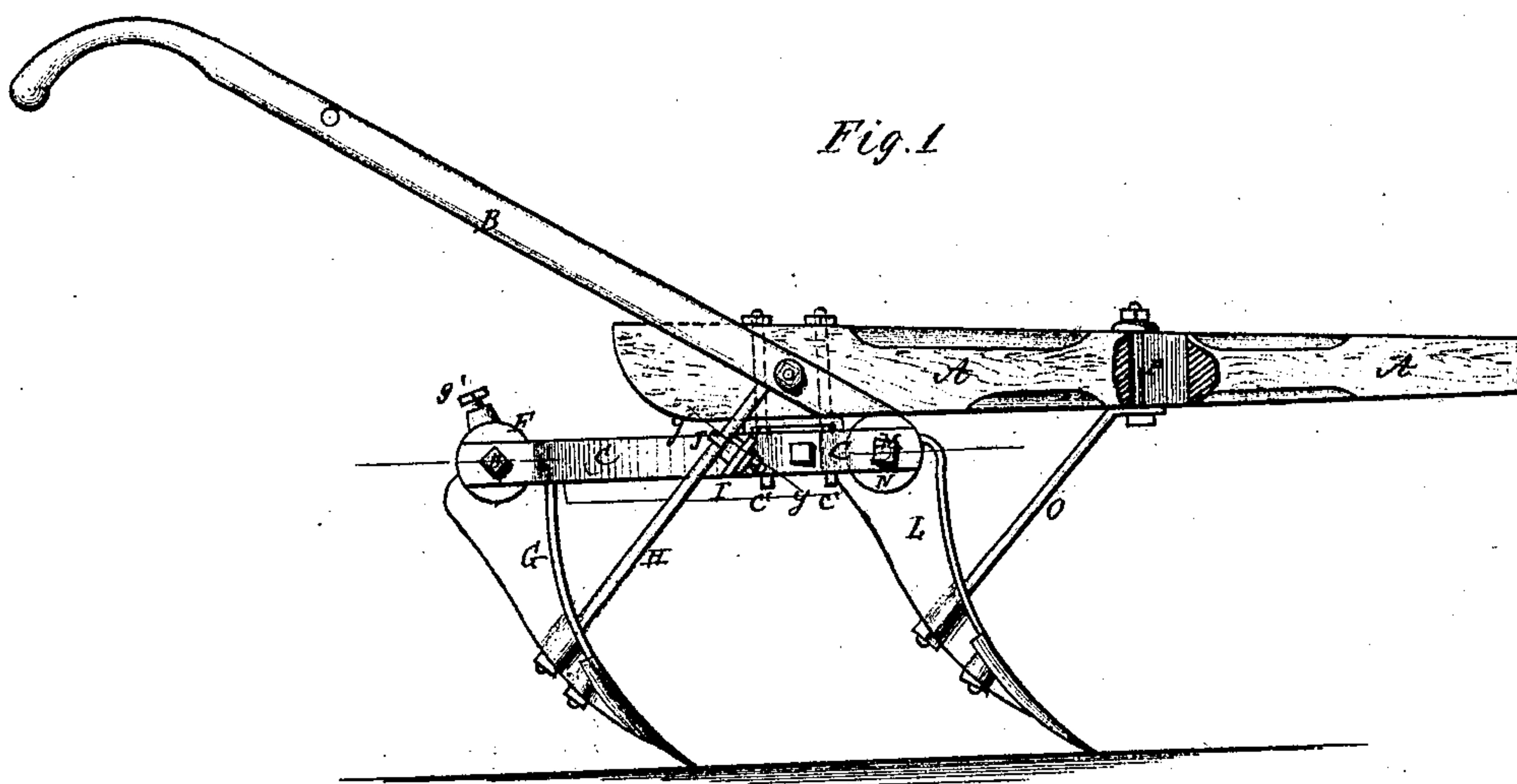
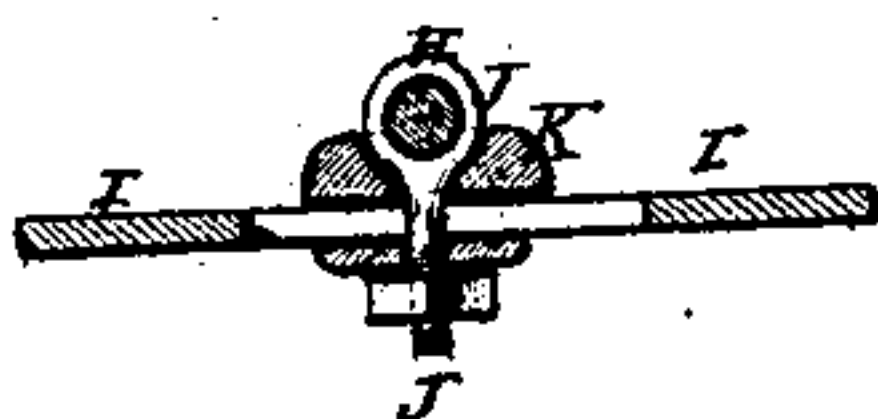


Fig. 4.



Witnesses:

A. W. Almqvist
Geo. W. Thabee

Inventor:

E. Ward

PER *Munn & Co*
Attorneys.

UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN EXPANDING TRIPLE-SHOVEL PLOWS.

Specification forming part of Letters Patent No. 98,214, dated December 21, 1869.

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 a new and useful Improvement in Expanding Triple-Shovel Plows; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of my improved plow, part being broken away to show the construction. Fig. 2 is an under side view of the same, parts being broken away to show the construction. Fig. 3 is a detail sectional view of the same taken through the line *x x*, Fig. 2. Fig. 4 is a detail sectional view of the same taken through the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved triple-shovel plow which shall be so constructed and arranged that the shovels may be conveniently expanded and contracted or set at any desired pitch, and at the same time in such a way as to be securely held in any desired position; and it consists in the construction and combination of various parts of the plow, as hereinafter more fully described.

A is the plow-beam, which may be made short, and to the rear end of which are attached the handles B.

C are two bars, which are formed and securely bolted to each other, as shown in Fig. 2. The bars or frame C is secured to the lower side of the plow-beam A by two cross head-bolts, *c'*, passing up through the beam A, and having nuts screwed upon their upper ends. The bars C may be held away a little from the plow-beam A, to give space for the washers of the forward standard by the interposition of an iron plate between the said bars and beam, as shown in Figs. 1 and 2. If desired, another plate may be placed upon the lower side of the bars C for the bolts *c'* to pass through to support the heads of said bolts. The rear ends of the bars C are connected by a long bolt, D, and by a tube, E, through which the said bolt D passes. Upon the ends of the tube

E are placed two washers, F, the outer sides or faces of which are grooved or notched to receive the ends of the bars C, so that when the nut is tightened up upon the long bolt D the ends of the said bars C may be held securely in place. The bolt D and tube E may be made in one piece as a solid shaft, if desired; but I prefer to make them as described, as it enables them to be made light, and at the same time of suitable size and strength.

G are the rear plow-standards, to the lower ends of which the shovel-plows are attached, and through the upper ends of which are formed eyes to fit upon the tube or shaft E, to which the said standards are secured adjustably by set-screws *g'*, as shown in Fig. 1. The draft-strain upon the standards G is sustained by the brace-bars H, the lower ends of which pass through holes in the lower parts of the said standards G, and are secured in place by nuts screwed upon their said lower ends. To the bars C, near the plow-beam A, are bolted or otherwise securely attached slotted arms I, through the slots of which pass the eye-bolts J. The upper ends of the brace-rods H pass through the eyes of the eyebolts J and rest in grooves formed in the outer sides of the washers K. The washers K are slotted for the passage of the eyebolts J, so that when the nuts upon the forward ends of the said eyebolts are tightened up the eyes of said bolts may be drawn into said slots, securely clamping the rods H to the washers K and arms I in such a way as to hold the said rods H securely, and at the same time in such a way that the said rods H may be readily adjusted to change the pitch of the plows or to allow them to be spread or contracted as may be desired.

L is the forward standard, which is constructed in exactly the same manner as the rear standards, G. The standard L is secured to and between the forward end of the bars C by the bolt M, which passes through said standard and bars and through the washers N, fitting upon the eye of the said standard L, and notched upon their outer side to receive the ends of the said bars C, as shown in Figs. 1, 2, and 3. The draft-strain upon the standard L is sustained by the brace-rod O, the lower end of which passes through a hole in

the lower part of the standard L, where it is secured in place by a screw-nut placed upon its lower end. The upper end of the brace-rod O is secured to the beam A by the bolt P, which passes up through a slot in the said beam A, so that the pitch of the standard L may be adjusted at will.

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

1. The bars or frame C, constructed and secured to the plow-beam, substantially as herein shown and described, and for the purpose set forth.

2. Adjustably connecting the rear plow-standards, G, to the rear ends of the bars or frame C by the tube E and long bolt D, whether made in one piece or separate, and the washers F and set-screws *g'*, substantially as herein shown and described, and for the purpose set forth.

3. Adjustably securing the forward standard, L, to the forward ends of the bars or frame C, by means of the washers N and bolt M, substantially as herein shown and described, and for the purpose set forth.

4. The notched washers F N, constructed substantially as herein shown and described, when used for securing the plow-standards in place, as and for the purpose set forth.

5. The combination of the slotted and grooved washers K, eyebolts J, and slotted arms I with the brace-rods H and bars or frame C, substantially as herein shown and described, and for the purpose set forth.

EDWARD WIARD.

Witnesses:

SAML. L. AVERY,
JNO. A. M. MULLIN.