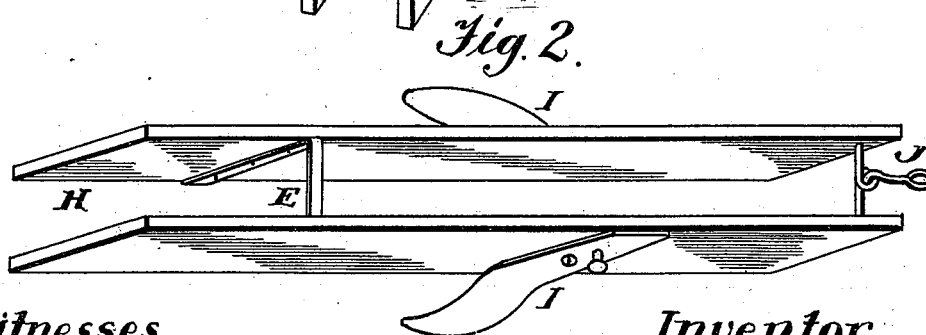
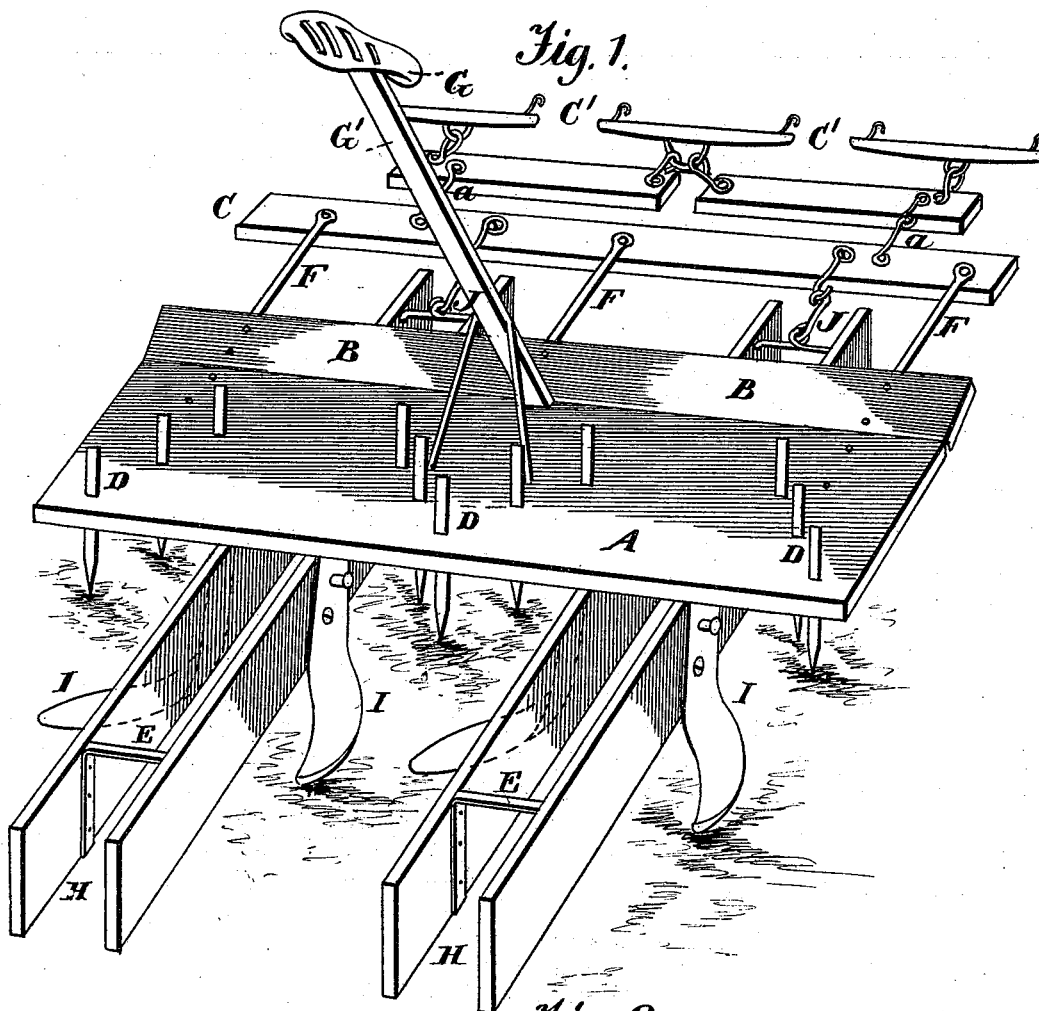


(No Model.)

E. D. MOSER.  
COMBINED PLOW AND HARROW.

No. 492,043.

Patented Feb. 21, 1893.



Witnesses.  
A. Rupert.  
P. J. Rogers.

Inventor:  
Eli D. Moser,  
by Franklin H. Hough,  
his Atty.

# UNITED STATES PATENT OFFICE.

ELI D. MOSER, OF HIAWATHA, KANSAS.

## COMBINED PLOW AND HARROW.

SPECIFICATION forming part of Letters Patent No. 492,043, dated February 21, 1893.

Application filed August 3, 1892. Serial No. 442,091. (No model.)

### *To all whom it may concern:*

Be it known that I, ELI D. MOSER, a citizen of the United States, residing at Hiawatha, in the county of Brown and State of Kansas, have invented certain new and useful Improvements in a Combined Plow and Harrow for the Purpose of Cultivating Listed Corn; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in implements for harrowing and cultivating listed corn, and the novelty resides in the peculiar combinations, and the construction, arrangement and adaptation of parts, all as more fully hereinafter described, shown in the drawings and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which

Figure 1 is a perspective view of my improved agricultural implement. Fig. 2 is a perspective view of one of the troughs removed.

Like letters of reference indicate like parts in both of the views.

Referring now to the details of the drawings by letter, A designates a plank or timber provided with teeth D which may be of any well known or approved construction, and B is another plank or timber arranged alongside the plank A and to the frame thus formed is secured the draft appliances which consist essentially of the bar C to which are attached the rods or straps F which extend under the planks A and B and are secured thereto in any suitable manner. To the bar C there are shown as attached by detachable means as hooks *a* the eveners C' of any well known or approved form of construction.

G is the seat carried by a seat support G' secured to the frame A B.

H are the troughs, each of which consists of two planks set on edge and held the required distance apart by the angular braces E and to opposite sides of these troughs, that is, to the plank thereof, are secured the cutters or knives I the lower ends of which are curved as seen in Fig. 1. It will be observed that there are teeth D between the two troughs as well as upon the outside of each of the troughs. The troughs are flexibly connected with the bar C by the links J which are detachably engaged in hooks or analogous devices on the rear edge of the said bar as seen in Fig. 1; these links serve also to hold the forward ends of the sides of the trough apart. The troughs extend loosely under the planks A and B and are disconnected therefrom, so that they may readily assume the positions required in turning curves; they will normally assume their proper parallel relation to perform their work properly.

By the use of an implement of the character above described I can cultivate two rows of listed corn at the same time and harrow the intervening ridges.

The device is simple, cheap of manufacture, and in practice has proved most efficient for the purposes for which it is intended.

What I claim as new is—

1. The combination with the frame and the draft attachments, of the troughs disconnected from the frame and flexibly and detachably connected with the draft attachments and carrying the knives, as set forth.

2. The combination with the frame and the draft attachments, of the troughs disconnected from the frame and extended loosely thereunder and flexibly connected with the draft attachments and carrying knives, and the teeth in the frame between the troughs and upon each side thereof, as set forth.

3. The combination with the harrow frame and its teeth, of the plank C to which the eveners are detachably connected, the rods connecting said plank with the frame, the troughs disconnected from the frame and passed loosely thereunder and each consisting

of two planks set on edge and held at the desired distance apart by right angled braces E, cutters secured to the planks of the troughs in the rear of the teeth of the harrow, and  
5 link connections J between the plank C and the troughs, all substantially as shown and described and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

ELI D. MOSER.

Witnesses:

E. N. MORRILL,

A. F. BECHTEL.