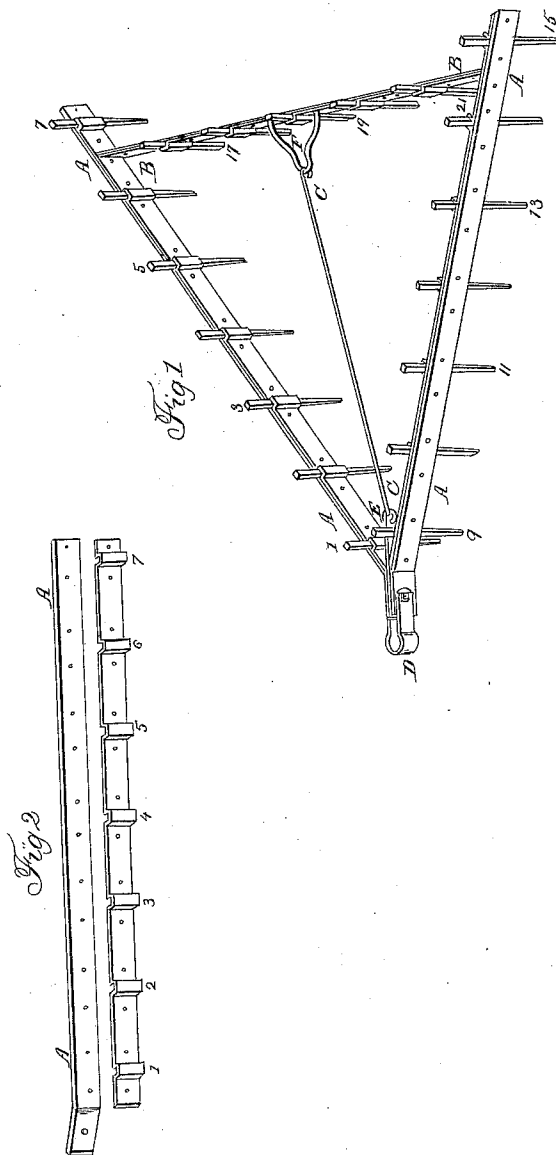


L. LUPTON.

Harrow.

No. 9,747

Patented May 24, 1853.



UNITED STATES PATENT OFFICE.

LEWIS LUPTON, OF WINCHESTER, VIRGINIA.

IMPROVEMENT IN THE CONSTRUCTION OF HARROWS.

Specification forming part of Letters Patent No. 9,747, dated May 24, 1853.

To all whom it may concern:

Be it known that I, LEWIS LUPTON, of Winchester, in the county of Frederick and State of Virginia, have invented and made certain new and useful Improvements in the Agricultural Implement called the "Harrow;" and I do hereby declare that the following is a full, clear, and exact description of the method of construction and mode of operating the same, reference being had to the accompanying drawings, and making a part of this specification, in which—

Figure 1 is a geometrical perspective view of the harrow complete, A A A A being the side bars, and B B the end; C C, the brace-rod; D, the clevis or hitching-hook; 1 3 5 7 9 11 13 15 17 19 21, teeth or tines.

Fig. 2 shows a section of harrow and the bars detached, showing the arrangement of the sockets 1 2 3 4 5 6 7 and their form; A A, the straight longitudinal side bar.

To enable others to be skilled in the use and application of my invention and improvements, I will proceed to describe the construction and operation thereof, the nature and principles of which consist in making a drag-harrow of any form of metallic bars, as follows: The form I shall here describe and exhibit by drawings, &c., is of the triangular shape. Taking iron bars or stout pieces of strap-iron—say from four to five feet in length, two to three inches wide, and from three-eighths to one-half inch thick—having the bars of the required length, I lay off at proper distances, and punch or drill rivet or bolt holes. This being done, I take other pieces of metal of the same size and dimensions as given above, and, marking off at equal distances, on these last-mentioned bars are the places for the teeth or tines, which places are formed into the shape of sockets of angular or other shape, which sockets are formed by bends made as represented at 1 2 3 4 5 6 7, Fig. 2. These bends or sockets, as shown, are formed on one of the bars forming the sides and end of the frame, which frame, as is shown, is constructed of double pieces or bars, the outside bars of the frame being straight bars, and the inner bars having the sockets for the tines or harrow-teeth. These bars, being complete, are fastened together by

rivets or screws and taps, or in any other manner desired. The frame as complete shows that the sockets for the tines or teeth are formed principally on the inner bar of the frame—that is, three of the sides of the sockets are formed by the bending of the inner bar, and the fourth side is formed by the longitudinal surface of the outside bar—the frame being thus completed and braced or strengthened by the center or stay rod, C C, and the couplings E F, Fig. 1. The teeth or tines are next formed of the proper length, thickness, and form, and are made slightly tapering from their butt-end toward their points, and corresponding to the sockets, are inserted in their places, and are simply driven in or forced into their places.

Having thus described the construction of my harrow, I will set forth the many advantages and decided utility thereof, combining simplicity of construction, cheapness, and great durability; and as my harrows may be made in sectional or detachable parts, can thereby be taken apart very readily and made compactly portable, which is not so readily if at all accomplished in the ordinary wooden harrow. Again, too, the largest size harrows of my construction need not be greater in weight than one hundred and fifty pounds, and if additional weight is needed, pieces of timber may be readily arranged across the top of the harrow, forming a suitable platform for the weight applied. Again, too, in the ordinary wooden harrow the teeth or tines in a very few seasons work loose, owing to the decay or shrinkage of the timber, thus causing great irregularity in the harrowing or furrowing of the soil. This difficulty is overcome entirely by using the metallic frame and inserting the teeth or tines into metallic sockets and forcing them in tight; and should the teeth by any possibility get loose, a simple blow or two on the sockets will press them in close enough to press up hard against the teeth, and thereby keep them fixed in their sockets; and in the event of the wear and shortening of the teeth or tines, they can be driven or forced out of their places, and having been sharpened and lengthened to proper length may be again reinserted into their sockets.

Having described the construction and utility of my improved harrow, and desiring to se-

cure the right and title thereto by Letters Patent of the United States, what I claim as new and original with myself is—

The constructing the frame of a harrow of double metallic bars or of flat straps or pieces of metal, and the forming of sockets thereon by bending the metal or otherwise for inserting the teeth or tines in the manner described, and the uniting the said bars or pieces of metal, and the combining therewith the manner of

bracing or staying the same by the rod C C and couplings E F, specifically as hereinbefore set forth.

I do not claim the inventing metallic harrows, nor the form thereof, but simply the improved method of construction, as specified.

LEWIS LUPTON.

Witnesses:

SAML. GRUBB,

JOEL LUPTON.