

(No Model.)

J. L. & E. D. CLAUDIN.

COMBINED PULVERIZER, HARROW, AND CULTIVATOR.

No. 347,573.

Patented Aug. 17, 1886.

Fig. 1.

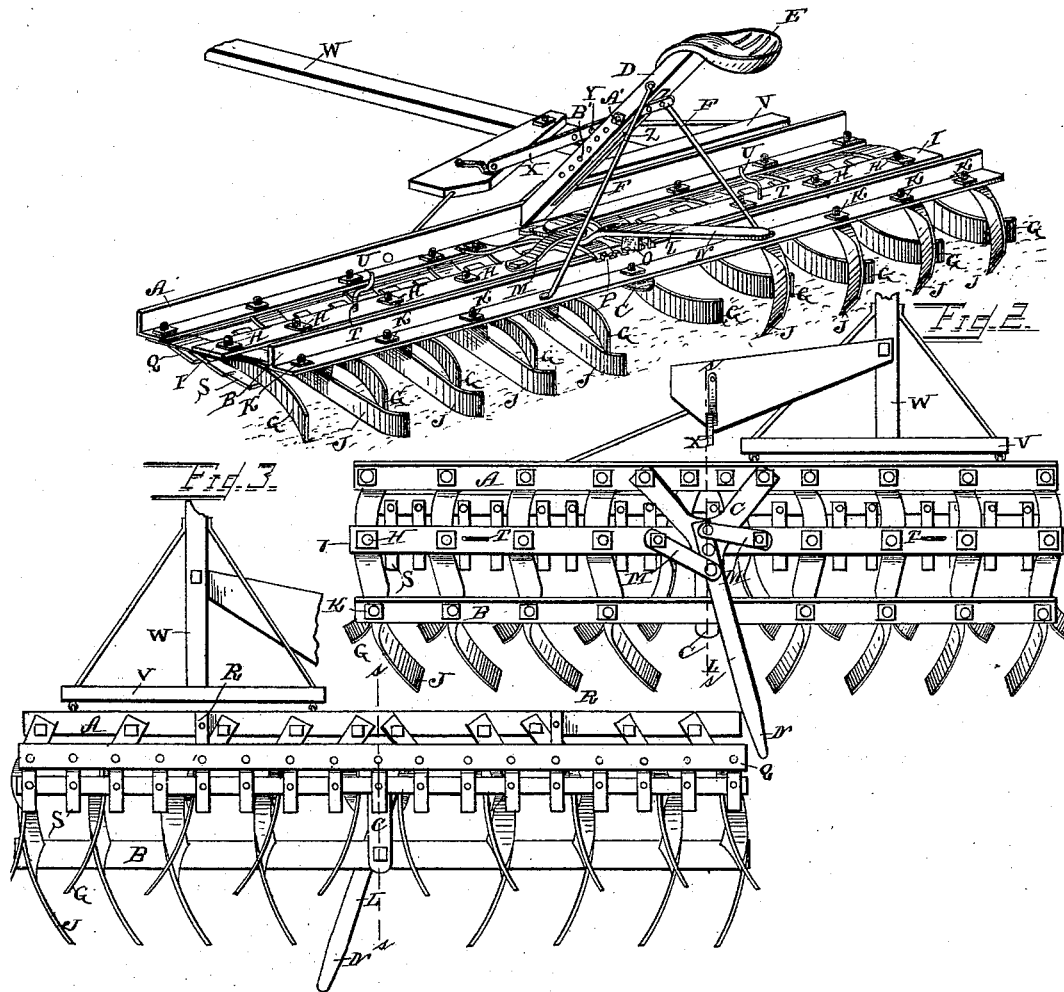
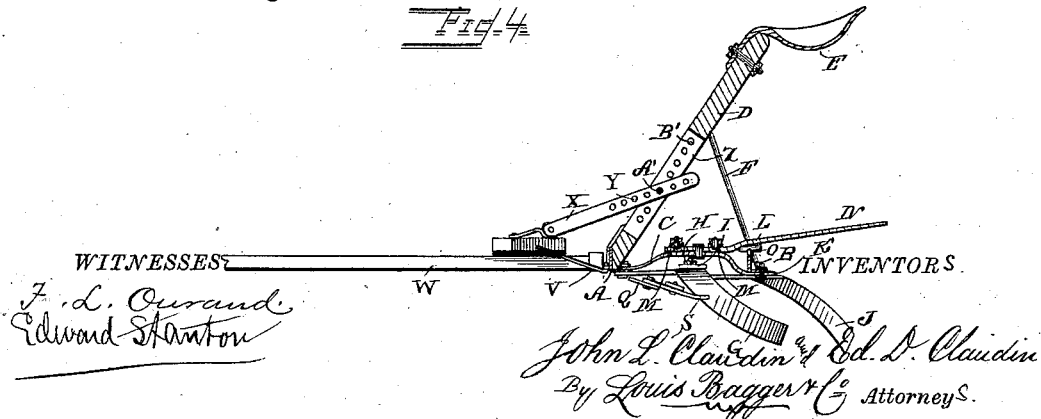


Fig. 2.



WITNESSES

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# UNITED STATES PATENT OFFICE.

JOHN L. CLAUDIN AND EDWARD D. CLAUDIN, OF MORTON, ILLINOIS.

## COMBINED PULVERIZER, HARROW, AND CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 347,573, dated August 17, 1886.

Application filed May 17, 1886. Serial No. 202,361. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN L. CLAUDIN and EDWARD D. CLAUDIN, both residents of Morton, in the county of Tazewell and State of Illinois, have invented certain new and useful Improvements in Combined Pulverizers, Harrows, and Cultivators; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of our improved combined pulverizer, harrow, and cultivator. Fig. 2 is a top view of the same with the seat and seat-support removed. Fig. 3 is a bottom view of the same; and Fig. 4 is a vertical sectional view on lines s, Figs. 2 and 3.

Similar letters of reference indicate corresponding parts in all the figures.

Our invention has relation to that class of pulverizing-harrows in which curved rearwardly-extending blades are pivoted at their forward ends, and have means for changing their position with reference to the line of draft; and it consists in the improved construction and combination of parts of such a harrow, which may be used as a cultivator in low crops, as hereinafter more fully described and claimed.

In the accompanying drawings, the letters A and B indicate two frame-bars, which are connected at their middles by means of a brace, C, secured with its forward bifurcated end to the forward frame-bar, while its rear end is secured to the middle of the rear frame-bar, and a rearwardly-inclined seat-upright, D, is secured to the forward frame-bar, and has a seat, E, upon its upper end, and two downwardly-projecting braces, F F, which are secured to the rear frame-bar. The forward ends of a row of curved blades, G, are pivoted to the under side of the forward frame-bar, the forward portions of the said blades being twisted into a horizontal plane, while the rear portions of the blades are twisted into a vertical plane and curved outward at the ends, the blades at one-half of the bar pointing in one direction and at the other half in the opposite direction, and the middles of these

blades are pivoted upon bolts H, passing through bars I, parallel to the frame-bars. The forward ends of similarly-constructed rear blades, J, are pivoted to these bars upon the same bolts between the forward blades and the bars, and the middles of these blades are pivoted upon bolts K upon the under side of the rear frame-bar, the rear ends of the blades converging toward the middle. A lever, L, is pivoted upon the middle of the brace connecting the middles of the frame-bars, and has short arms M M pivoted to its arms at equal distances from the fulcrum and to the movable bars between the frame-bar, and the rear arm of the lever projects rearward, forming a handle, N, provided with a downwardly-projecting flange or tongue, O, which may engage notches P in the upper edge of the rear frame-bar. A flat bar, Q, is secured to the forward frame-bar by means of metallic flat bars R, and is provided at its rear edge with a number of rearwardly-projecting flat metallic crusher-bars, S, and screws T, having cranks U or similar handles for turning them, fit and turn in suitable perforations in the movable bar and bear against the crusher-bar with their lower ends, forcing the same downward when screwed down, and allowing it to rise when screwed up. The draft-frame V, having the tongue W, is pivoted to the forward frame-bar, and may be arranged for any number of horses, and a flat bar, X, having a number of perforations, Y, slides in a longitudinal slot, Z, in the inclined seat-support, and may be engaged by a pin or bolt, A', passing through perforations B' in the sides of the slot and through the flat bar. It will be seen that the angles of the curved blades may be changed by tilting the handle of the lever to either side, and that the curve and twist of the blades will cause them to turn the soil similar to plow-blades, and that the said turning will more take the character of scraping when the blades are tilted to the side. The forward and rear rows of blades are curved in opposite directions, so that the forward row will throw the soil to one side, and the rear row will again throw it back, so that no ridges will be formed by the harrow, but the surface will be left plain and level, and the middle of the rear frame-bar has no blades for the rear row, so that a space will be formed,

with which space the implement may straddle a row of low plants, cultivating the spaces between the rows. The rearwardly-projecting arms of the crusher-bar will serve to crush all  
 5 clods upon the ground, being dragged over the ground, and the crusher-bar and its arms may be forced downward by the screws, causing it to bear harder against the ground and to raise the forward end of the frame above  
 10 the ground, burying the rear ends of the blades; or it may be forced upward by its resting upon the ground when the screws are raised, allowing the forward end of the frame to drag, and thus raising the rear ends of the  
 15 blades from out of the ground.

The tongue and draft-frame may be loosely hinged to the frame; when the frame will be dragged over the ground and enter the ground only by its own weight, or it may be held at  
 20 a certain angle to the frame by means of the perforated flat bar being adjusted upon the bolt in the slot of the seat-support, when the frame will be drawn over the ground at a certain angle and the blades will be forced into  
 25 the ground at a certain depth.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. In a combined harrow, pulverizer, and  
 30 cultivator, the combination of two parallel frame-bars having a brace connecting them at the middle, a bar parallel to the said frame-bars and placed between them, blades having their forward ends pivoted to the forward bar  
 35 and their middles to the movable bars, blades having their forward ends pivoted to the movable bars and their middles to the rear bar, and means for forcing the movable bars outward in opposite directions, as and for the  
 40 purpose shown and set forth.

2. In a combined harrow, pulverizer, and cultivator, the combination of two parallel bars of the frame connected by suitable braces, bars parallel to the frame-bars and placed be-  
 45 tween them, with their inner ends adjoining, a set of blades having the forward ends of their flat horizontally twisted forward portions pivoted to the forward bar, and having the rear ends of the said portions pivoted to the  
 50 movable bars, and having the rear ends twisted into a vertical plane, and having the ends curved divergingly from the middle of the frame, a set of similarly-shaped blades having their forward ends pivoted to the movable  
 55 bars and the rear ends of the horizontally-

twisted portions upon the rear bar, and having their rear ends curved toward the middle of the frame, and means for sliding the movable bars outward and inward, as and for the purpose shown and set forth. 60

3. In a combined harrow, pulverizer, and cultivator, the combination of two parallel frame-bars connected at their middles by a brace and by the seat-support and its braces, two bars placed parallel to the frame-bars be-  
 65 tween the same, with their inner ends adjoining, two sets of pulverizing-blades pivoted, respectively, with their forward ends to the under side of the forward frame-bar and with their middles to the movable bars, and with  
 70 their forward ends to the movable bars and with their middles to the rear frame-bar, and a lever pivoted upon the central brace of the frame, and having arms pivoted to its forward end and to its rear arm at equal distances from  
 75 the fulcrum, and pivoted at their ends to the inner ends of the movable bars, as and for the purpose shown and set forth.

4. In a combined harrow, pulverizer, and cultivator, the combination of a frame having  
 80 laterally-movable blades pivoted upon the under side, a crusher-bar having yielding bars at its forward edge secured to the forward edge of the under side of the frame, and having rearwardly-projecting arms, and screws passing  
 85 through the frame and bearing with their lower ends against the upper side of the crusher-bar, provided with handles at their upper ends, as and for the purpose shown and set forth.

5. In a combined harrow, pulverizer, and  
 90 cultivator, the combination of a frame having laterally-movable blades pivoted upon the under side, an inclined seat support having a longitudinal slot formed with transverse perforations in its sides, a tongue and draft-frame  
 95 hinged to the forward edge of the frame, and a bar having a series of transverse perforations, and projecting through the slot in the seat-support adjusted in the same upon a bolt passing through the perforations, as and for the  
 100 purpose shown and set forth.

In testimony that we claim the foregoing as our own we have hereunto affixed our signatures in presence of two witnesses.

JOHN L. CLAUDIN.  
 EDWARD D. CLAUDIN.

Witnesses:

GEO. RHOYAL SHAFER,  
 HENRY C. MILLER.