J. H. BARR.

Harrow.

No. 202,780. Patented April 23, 1878.

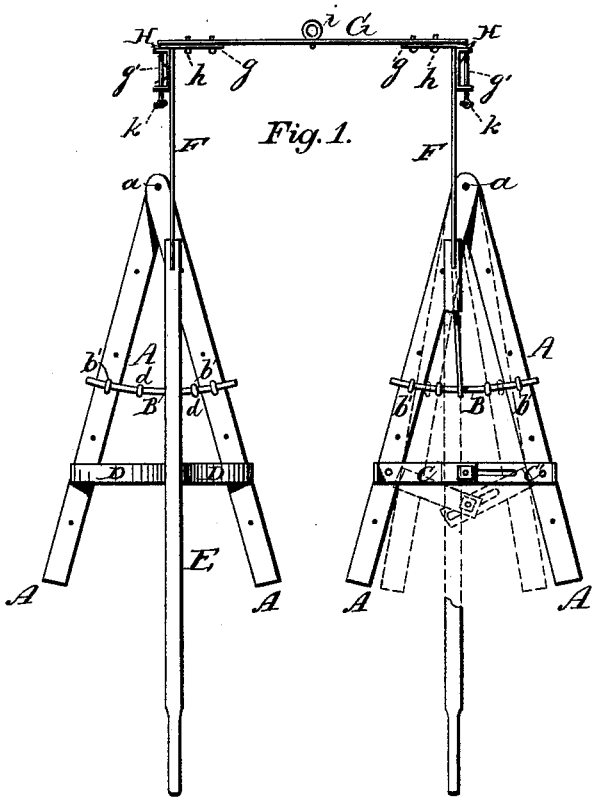

Fig. 1.

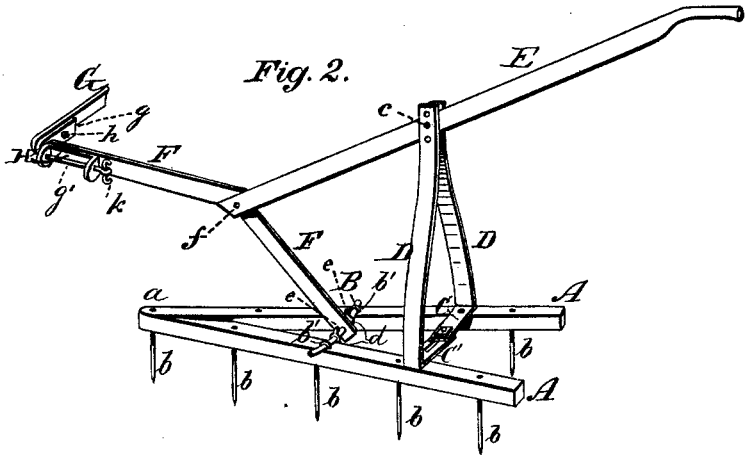

Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHN H. BARR, OF REDMON, ILLINOIS.

IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. **202,780**, dated April 23, 1878; application filed February 11, 1878.

To all whom it may concern:

Be it known that I, JOHN H. BARR, of Redmon, in the county of Edgar and State of Illinois, have invented certain new and useful Improvements in Harrows; 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 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 top plan of my improved double harrow; and Fig. 2 is a perspective of one of the harrows, detached.

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

My invention relates more particularly to corn-harrows, used in sets or gangs of two, but which may be used also in combination with cultivators for the purpose of pulverizing the soil; and it consists in an improved construction and combination of parts of a harrow of this class, substantially as hereinafter more fully set forth, and pointed out in the claims.

In the drawing, A A is the frame, which consists, in each single harrow, of two pieces, rabbeted and bolted together at *a* to form a sharp angle, as shown. Secured in these two pieces are the harrow-teeth *b b*, which may be of any suitable shape and construction. The pieces A A are braced and united together by a round bar, B, the ends of which rest in staples *b' b'*, one in each piece, and also by a bar, C, made in two pieces, one part, C, being provided with a hole and set-screw, while the other part, C', has a slot, through which the shank of the set-screw passes, the two pieces C and C' thus forming an extension rod or bar, which may be regulated or adjusted so as to keep the rear part of frame A A the proper distance apart. D D are braces, which pass from the frame (one on each side) up to the handle E, to which their upper ends are secured, one on each side, by a bolt, *c*. It will thus be seen that the extension-brace C C' and the rods or braces D D form a triangle, the apex of which is at the point where the parts D D are united to the handle. F is the beam or tongue, made, preferably, of metal, and welded at a right angle to the round front brace B. To prevent the staples *b' b'* from slipping on this bar or brace, the latter has two annular shoulders, *d d*, secured upon it, each provided with a projecting lug or ear, *e*, which will control lateral motion. The end of handle E is secured to the bend of tongue F by a bolt, *f*, as shown.

Two of these harrows make a set or gang, and are for that purpose united by a cross-beam, G, as shown in Fig. 1. Upon each end of this beam is secured an adjustable plate or bearing, *g*, which may be adjusted in proper position upon the beam by one or more set-screws, *h*. This bearing-plate *g* is bent at a right angle, the projecting part *g'* being rounded, and terminating in an eye or bolt hole, through which a pin, *k*, may be inserted.

Upon the forward end of each of the tongues F is firmly secured a plate, H, the ends of which are bent at right angles, so as to form two ears, which are perforated to admit of the insertion of the rounded part *g'*. It follows that, by shifting the position of plates *g g* upon the cross-piece G, (by means of the bolts or screws *h*,) the distance between the harrows may be regulated; while by rounding the part *g'*, upon which the harrow-tongues are hung, these (the tongues and their harrows) will have a free rocking or oscillating motion upon the part *g'*, so as to conform readily to undulations in the ground.

i is a clevis, fastened to the middle of beam G, to which the double-tree is secured in the usual manner.

The advantages of this harrow are that it is perfectly controllable when used for harrowing corn. Each harrow being entirely independent of the other in the same gang, it will readily pass over or around any rocks or stubs that are in the way, and may be used on any kind of rough or uneven ground.

By detaching the harrows from the cross-beam, they may, if desired, be used singly; and, by adjusting the extension-plates C C' in the manner described, the frame A A may be expanded or contracted, to harrow coarse or fine, according to the nature of the soil.

My improved harrow may readily be attached to and used in combination with a cultivator, as it is light of draft and easily

adjusted, so as to pulverize the soil after the plows have gone over it.

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

1. In combination with the adjustable V-shaped harrow-frame A A, armed with teeth *b*, and having the staples or keepers *b'* *b'*, the curved bar B, having annular shoulders *d d* and tongue F, extension-plates C C', braces D D, and handle E the latter being pivoted adjustably to the braces D D at *e* and to the bend of tongue F at *f*, substantially as and for the purpose herein shown and described.

2. The combination, with the cross-bar G, having clevis *i*, of the adjustable bracket-plates *g g' g g'* and tongues F, having plates H, substantially as and for the purpose herein shown and described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN HENRY BARR.

Witnesses:
S. W. CALVIN,
JACKSON YOUNG.