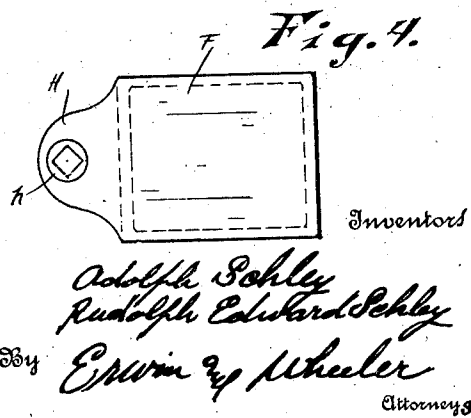
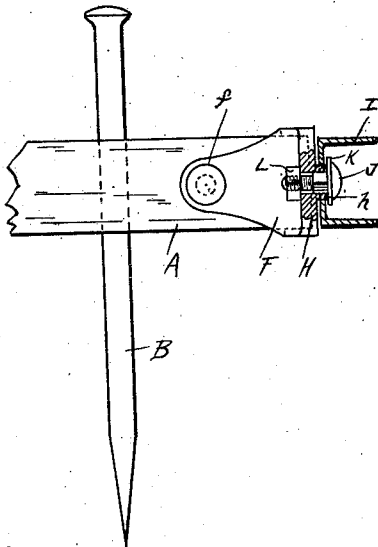
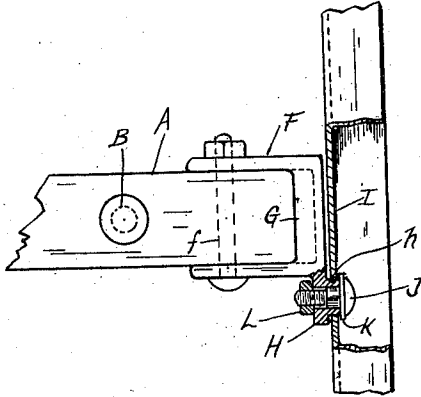
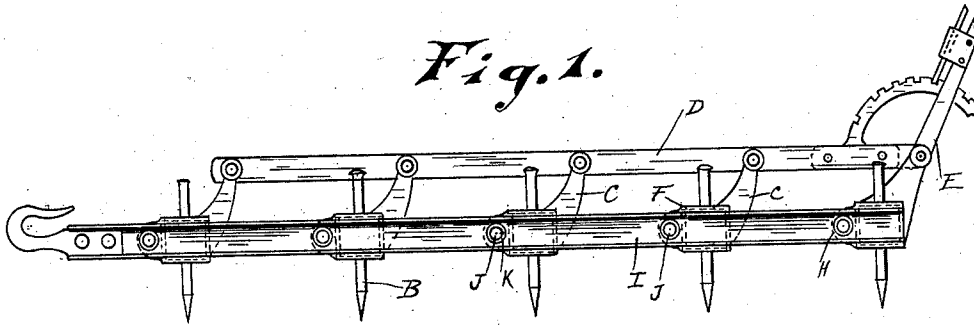


A. & R. E. SCHLEY.
HARROW.
APPLICATION FILED SEPT. 25, 1909.

986,597.

Patented Mar. 14, 1911.



Witnesses
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UNITED STATES PATENT OFFICE.

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HARROW.

986,597.

Specification of Letters Patent.

Patented Mar. 14, 1911.

Application filed September 25, 1909. Serial No. 519,509.

To all whom it may concern:

Be it known that we, ADOLPH SCHLEY and RUDOLPH EDWARD SCHLEY, citizens of the United States, residing at Beaver Dam, county of Dodge, and State of Wisconsin, have invented new and useful Improvements in Harrows, of which the following is a specification.

Our invention relates to improvements in that class of harrows, provided with drag teeth and rocking beams, whereby said teeth may be adjusted into and out of position of use. In the harrows of this class, attempts have heretofore been made to provide connecting members for the rocking beams, which, when the teeth are out of position for use, will serve as shoes to hold the beams above the surface of the ground, but such attempts have, so far as we are aware, not been successful, for the reason that the connecting members, or the means for attaching them to the beams, were easily broken or disengaged from the beams.

The object of our invention is to provide a form of construction, in which there will be substantially no tendency to break the connections and in which the shoes will present a substantial runner surface for contact with the ground.

In the following description, reference is had to the accompanying drawings, in which—

Figure 1 is a side view of a harrow embodying our invention. Fig. 2 is a detail plan view, showing the end of one of the rocking beams and a portion of a shoe connected therewith, the latter being partially illustrated in horizontal section drawn through its connection with the beam. Fig. 3 is a front view of the same, showing the shoe in cross section, drawn through its connection with the beam. Fig. 4 is a detail view of the outer surface of the connecting cap member, showing the square socket for receiving the connecting bolt.

Like parts are identified by the same reference characters throughout the several views.

The rocker beams A, teeth B, actuating arms C, connecting bars D and manually actuated lever E, may all be of any ordinary construction. In the harrow illustrated, the teeth are moved to inoperative position by

means of the lever E, which actuates the connecting bars D forwardly, permitting the beams A to tilt forwardly and downwardly over the harrow teeth, which serve as fulcrums until the beams, or shoe bars connected therewith, are brought into contact with the ground, after which the beams rock upon the ground, or upon such shoe bars, to raise the points of the harrow teeth and adjust such teeth to a horizontal position. We provide the ends of each beam A with a metallic cap F, in which the beam is socketed at G and to which it is bolted by a bolt *f*. This cap member is provided with a forwardly projecting ear H, having an aperture surrounded by outwardly projecting apertured boss *h*, which is adapted to fit suitable apertures in the shoe or bar I, which shoe or bar serves as a connecting member at the respective ends of the beams A. A connecting bolt J, preferably an ordinary carriage bolt, is inserted through the boss *h* with its head preferably bearing upon a washer K interposed between the head of the bolt and the end of the boss *h*, and a nut L is screwed upon the inner end of the bolt J and bears upon the inner surface of the ear H. The bolt J near the head H is square in cross section, and the aperture in the boss *h* is similarly formed, whereby the bolt is prevented from turning. The washer K does not come in contact with the shoe I, but bears against the end of the boss *h* and therefore there will be no tendency for the bolt J to vibrate or loosen, or for the nut L to unscrew.

The shoe or bar I is preferably formed of channel iron, having its central portion connected, as above described, to the ears H, and with upper and lower outwardly projecting flanges which protect the boss *h* and the bolt J. The lower flange also provides a runner surface for contact with the ground, when the beams A are rotated to a position with the ears H extending downwardly therefrom. It will be observed that the ear H projects forwardly but not outwardly from the head of the cap plate F and that it is located upon the front wall of the cap plate, midway between the top and bottom of the beam in its normal position of use, the outer surface of the ear being in the same plane as the outer surface of the cap plate. It is

therefore obvious that the cap plates F may be applied to either end of the beam, being thus made interchangeable. It is also obvious that in normal position the shoe bars I will extend along the ends of the beams, and the entire device will be supported by the harrow teeth, but when the beams A are rotated in a direction to tilt the teeth forwardly, the ears H will turn toward a vertical position, and when the shoe bars I come into contact with the ground, a further rotation of the beams A will cause them to lift or swing upwardly to a point where the ears H occupy a vertical position with the beams A above the bosses h.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a harrow having toothed beams and means for rocking the same to adjust the teeth into and out of operative position, the combination with said beams, of metallic end caps therefor, projections on said caps, each having an outer surface substantially in the plane of the outer surface of the cap and provided with an apertured boss extending outwardly from said surface, a bar having apertures in which the bosses of the projections are journaled, and bolts extending through said bosses and connecting said bar with the projections of the several beam caps, said projections being so located that the lower margins of said bars will be below the beams when the teeth are out of operative position.

2. In a harrow having toothed beams and means for rocking the same to adjust the teeth into and out of operative position, the combination with said beams, of metallic end caps therefor, projections on said caps, each having an outer surface substantially in the plane of the outer surface of the cap and provided with an apertured boss extending outwardly from said surface, a bar having apertures in which the bosses of the projections are journaled, and bolts extending through said bosses and connecting said bar with the projections of the several beam caps, said projections being arranged to project forwardly from the beams when the harrow teeth are in operative position, and downwardly when the teeth are in an inoperative position.

3. In a harrow having toothed beams and means for rocking the same to adjust the teeth into and out of operative position, the combination with said beams, of metallic end caps therefor, projections on said caps, each having an outer surface substantially in the plane of the outer surface of the cap and provided with an apertured boss extending outwardly from said surface, a bar having apertures in which the bosses of the projections are journaled, and bolts extending

through said bosses and connecting said bar with the projections of the several beam caps, said projections being arranged to project forwardly from the beams when the harrow teeth are in operative position, and downwardly when the teeth are in an inoperative position, and said bars being formed of channel iron with flanges above and below said bosses to protect them from injury.

4. In a harrow having toothed beams and means for rocking the same to adjust the teeth into and out of operative position, the combination with said beams, of metallic end caps therefor, projections on said caps, each having an outer surface substantially in the plane of the outer surface of the cap and provided with an apertured boss extending outwardly from said surface, a bar having apertures in which the bosses of the projections are journaled, and bolts extending through said bosses and connecting said bar with the projections of the several beam caps, said projections being so located that the lower margins of said bars will be below the beams when the teeth are out of operative position, said bolts having corner projections engaging correspondingly shaped portions of the boss apertures.

5. In a harrow having toothed beams and means for rocking the same to adjust the teeth into and out of operative position, the combination with said beams, of metallic end caps therefor, projections on said caps, each having an outer surface substantially in the plane of the outer surface of the cap and provided with an apertured boss extending outwardly from said surface, a bar having apertures in which the bosses of the projections are journaled, and bolts extending through said bosses and connecting said bar with the projections of the several beam caps, said projections being so located that the lower margins of said bars will be below the beams when the teeth are out of operative position, said projections extending from the center of the front margin of the outer wall of said cap, whereby like caps may be adjusted to either end of the beam.

6. In a harrow having toothed beams and means for rocking the same to adjust the teeth into and out of operative position, the combination with said beams, of metallic end caps therefor, projections on said caps provided with outwardly projecting bosses, connecting bars, journaled on said bosses, and bolts extending through the bosses, and through said projections, said bolts being non-rotatably engaged in said bosses.

7. In a harrow having toothed beams and means for rocking the same to adjust the teeth into and out of operative position, the combination with said beams, of metallic end caps therefor, projections on said caps

provided with outwardly projecting bosses,
connecting bars, journaled on said bosses,
and bolts extending through the bosses, and
through said projections, said bolts being
5 non-rotatably engaged in said bosses, and
said connecting bars having outwardly ex-
tending flanges above and below said bosses.

In testimony whereof we affix our signa-
tures in the presence of two witnesses.

ADOLPH SCHLEY.

RUDOLPH EDWARD SCHLEY.

Witnesses:

JAMES T. HEALY,

KUNIE HAIDER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
