(No Model.)

H. W. ALSHOUSE.

HARROW.

No. 354,963. Patented Dec. 28, 1886.

Fig. 1.

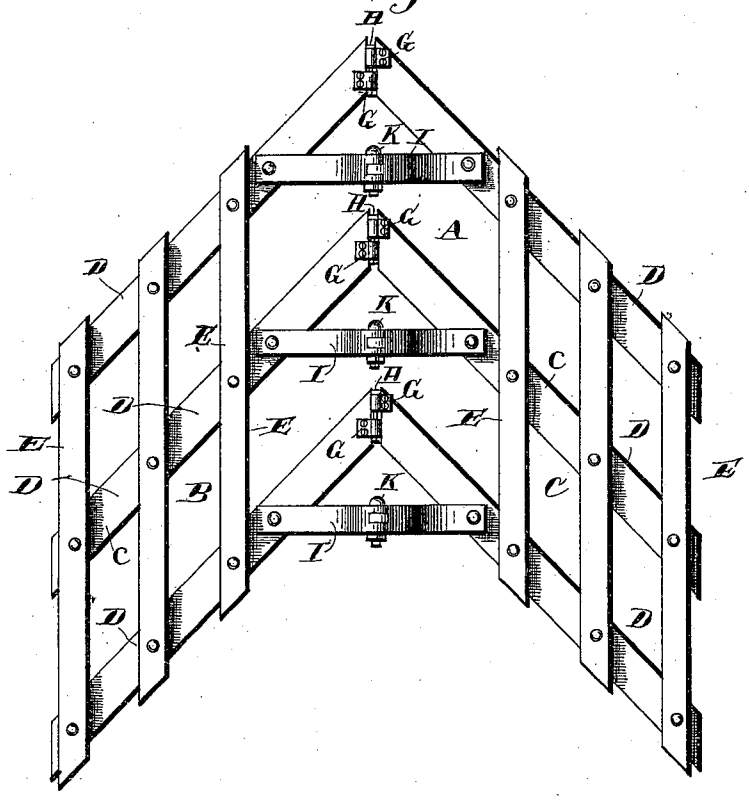
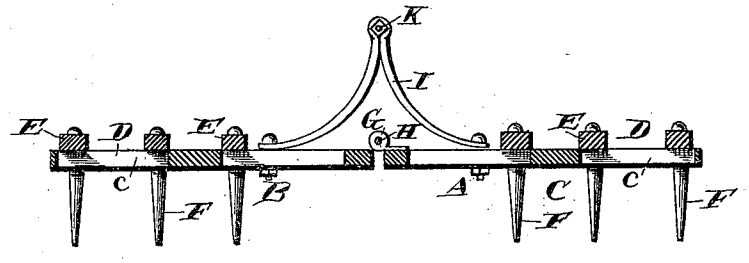


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY WALDO ALSHOUSE, OF CUSTER, INDIANA.

HARROW.

SPECIFICATION forming part of Letters Patent No. 354,963, dated December 28, 1886.

Application filed September 17, 1886. Serial No. 213,830. (No model.)

To all whom it may concern:

Be it known that I, HENRY WALDO ALSHOUSE, a citizen of the United States, residing at Custer, in the county of De Kalb and State of Indiana, have invented a new and useful Improvement in Harrows, of which the following is a specification.

My invention relates to an improvement in harrows; and it consists in the combination, with a harrow made in separate sections, of a spring-hinge to connect the sections of the harrow, whereby the harrow-teeth will be caused to all run at the same depth in the ground, and will be kept at work and prevented from following each other and tracing in the same furrows when the soil is hard, as will be more fully set forth hereinafter.

In the accompanying drawings, Figure 1 is a top plan view of a harrow embodying my improvements. Fig. 2 is a vertical sectional view of the same, taken on the line *x x* of Fig. 1.

A represents the harrow, composed of two sections, B and C. Each section comprises the obliquely-arranged beams D and the longitudinal beams E, which are arranged parallel with each other and connect the beams C together. The usual harrow-teeth, F, are provided for the sections, as shown.

The sections B and C are arranged side by side, with their oblique beams C converging, and the inner ends of the said beams are hinged together by means of arms G and longitudinal hinge-bolts H, which extend through aligned openings in the inner ends of the said arms. By this construction it will be readily understood that the harrow is made flexible, so that one section may be raised to clear an obstruction without disturbing the other section.

I have learned that, in order to obtain the best results from a flexible harrow thus constructed, it is essential to provide some form of connection between the sections of sufficient rigidity to prevent them from moving to an undue extent independently of each other, and thus causing their teeth to run at different depths in the ground and the sections from trailing, so as to cause the teeth to follow each other, and thus retrace the furrows that are made by the front teeth. I therefore provide spring-arms I, which are made of steel, and are jointed together at their upper ends by means of hinge-bolts K, and have their lower ends bolted to the inner ends of the beams D, or secured to the meeting edges of the harrow-sections in any other suitable manner. These spring-arms and their connecting-bolts form spring-hinges, which stiffen the connection between the harrow-sections, thus preventing too great a degree of flexibility in the harrow, but not in any manner interfering with sufficient play or flexibility of the harrow to allow one section thereof to be raised to clear an obstruction while the other section remains at work.

I am aware that it has been heretofore proposed to connect the independent sections of a harrow together by spring-bars and by converging bars pivoted to each other and to the harrow-sections, and provided with spiral springs, sliding collars flexibly connected to each other, and a lever to compress the said spiral springs; but such is not my construction, and this therefore I disclaim.

Having thus described my invention, I claim—

1. In a harrow, the combination of the sections hinged together, and the spring-arms I, secured at their lower ends to the meeting edges of the harrow-sections and extending upwardly from the same, and the bolts K, connecting the upper ends of the said spring-arms together, substantially as described.

2. In a harrow, the combination, with the flexible sectional harrow having its sections hinged together, of the spring-arms I, fitted at their lower ends on one side of the hinge-point of the sections, and having their upper ends hinged or pivoted together.

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

HENRY WALDO ALSHOUSE.

Witnesses:

ALONZO STRONG,

ANDREW ALSHOUSE.