

(No Model.)

C. LA DOW.

HARROW OR CULTIVATOR.

No. 294,792.

Patented Mar. 11, 1884.

Fig. 1.

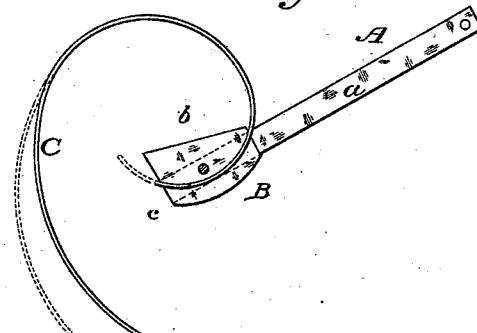


Fig. 2.

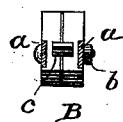
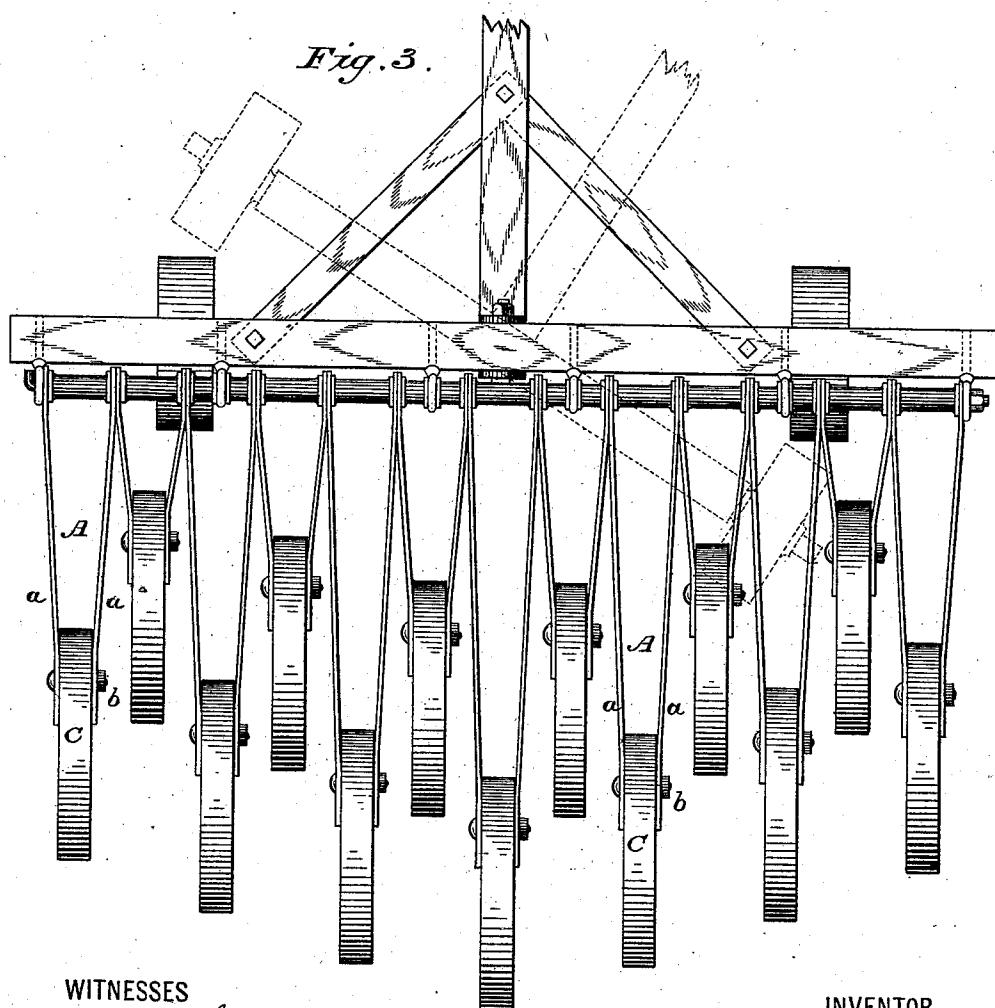


Fig. 3.



WITNESSES

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# UNITED STATES PATENT OFFICE.

CHARLES LA DOW, OF ALBANY, NEW YORK.

## HARROW OR CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 294,792, dated March 11, 1884.

Application filed March 1, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES LA Dow, a citizen of the United States, residing in the city and county of Albany, in the State of New York, have invented certain new and useful Improvements in Harrows or Cultivators, of which the following is a specification.

The primary object of the present invention is to make a sulky-harrow having hinged drag-bars which are provided with shoes or runners in which harrow-teeth are adjustably secured, so that they may project more or less below the shoes which run upon the ground.

In the accompanying drawings, Figure 1 is a detail sectional view, showing a single drag-bar, shoe, and curved spring-tooth. Fig. 2 is a detail view of the shoe or socket in which the curved tooth is adjusted and secured, and Fig. 3 is a plan view of a complete machine.

As the subject-matter of this application is confined exclusively to the hinged drag-bars, shoes, runners, or sockets, and teeth adjustably secured therein, any description of the other part of the machine is deemed unnecessary, because my invention may be applied to machines having frames of any suitable character, and, further, because the machine is fully illustrated and described in a division of this application hereinafter referred to.

In the drawings, the drag-bars A are shown as split bars composed of two sections, *a a*, between which the sectional socket or shoe B is clamped by a bolt, *b*. This shoe is provided with a curved slot, *c*, and the spring-tooth C is clamped therein and held in any desired position by the bolt *b*.

Obviously the drag-bars may be made in one piece, and the shoe suitably secured on the end thereof either by the clamping-bolt *b*, which also holds the tooth, or it may be independently secured.

The form of tooth deemed by me most efficient and best adapted for my organization is the spring-tooth illustrated in the drawings.

It will be understood that the shoes B run upon the ground and regulate the depth of penetration of the teeth, the latter being ad-

justable in the shoes, so as to project more or less below them into the ground.

It is also obvious, and is indicated by dotted lines in the drawings, that the adjustment of the curved tooth in the socket also varies its angle of inclination to the earth, and the machine is thus adapted to varying conditions of the soil.

While I prefer to employ spring-teeth, it is obvious that rigid teeth may be used with the same results—that is, depth of penetration and variation of angle—and, further, that teeth of other shapes may be used, designed more especially to give an adjustment to the depth of penetration and not to the change of angle.

This application is a division of my case No. 56,810, filed March 30, 1882, and any subject-matter herein described or shown but claimed in that case is disclaimed herein.

I claim as my invention—

1. In a sulky-harrow, the combination of drag-bars A, hinged at their forward ends and provided with shoes B at their rear ends to slide on the ground, with teeth adjustably secured to said shoes, so that said teeth may project more or less below the shoes into the ground, as shown and described.

2. The combination of the independent drag-bar A and curved tooth C with the shoe B, slotted to permit the tooth to slide therein for the purpose of setting it more or less deep in the ground below the shoe, substantially as described.

3. The combination of an independently-acting drag-bar, and a spring-tooth curved above its attachment to the bar, substantially as described, and capable of being angularly adjusted relatively to the bar, and adapted to be held as adjusted by means of clamping devices applied to the edges of the tooth.

In testimony whereof I have hereunto subscribed my name this 27th day of February, A. D. 1883.

CHARLES LA DOW.

Witnesses:

JAS. H. MELICK,

W. G. WAGGONER.