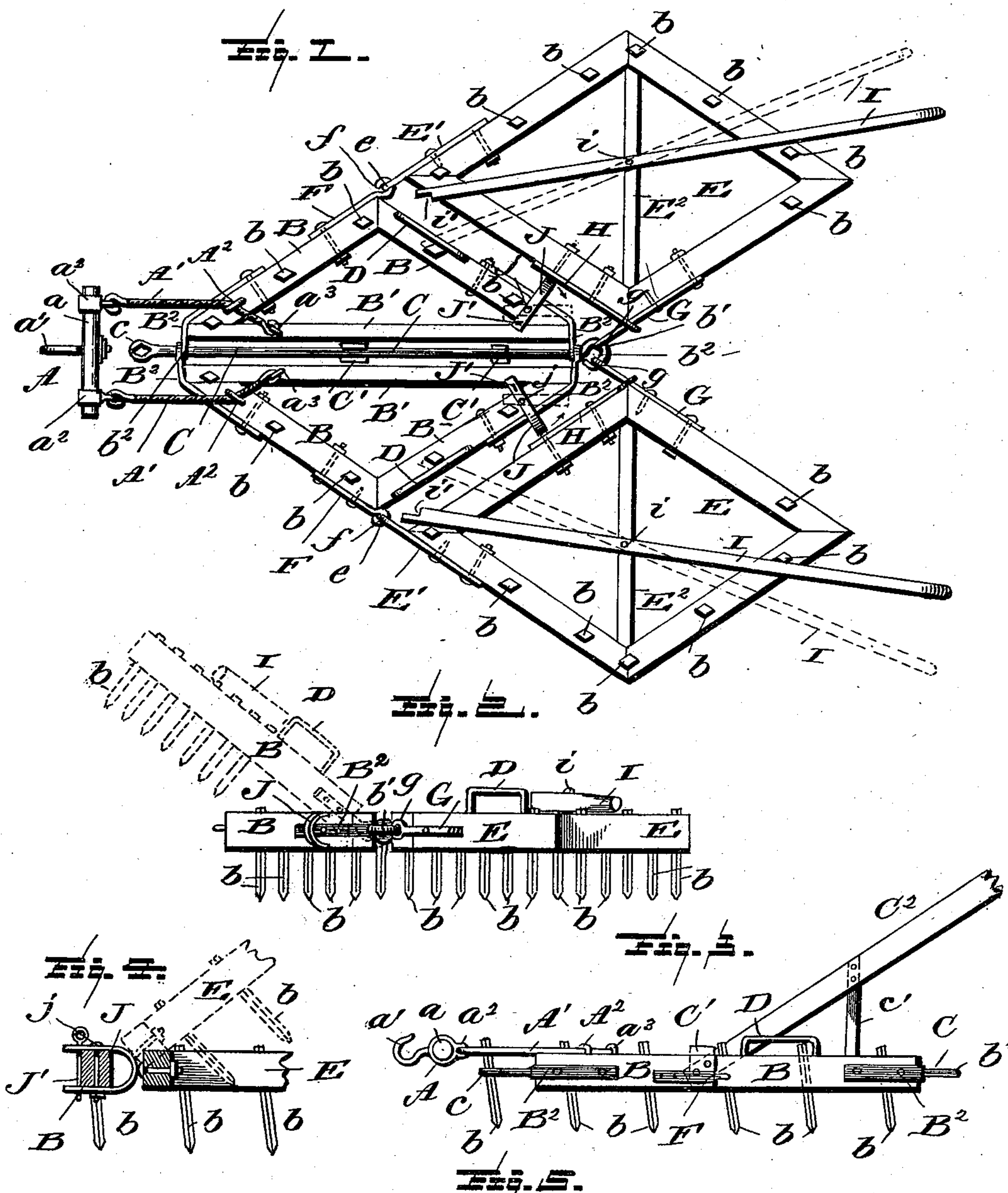


(No Model.)

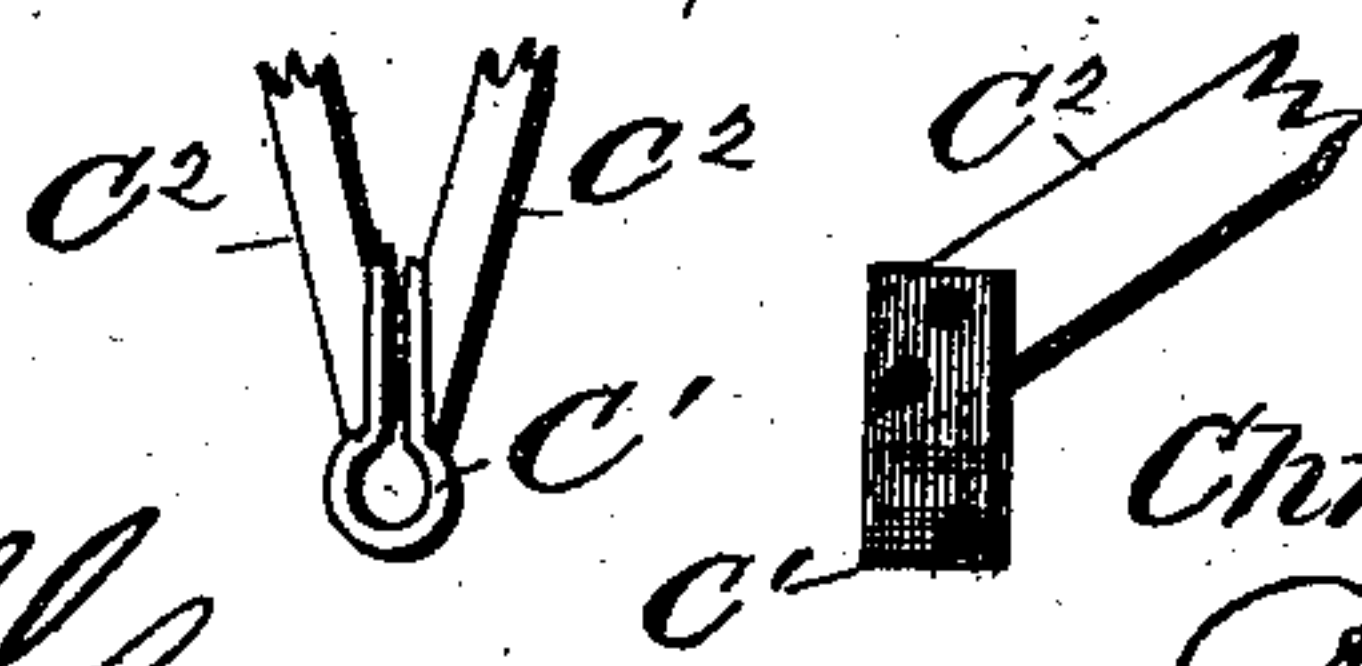
C. L. BURNETT.  
FOLDING HARROW.

No. 504,428.

Patented Sept. 5, 1893.



Witnesses  
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# UNITED STATES PATENT OFFICE.

CHRISTENBERRY L. BURNETT, OF SPARTANBURG, SOUTH CAROLINA.

## FOLDING HARROW.

SPECIFICATION forming part of Letters Patent No. 504,428, dated September 5, 1893.

Application filed November 23, 1892. Serial No. 452,932. (No model.)

*To all whom it may concern:*

Be it known that I, CHRISTENBERRY L. BURNETT, a citizen of the United States, residing at Spartanburg, in the county of Spartanburg, State of South Carolina, have invented certain new and useful Improvements in Folding Harrows, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in agricultural implements and more particularly to harrows of that class in which are employed a plurality of sections with provisions for folding the same as well as for the practicable, detachable connection.

It has for its object among others, to provide a simple and cheap construction and arrangement of parts whereby one half or portion of the device may be folded independently of the other half and also the portions of either half folded independently of each other. I provide simple and efficient means for accomplishing this purpose whereby the one handle or lever will serve the two functions. I further provide a partially rotatable brace or clip which serves to keep the sections at their proper distance apart and which when moved on its pivot will permit of separation of the sections. The main section to which the draft appliances are attached may be separated from the others and used alone on a cultivator.

Other objects and advantages of the invention, will appear in the following description and the novel features thereof will be particularly pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference thereon, form a part of this specification, and in which—

Figure 1 is a top plan of my improved harrow. Fig. 2 is a rear view with the left hand section of the harrow removed but shown in an elevated position by dotted lines. Fig. 3 is a side elevation of the main section with its handle adapted for use alone as a cultivator. Fig. 4 is a sectional detail on the line 4 4 of Fig. 1. Fig. 5 shows in detail, the clips on the main bar for holding the extra handles.

Like letters of reference refer to like parts in all the figures.

Referring now to the details of the drawings by letter A designates the draft appliance which may be of any suitable form of construction but as shown consists of a transverse bar or rod  $a$  carrying a clevis or hook  $a'$ , the said bar or rod being provided with clips or lugs  $a^2$  to which are connected, preferably detachably, the ropes or chains or other flexible devices  $A'$  as seen best in Fig. 1 which pass through eye bolts or analogous devices  $A^2$  on the incline of the bars of the front or main section of the device and are connected in any suitable manner as for instance to eye bolts or staples  $a^3$  on the inner longitudinal bars  $B'$  of the said main front section. This front or main section is composed of two like parts each substantially of the shape of a half diamond and composed of the longitudinal bars  $B'$  and the two inclined bars  $B$  secured together in any suitable manner and carrying the teeth  $b$  which may be of any preferred or well known construction. At each end of each section or portion of this front harrow section is a strap or plate  $B^2$  which serves not only to strengthen the connections at these points but extend past the longitudinal bars  $B'$  thereof and are formed with eyes  $b^2$  in which is supported the longitudinal bar or rod  $C$  as seen in Fig. 1 which bar or rod has at its rear end which extends through the eyes or loops of the plates  $B^2$  a hook or eye  $b'$ , as seen in Fig. 1 for a purpose which will be hereinafter explained. The forward end of the bar or rod  $C$  is suitably formed to prevent its withdrawal and this may be in the form of an enlargement  $c$  as seen in Fig. 1 and in this enlargement there may be held a tooth  $b$  as seen in Fig. 3. It will thus be readily seen that either or both of the halves of the front harrow section may be turned into an incline or practically vertical position when desired, the eyes or loops on the plates  $B^2$  together with the rod or bar  $C$  forming hinges on which they turn. On the rod or bar  $C$  and arranged in the space between the longitudinal bars  $B'$  of the main or front section are secured the clips  $C'$ , as seen in Fig. 1 and as shown in detail in Fig. 5 and they are designed to receive and hold handles as  $C^2$  as seen in Figs. 3 and 5 and which are designed to be affixed thereto when it is desired to use the main section alone as a cultivator. These handles may be



of any desired character and may be detachably secured to the clips in any suitable manner, not being employed when the device is used as a harrow with all of the sections as seen in Fig. 1. The handles may be suitably braced, as by braces *c'* as seen in Fig. 1.

Upon the rear inclined bars of the main or front section are the stirrups or loops *D* which are arranged to extend a sufficient distance above the upper faces of the said bars to permit of the passage thereunder of the handles or levers on the rear sections. These rear sections *E* are substantially diamond shaped as seen in Fig. 1 and are provided with teeth *b* secured thereto in any suitable manner. At the forward ends of these rear sections are provided the plates *E'* having hooked ends *e* which are adapted to engage with the hooks *f* of the plates *F* on the rear end of the forward inclined bars of the main section as seen in Fig. 1. The rear sections are provided with plates *G*, at their inner or adjacent central angles which plates are provided with hooks *g* which engage in the eye *b'* of the central rod or bar *C* thus forming hinges upon which the rear sections may turn to fold as indicated in Fig. 2. Braces *H* may sometimes be employed to strengthen the connection as shown in Fig. 1 but these braces may sometimes be omitted.

The handles are pivoted between their ends as at *i* to the transverse connecting bars *E<sup>2</sup>* of the rear section as seen in Fig. 1. The forward ends of these handles are notched as seen at *i'* to form a shoulder which is adapted to engage the inner vertical portion of the stirrup or loop *D* or the head of one of the teeth as seen in Fig. 1 when the lever is thrown around into the position shown in dotted lines and thus lock the rear section to the main or front section.

*J* is a curved plate or brace pivoted as at *j* to the rear inclined bar of the front or main section with its curve in a vertical plane and to the rear, there being one upon each rear inclined bar as seen in Fig. 1. Normally these clips or braces are held against movement on their pivots by means of the pins *J'* which are passed through openings in the parallel portions of the clips or braces behind the inclined bar *B'* as seen in Fig. 4. By this means the braces or clips are held firmly and serve to keep the rear sections against the braces *H* of which they impinge, the proper distance apart as will be understood from Fig. 1. They, however, do not prevent turning of the rear sections upon their hinges. When it is desired to detach the rear sections the pins *J'* or either one of them will be removed when the sections can be brought near to the main section so as to disengage the hooks. In practice either of the rear sections can be turned up on its hinges by means of the handle *I* to avoid an obstruction or if it is desired to turn up both the rear section and one half of the front section simultaneously the handle *I* is moved on its pivot into the position indicated

by dotted lines so as to engage its free end under the stirrup *D* when the two can be moved together. When it is desired to use the front or main section alone as a cultivator the rear sections are removed by disengaging the hooks.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What I claim as new is—

1. The combination with the two-part main section and the independent rear section having hinged connection therewith, and with the central connecting rod of the two-parts of the main section of means for moving the rear section on its hinge independent of the main section or locking it thereto to move simultaneously therewith, and means for holding the sections at a regulated distance apart substantially as specified.

2. The combination with the main section and the rear section hinged thereto, of a pivoted curved brace on the main section and a removable pin passed through the parallel portions of the brace and behind the bar to which it is pivoted, as and for the purpose specified.

3. The combination with the main section and the detachably hinged rear section, of the longitudinal rod forming a portion of the hinged connection, and having at its forward end an opening for the reception of a tooth and clips on said rod for the detachable connection of handles, substantially as and for the purpose specified.

4. The combination with the two portions of the main section, of the plates thereon with eyes, and the longitudinal rod supported in said eyes, and provided at its rear end with an eye and at its forward end with an opening for the reception of a tooth, as set forth.

5. The combination with the two portions of the main section, of the plates thereon with eyes, and the longitudinal rod supported in said eyes and provided with means for the detachable connection of handles, and for the reception of a tooth as set forth.

6. The combination with the two portions of the main section, of the plates thereon with eyes, extended laterally beyond their longitudinal bars and overlapped and the longitudinal rod supported in said eyes and provided with a hook or eye at its rear end and provided with means for the detachable connection of the handles, the pivoted curved brace and the removable pin as set forth.

7. The combination with the front section formed of two like hinged parts, having plates with eyes overlapped for the reception of a hinge-rod of the draft appliance and a flexible connection between the same and the longitudinal bars of said part, the pivoted curved brace and the removable pin as set forth.

8. The combination with the main section and the rear hinged section, of the brace on the front bar of the rear section, and the



curved brace on the rear bar of the front section with its curved portion engaging the first mentioned brace, substantially, as described.

- 5 9. The combination with the main section and the rear hinged section, of the brace on the front bar of the rear section, and the curved brace on the rear bar of the front section with its curved portion engaging the

first mentioned brace, said curved brace being pivoted and provided with a removable pin, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHRISTENBERRY L. BURNETT.

Witnesses:

R. E. BREWTON,

J. W. REID.