

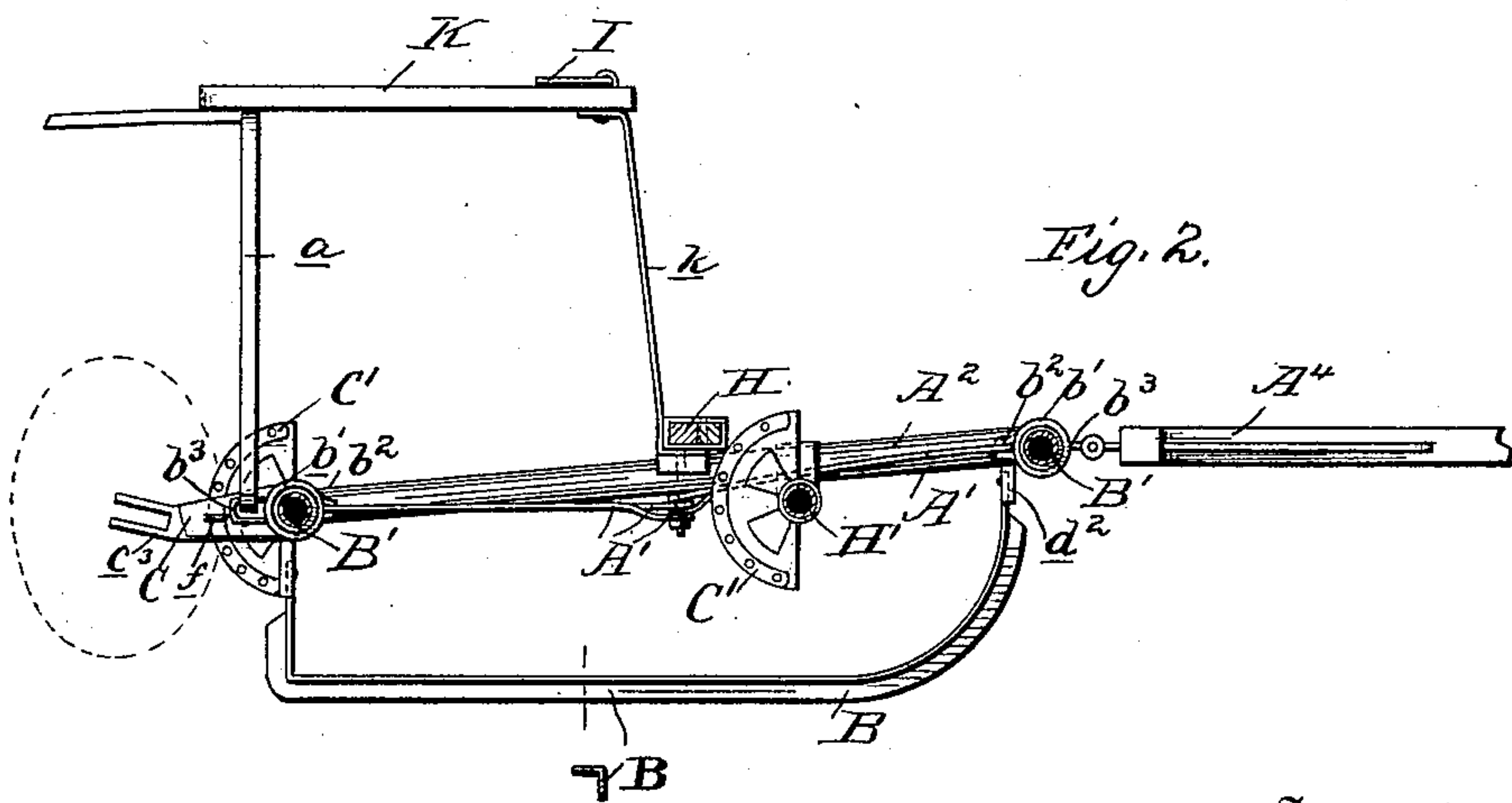
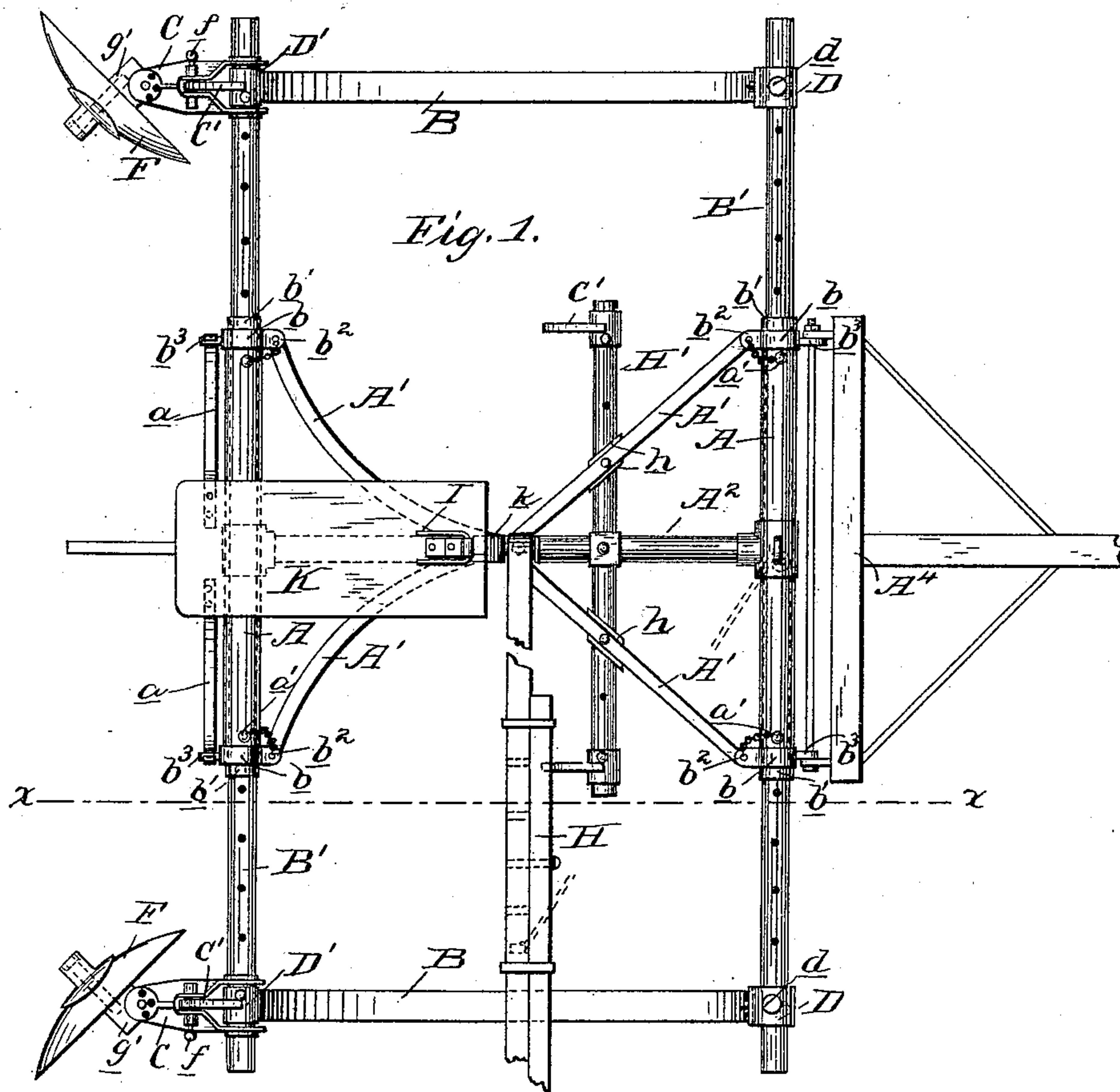
(No Model.)

2 Sheets—Sheet 1.

S. LINTHICUM, Jr.
COMBINED FURROWER, MARKER, AND COVERER.

No. 605,963.

Patented June 21, 1898.



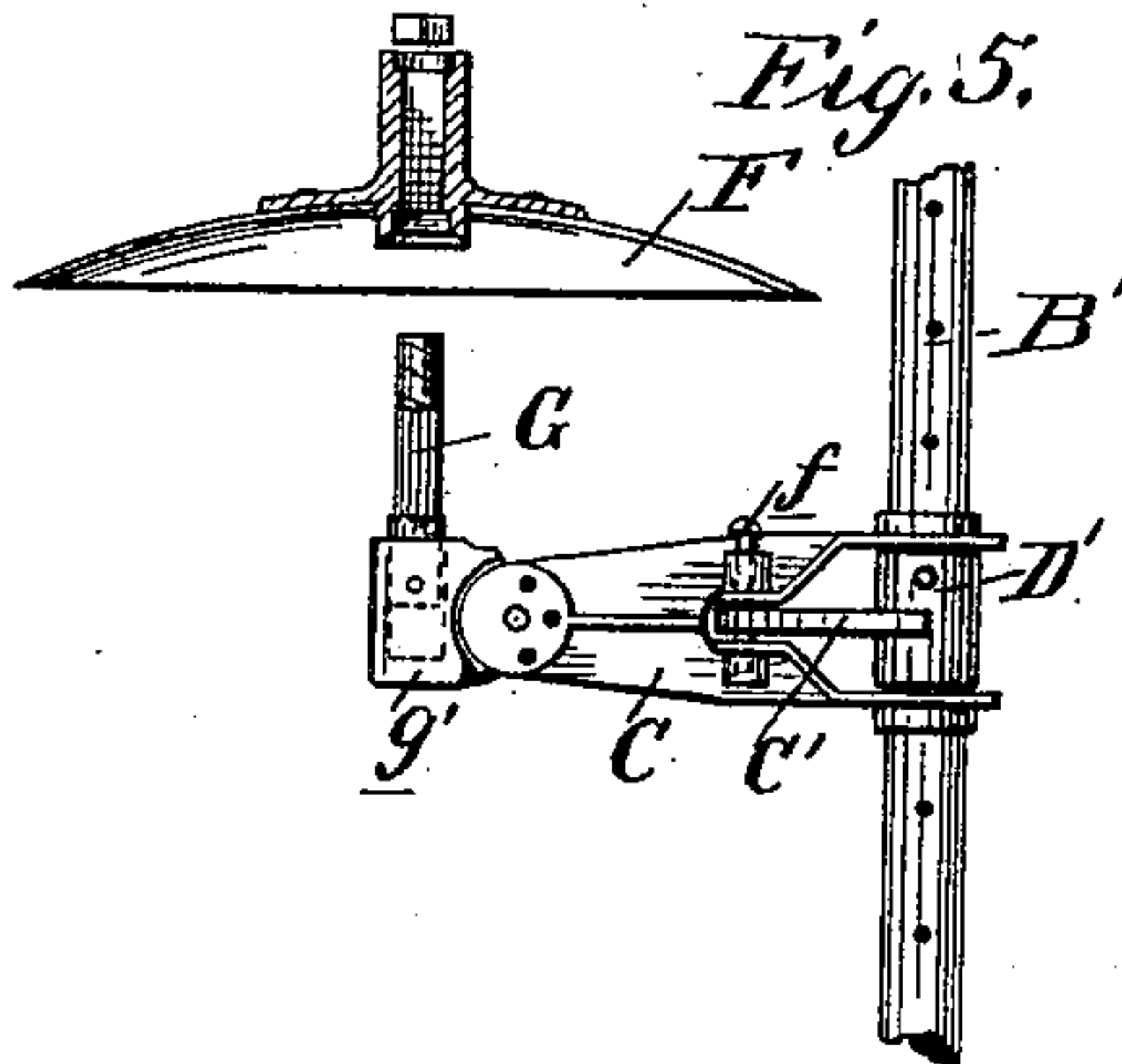
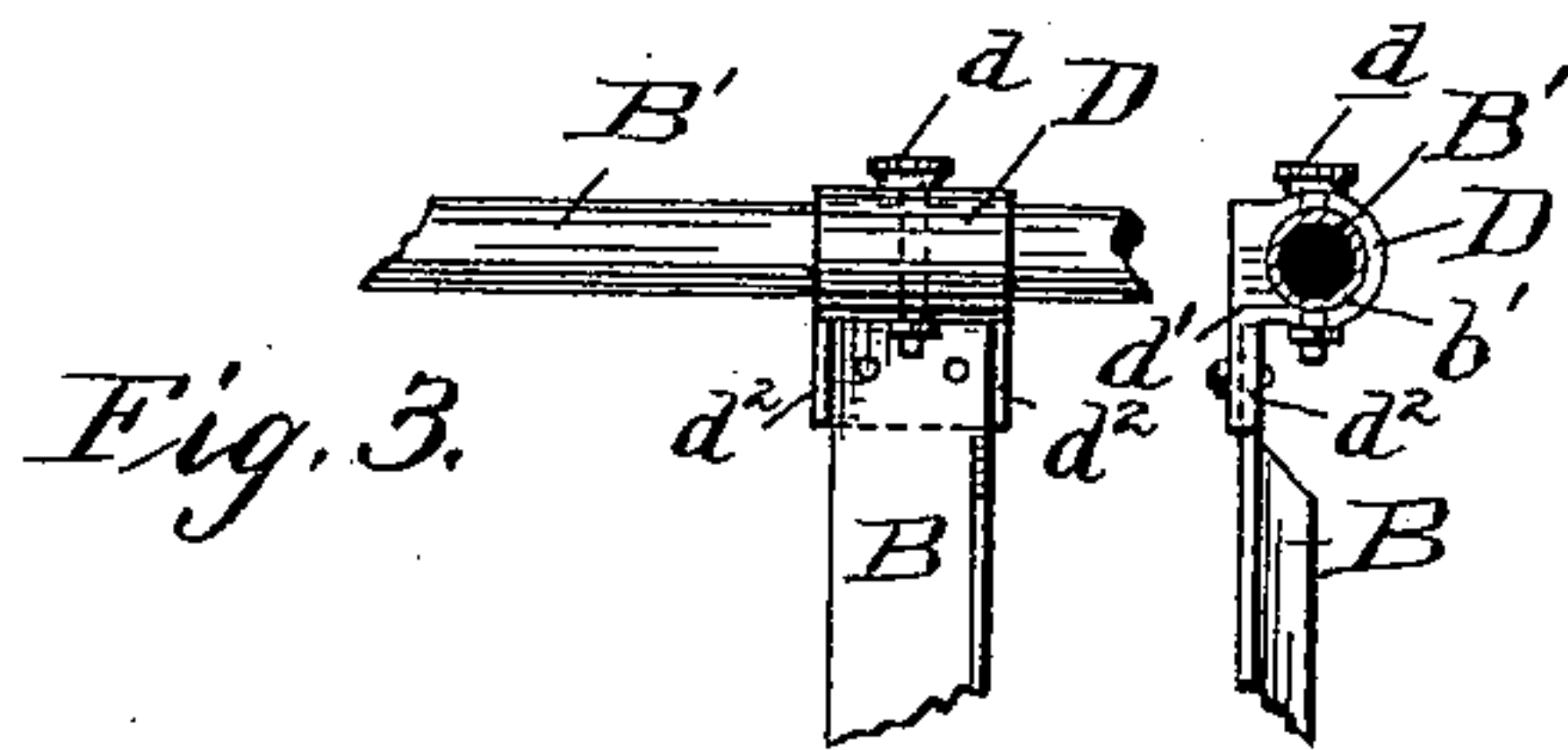
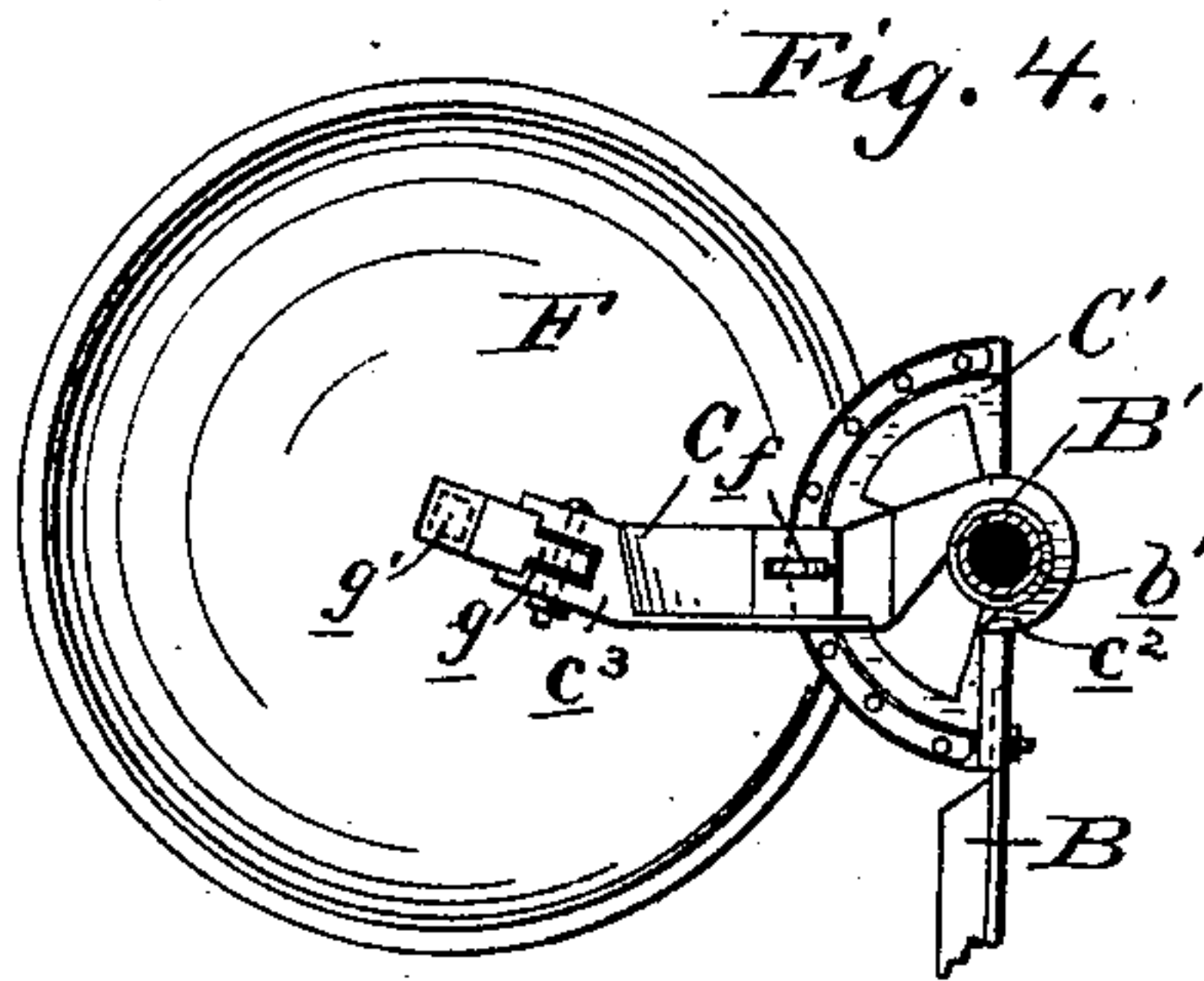
Witnesses
For H. Milans.
Wm. N. Bates

Inventor
Sweetser Linthicum, Jr.,
By *H. S. Bacon*
Attorney.

(No Model.)

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By *R. S. Bacon*
Attorney

UNITED STATES PATENT OFFICE.

SWEETSER LINTHICUM, JR., OF WELLHAM'S CROSS ROADS, MARYLAND.

COMBINED FURROWER, MARKER, AND COVERER.

SPECIFICATION forming part of Letters Patent No. 605,963, dated June 21, 1898.

Application filed April 6, 1897. Renewed February 24, 1898. Serial No. 671,541. (No model.)

To all whom it may concern:

Be it known that I, SWEETSER LINTHICUM, Jr., a citizen of the United States, residing at Wellham's Cross Roads, in the county of Anne Arundel and State of Maryland, have invented certain new and useful Improvements in a Combined Furrower, Marker, and Coverer; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to combined furrowers, markers, and coverers, and it is embodied in the construction and arrangement of parts hereinafter described, and definitely pointed out in the claims.

The invention consists more particularly in improvements in that class of combined markers, furrowers, and coverers shown and described in United States Letters Patent No. 542,483, dated July 9, 1895, and issued to myself, the aim and purpose of the present improvements being to simplify the construction of the machine, to so construct supporting-arms that they can be readily detached and fitted to other parts of the machine or interchanged, to improve the runners and their connections, and to further improve various features, all of which will be presently described.

In the accompanying drawings I have illustrated my improved machine, yet I desire it understood that the machine delineated therein can be modified and changed in many particulars without in the least departing from the nature and principle of the invention.

In the drawings, Figure 1 is a plan view of the machine. Fig. 2 is a longitudinal section on the line $x x$, Fig. 1. Fig. 3 are side and edge views of the runner connections. Fig. 4 is a detail view of a disk-carrying arm and its associated members; and Fig. 5 is a detail plan of one of the disk-carrying arms, showing the disk separated therefrom.

A designates the front and rear bars of the machine, which are in the form of tubes connected centrally by the beam A^2 through suitable T-joints.

A' designates braces, each formed with diagonal forward portions and curved rear portions, their centers being connected to the beam A^2 in any convenient manner.

To the ends of the bars A are secured castings which are in the form of reducing-rings b' , located beyond the ends of the tubes. These castings are secured to the tubes by shrinking or in any other desirable manner and are formed with the perforated ears b^2 on one side, to which the ends of the braces A' are secured, and on the opposite side are formed the eyes b^3 . To the eyes of the forward castings are secured the tongue member A^4 , while to the eyes of the rear castings are secured the rear seat-braces a . The front of the seat K is supported by an upright k , extending from the beam A^2 .

In the ends of the tubes A are placed the extensions B' , the same being adjustable in or out and held in their adjusted positions by pins a' , or other suitable means, passing through apertures in the tubes and extensions in a manner similar to that shown in my prior patent referred to.

To the extensions are secured the runners B, which are of L shape in cross-section, the horizontal portion being uppermost. I have found by test that L-shaped runners are more desirable than T-shaped runners, inasmuch as they do not penetrate the soil to any great extent, but sufficient only to prevent sluing. With the T-runner the dirt is apt to clog in the angles and pack, thus forming a V-shaped or conical runner; but in the L shape the packing is less liable to occur, and when it does occur the incline is greater or more nearly approaches a horizontal than in the T form. The runner is thereby less liable to overpenetration than in the T form. This feature I regard as important. The forward ends of the runners are secured to suitable boxes D, loosely sleeved on the ends of extensions B' and held in adjusted positions by the hand set-screw d . Each box has a depending flange d' , which is formed with side ribs d^2 , and between these ribs are placed the projecting ends of the runners, the same being suitably bolted to the flange. By this

construction the boxes can be readily removed from the extensions or adjusted thereon, and the runners can be readily removed from the boxes. The rear ends of the runners are secured to the boxes D', constructed and adjusted in a manner similar to boxes D. On the rear boxes are formed vertically-disposed segments C', the same being centrally located and projecting rearward and above and below the plane of the box. The segments have a series of perforations formed therein at or near their outer edges.

C designates the disk-carrying arms, which are constructed with their inner ends branched to engage the opposite ends of the boxes D', the under edges of the branches being formed with rearwardly-inclined open slots to constitute that portion of the branch, and a hook, having its tongue c^2 , projecting forward. These hooks are placed over and fit the extensions B' in a manner to prevent an upward or rearward movement of the arms; but when the arms are adjusted in a position above the segments the hooks can readily be disengaged from the extensions. By this means it will be noticed that the segments permit a forward movement to the arms when the latter are in a working position; but the arms can be readily secured without the necessity of removing any bolts or nuts. I therefore preferably term the connection a "loose" connection, as distinguished from a removable connection, wherein bolts or other removable securing means are employed. The outer ends of the arms are bent up at an angle to the main portion, as shown at c^3 , the purpose of this bend being to enable the disks to be lowered into the soil without pitching, as would be the case were the arms straight. This feature can be more readily appreciated when it is considered that the disks are arranged at an angle to the draft. The outer end of the arms are bifurcated and receive the ear g of the spindle-box g' , suitable apertures in the arm and ear being formed through which a pin is passed, the lateral adjustment of the spindle thereby being speedily effected.

The spindle G is mounted in the box g' in any desirable manner and carries at its outer end the disk F.

To maintain the arm in its adjusted positions, I employ a bolt f , which is carried by a suitable socket in one of the branches of the arm C and is arranged to engage in an aperture of the segment C' and lock the arm in its raised or lowered position.

H' designates a supplemental disk-carrying bar, which is secured to the beam back of the front bar A. This bar H' is intended for use in "listing," it being only necessary to remove the arms from the rear bar and fit them to the bar H'. In this connection I preferably form the bar H' with boxes similar to the boxes D'. To brace the bar H', I form boxes h , which embrace the sides of the

braces A' and are bolted in or otherwise secured thereto and to the bar H'.

H designates the marker-arm, which is pivotally supported on the beam and has an adjustable end extension. The marker-arm is held in a vertical position by the U-catch I on the seat.

By curving the rear portions of the braces A' there is left sufficient space to accommodate the disks and their carrying-arms when adjusted to the bar H' for listing purposes.

While I have specifically described the various features and details of the machine, it is evident that various changes or alterations can be made without departing from the nature and principle of the invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a combined marker and furrower, the combination with connected end bars, of adjustable extensions at the sides, runners on the extensions, and disks adjustable and loosely secured to the extensions, substantially as described.

2. The combination with the connected end bars, of adjustable extensions carried thereby, runners on the extensions, disks adjustably and loosely secured on an extension, and a bar secured intermediate the end bars, and to which the disks can be adjusted, substantially as described.

3. The combination with the connected end bars, of disks carried by a bar, and means for adjustably and loosely securing the disks to the bar, substantially as described.

4. The combination with a supporting-bar, of disks, arms for supporting the disks, a hook connection between the arm and bar, and means for maintaining the arm in adjusted positions.

5. The combination with a supporting-bar, of a disk, arms pivotally and loosely connected with the bar, and means for maintaining the arm in adjusted positions, and retaining the same on the bar, substantially as described.

6. The combination with the connected end bars, of the bar H', the adjustable and removable disks, and the angular and curved braces A', substantially as described.

7. The combination with the end supporting-sections, of boxes D removably secured to the sections, and having depending flanges formed with side ribs, the runners having their ends resting against the flanges, and means for securing the runners to the flanges, substantially as described.

8. The combination with a supporting-bar, of a disk-carrying arm having hook-shaped branches, engaging over the bar, a box between the branches, a segment on the box, and a pin engaging the segment, and carried by the arm.

9. The combination with a supporting-bar,

of a disk-carrying arm adjustably secured thereon, and having an upwardly-extending outer end, a horizontal spindle adjustably secured to the outer end of the inclined portion of the arm, and a disk on the spindle.

oppositely-located axes b^3 , the braces A' , and the seat-braces a , substantially as described.

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

SWEETSER LINTHICUM, JR.

Witnesses:

MEREDITH JANVIER,
GEO. WIEDWELL.

10. The combination with the hollow end bars, of the reducing-castings consisting of the portions b engaging over the ends of the bars, the reduced portions b' , the ears b^2 , the