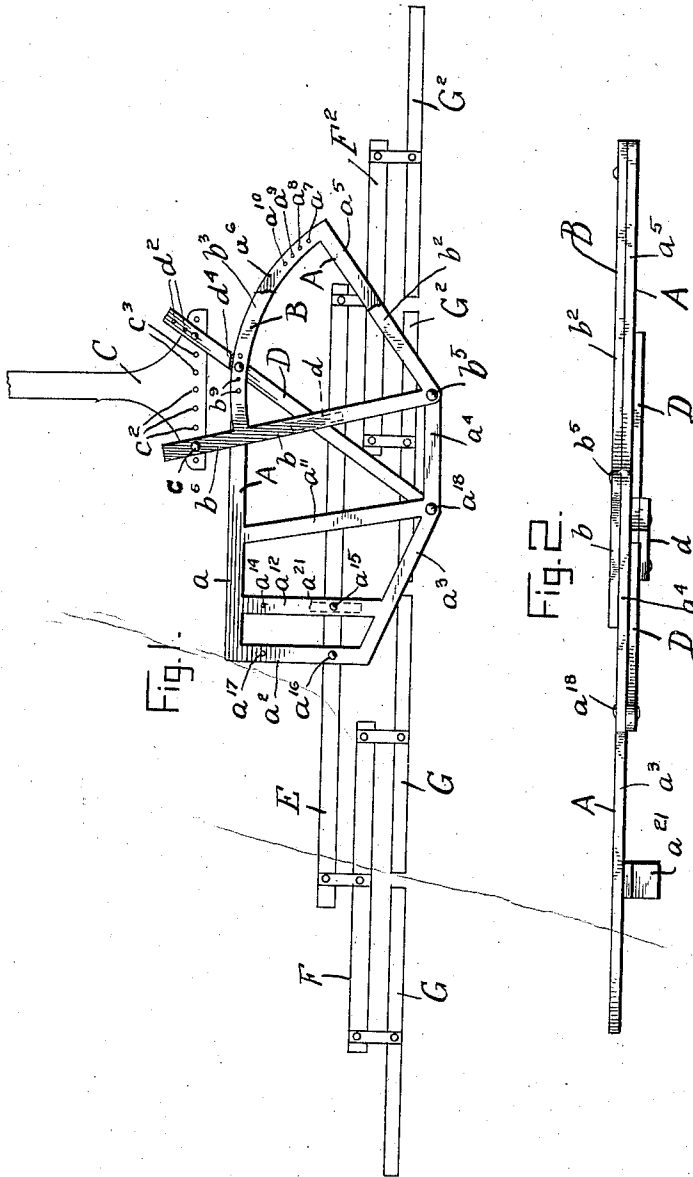


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DRAFT APPLIANCE.
APPLICATION FILED JAN. 30, 1909.

Patented July 5, 1910.
2 SHEETS—SHEET 1.



Witnesses

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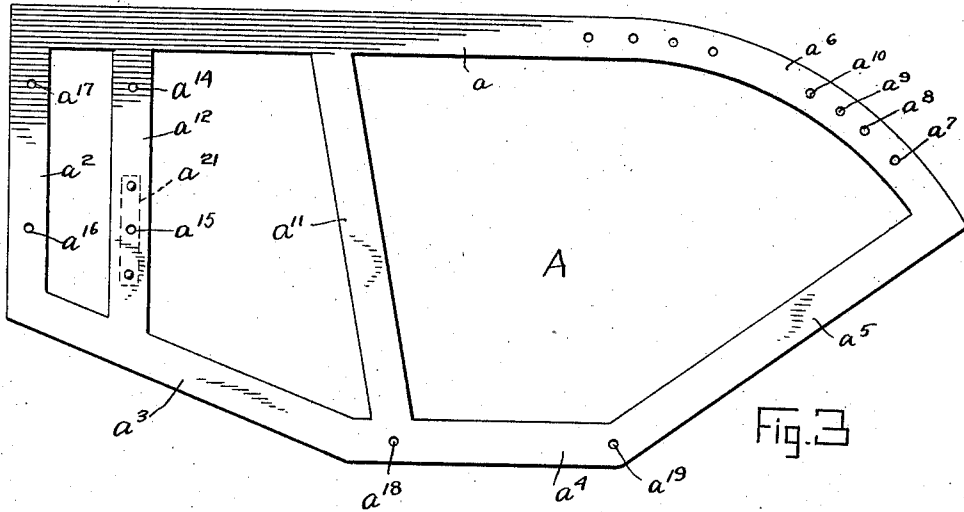


Fig. 3

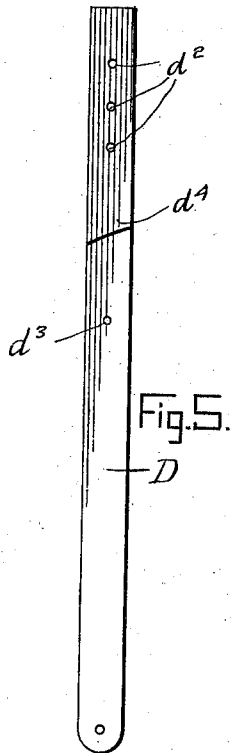


Fig. 5.

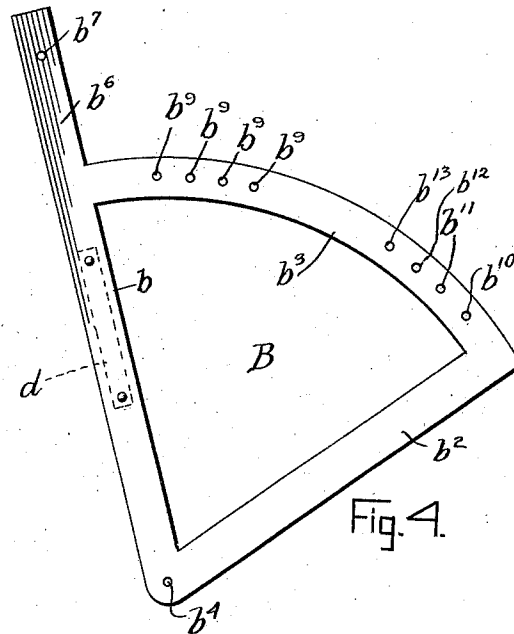


Fig. 4.

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UNITED STATES PATENT OFFICE.

CHARLES BARKER, OF BONDVILLE, ILLINOIS.

DRAFT APPLIANCE.

963,499.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed January 30, 1909. Serial No. 475,188.

To all whom it may concern:

Be it known that I, CHARLES BARKER, a citizen of the United States, residing at Bondville, in the county of Champaign and State of Illinois, have invented new and useful Improvements in Draft Appliances, of which the following is a specification.

My invention relates to draft appliances.

The object is to produce a draft-mechanism of few parts and great simplicity, and whereby a rigid, easily-operating, effective, and quickly-adjusted device for the purpose is provided.

The dominating characteristics of my structure are, the utilization of a plurality of frame-elements, of irregular form, and adjustably arranged relative to each other, (one preferably overlying a part of the other), means for adjustably securing these frame-elements together, and novel details in combination with these elements to present the strongest possible structure without great inherent weight.

In the accompanying drawings, forming a part of this specification and in which like letters of reference indicate corresponding parts, I have illustrated one of many convenient forms of structure embodying my invention, (other possible embodiments being suggested thereby and being obvious from the form herein shown and described), and in which drawings,

Figure 1 is a view in plan of my device attached to a plow; Fig. 2 is a view in front elevation on an enlarged scale; Fig. 3 is a view in plan of the supporting-frame; Fig. 4 is a like view of the secondary-frame which overlies one portion of the supporting-frame; and Fig. 5 is a detail of the main strap-member.

I am aware that it has heretofore been proposed to utilize various forms of complicated structure comprising numerous levers, arms, etc., variously mounted and attached, to constitute a draft-equalizer; but my invention is distinguished therefrom in that it employs a plurality of frames (preferably two, one of which overlies a portion of the other) and each so formed as to present a construction which, in and of itself, is firmly braced against all strains in the line of draft and is of few parts; these two frames being preferably attached to each other by adjusting means whereby one is adjustable with relation to the other and, also, with relation to the clevis of a plow

(when the device is to be used in connection with a plow), or with tongue of any form of vehicle and the like, where a tongued vehicle is employed.

In the drawings, A designates the supporting-frame which, in this instance, consists of several members or side-bars, a , a^2 , a^3 , a^4 , a^5 , all integral to constitute a multi-sided structure. It will be observed that there is thus presented a frame of irregular form. The member a of the frame is straight for a greater portion of its length, but, is curved at the left side and joins with the member a^5 . In the curved portion a^6 of this member there are a plurality of holes or perforations a^7 , a^8 , a^9 , a^{10} , the function of which will hereafter be indicated.

Extending diagonally between the member a and the member a^4 is an intermediate bar or brace a^{11} ; and also extending between said members a and a^3 is another intermediate bar or brace a^{12} provided with two bolt-holes or apertures a^{14} and a^{15} , which are preferably in alinement with bolt-holes a^{16} , a^{17} , in the side-member a^2 . At the juncture of the members a^{11} and a^4 is a bolt-hole a^{18} ; and at the juncture of the members a^4 and a^5 is another bolt-hole a^{19} .

B designates the secondary-frame comprising a side-member b , a front member b^2 and a curved member b^3 . At the juncture of the two members b and b^2 is a bolt-hole or aperture b^4 through which a bolt b^5 extends and which then projects into the bolt-hole a^{19} in the frame A. It will be observed that the member b projects beyond the line of the curved portion b^3 , which projection is designated b^6 , and is provided with a bolt-hole b^7 through which extends a bolt c into the clevis C on the beam of the plow. The clevis is provided with a plurality of bolt-holes c^2 , c^2 , and c^3 , c^3 .

Pivoted to the frame A at a^{18} is a diagonal bar, brace or stay-strap D which extends diagonally through a guide-loop d on the lower face of the member b of the frame B. This stay-strap underlies and projects beyond the frames A and B, and is provided with a plurality of bolt-holes or apertures d^2 through which extends a bolt into the bolt-holes c^3 , c^3 in the clevis. For additional securing or as an adjustable securing-means, I may provide the side b^3 of the frame B with a plurality of bolt-holes or apertures b^9 , b^9 , b^9 , through which a bolt extends and into a

bolt-hole d^3 in the stay-strap D and one of the series of bolt-holes in the rear member a of the frame A. The stay-strap D may be provided with a guiding shoulder d^4 (formed by a reinforcement on the end of said strap) and against which the curved portion b^3 contacts. When the two frames are in operative position, the bolt-holes a^7 , a^8 and a^9 and a^{10} will register with bolt-holes b^{10} , b^{11} , b^{12} and b^{13} , respectively, in the curved portion b^3 of the frame B.

Bolted or otherwise secured at a^{16} of the member a^2 of the frame A, is a main-tree, equalizer cross-bar, or lever E of length sufficient to extend considerably beyond the side of the frame A. At one or both ends of this lever E (or, in some instances, for convenience, intermediate of the ends of the member) are secured double-trees F, F²; and, to these double-trees are pivoted swing-trees G, G, and G² and G².

When four horses are employed, the equalizer-bar E would be pivoted at a^{15} or a^{14} on the member a^{12} ; and, when five horses are used, this bar E would be pivoted at a^{16} or a^{17} on the member a^2 . On the lower side of the member a^{12} , contiguous to a^{15} , I may provide a keeper a^{21} to afford additional securing and guiding means. When more than five horses are to be driven, an extension on the right side of the frame A may be provided. The bolt in the hole a^{17} also affords means for holding the hammer-strap.

It is to be understood that, usually, the secondary frame B will be bolted to the supporting frame A, the pin or bolt, in this instance, extending through the bolt-hole b^{10} in the frame B and through the bolt-hole a^7 in the frame A. If, however, more land is desired to be cut by the plow, (that is, if the furrow is to be widened) or a greater adjustment of the parts is required, the pin or bolt would be placed through the same bolt-hole b^{10} in the frame B, but through the bolt-hole a^8 in the frame A. Additional adjustment is secured by placing the bolt through the bolt-hole b^{10} and either the bolt-hole a^9 , or the bolt-hole a^{10} , as the case may be; or through the bolt-hole b^{13} in the frame B and in one or another of the bolt-holes a^7 , a^8 , a^9 and a^{10} . It is obvious that the same end may be attained by changing the pin or bolt at the other points of securement, already described, with similar change of pin in the projection b^6 and the stay-strap D on the clevis C, and at the bolt-holes b^9 . By this structure and the means of adjustment, the width of the furrow is regulated conveniently and quickly by changing the position of the pins or bolts extending through the holes specified.

It is to be noted that the peculiar form or shape of the frames herein disclosed, when these frames are combined as described, afford greater strength and a larger variety

of means for minutely adjusting the width of the furrow when working furrows of different sizes or width and yet comprising, essentially, but few parts, making it light and simple; furthermore, that the draft device, when attached to a plow or the like, enables the plow, etc., to be utilized within a small space, particularly, in the turning of corners of a plowed field, contiguous to a fence or the like. The device presents also the advantages of simplicity, lightness and strength, and yet combines the advantages of durability and small cost of manufacture. Furthermore, the parts constituting the frames being, preferably, integral, there is practically no danger of strain or displacement. Furthermore, by the arrangement and particular construction shown, the positioning of the parts may readily be effected so that one of the animals may travel in the furrow and the remainder be permitted to travel over the unplowed ground; and when it is desired to turn, the draft-animals are guided in the desired direction, and the ones to the left, for example, will be drawn rearward to such an extent as to be out of the way of the draft-animals attached to the opposite side, and the latter may turn around in a space in not much, if any more, than the length of the space that would be occupied by the draft-animals; that is to say, the team may be driven to a point where their heads will be close to a fence, when the entire team may be turned around in this short space.

Having thus described my invention, what I claim and desire to secure by Letters-Patent is:

1. In a draft-appliance, a plurality of open-centered frames of irregular form, each frame comprising a plurality of side-members connecting with each other and forming the aforementioned open-center, one of said frames being superposed on the other and engaging the same at a plurality of points, means for adjustably securing said frames together, and means for securing said frames to the structure to be drawn.

2. In a draft appliance, the combination of a supporting-frame having straight and curved sides integral with one another, a secondary-frame also having straight and curved sides integral with one another, means for adjustably connecting the curved sides of said frames to each other for horizontal adjustment of one relative to the other, and means for adjustably connecting said frames to the structure to be drawn.

3. In a draft appliance, the combination of a supporting-frame having straight and curved sides integral with one another, a secondary-frame also having straight and curved sides integral with one another, means for adjustably connecting the curved sides of said frames to each other for hori-

zontal adjustment of one relative to the other, means for adjustably connecting said frames to the structure to be drawn, and a stay-strap connecting with said supporting-frame, with said secondary-frame, and with said structure, and provided with means for adjustment thereon.

4. In a draft appliance, the combination with the clevis of the structure to be drawn, provided with means of attachment, of a supporting-frame comprising four straight and one curved side-members integral with

one another, a secondary-frame attachable to the clevis comprising two straight and one curved side-members integral with one another, and a diagonal connecting member also attachable to the clevis. 15

In testimony whereof I have affixed my signature, in presence of two subscribing witnesses.

CHARLES BARKER.

Witnesses:

GEOR L. COLLINS,
J. J. DALLENBACH.