

**No. 618,779.**

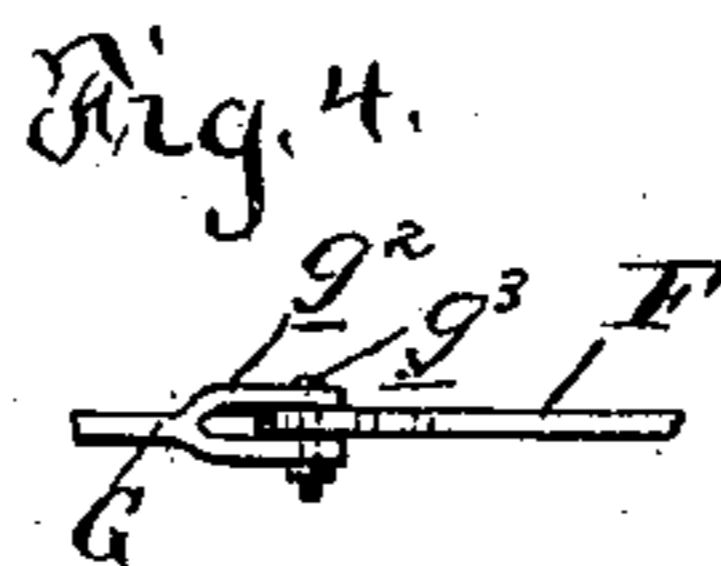
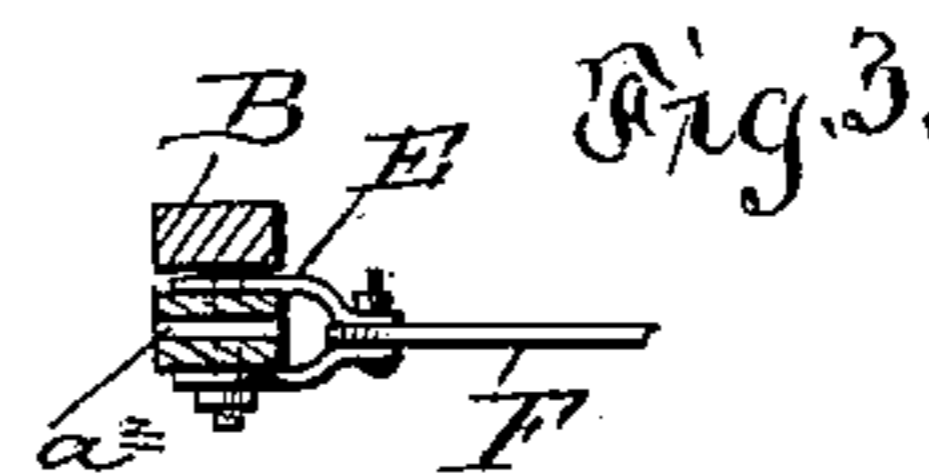
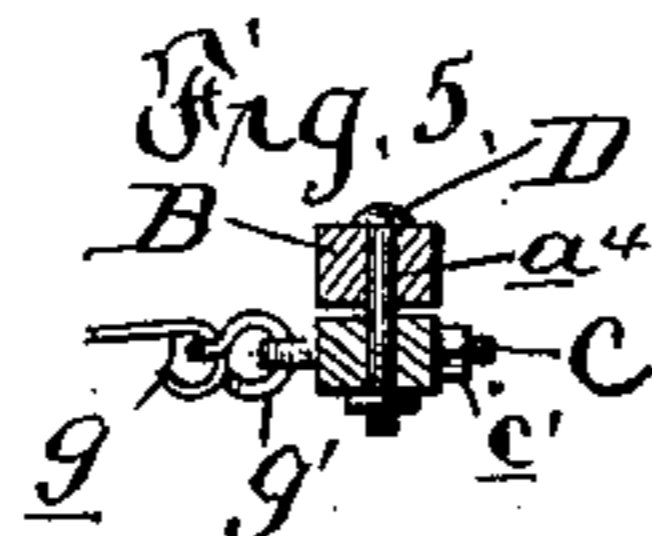
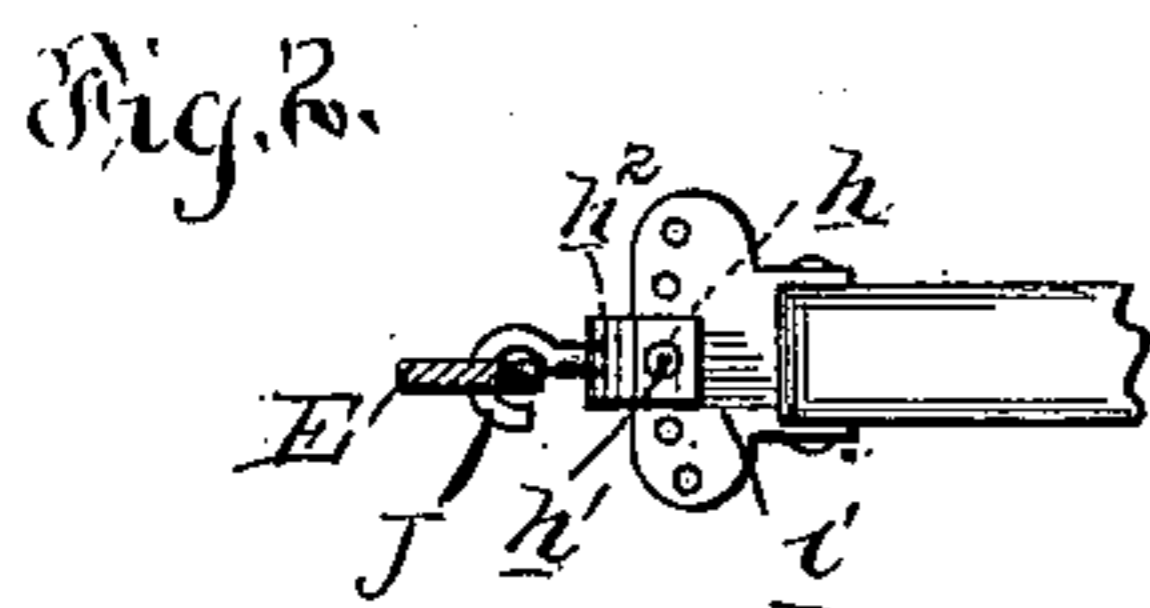
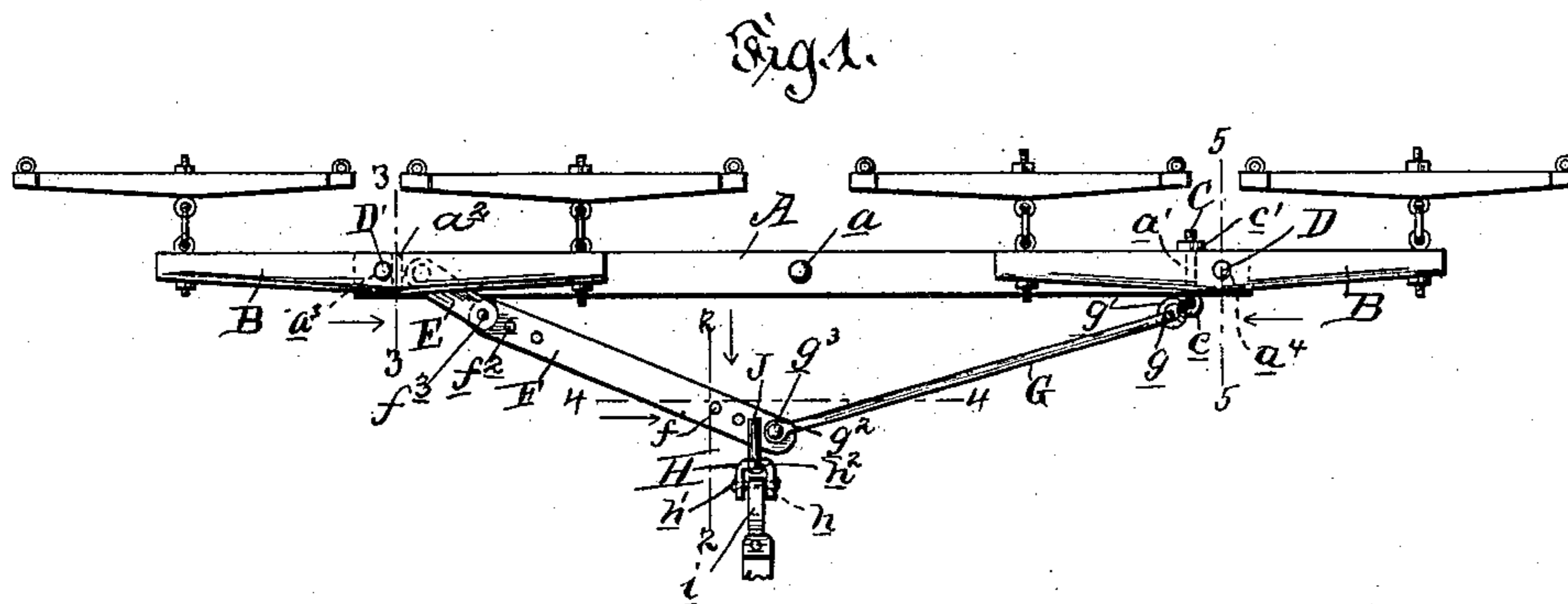
**Patented Jan. 31, 1899.**

**R. O. BURROUS & W. M. BREWER.**

**DRAFT EQUALIZER.**

(Application filed June 7, 1898.)

(No Model.)



Witnesses;  
J. H. Milane  
M. G. Kearney

R. O. Burrous <sup>Inventors;</sup>  
and M. M. Brewer,

By *A. S. Bacon*  
Atty

# UNITED STATES PATENT OFFICE.

RICHARD O. BURROUS AND WILLIAM M. BREWER, OF PIERSON, ILLINOIS.

## DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 618,779, dated January 31, 1899.

Application filed June 7, 1898. Serial No. 682,802. (No model.)

*To all whom it may concern:*

Be it known that we, RICHARD O. BURROUS and WILLIAM M. BREWER, citizens of the United States, residing at Pierson, in the county of Piatt and State of Illinois, have invented certain new and useful Improvements in Draft-Equalizers; and we 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 improvements in draft-equalizers more especially adapted for gang-plows or similar farming implements intended for use where three or more horses are pulling abreast, and it is especially adapted for a four-horse team or the like.

The objects of the invention are to simplify the construction of such equalizers, forming the same of a fewer number of parts, which shall at the same time have equal efficiency as those of which we are aware which contain numerous additional elements; to adapt the equalizer for attachment to any ordinary four-horse cross-tree in a very quick, efficient, and easy manner; to so arrange the parts that the doubletree can be hitched much shorter than it can be in the ordinary equalizer, thereby saving a material amount of draft; to so form and arrange the parts that the equalizer can be used on either a right or left hand plow with the change of the minimum number of parts; to produce an equalizer which can be hitched to either an upright or horizontal clevis; to provide for adjustably connecting the equalizer to the clevis-hook, so as to throw the weight of the draft more or less to one side or the other, and to generally improve and simplify the construction of such equalizers. These and other objects we attain by the constructions, arrangement, and combination of parts hereinafter described, and particularly set forth in the claims.

In order to make our invention more clearly understood, we have shown in the accompanying drawings means for carrying the same into practical effect; but we desire it to be particularly understood that we do not limit our improvements in their usual applications to the particular construction which for sake of illustration we have therein delineated.

In the drawings, Figure 1 is a plan view of an equalizer embodying our improvements applied to a four-horse doubletree. Figs. 2, 3, 4, and 5 are vertical sections, respectively, on the lines 2 2, 3 3, 4 4, and 5 5, Fig. 1.

Referring to the drawings, wherein like letters refer to similar parts throughout the several views, A indicates a cross-tree of ordinary construction, provided centrally with an aperture *a*, to which the plow-clevis hook would ordinarily be applied were the doubletree not provided with our improved equalizer. To the cross-tree A are suitably attached, as usual, doubletrees B B, to which in turn may be attached the ordinary singletrees, as is common. The cross-tree is provided at its ends with the horizontal bolt-hole *a'*, and is also provided at its ends with the vertical bolt-holes *a*<sup>3</sup> and *a*<sup>4</sup>. Passing through the bolt-hole *a'* is a bolt C, having at the rear end thereof an eye *c* and at the other end a nut *c'* for securing the bolt to the cross-tree.

D D' represent pivot-bolts for the doubletrees, one of which is secured in the hole *a*<sup>3</sup> and the other of which is secured in the hole *a*<sup>4</sup> in the cross-tree. Pivoted on or near the bolt D' is a clevis E.

F is a bar or lever provided at one end with a series of holes *f* and at the other end with a series of holes *f*<sup>2</sup>, through one of the latter of which passes a bolt *f*<sup>3</sup>, pivotally and adjustably connecting the bar with the clevis E.

G represents a rod or link preferably provided at one end with a hook or eye *g*, which is connected by a link *g'* with the eye *c* of the bolt C. At its other end the rod G is provided with a bifurcated portion *g*<sup>2</sup>, having end perforations through which and through one of the series of holes *f* in the bar F passes a pivot-bolt or rivet *g*<sup>3</sup>, pivotally connecting the rods G and F.

H indicates a clevis provided at its bifurcated end with holes *h*, through which a bolt or pin *h'* is passed to connect the same to the plow-clevis or plow-beams, (indicated at *i*.) In the forward end of the clevis H is a hole *h*<sup>2</sup>, in which is swiveled a hook J, adapted for detachable connection with the lever F by insertion in either one of the series of holes *f*<sup>2</sup>. By the swivel connection of the hook J with the clevis H it will be readily seen that

the latter can be connected to either a horizontal or vertical clevis on the plow-beam.

It will be seen from the drawings that the equalizer described is constructed of the fewest possible parts and in the simplest manner, the arrangement being such that the line of draft is thrown to one side (in the present instance the left) of the center of the cross-tree, so that by the lever-and-link connection the draft is perfectly equalized and the plow or other implement caused to maintain its proper position. Should it be desired to throw the weight of the draft on the other side of the center, it is only necessary to loosen and remove the bolt C and clevis E from the cross-tree and reverse the equalizer, placing the bolt C in the horizontal hole  $a^2$  at the opposite end of the cross-tree and the clevis-bolt in the vertical hole  $a^4$  at the end of the cross-tree opposite to that at which it is shown in the drawings, thus easily and quickly adapting the equalizer with an ordinary cross-tree for a right or left hand plow.

The series of holes  $f$  and  $f^2$  in the lever F permit of a quick and easy adjustment of the parts to throw the weight of the draft more or less to one or the other end of the cross-tree.

By our arrangement we thus accomplish with a minimum number of parts a draft-equalizer of equal efficiency with those of the usual construction containing many more and more complicated parts.

Having thus described the invention, what

we claim, and desire to secure by Letters Patent, is—

1. In a draft-equalizer, the combination of a cross-tree, a clevis pivoted near one end thereof, a lever adjustably connected to said clevis, a rod pivotally connected near the other end of the cross-tree and pivotally connected to said lever, and a clevis adapted to be secured to the plow and adjustably connected with said lever near the end with which connects said rod.

2. In a draft-equalizer adapted for either a right or left hand plow, the combination with a cross-tree provided near its ends with horizontal and vertical bolt-holes, of a clevis pivoted in one of said vertical bolt-holes, an eyebolt secured in the horizontal hole at the opposite end of the cross-tree, a rod pivotally connected to said eyebolt, a lever adjustably pivoted to said clevis and pivoted to said rod, and a clevis adjustably connected to said lever and adapted for connection with the plow-beam, the arrangement of the several parts being such that the equalizer can be reversed by changing the positions of the eyebolt and clevis-pivot respectively to the opposite ends of the beam.

In testimony whereof we affix our signatures in presence two witnesses.

RICHARD O. BURROUS.

WILLIAM M. BREWER.

Witnesses:

F. F. GUNN,

J. F. SCHROLL.