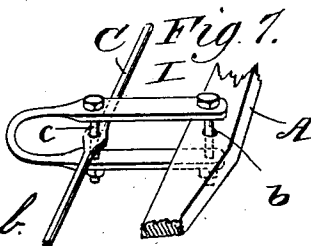
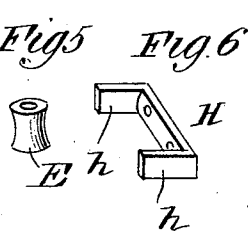
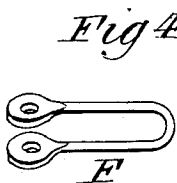
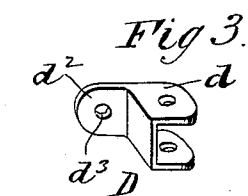
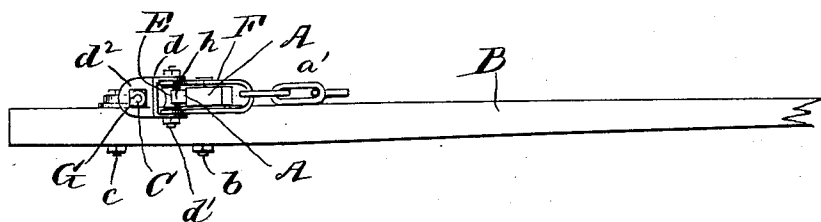
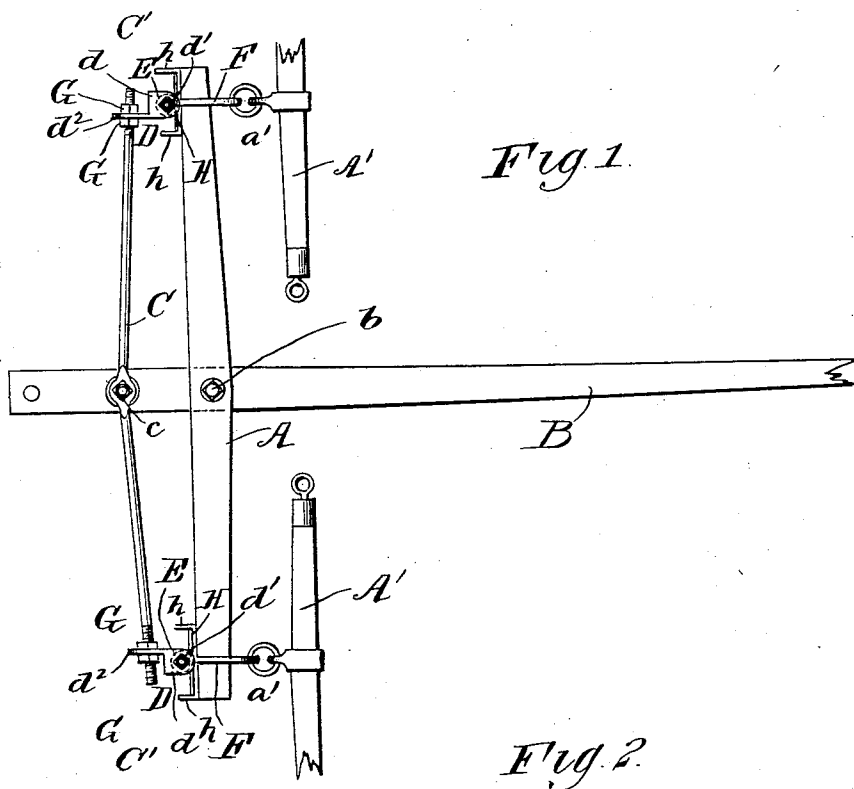


(No Model.)

W. J. SMITH.
DOUBLETREE.

No. 580,062.

Patented Apr. 6, 1897.



WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM J. SMITH, OF KNOX, PENNSYLVANIA.

DOUBLETREE.

SPECIFICATION forming part of Letters Patent No. 580,062, dated April 6, 1897.

Application filed November 27, 1896. Serial No. 613,486. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. SMITH, a citizen of the United States, and a resident of Knox, county of Clarion, and State of Pennsylvania, have invented certain new and useful Improvements in Doubletrees, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to that class of doubletrees which are designed to be used as draft-equalizers; and it has for its object to provide a simple and improved device of this character which will automatically operate to effectively equalize the draft, and which can be furthermore regulated to relatively adjust the draft in a fixed or permanent manner between the horses.

In the drawings, Figure 1 is a plan view of a doubletree embodying my invention. Fig. 2 is a side elevation thereof. Figs. 3, 4, 5, and 6 are perspective views of detail parts of my device, and Fig. 7 is a perspective view illustrating the manner of using my invention in connection with an ordinary clevis.

Referring to the drawings, A designates the main tree, which is pivoted in proper relative position upon the tongue or pole B, as shown at *b*. To the rear of the tree or bar A is pivoted a bar C by means of a bolt *c*. These bars conjointly form the major part of my improved doubletree, and in their conjoint movement upon their respective pivots have a relatively-sliding movement, as hereinafter set forth.

The rod or bar C carries at each of its outer ends a projecting bracket D, within which is pivotally mounted a roller E and a link F, which latter embraces the rod or bar A and carries the small trees A' by means of ordinary link connections, as shown at *a'*.

The bracket D preferably comprises an approximately U-shaped body *d*, between the walls of which the link F and the roller E are pivotally mounted by means of a transverse pin *d'*, and from this U-shaped body projects a lateral flange or arm *d*², having an eye or opening *d*³ for the reception of the rod or bar C.

The bracket D may be adjustable in a longitudinal plane upon the ends of the rod C by means of jam-nuts G G, working upon the

threaded end C' of the rod C. The ends of the rod or bar A are preferably provided with plates H for the rollers E to bear upon, and projections *h* are formed upon these plates to prevent accidental disengagement of the parts.

The operation and advantages of my invention will be readily understood.

If one horse pulls ahead, the relative movement of the rods or bars A and C upon their respective pivots causes a sliding movement of the connection between the bars, by which the leverage on the side of the increased draft is shortened and the leverage on the opposite side is lengthened, and an equalization of the draft is thus effected.

If desired, a permanent adjustment of the draft between two horses may be effected by relatively adjusting the connection D in a longitudinal plane upon the end of the rod or bar C, whereby a permanent variation in the leverage at the respective sides of the doubletree will be effected.

It will be understood that my improved draft-equalizing doubletree is adapted for application to an effective use in connection with wagons, plows, and all hauling apparatus upon which an ordinary doubletree may be employed, and any suitable or adapted form of clevis or other connection between the doubletree and the plow or other device may be used, as shown, for instance, by Fig. 7 of the drawings, where an ordinary clevis I is secured to the main bars A and C.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An improved draft-equalizing doubletree, comprising two rods or bars relatively arranged and respectively pivoted substantially as set forth, in combination with adjustable connecting devices carried at the ends of the rear bar, and secured in connection with the front bar and having a sliding movement with relation thereto, said front bar provided with longitudinal bearing-plates at the ends, substantially as and for the purpose set forth.

2. An improved draft-equalizing doubletree, comprising two rods or bars relatively arranged and respectively pivoted substantially as set forth, in combination with con-

necting brackets or devices carrying rollers
secured upon the ends of the rear bar and
carrying pivoted links engaging the ends of
the front bar and having a sliding movement
5 with relation thereto, said front bar being
provided with bearing-plates having projec-
tions thereon secured on the ends, and means
for adjusting the brackets longitudinally
upon the rear bar, substantially as and for
10 the purpose set forth.

3. An improved draft-equalizing double-
tree, comprizing two rods or bars respectively
arranged and relatively pivoted substantially
as set forth, in combination with connecting
15 devices carried upon the ends of the rear bar
and having a connection with the front bar

and a sliding movement with relation thereto,
bearing-plates having projections thereon
adapted to retain and limit the movement of
the said connecting devices located on the 20
ends of the front bar, and means for adjust-
ing said connecting devices upon their carry-
ing-bar, in combination with the whiffletrees,
substantially as and for the purpose set forth.

In testimony that I claim the foregoing as 25
my invention I have signed my name, in pres-
ence of two witnesses, this 16th day of No-
vember, 1896.

WILLIAM J. SMITH.

Witnesses:

J. C. CAMPBELL,

T. C. McMASTER.