

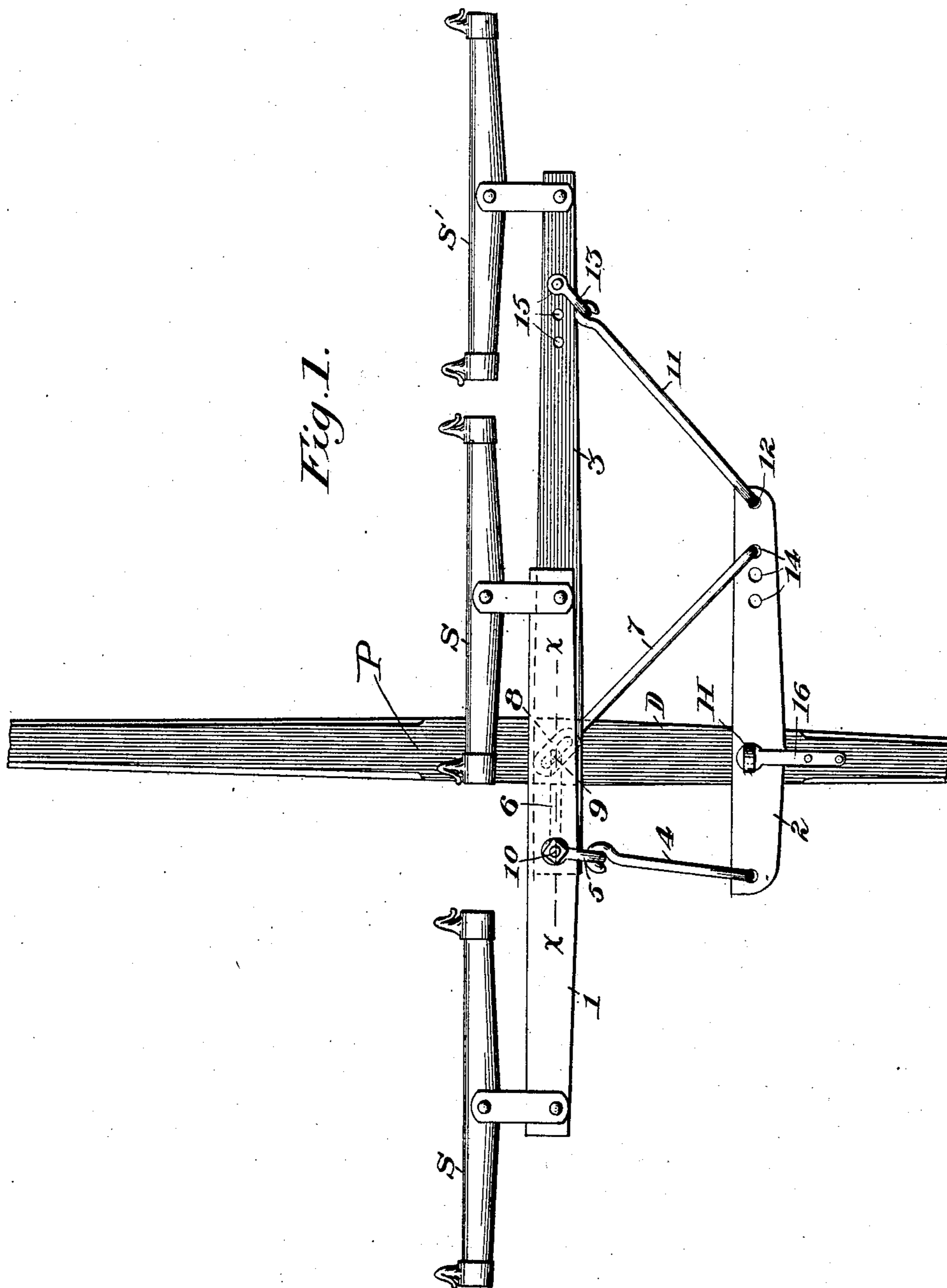
No. 828,433.

PATENTED AUG. 14, 1906.

C. W. SPANGLER.
THREE HORSE DOUBLETREE.

APPLICATION FILED DEC. 18, 1905.

2 SHEETS—SHEET 1



Witnesses:
Benton G. Hay
W. O. Beebe

Inventor:
Charles W. Spangler
per Hiram Sparks
his Atty.

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Fig. 2.

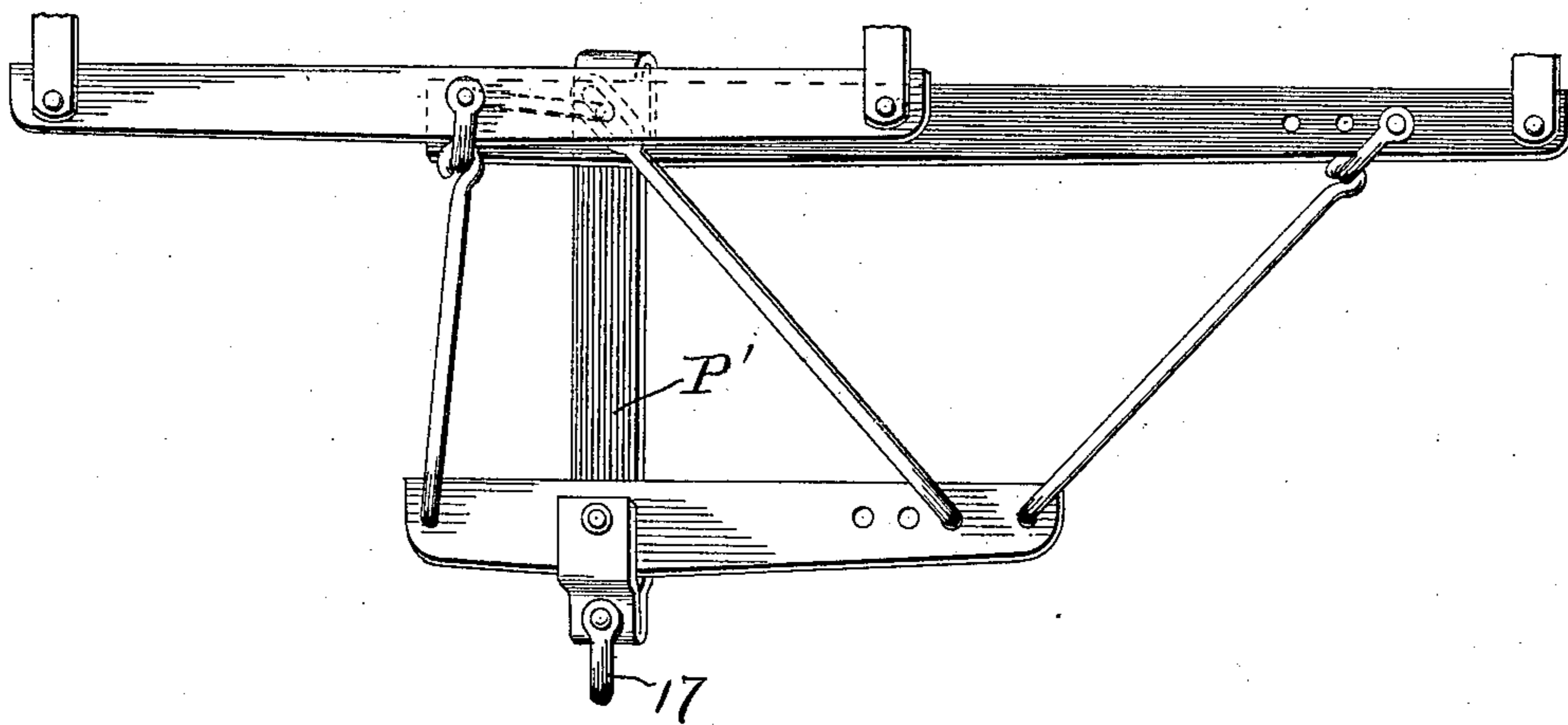
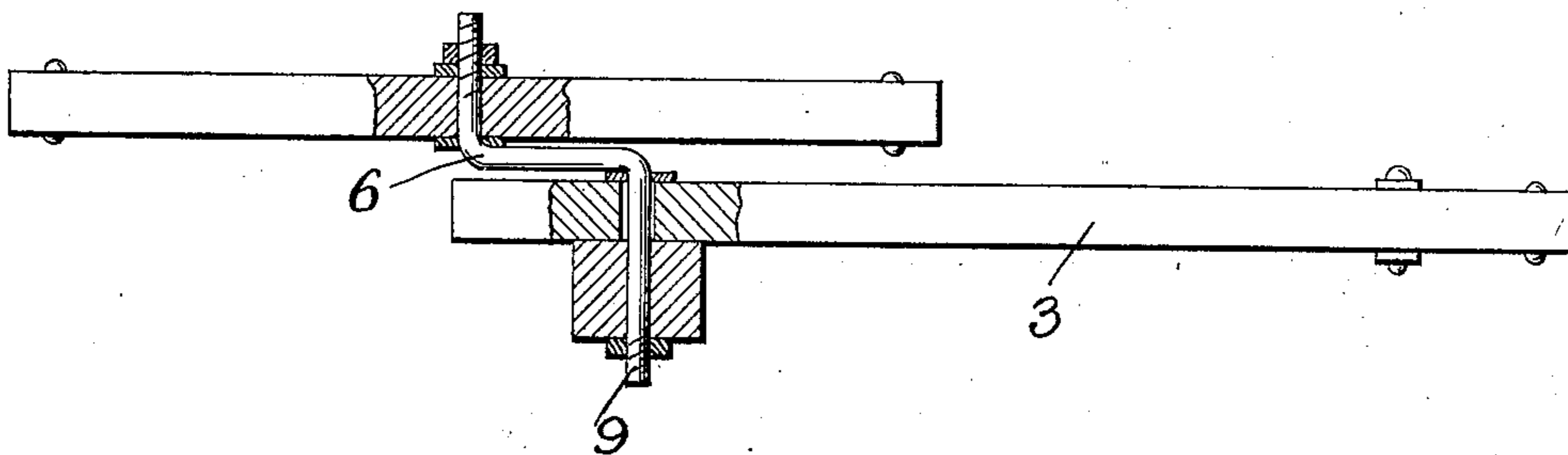


Fig. 3.



Witnesses:
Benton G. Hay.
W. O. Beebe

Inventor:
Charles W. Spangler
per Hiram B. Swartz
his Atty.

UNITED STATES PATENT OFFICE.

CHARLES W. SPANGLER, OF WOOSTER, OHIO.

THREE-HORSE DOUBLETREE.

No. 828,433.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed December 18, 1905. Serial No. 292,368.

To all whom it may concern:

Be it known that I, CHARLES W. SPANGLER, a citizen of the United States, residing at Wooster, in the county of Wayne and State of Ohio, have invented a new and useful Three-Horse Doubletree, of which the following is a specification.

My invention relates to improvements in doubletrees, and especially to the class known as "three-horse" doubletrees.

The object of my invention is, first, to provide improved means for equalizing, limiting, and regulating the draft upon the several swingletrees of a three-horse doubletree; second, to provide a simple attachment for use with an ordinary two-horse doubletree, whereby the same is readily converted into a three-horse doubletree, and, third, to adapt a doubletree for use with either two or three horses at pleasure.

My invention consists of the novel devices and combination of parts hereinafter fully set forth, and stated in the claims, and is illustrated by the accompanying drawings, in which similar letters and figures of reference indicate like parts.

Referring to the drawings, Figure 1 is a plan view of my improved three-horse doubletree used in connection with an ordinary wagon-tongue. Fig. 2 is a modification of same for use without a wagon-tongue support. Fig. 3 is a detail sectional view of Fig. 1 on line X Y, showing means for connecting the doubletree-bars.

In the drawings, 1 is the bar of an ordinary two-horse doubletree having swingletrees *s*, attached in any of the usual and well-known ways.

2 is a draft-bar located rearwardly of the doubletree proper.

3 is an extension-bar for draft of the third horse, having a swingletree *s'* at its outer end and its inner end pivotally mounted upon a support *P*, which may be a wagon-tongue or, where no tongue is used, a short connecting support-bar *P'*, as shown in Fig. 2.

Draft-bar 2 is pivotally mounted upon the horizontal support *P* and secured by bolt *H* under a metal strap 16, attached to said support.

To equalize the threefold draft, the axis of draft-bar 2 is fixed at a proportionate distance one side of its longitudinal center, the short arm thereof being one third the length of the long arm, and the short arm thus adapted to receive the draft of two

horses and the long arm the draft of one horse by attachment to the swingletrees, respectively.

Doubletree-bar 1 is mounted upon the inner end of extension-bar 3 in such position as to have its longitudinal center a short distance one side of the tongue *P*, (or, when used without a tongue, support *P'*, as shown in Fig. 2,) and is there pivotally connected to the short end of draft-bar 2 by clevis 5 and connecting-rod 4. Extension-bar 3 is detachably connected at or near its outer end to the long end of draft-bar 2 by clevis 15 and connecting-rod 11. Provision is made for varying the draft upon said extension-bar 3 by shifting the clevis 15 to any one of the graduated perforations 13 at pleasure. Bars 1 and 3 are also variably held in horizontal position adjacent to each other and upon the support *P* by means of a two-angled bar 6, Fig. 3, its opposite arms constituting vertical bolts, the lower of which, 9, extends downwardly through bar 3 and also through support *P* to form a pivot connection there- with and the upper of which, 10, extends upwardly through the longitudinal center of bar 1 to form a clevis-pin for clevis 5 at the axis of said bar. Connecting-bar 6 lies horizontally between said doubletree-bars 1 and 3 and by its crank movement laterally permits backward and forward movement of the two-horse doubletree upon the inner end of said extension-bar 3 without changing the draft.

An intermediate diagonal rod 7 is variably secured to draft-bar 2 at or near its outer end by means of graduated perforations 14 therein, and at its opposite end by a slotted head 8, through which the connecting-bolt 9 operates. The special object of this rod and slotted head thereon is to limit the backward and forward movement of the doubletree-bars 1 and 3, respectively, by limiting the sweep of the long end of draft-bar 2. It is apparent that by this means and subject to the limitation of said slotted rod extension-bar 3 has a horizontal-swinging movement independent of the axis movement of doubletree-bar 1, and vice versa, and also that said doubletree-bar 1 may within said limits move freely back and forth over the pivot of said extension-bar 3 by means of the crank movement of said connecting-bar 6, as aforesaid. Thus I accomplish a limited independent movement of these several swingle-trees with respect to each other, thereby

keeping the draft uniform and unaffected by the usual unevenness of a team, and in case either member of the three-horse doubletree advances too far beyond the other its movement is automatically checked by the increased load which must be sustained as soon as the limits of said slotted rod 7 are reached. It is also apparent that by these means the ordinary operation of doubletree-bar 1 is not interfered with by the temporary disuse of the third member, and vice versa.

In case of use without a wagon-tongue support, as shown in Fig. 1, a substitute support P' may be used, as shown in Fig. 2, such support being provided with clevis 17 or other means for attachment.

If at any time it be found expedient to dispense with the third member 3, the same may be readily detached by withdrawing the connecting-bolts aforesaid, and thereupon the doubletree member 1 may be used alone in the ordinary way.

I do not limit my invention to matters of mere form; but,

Having thus fully described its construction and operation as now made, what I claim as new, and desire to secure by Letters Patent, is—

1. In a doubletree of the class described, the combination with a horizontal support extending at right angles therewith; of a graduated draft-bar mounted to swivel on said support rearwardly of said doubletree; a lateral extension-bar hinged at its inner end to said horizontal support, and having its outer end intermediately linked to the adjacent end of said graduated draft-bar; a two-horse doubletree linked at its center to the opposite end of said draft-bar, and movably con-

nected to said horizontal support by means of a crank, one end of which pivotally engages said support, and the other end thereof the center of said two-horse doubletree to form its swivel and permit a limited backward and forward movement thereof at a short distance one side of the longitudinal center of said horizontal support and opposite to but independently of said lateral extension-bar, substantially as set forth.

2. The combination in a three-horse doubletree, with a horizontal support extending at right angles therewith, of a separable extension-bar pivoted to said support at its inner end adjacent to a two-horse doubletree, and coöperating therewith to form a three-horse doubletree; a draft-bar located rearwardly of said doubletree, and pivotally secured to said support at one side of its longitudinal center; the shorter end of said draft-bar linked to said two-horse doubletree at its longitudinal center and a short distance one side of said horizontal support, and the longer end of said draft-bar linked to said extension-bar at a proportionate distance from its axis; and an intermediate connecting-rod, pivotally attached to said draft-bar between said support and outer connecting-rod, and provided with slotted head to engage a stop, and a two-angled bolt to movably connect the members of said doubletree, substantially as set forth, and for the purpose specified.

In witness whereof I hereunto set my hand this 9th day of October, 1905.

CHARLES W. SPANGLER.

In presence of—

HIRAM SWARTZ,
BENTON G. HAY.