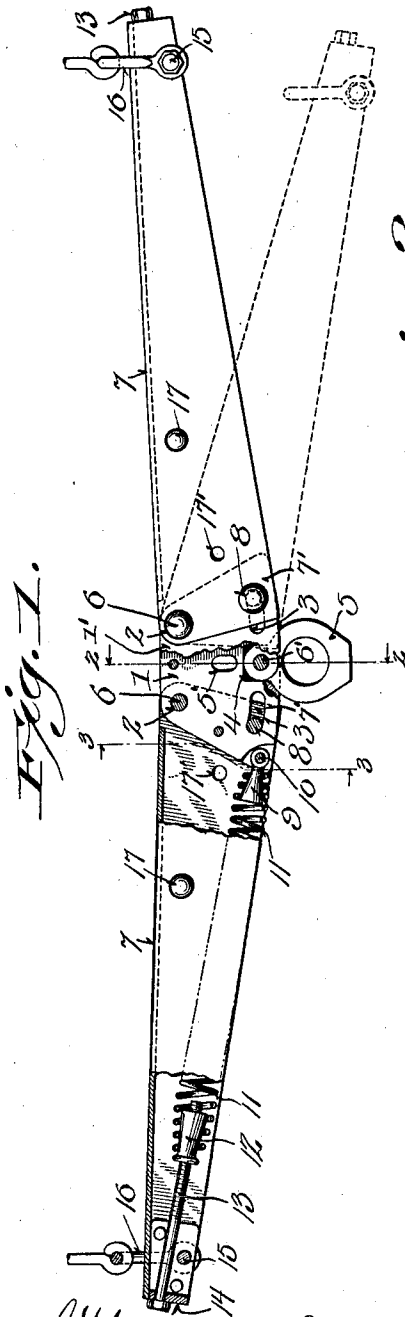


P. PECARD.
 SWINGLE OR DOUBLE TREE.
 APPLICATION FILED MAY 24, 1912.

1,039,318.

Patented Sept. 24, 1912.



Witnessed:
 Charles J. Jones
 May 24, 1912.

Fig. 2.

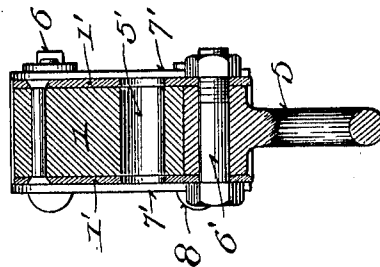


Fig. 4.

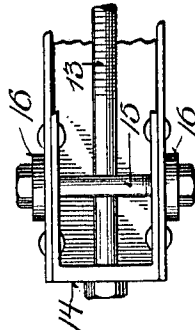
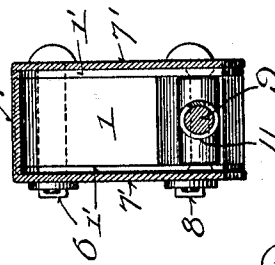


Fig. 3.



Inventor:
 Philip Pecard.
 By *Charles J. Jones*
 Attorneys.

UNITED STATES PATENT OFFICE.

PHILLIP PECARD, OF LENA, WISCONSIN.

SWINGLE OR DOUBLE TREE.

1,039,318.

Specification of Letters Patent.

Patented Sept. 24, 1912.

Application filed May 24, 1912. Serial No. 699,395.

To all whom it may concern:

Be it known that I, PHILLIP PECARD, a citizen of the United States, and resident of Lena, in the county of Oconto and State of Wisconsin, have invented certain new and useful Improvements in Swingle or Double Trees; and I do hereby declare that the following is a full, clear, and exact description thereof.

Primarily my invention has for its object to provide simple, economical and effective spring-controlled swingle or double trees, the same being adapted for use in connection with vehicles, agricultural implements or the like and is particularly designed as an improvement upon draft appliances such as described in an application for patent filed by me January 27, 1912, for improvements in swingle or double trees, Serial Number 673,868, which application was allowed April 4, 1912.

In carrying out my present invention it is contemplated to use a pair of pressed steel arms that are independently pivoted to a swivel-block that is adapted to be coupled to a tongue or other draft member. The swivel block in this instance carries a pair of forwardly disposed hinge pins for pivotally connecting wing portions of the arms, independent movement of which arms is limited in either direction by slots that are formed in the swivel block, each of which slots is described upon an arc of a circle that is struck from the axis of the arm pivots, said slots being rearwardly disposed from the pivots and in which is adapted to travel a pair of stop pins that are carried by the arm wings. Connected to the outer end of each arm is a coiled spring, the inner ends of which are connected to the swivel block rearwardly of the hinge pins whereby said arms are normally held backward under spring pressure. By this construction a limited yield of the spring-controlled arms is had incidental to draft impulse, said arms being held rigid after the forward movement under spring tension of the same, due to said arms being locked by their stop-pins engaging the ends of the slots. Thus it is clear that after the initial load has been placed upon a double or swingle tree made in accordance with my invention that the arms thereof will become rigid and the swivel block will thereafter swing together with said arms upon the bolt or coupling member to which the device is attached, in the same

manner as in the case of an ordinary one-piece double or swingle tree.

Specific objects of my invention are to provide means for adjusting the tension of the pull springs in proportion to a maximum load; to provide means for positively limiting the yield of the arms at a point intermediate of their maximum throw; to provide hollow U-shaped arms whereby they serve as housings for the coiled springs, and to provide means for securing said coiled springs whereby the latter may be quickly removed and others substituted therefor as the case may require.

With the above and other minor objects in view the invention consists in certain peculiarities of construction and combination of parts as set forth hereinafter with reference to the accompanying drawings and subsequently claimed.

In the drawings Figure 1 represents a plan view of a double tree embodying the features of my invention, portions of the same being broken away and in section to more clearly illustrate certain structural features; Fig. 2, an enlarged detail cross-sectional view of the double-tree, the section being indicated by line 2—2 of Fig. 1 and illustrates particularly the swivel block; Fig. 3, another cross-sectional view, the section being indicated by line 3—3 of Fig. 1, and Fig. 4, a detailed edge view of the end of one of the arms, the view being looking toward the front.

Referring by characters to the drawings, 1 represents a swivel block provided with hinge apertures 2 and circular slots 3, which slots are described upon the radius about the axes of said hinge apertures 2, the hinge apertures being at the forward end of the block and the circular slots disposed rearwardly thereof as shown, each comprising a set that is disposed upon opposite sides of the center of said swivel block. The swivel block is also provided with a rearwardly disposed central recess 4, into which is fitted the apertured shank of a coupling ring 5, which coupling ring is secured by a bolt 6' that passes through the shank thereof and alined apertures in the block. The block, as shown is preferably made solid and is provided with surface rub-plates 1' that are riveted or otherwise permanently secured to the block body, it being understood however that in some instances I may, without departing from the spirit of my

invention form the swivel plate in one piece whereby the rub-plates are dispensed with. The swivel block is also provided with a centrally disposed coupling slot 5', which slot may be utilized for connecting the block to a draw bar of a vehicle, in place of utilizing the coupling ring as a means of connection and should the device be connected by the slot 5', the coupling ring may be removed or dispensed with. Hinge bolts 6 are fitted through the hinge apertures of the swivel-block for the reception of a pair of U-shaped arms 7, which arms have apertured wings 7', the apertures being adapted to receive the hinge bolts. These arms are preferably formed from pressed steel with their open or throat portion facing rearwardly. The wings 7' of the arms are also provided with stop-pin apertures through each of which is fitted a stop-pin 8 which stop-pins are adapted to engage and travel in the circular slots 3 of the swivel block. Hence it will be seen that the arms are capable of movement upon their hinge-pins in either direction, said movement being limited by the rearward slot and pin connection, it being also apparent that owing to the wings at the inner end of said arms being lapped over the faces of the block rub-plates said arms are prevented from sagging and strain is more or less taken off of the pivot-bolts. The rear outer corners of the swivel block are cut away as best shown in Fig. 1 for the reception of shackles 9, which shackles are mounted upon studs 10 that extend through apertures of the projecting face-plates 1'. The shackles 9 are each provided with projecting conical plugs for the reception of end coils of coiled pull springs 11, the said end coils being contracted over the plugs. The outer end of each of these coiled springs is also provided with a series of contracted coils for engagement with an adjustable conical plug 12, each of which plugs is apertured and threaded for the reception of the threaded ends of bolts 13, the heads of which abut end-clips 14 of the arms, the said end-clips being apertured for the reception of the bolts and are riveted as shown or otherwise secured to the U-shaped wings of said arms.

It is apparent from the foregoing description that the inner ends of the springs are permanently hinged to the rear corners of the swivel blocks and that the outer corners of said springs are connected to the outer ends of the arms by the bolts 13 whereby the tension of said springs may be regulated in proportion to the draft load to which the double tree is attached and that as shown in full lines in Fig. 1 when draft is applied to the ends of the arms they will move forward and be locked in this forward position in opposition to the tension of the springs. When relieved of strain the arms

will be drawn back by their spring connections to the position indicated in dotted lines in said figure.

Should the device be utilized as a double tree as shown in Fig. 1, the ends of the arms each carry bolts 15 to which swingle-tree clips 16 are attached in the ordinary manner. Furthermore it is apparent that movement of the arms in either direction is limited by the length of the circular slots 3 whereby strain upon the springs can only be exerted to a predetermined degree. Should it be desired to limit forward movement of the arms within the maximum scope, means for so limiting said arm movement is provided. This is accomplished through the insertion of a pair of pins 17 within aligned apertures 17' that are formed in the arm webs adjacent to the edges of the swivel-block. Hence it is apparent that when the pins are inserted in said apertures that back movement of the arms due to contraction of the springs will be limited by engagement of the pins with the adjacent edges of the block, this engagement being effected prior to engagement of the stop-pins 8 with the inner ends of the circular slots. The pins 17 as shown are idly carried in apertures formed in the arm webs whereby said pins are accessible for use at all times.

I claim:

1. A swingle or double tree member comprising a swivel block having a pair of forwardly disposed hinge-pin apertures and a circular slot described about each hinge-pin aperture rearwardly thereof, hinge-pins mounted in the hinge apertures of the swivel block, hollow arms having wings spanning the swivel-block and in hinge connection with the pivot-pins, a stop-pin carried by each wing for engagement with the circular swivel block slots, and a coiled spring connecting the end of each arm and swivel-block.

2. A swingle or double tree comprising a swivel-block provided with a pair of forwardly disposed hinge-pins and circular slots described about the hinge pin axes rearwardly thereof, U-shaped hollow arms provided with wings that overlap the top and bottom faces of the swivel-block, the wings being in hinge connection with the swivel-block hinge-pins, stop-pins carried by the wings engageable with the circular slots of the swivel-blocks, a coiled spring for each arm having one end secured to the aforesaid swivel-block, and adjustable securing means carried at the end of each arm for connecting the outer ends of said springs.

3. A swingle or double tree member comprising a swivel-block having forwardly disposed hinge-pins, and circular slots described about the hinge-pin axes rearwardly thereof, U-shaped hollow arms provided with wings that overlap the top and bottom

faces of the swivel-block, the U-shaped arms being in pivotal connection with the hinge-pins of said block, stop-pins carried by the wings engageable with the swivel block circular slots, shackles carried by the
5 said swivel-block having conical projecting plugs, bolts secured to the outer ends of the arms, conical plugs in threaded engagement with the bolts, and coiled springs connecting
10 said conical plugs and plug extensions of the shackles, the ends of the coiled springs being contracted thereabout.

4. A swingle or double tree member comprising a swivel-block having a pair of forwardly disposed hinge-pins, and circular
15 slots described about the hinge-pin axes rearwardly thereof, U-shaped hollow arms having wings that overlap the top and bottom faces of the swivel-block, the wings be-

ing in hinge connection with the swivel-block 20 hinge-pins, stop-pins carried by the wings engageable with the circular slots of the aforesaid swivel-block, apertured clips secured to the ends of the arms, bolts having threaded ends fitted through the clip aper- 25 tures, plugs in threaded engagement with the bolt ends, and coiled springs connecting the plugs and rear corners of the swivel-blocks.

In testimony that I claim the foregoing I 30 have hereunto set my hand at Lena, in the county of Oconto and State of Wisconsin in the presence of two witnesses.

PHILLIP PECARD.

Witnesses:

O. W. BRAZEAU,
E. DIONNE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
