(No Model.) 2 Sheets—Sheet 1.

O. R. WINSLOW & H. KING.

DOUBLETREE.

No. 531,581. Patented Dec. 25, 1894.

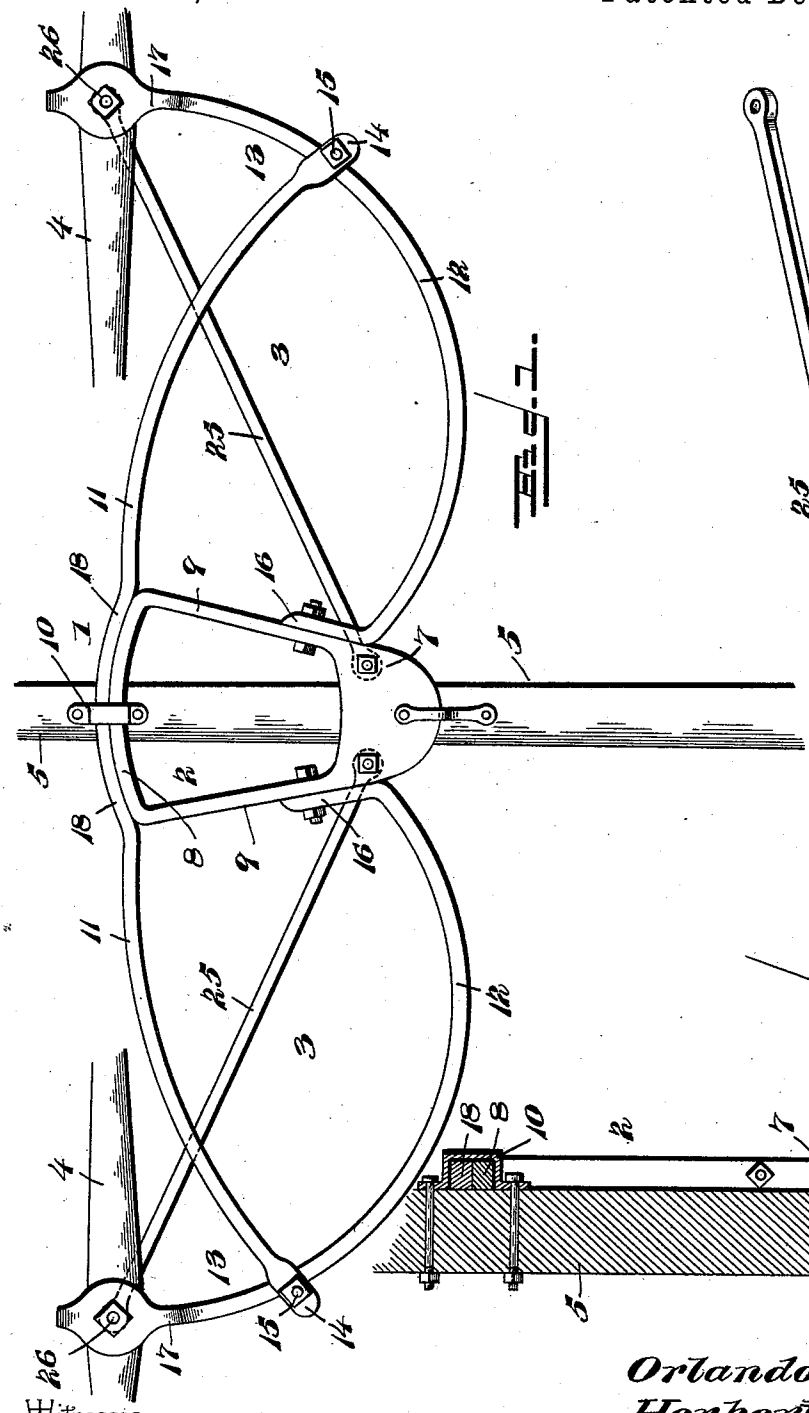

Fig. 1.

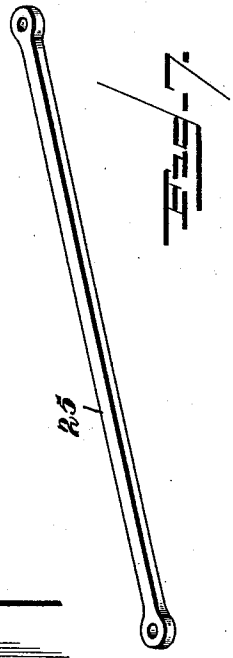

Fig. 3.

Fig. 2.

Witnesses
E. K. Stewart.
J. F. Riley

Inventors
Orlando R. Winslow
Herbert King
By their Attorneys.
C. A. Snow & Co.

(No Model.) 2 Sheets—Sheet 2.

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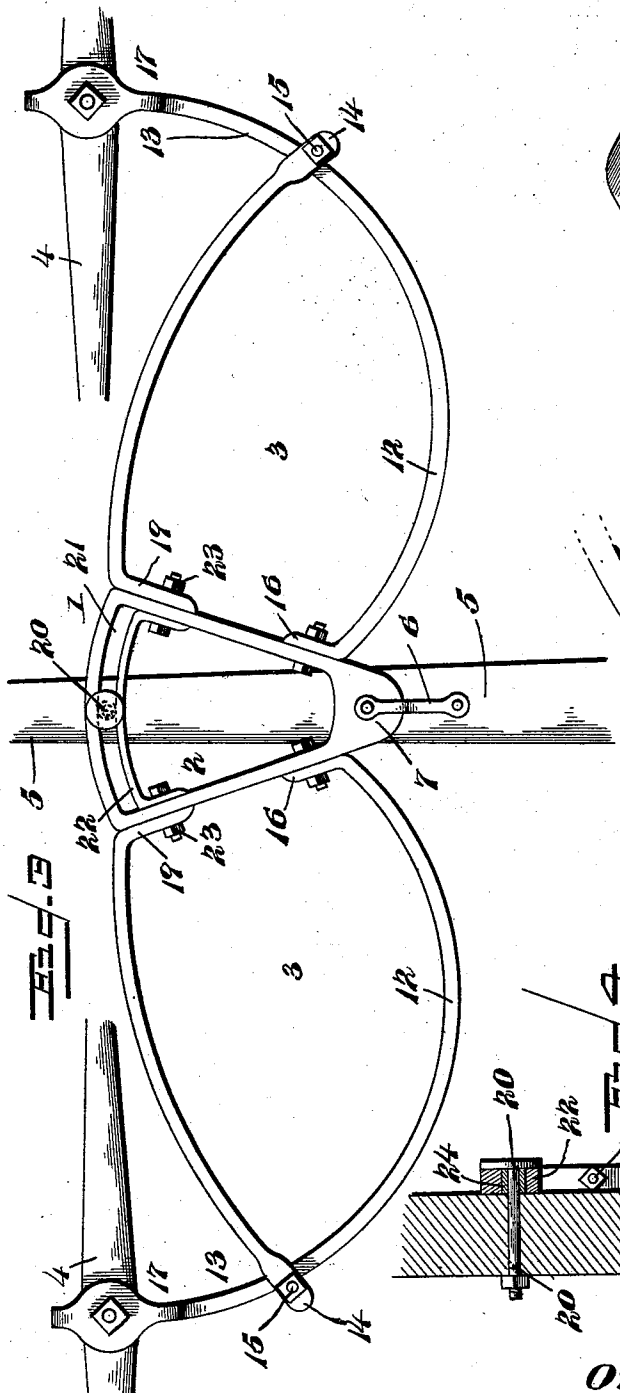

Fig. 3.

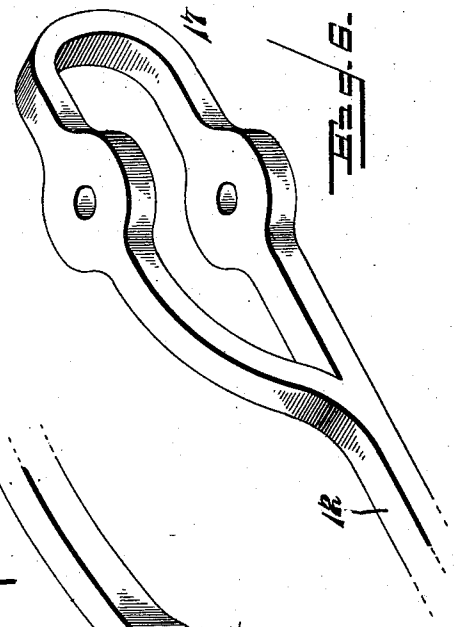

Fig. 5.

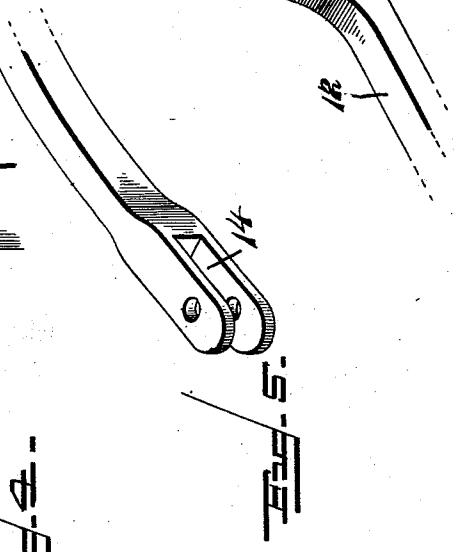

Fig. 6.

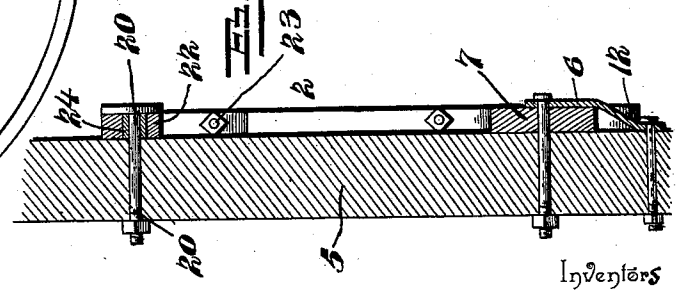

Fig. 4.

Witnesses
E. K. Stewart.
J. J. Riley

Inventors
Orlando R. Winslow
Herbert King
By their Attorneys,
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

ORLANDO R. WINSLOW AND HERBERT KING, OF MARSHFIELD, MISSOURI.

DOUBLETREE.

SPECIFICATION forming part of Letters Patent No. 531,581, dated December 25, 1894.

Application filed April 23, 1894. Serial No. 508,686. (No model.)

To all whom it may concern:

Be it known that we, ORLANDO R. WINSLOW and HERBERT KING, citizens of the United States, residing at Marshfield, in the county of Webster and State of Missouri, have invented a new and useful Doubletree, of which the following is a specification.

The invention relates to improvements in doubletrees.

The object of the present invention is to improve the construction of doubletrees, to provide one possessing great strength and durability, and presenting an attractive appearance, to avoid breakage in case of a runaway, and to enable the parts to be readily mended or repaired if injured.

A further object of the invention is to equalize the draft, to limit the swinging of the doubletree, and thereby avoid employing stay straps, and to prevent singletrees from falling to the ground in case their pivot bolts become broken.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings—Figure 1 is a plan view of a doubletree constructed in accordance with this invention. Fig. 2 is a sectional view taken transversely of the doubletree. Fig. 3 is a plan view of a whiffletree, illustrating a modification of the invention. Fig. 4 is a sectional view of the same, taken transversely of the doubletree. Figs. 5 and 6 are detail perspective views of the outer ends of the curved bars forming the side portions of the doubletree. Fig. 7 is a detail view of one of the diverging braces.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a doubletree, comprising a central triangular rearwardly disposed truss-frame 2 and similar opposite truncated elliptical side frames 3, carrying at their outer ends singletrees 4. The rearwardly disposed triangular truss-frame has its rear end or apex rounded and perforated to receive a pivot bolt, which passes through a tongue 5 and a keeper 6 mounted thereon; and the rear end of the truss frame forms a flat plate 7, which rests upon the upper face of the tongue or pole.

The front end of the truss-frame, which is composed of a curved transverse bar 8, and which is preferably formed integral with the rearwardly converging sides 9, is arranged in a guide or keeper 10, mounted upon the upper face of the tongue or pole 5; and the said guide or keeper 10 limits the swing of the doubletree, and thereby obviates the necessity of employing stay straps for keeping the singletrees out of contact with the wheels of a vehicle in turning.

Each truncated elliptical side frame 3 consists of a front curved rearwardly extending side or bar 11 connected at its inner terminus with the truss-frame, and a rear curved bar or side 12 having its outer portion 13 extending forward beyond the outer terminus of the front bar or side 11, which is bifurcated at 14 to receive the rear bar or side 12, and which has its bifurcation closed by a bolt 15 arranged at the outer side of the rear bar 12. The inner end 16 of the rear side or bar 12 is bent at an angle extended forward, and bolted or otherwise secured to the truss-frame; and the outer end of the rear side or bar 12 is bent upward on itself to provide a loop 17, which receives the singletree 4, and which is perforated for the reception of a pivot bolt.

The front sides or bars 11 of the side frames are preferably connected by an intermediate integral portion 18, which is curved, and which conforms to the configuration of the curved front end of the truss-frame 2. The keeper or guide 10 is of sufficient length to receive the curved connecting portion 18 of the side frames and the front bar 8, and it conforms to the configuration of these bars.

Instead of constructing the front sides or bars 11 of the frames 3, of a single piece of metal, they may, as illustrated in Fig. 3 of the accompanying drawings, be bent rearward at an angle at 19 and bolted to the sides 9 of the truss-frame 2.

The swinging of the doubletree may be limited by a bolt 20, which is arranged in a curved opening 21 at the front of the truss-

frame. The curved opening is formed by the front of the frame 2 and a guide bar 22, which is arranged parallel with the front bar of the truss-frame; and the ends of the bar 22 are bent rearward at an angle, and are secured to the sides of the truss-frame by bolts 23, which also serve as the means for securing the angularly bent ends 19 of the front sides of the frames 3. An anti-friction sleeve 24 is arranged on the bolt 20 to avoid wearing the bolt or the curved bars of the truss-frame.

The doubletree may be constructed of any suitable metal, either hollow or solid, and the bars may be rounded, rectangular in cross-section, or of any other configuration, if desired.

When the doubletree is to be employed in connection with heavy vehicles, or the like, it may be further strengthened and supported by forwardly diverging braces 25 having their inner ends bolted to the lower face of the plate portion 7 of the truss-frame, and their outer terminals similarly secured by pivot bolts 26 to the outer ends of the extended portions or arms 13 of the rear bars 12 of the side frames.

The loops 17 extend above the upper face of the doubletree, and this construction provides an equal draft. It prevents the doubletree and singletree from twisting, and at the same time permits the singletree to swing clear of the body portion of the doubletree; and in event of the breakage of the pivot bolt 26 the singletree will be prevented from falling to the ground and striking the heels of a horse, and causing an accident, which ofttimes results from such a breakage.

It will be seen that the doubletree is simple and inexpensive in construction, that it possesses great strength and durability, and at the same time contributes lightness, that it prevents twisting and forward rolling, and the consequent wearing, sagging, and breakage, which are incident to the ordinary construction of wooden double and singletrees. It will also be apparent that the necessity of employing stay straps is obviated, that the draft is equalized and the singletrees prevented from catching under the pole, and that the singletrees are permitted to turn clear of the body portion of the doubletree.

Changes in the form, proportion and the minor details of construction may be resorted to without departing from the principles or sacrificing any of the advantages of this invention.

What we claim is—

1. A doubletree, comprising a central triangular truss-frame provided at its rear end with a pivot opening, and the opposite truncated elliptical side frames composed of rearwardly curved front bars and forwardly curved rear bars provided at their outer ends with forward extensions or arms, substantially as described.

2. A doubletree, comprising a central triangular truss-frame, opposite side frames connected to and extending from the truss-frame and composed of front and rear sides and having forwardly extending arms at their outer ends, and the braces extending from the truss-frame to the forwardly extending arms, substantially as described.

3. A doubletree, comprising a central triangular truss-frame having a curved front end and provided at its rear end with a pivot opening, the opposite truncated elliptical side frames composed of oppositely curved front and rear bars 11 and 12, the rear bars having their inner ends secured to the truss-frame and provided at the outer terminals of the front bars with forwardly extending arms, the curved connecting portions 18 formed integral with the front bars 11 and arranged contiguous to and conforming to the configuration of the front of the truss-frame, and a guide or keeper receiving the connecting portion 18 and the front of the truss-frame and adapted to limit the swing of the doubletree, substantially as described.

4. A doubletree, comprising a central truss-frame and the opposite side frames composed of front bars 11, having their outer terminals bifurcated and the rear bars having their inner ends connected with the truss-frame and extending through the bifurcated terminals of the front bar and provided with forwardly extending arms bent upward on themselves and forming singletree receiving loops, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

ORLANDO R. WINSLOW.
HERBERT KING.

Witnesses:
GUY WINSLOW,
JAMES CASE.