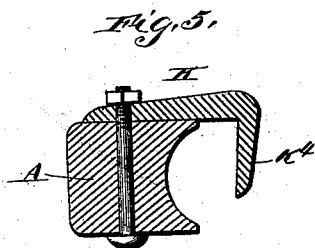
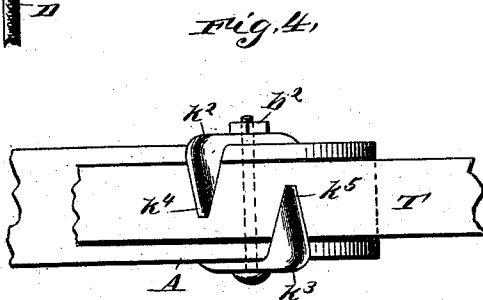
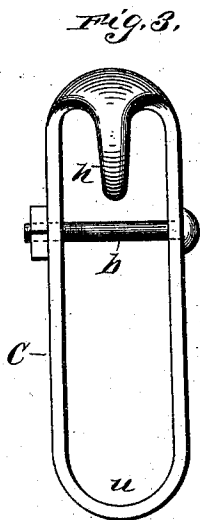
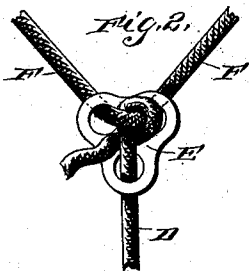
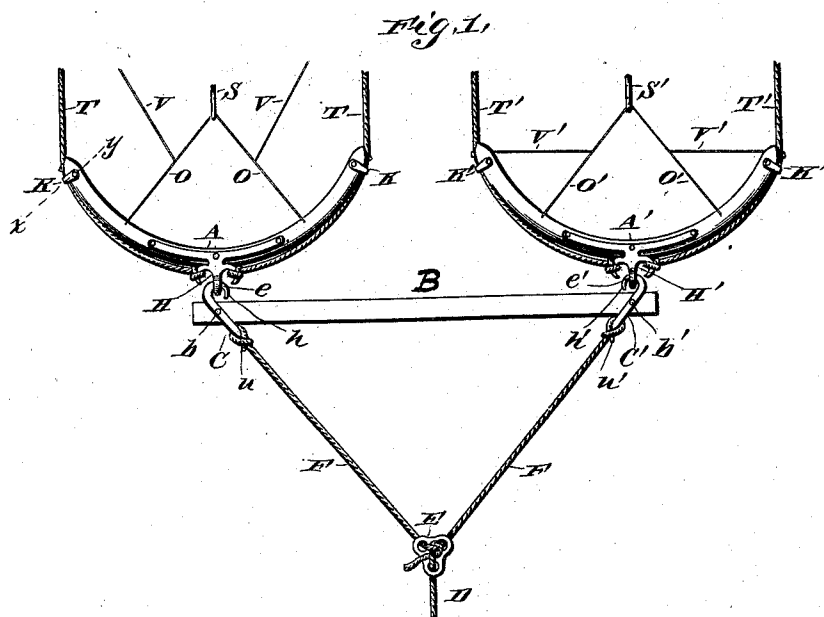


(No Model.)

W. LOUDEN.
SINGLE TREE.

No. 547,272.

Patented Oct. 1, 1895.



Witnesses:
W. H. Glass.
W. H. P. P. P.

Inventor:
William Loudon.

UNITED STATES PATENT OFFICE.

WILLIAM LOUDEN, OF FAIRFIELD, IOWA.

SINGLETREE.

SPECIFICATION forming part of Letters Patent No. 547,272, dated October 1, 1895.

Application filed February 27, 1893. Serial No. 463,987. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LOUDEN, residing at Fairfield, in the county of Jefferson and State of Iowa, have invented certain new and useful Improvements in Singletrees; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to singletrees in which the harness-traces, instead of being hitched to the ends of the singletree, (as is the common way,) are passed around and behind the ends thereof and are hitched to the singletree near its central part; and it consists, first, in an improved form of the keepers which hold the traces from slipping off the ends of the singletree; second, in improved means for connecting two singletrees to a spreader attachment, and in other details hereinafter explained.

In the drawings accompanying this specification, Figure 1 is a top or plan view of the invention. Fig. 2 is an enlarged view of the rope-hitching plate, showing the plan of hitching the ropes together. Fig. 3 is a side view of one of the spreader-clips. Fig. 4 is a side view of one of the ends of the singletree, showing how the keepers are attached. Fig. 5 is a cross-section drawn on the line *xy* in Fig. 1.

Referring to the drawings, A represents a singletree made curved to fit close to the horse, like a breeching. The harness-traces T are passed around the ends of the singletree and hitched to hooks H, near its center, and are held from slipping off the ends of the singletree by means of keepers K K, secured thereto. The keepers K are made of two separate plates k^2 and k^3 , bolted on opposite sides of the singletree by the bolt b^2 , so as to form a forked keeper, between which the trace T may be readily placed. On one of the edges of each of the plates k^2 and k^3 vertically-projecting fingers k^4 and k^5 are formed, so that when the plates are bolted on the singletree the fingers on the lower plates will point upward, while those on the upper plates will point downward, and they will stand diagonally to each other and sufficiently apart to admit the trace between them. By this means the harness-trace may be readily slipped out or in between the plates k^2 and k^3 by bending it so as to escape the fingers k^4 and k^5 ; but while the trace is in its

normal position it will be securely held by these fingers between the plates k^2 and k^3 , constituting the keeper. The keepers, being in two separate parts and applied to opposite sides of the singletree, may be let into the singletree or blocked out, as may be required to fit the size of the trace.

A' represents a similar singletree, and B a spreader for joining the singletrees together for use with a span of horses. The singletrees are secured to the spreader, and a spreader rope or chain F is connected to each singletree and to the draft-rope D in the following manner: Metallic loops C and C', adapted to embrace the ends of the spreader, are bolted thereon by means of bolts b and b' . The front ends of these metallic loops are fitted with hooks h and h' , to which the singletrees are hooked by means of their eyes e and e' . The spreader-rope is secured to the rear ends of the loops C and C'. The hooks h and h' are set upon the inner edges of the front ends of the loops C and C', so that when the hooks h and h' are drawn straight forward from the bolts b and b' by the draft of the horses the rear ends of the loops will be drawn inwardly and in the same line with the ends of the spreader-rope, thus overcoming the side strain upon loops C and C', which would otherwise be exerted upon them. In place of the hooks h and h' being placed on the loops C and C' to connect with eyes on the singletrees the hooks may be placed on the singletrees and the eyes on the loops, or other suitable means for detachably connecting the two together may be used without departing from the spirit of my invention. The spreader-rope F is preferably passed through the two front eyes of a hitching-plate E before it is fastened to the loops C and C'. The draft-rope D is then passed through the rear eye of the hitching-plate, then under the spreader-rope between the two front eyes of the hitching-plate, then back over the spreader-rope, and then under itself, as plainly shown in Fig. 2. By this means the draft-rope may be readily adjusted to any desired length upon the hitching-plate, and its free end will always be firmly held against the plate. The spreader B is set close to the hooks h and h' , so as to close them and prevent the singletrees from becoming unhooked;

but they may be easily disconnected by taking out the bolts *b* and *b'*.

The outer sides of the singletree may be made concave, as shown in Fig. 5, so as to hold the traces more in the middle of the singletree and relieve the strain on the keepers. This is especially desirable when rope or chain traces are used.

To hold the singletrees from dropping against the horse's heels cords or straps *O O* are used, which are usually provided with a snap-hook *S* to hook in the harness on the horse's back. Sometimes these straps slip to one side of the horse and let the singletree get out of place. To overcome this I attach side straps *V V* to the holding-straps *O O* and secure them to the traces *T T* or to some other part of the harness, so as to hold the straps *O O* apart and keep them from slipping to the side of the horse.

On the singletree *A'*, I have secured to the holding-straps *O' O'* two side straps *V' V'*, which I fasten to the forward ends of the singletree. This also helps to overcome the difficulty before mentioned and is the equivalent of the other plan.

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

1. The combination with a curved singletree constructed for the traces to pass around its ends on its convex side and connect to it near the center, of separable plates applied to the upper and lower sides of the singletree near its ends, said plates being each provided

with a finger, and adapted to receive and hold the trace between them, substantially as described.

2. The combination with a curved singletree constructed for the traces to pass around its ends on its convex side and connect to it near the center, of separable plates applied to the upper and lower sides of the singletree near its ends, said plates being each provided with a finger, set so as to stand diagonally toward the opposite finger, substantially as set forth.

3. The combination of two single-trees, a spreader bar, a spreader rope and two metallic loops embracing the ends of the spreader bar and bolted thereto, said loops being connected at their front ends to the single-trees by hooks and eyes and at their rear ends to the spreader rope, substantially as set forth.

4. The combination of two single-trees, a spreader bar, a spreader rope and two metallic loops embracing the ends of the spreader bar and bolted thereto, said loops being connected at their rear ends to the spreader rope and having hooks on their forward ends for the connection of the single-trees, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM LOUDEN.

Witnesses:

W. H. PENCE,
W. H. BLOSS.