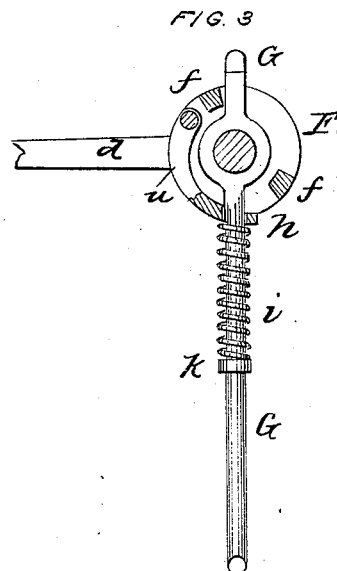
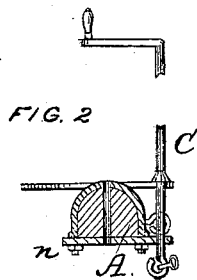
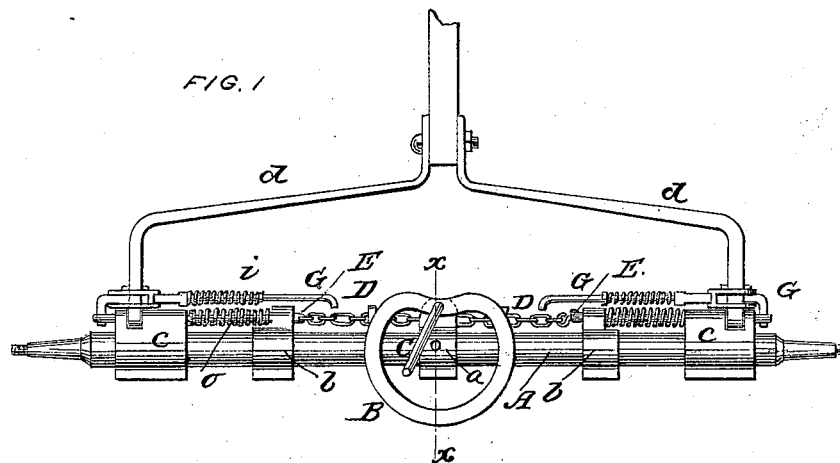


L. O. KUNZE.

Whiffletree.

No. 109,521.

Patented Nov. 22, 1870.



WITNESSES:

Chas. Remson  
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# United States Patent Office.

LODWIG O. KUNZE, OF HARRISONVILLE, MISSOURI.

Letters Patent No. 109,521, dated November 22, 1870.

## IMPROVEMENT IN APPARATUS FOR DETACHING POLES AND SHAFTS FROM VEHICLES.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern :*

Be it known that I, LODWIG O. KUNZE, of Harrisonville, in the county of Cass and State of Missouri, have invented a new and valuable Improvement in Carriage-Shafts; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a plan view of my invention.

Figure 2 is a central cross-section of the same.

Figure 3 is a detail.

My invention relates to the method of attaching the tongues or shafts to vehicles, and consists in the novel construction and arrangement of devices intended to serve as a valuable improvement in the mode of making the attachment, both to promote the safety of the occupants of such vehicles, and to expedite the detaching and removal of the tongue and horses.

A represents the front axle of a vehicle, to which I attach, in the ordinary manner, the fifth-wheel B and the clamps *a*, *b*, and *c*.

Through the fifth-wheel B I place a vertical rod, C, as shown on fig. 2.

The upper end of this rod enters the body or box of the vehicle immediately in rear of the dash-board, and is bent in the form of a crank, whereby it may be operated by either the hand or foot of the driver.

The lower end of this rod passes through the bottom clamping-plate *n*, which is extended forward for this purpose, and is formed into a ring, to which I secure one end of each of the chains D D respectively, the purpose of which will be set forth hereafter.

The upper or claspings-bands of the clamps *b b* I extend, and construct thereon circular loops or rings, through which pass the inside ends of the rod E, the other end of each rod passing through and projecting a short distance beyond similar loops on the clamps *c c*.

These two end-bands I make wider than the others, and in each, and nearest its outside edge, I form a slot of the proper width to receive the eye at the rear end of the shaft or tongue-braces *d d*.

These braces are formed in the usual manner, the rod E passing through the two bands of the clamp *c*, and the eye at the end of the tongue-brace forms a hinge-joint similar to those commonly used on vehicles.

To the inside ends of the rods E E, I secure the other end of the chains D D, and over the central part of these two rods I place the spiral springs *o o*.

One end of each rests against the outside of the grasping-band *b*, and the other against a shoulder or projection on the rod E.

When the crank at the upper end of the vertical rod C is turned in either direction, it winds up the chains D D, pulling back the rods E, and releasing the tongue-braces *d d*.

The backward movement of these rods contracts the spiral springs *o o*, so that when the rod C is released, the rods slide back to their proper positions.

The braces D D, being released in this manner, would be liable to drop against the hind legs of the horses, either injuring or frightening them.

To obviate this I have constructed an apparatus designed to hold the tongue in its horizontal position, and carry it over the ground without danger or damage.

Immediately in front of the eye on the tongue-braces I secure this apparatus, a sectional view of which will be seen in fig. 3, and a plan view in fig. 1.

F represents a disk, connected at a proper distance to another by the two pieces *ff*.

On the centers of these disks I pivot, near its upper end, the rod G.

This rod is bent at each end, for purposes hereafter set forth.

Along the inside edge of the disk F I place a curved arm *u*, pivoted at its upper end, and connected to the rod G by means of the slot *h* in its lower end, about the point where the rod enters between the two disks.

Against the edges of this slot, in the curved arm *u*, rests one end of the spiral spring *i*, and the other end against the shoulder *k*.

To better illustrate the operation of this device, I will describe the manner of attaching the tongue to a vehicle by means of my invention.

The rods E E are pulled back by the crank C, until the tongue-braces can enter the slots in the plates *c c*, when they are released sufficiently to engage the braces, but not allowed to project beyond the outside edges of the clamping-plates.

While they are being held in this position, which may readily be done with a ratchet and pawl attached to the vertical rod C where it enters the vehicle-box, the rod G is lifted upward and inward, until the bend or hook at the upper end, shown in fig. 1, is below the eye of the plate *c*, when the rod E is fully released, sliding out and projecting over and beyond the bend in the rod G, holding it firmly and securely in a horizontal position.

The action of lifting the rod G to a horizontal position forces the curved arm *u* to describe the arc of a circle, with its pivot *l* as a center.

This moves the slotted end *h* down the rod and away

from the edge of the disk, contracting the spiral spring *i*, and holding it as long as the rod *G* remains in the horizontal position; but the instant the pressure of the rod *E* is removed, this spring *i* recoils, and throws the rod *g* into a vertical position, which will be accomplished before the rod *E* can be drawn back far enough to release the braces *d d*.

At the lower end of this rod *G* I make a slight curve or bend to the rear, so that when the rod *G* is in its vertical position, it acts as a support to the rear end of the tongue, and holds the tongue in a horizontal position, and these curved ends serve the purpose of runners, enabling the rods *G G* to pass easily over the ground:

What I claim as my invention, and desire to secure by Letters Patent, is—

The disk *F*, slotted arm *u*, provided with runner *G* and spring *i*, in combination with the detaching-apparatus, substantially as specified.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

LODWIG O. KUNZE.

Witnesses:

M. W. GARRISON,  
CARLTON RAILEY.