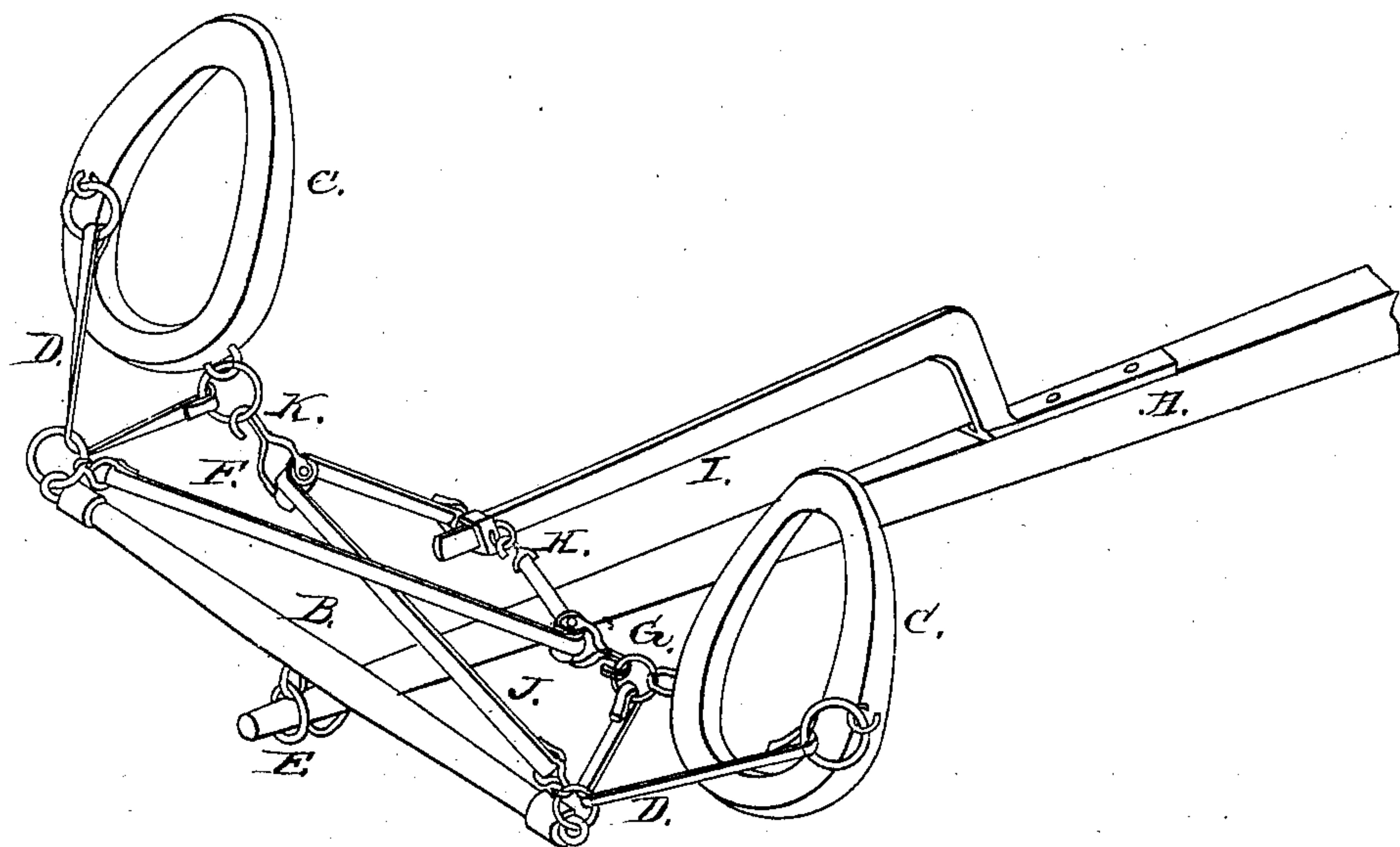


*F.D. Ladenberger,*  
*Harness,*  
*No 51,062, Patented Nov. 21, 1865*



*Witnesses.*  
*Wm. Brown*  
*Wm. Cornington*

*Inventor:*  
*F. D. Ladenberger*  
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*Attys.*

# UNITED STATES PATENT OFFICE.

F. D. LADENBERGER, OF GLENBEULAH, WISCONSIN.

## IMPROVEMENT IN HARNESS.

Specification forming part of Letters Patent No. **51,062**, dated November 21, 1865.

*To all whom it may concern:*

Be it known that I, F. D. LADENBERGER, of Glenbeulah, in the county of Sheboygan and State of Wisconsin, have invented a new and useful Improvement in Harness; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

The drawing represents my invention and the manner in which it is attached to the hames, neck-yoke, and wagon-tongue.

It is well known that when one of the fore-wheels of a wagon strikes an obstruction the first effect is to stop the advance of that wheel, but the other wheel continuing to advance the end of the tongue is thrown around, giving to the shoulder of the horse a sudden and violent blow proportionate in force to the momentum of the wagon and the deadness of the blow against the obstruction; but the worst effect is that the horses frequently have their shoulders bruised and are frequently injured and lamed by the violence of the blow.

The object of my invention is to guard against this violent thrashing about of the wagon-tongue and the consequent injury to the horses; and it consists of two straps and a spring attached to each other and to the hames, neck-yoke, and wagon-tongue in the manner hereinafter more fully described.

A is the wagon-tongue. B is the neck-yoke, and C represents the collars and hames of the harness.

The neck-yoke B is attached in the usual manner to the hames C by means of the pole-straps D and to the wagon-tongue A by the ring E.

F is a strap, one end of which is attached to the ring at the right-hand end of the neck-yoke B by a snap-hook, buckle, or other suitable manner. It then passes around the roller or pulley of a snap-hook, G, or its equivalent, which said snap-hook is then attached to the inner ring of the hames of the near or left-hand horse, whence it passes to the slide-ring H or its equivalent, working upon the end of the spring I.

J is a strap attached in a similar manner to the left-hand end of the neck-yoke B, thence passing around the roller or snap-hook K, attached to the inner ring of the hames of the off or right-hand horse, and thence to the right-hand side of the end of the spring I, where it is attached to the slide-ring H or its equivalent.

The object of attaching the straps F and J to the spring I by means of the slide-ring H is to allow the straps to adjust themselves to the different relative positions of the end of the spring and the other parts with which said straps are connected occurring during the different operations of drawing and holding back. Thus when, in holding back, the tongue and its attachments are crowded forward, to prevent the straps F and J from becoming taut and thus interfering with the direct draft of the pole-straps D, the said straps F and J are attached to the spring I by a slide-ring H or its equivalent, which, as the tongue and its attachments are crowded forward by the pressure of the wagon, slides back along the spring I and keeps the straps F and J slack.

The slide-ring H is kept from slipping from the end of the spring I by any of the devices in common use for such a purpose.

The forward end of the spring I should be about in a line with the inner rings of the hames when the horses and wagon are at rest on a level road, but a slight variation from this position is immaterial.

The said spring should be of such a length and strength as will give to it the requisite elasticity and power for restraining the thrashing about of the wagon-tongue. The end of the spring which is toward the wagon is secured to the tongue by screws, bolts, rivets, or in any other suitable way. The part of the spring which is forward of the part which is attached to the tongue should rise a little above the tongue, so that the elastic part of the spring may not come in contact with the tongue and its proper action be interfered with.

It is immaterial of what substance or in what shape the spring is made provided it possesses the necessary elasticity and lightness without being cumbersome in size.

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

1. The straps F and J, in combination with the spring I, hames C, and neck-yoke B, substantially as described, and for the purpose set forth.

2. The spring I, in combination with the

wagon-tongue A and the straps F and J, substantially as described, and for the purpose set forth.

F. D. LADENBERGER.

Witnesses:

F. HARRINGTON,  
E. BADGER.