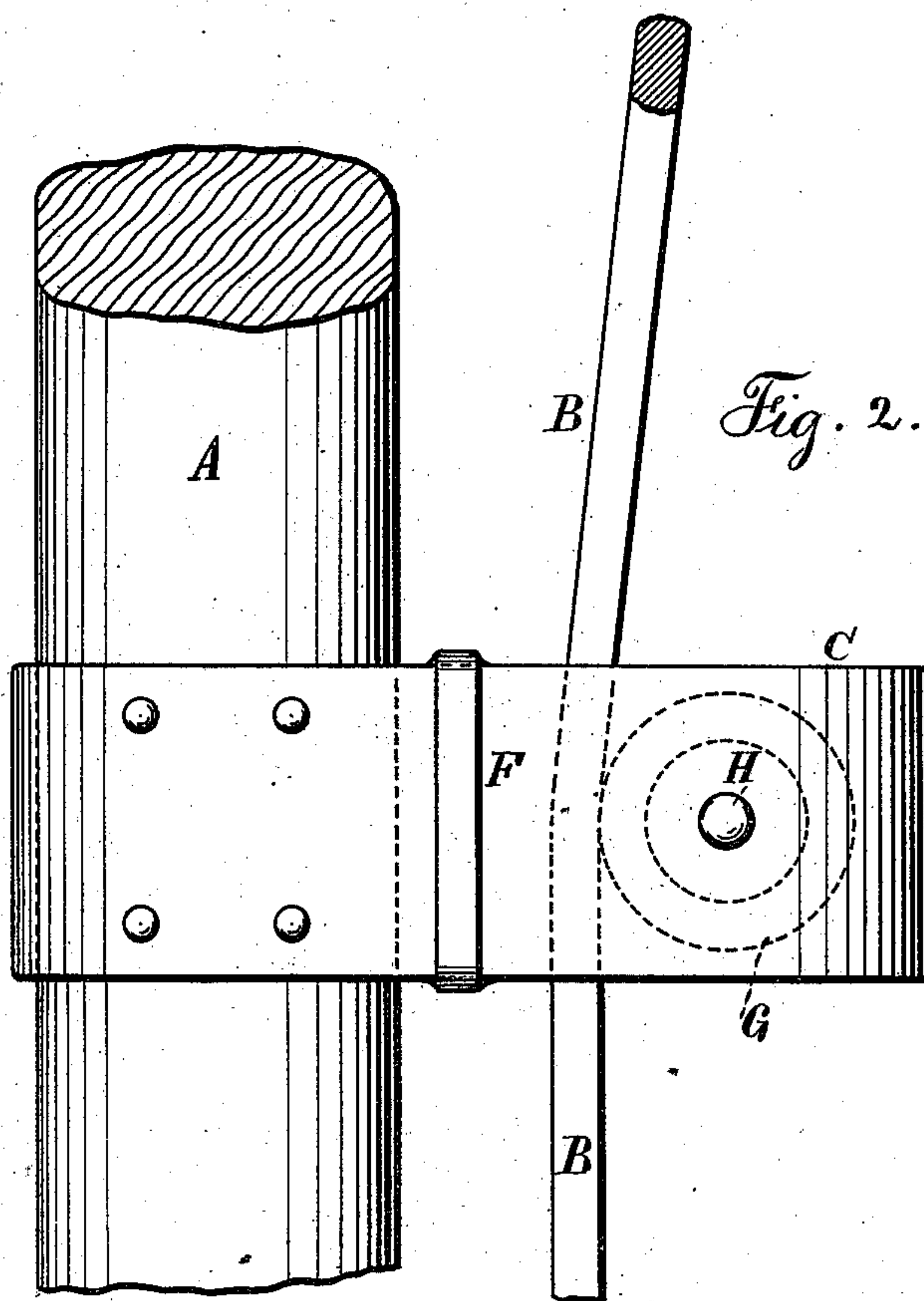
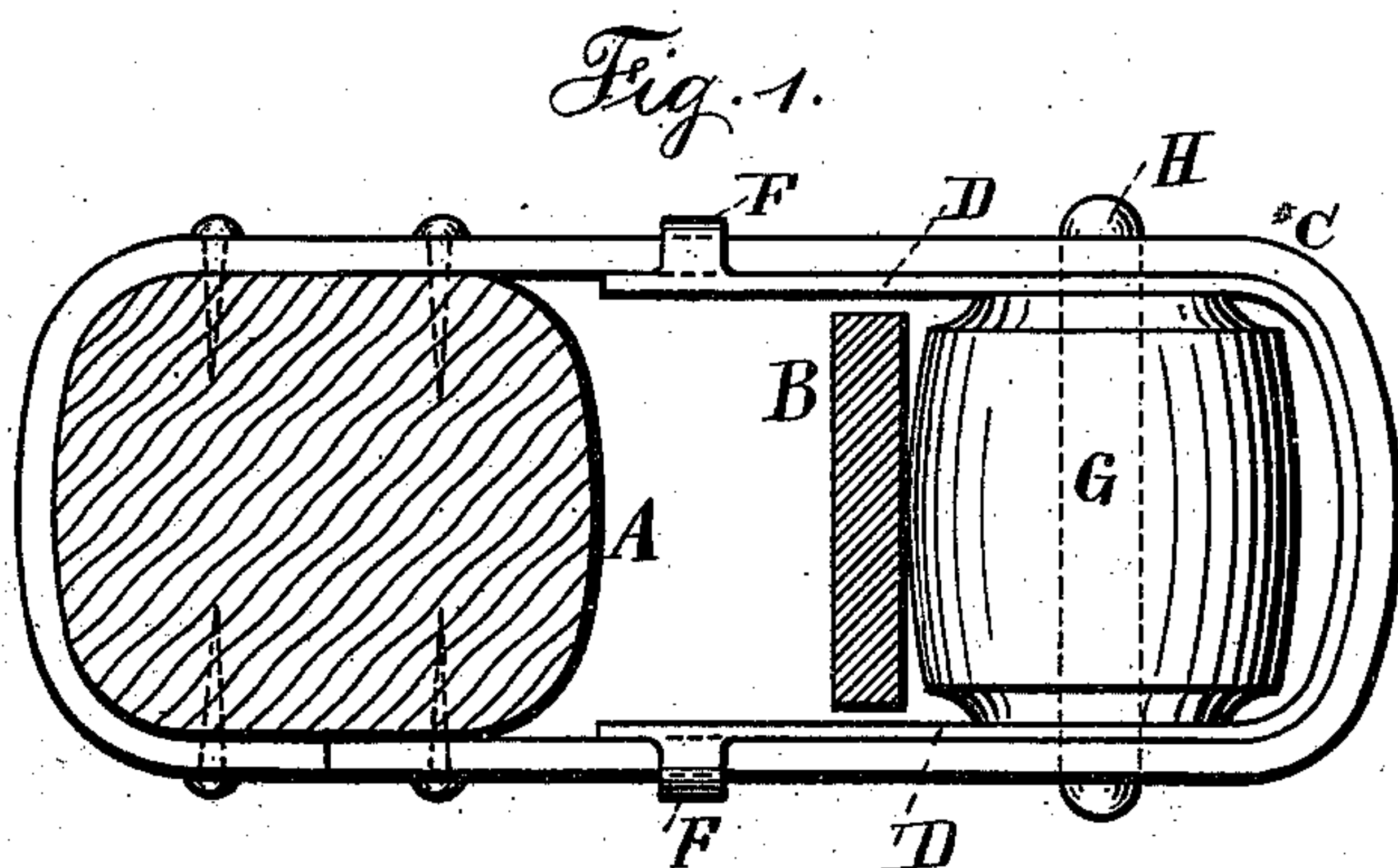


(No Model.)

O. V. BLAZIER.  
TRACE LOOP FOR VEHICLES.

No. 400,630.

Patented Apr. 2, 1889.



Witnesses:

J. Stait  
Chas. H. Smith

Inventor:

Oscar V. Blazier

per Lemuel W. Terrell atty.



# UNITED STATES PATENT OFFICE.

OSCAR V. BLAZIER, OF GILLETTE, NEW JERSEY.

## TRACE-LOOP FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 400,630, dated April 2, 1889.

Application filed November 6, 1888. Serial No. 290,097. (No model.)

*To all whom it may concern:*

Be it known that I, OSCAR V. BLAZIER, of Gillette, in the county of Morris and State of New Jersey, have invented an Improvement  
5 in Trace-Loops for Harness, of which the following is a specification.

It is usual to affix leather loops upon the shafts of a vehicle, the same projecting inwardly toward the horse and receiving through  
10 them the traces, and by which such traces are supported and guided, so that they do not drop when the vehicle is going downhill, but the traces under all circumstances move backward and forward in these loops in consequence  
15 of the movement of the horse as he travels.

My present invention is for preventing the wear upon the loop and upon the trace heretofore usual in consequence of the movement  
20 of the trace against the loop and for holding the loop in a more rigid and accurate position than those heretofore made of leather only.

In the drawings, Figure 1 is an elevation of the loop and its roller and a section of one of  
25 the shafts. Fig. 2 is a plan view showing the loop and its roller and part of the trace and the shaft.

The shafts A and traces B are of ordinary character, and each shaft has an inwardly-  
30 projecting loop, C, of leather or similar material, passing around the shaft and secured by nails or screws, and within this loop C is a metal plate, D, bent double, so as to be passed within the leather loop, and there are cross  
35 bars or straps F, that pass around the leather of the loop to hold the plate D in position within the loop, and there is a roller, G, within the outer portion of the loop, such roller being upon a vertical pin or axis, H, passing  
40 through the roller and through the plate, and this axis may also pass through the leather of the loop C, and the roller is preferably enlarged or bulging in the center portion, so as to conform to the curvature or bend of the  
45 outer portion of the loop or plate. It will now be seen that the plate D stiffens the leather loop and causes it to retain a nearly-horizontal position projecting inwardly from the shaft, and the trace, passing through the loop,

is held by the same in its proper position vertically; but the tension upon the trace, which  
50 tends to draw the same in a straight line between the whiffletree and the collar, causes the trace to bear against the roller, because there is a small angle formed in the trace as  
55 it passes from the roller toward the collar, and in consequence of this the roller receives the strain and prevents wear of the trace upon the loop, and this roller lessens the friction of  
60 one part against the other, so that neither the trace nor the loop is worn by the movement resulting from the action of the animal's shoulders upon the collar to which the traces are affixed.

I am aware that rollers have been used as  
65 guides for the traces, and these rollers have been upon metallic foot-guards that were fastened within the shafts and used especially in sulkies.

I claim as my invention—

1. The combination, with the shaft, of the  
70 loop projecting inwardly and nearly horizontally, and a roller within the loop, and a vertical pivot-pin for the roller passing through the loop, and against which the trace passes,  
75 substantially as set forth.

2. The combination, with the shaft, of a loop of leather or other flexible material attached to the shaft and projecting inwardly, a metal  
80 plate within the loop and bent to a corresponding shape, cross-bars or fastenings for connecting the plate to the leather, a roller, and a vertical axis for the same within the plate, and against which roller the trace passes,  
85 substantially as set forth.

3. The combination, with the shaft, of a horizontal and inwardly-projecting loop, a roller within the outer curvature of the loop, said  
90 roller being enlarged or bulging in the middle, and a vertical axis passing through the loop and through the roller, substantially as set forth.

Signed by me this 30th day of October, 1888.

OSCAR V. BLAZIER.

Witnesses:

WILLIAM M. STILLMAN,  
ISAAC BROKAW.