(No Model.)

J. M. DILLE.

CARRIAGE POLE OR SHAFT.

No. 304,185. Patented Aug. 26, 1884.

Fig. 1.

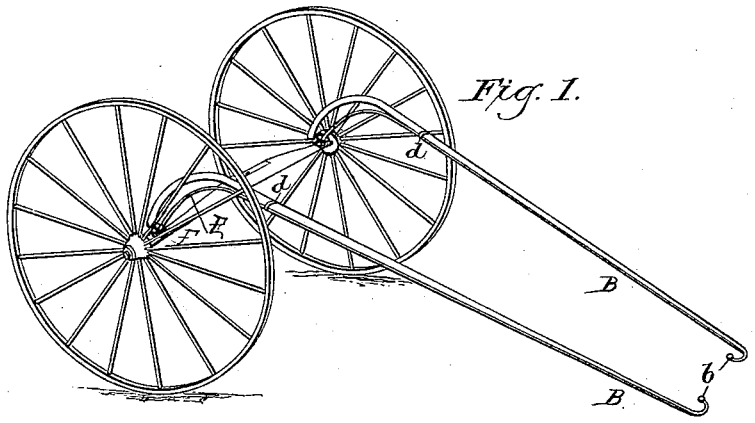


Fig. 2.

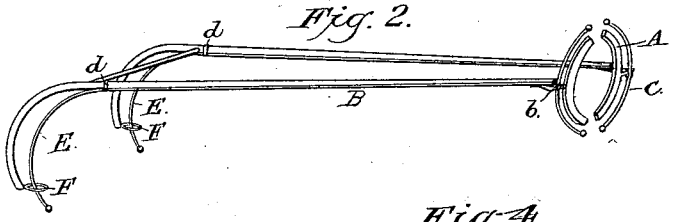


Fig. 3.

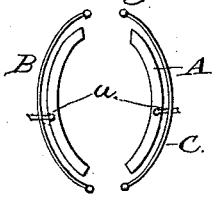


Fig. 4.

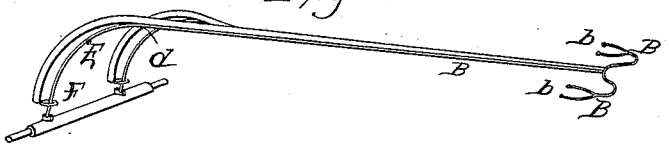


Fig. 5.

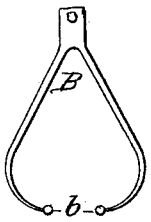
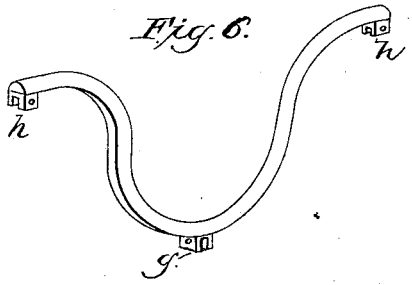


Fig. 6.



Witnesses;
Geo. H. Dille
Will S. Rounds

Inventor;
J. M. Dille

UNITED STATES PATENT OFFICE.

JAMES MADISON DILLE, OF COOPERSTOWN, PENNSYLVANIA.

CARRIAGE POLE OR SHAFT.

SPECIFICATION forming part of Letters Patent No. 304,185, dated August 26, 1884.

Application filed October 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. DILLE, a citizen of the United States, residing at Cooperstown, in the county of Venango and State of Pennsylvania, have invented a new and useful Means for Attaching Horses to Carriages, of which the following is a specification.

My invention relates to that class of devices for attaching horses to carriages, which devices are a part of the thills or pole of the carriage; and it has for its object to so attach the horse that he will have free and unobstructed movement of his limbs; also, to relieve both the horse and the occupant of the carriage from shocks when the carriage-wheels meet obstructions.

To this end my invention consists in the construction and combination of parts constituting means for attaching a horse or horses to a vehicle, hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 represents a pair of vehicle thills and wheels, showing my means of attaching the thills to the axle and to the horse. Fig. 2 is a perspective drawing of a pair of shafts with similar rear attachments and a modification of the forward attachments. Fig. 3 is a front elevation of a pair of hames, showing one modification of my attachments. Fig. 4 is a perspective drawing of a vehicle-pole, showing another modification of my forward attachments. Fig. 5 is a front elevation of one modification of my spring; and Fig. 6 shows a neck-yoke, adapted to hang a team-pole by means of said spring.

A represents a pair of pads, which are provided with sockets *a*, to receive the balls *b* of my spring attachments B. These attachments B consist of strips of steel secured beneath the shafts or tongue back to the point *d*, where they diverge from the shafts as springs E. The rear end of each spring E is attached to the axle, and the end of the shaft is provided with a loop, F, by means of which the stiff shaft connects with the spring E near its point of attachment, to prevent breaking the spring in backing. When going ahead with a heavy load, the rear curve of the shaft rests directly upon the spring; but the spring is intended to be strong enough to pull the average load while still acting as a spring, thus preventing jolts being felt by the horse and the rider.

C C represent the hames. The forward ends of the springs B pass through the hames into the sockets *a*. The pads A are free to follow the movement of the horse's shoulders by turning upon the balls *b*. The springs B are in pairs adapted to spring toward each other. In Figs. 1 and 2 it takes two shafts to form a pairs of springs. In Figs. 4 and 5 each pair of springs B is provided with two balls, *b*, to spring into the pads A on the two shoulders of a horse; and Fig. 4 shows a double forward end to the body of spring B, to serve a span of horses. Fig. 6 shows a yoke to be hung at *g* to the forward end of the team-pole, having sockets *h*, in which the springs B, Fig. 5, may be hung to come down astride the horses' shoulders. The rear side of each socket *a* will serve as a shoulder, against which the ball *b* will act as a hook in pulling the vehicle.

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

1. The combination, with a vehicle pole or shaft bent downward at its rear end, of a spring attached to the under side of the pole or shaft, and bent down forward of the said bend of the pole or shaft, the rear end of the spring being provided with means for attachment to a vehicle, and the rear end of the pole or shaft being provided with a loop encircling the spring, as shown and described.

2. The combination, with a vehicle pole or shaft, of a spring secured to the under side thereof, and provided with means for attachment to a vehicle, of a pad having a socket, and a ball upon the said spring fitted to said socket, as and for the purpose specified.

3. A pair of springs constructed to spring toward each other, provided with balls on their ends, and means for securing them to the pole or shaft of a vehicle, in combination with a pair of pads, each provided with a socket to receive one of said balls, as and for the purpose specified.

JAMES MADISON DILLE.

Witnesses:

GEO. W. DILLE,

J. P. BYERS.