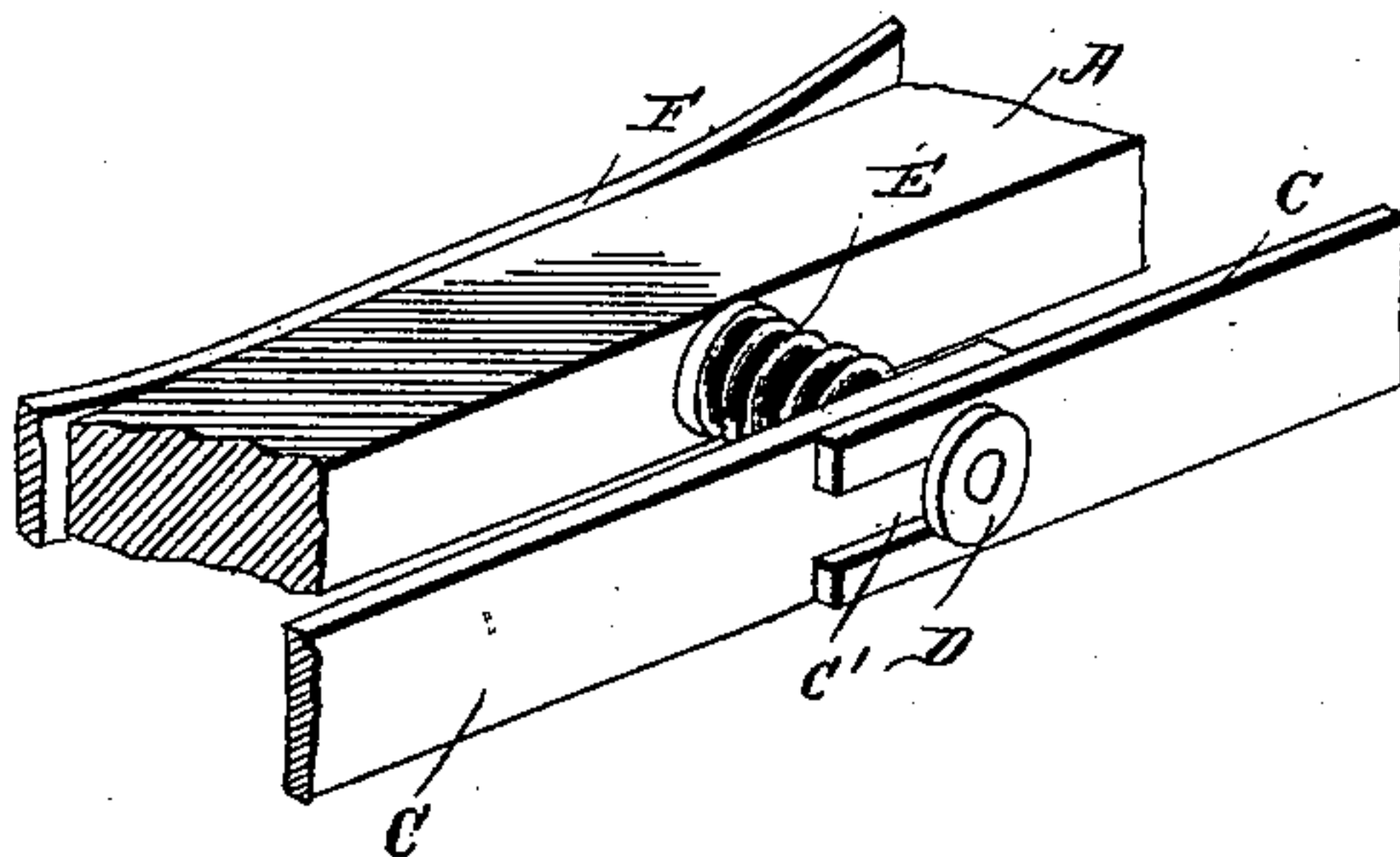
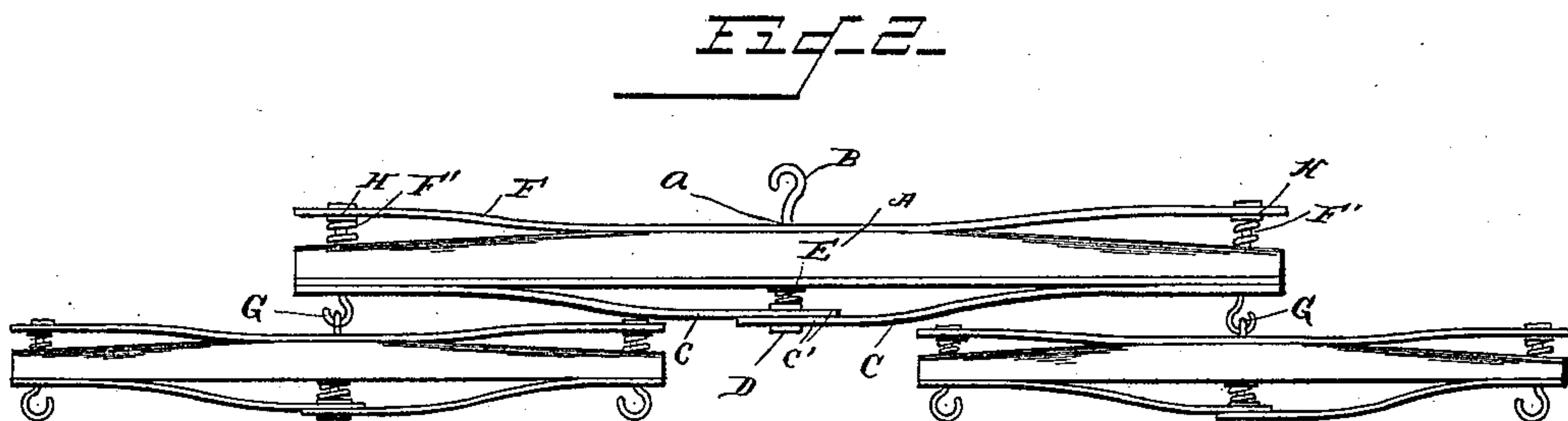
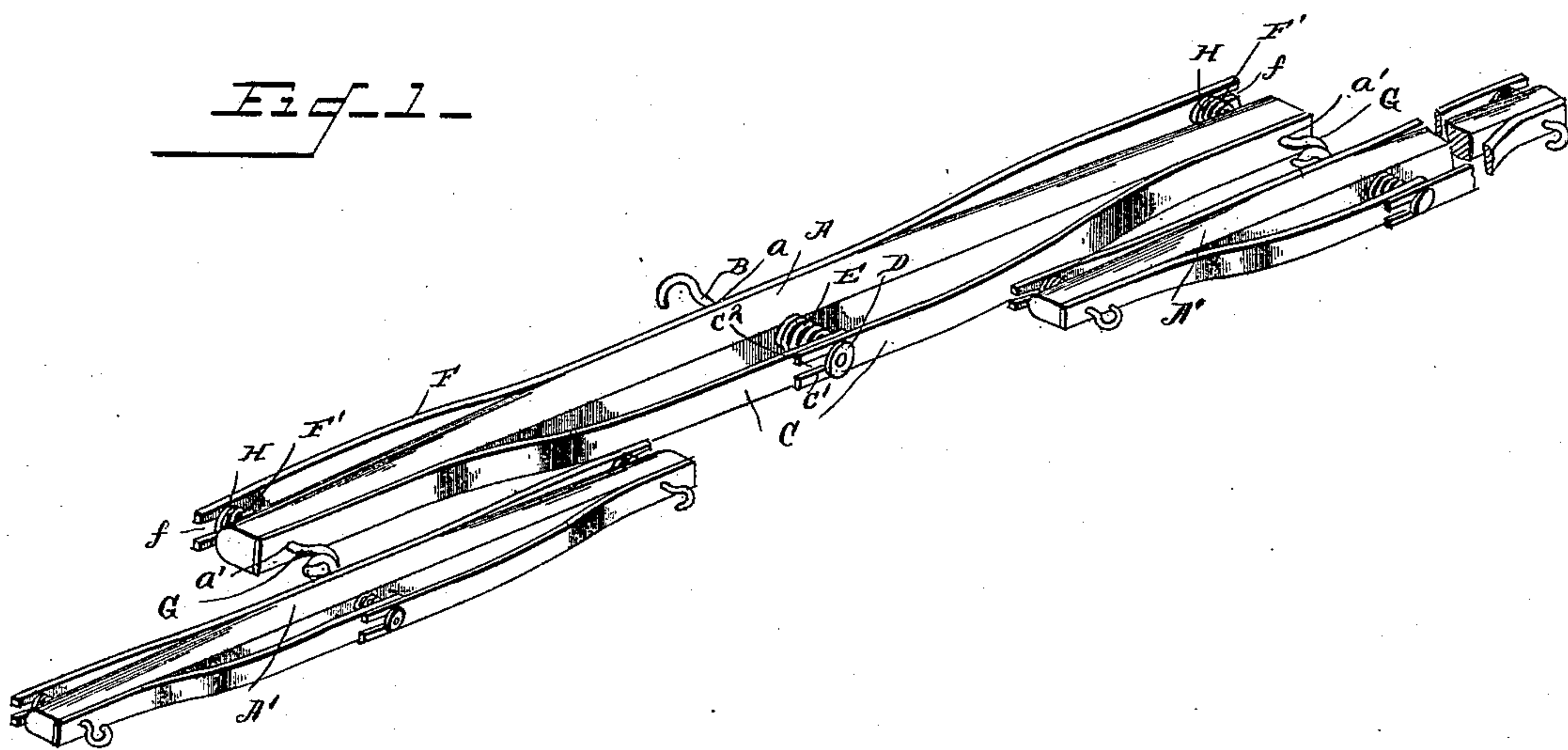


(No Model.)

C. H. & F. KELLY.  
WHIFFLETREE.

No. 414,812.

Patented Nov. 12, 1889.



Witnesses

*Geo. C. French.*  
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# UNITED STATES PATENT OFFICE.

CHARLES H. KELLY AND FRANK KELLY, OF MOSCOW, IDAHO TERRITORY.

## WHIFFLETREE.

SPECIFICATION forming part of Letters Patent No. 414,812, dated November 12, 1889.

Application filed July 26, 1889. Serial No. 318,732. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES H. KELLY and FRANK KELLY, citizens of the United States, residing at Moscow, in the county of Nez Perces and Territory of Idaho, have invented a new and useful Whiffletree, of which the following is a specification.

The invention relates to improvements in whiffletrees.

The object of the present invention is to provide a whiffletree of simple and inexpensive construction that will enable horses to rapidly start a heavy load without receiving shocks therefrom; and, furthermore, the object of the invention is to prevent the shock incident to drawing heavy loads over rough surfaces.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the accompanying drawings, Figure 1 is a perspective view of a doubletree and singletrees constructed in accordance with this invention. Fig. 2 is a plan view, and Fig. 3 is a detail perspective view.

Referring to the accompanying drawings by letter, A designates a doubletree of ordinary construction, provided with a central opening  $a$ , through which passes an eyebolt B, by means of which the doubletree is connected to the clevis of a plow.

To the front face of the doubletree A, at the ends thereof, are attached two springs C, whose inner ends  $c'$  lap each other and are provided with recesses  $c^2$ , through which passes the end of the eyebolt B. The end of the eyebolt which passes through the recesses  $c^2$  is provided with a collar D, which is held on the bolt by swaging the end thereof, whereby when the load is being started the force will be exerted against the springs C, which will lessen the shock and enable the load to be easily started.

In order to support the springs C and increase their tension, a spiral spring E is interposed between said springs and the whiffletree. The spring E is coiled upon the eyebolt, and has one end bearing against the washer adjacent to the doubletree and its

other end bearing against the ends of the springs C upon the sides of the recesses.

The rear face of the doubletree has secured thereto a long flat spring F, whose ends are free and are provided with recesses  $f$ , similar to those in the ends of the springs C. The ends of the doubletree have perforations  $a'$ , which receive whiffletree-hooks G, which move freely in the perforations and are connected to the ends of the spring F by means of collars H.

The singletrees A' are constructed similarly to the doubletree and are attached to the whiffletree-hooks G, and when a pull is given the force is exerted against the large spring F and the spiral springs F', which are interposed between the said spring F and the doubletree, which greatly lessens the shock.

Instead of employing the eyebolt B, the doubletree may have a vertical opening to adapt it to be attached to the tongue of the wagon, and we desire it to be understood that we do not limit ourselves to the precise details of construction herein shown and described, as we may, without departing from the spirit of our invention, make various minor changes therein. The whiffletree-hooks are capable of rotation and are adapted to be turned outward to receive an eyebolt or the end of a trace and to be then turned in to lock the latter.

From the foregoing description and the accompanying drawings the construction, operation, and advantages of the invention will readily be understood.

Having thus described our invention, we claim—

1. A whiffletree provided with springs arranged upon the opposite sides thereof, the whiffletree-hooks secured to the end of one of the springs, and an eyebolt connected to the ends of the others, substantially as described.

2. The combination of a whiffletree provided upon one of its sides with a spring F, having its ends free and having the springs C secured to its opposite side at the ends thereof, the whiffletree-hooks passing through the whiffletree and attached to the spring F, and an eyebolt passing through the whiffletree intermediate of the end thereof and at-

tached to the end of the spring C, substantially as described.

3. The combination of the whiffletree, the spring F, secured thereto intermediate of its  
5 ends and provided with recesses *f*, the springs C, secured to the ends of the whiffletree and having their inner free ends lapping and provided with recesses, spiral springs interposed between the ends of said springs, the  
10 whiffletree-hooks connected to the ends of the spring F, and an eyebolt passing centrally

through the whiffletree and connected to the springs C, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our sig- 15  
natures in presence of two witnesses.

CHARLES H. KELLY.  
FRANK KELLY.

Witnesses:

JOHN MOORE,  
SAML. TRAPP.