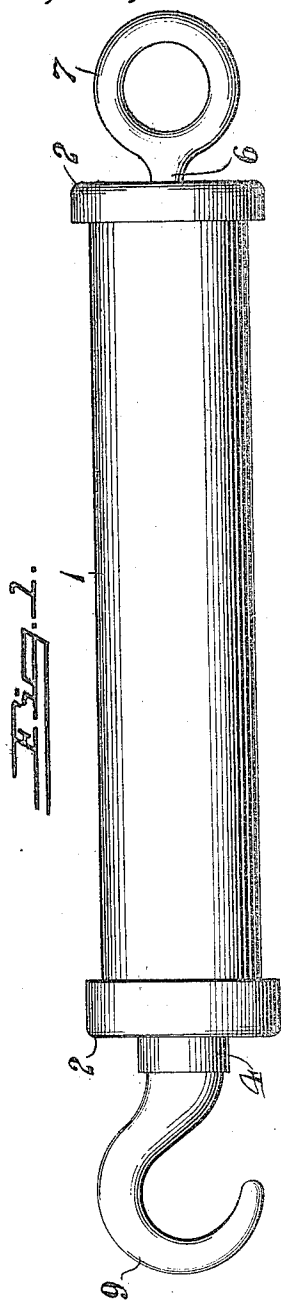
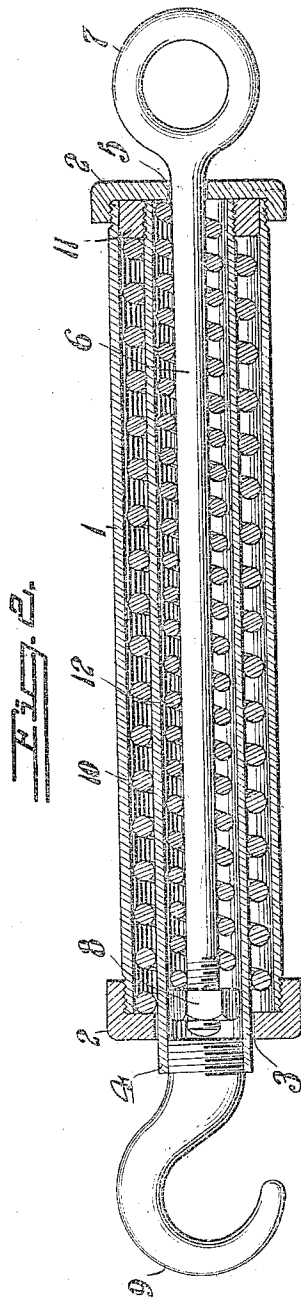
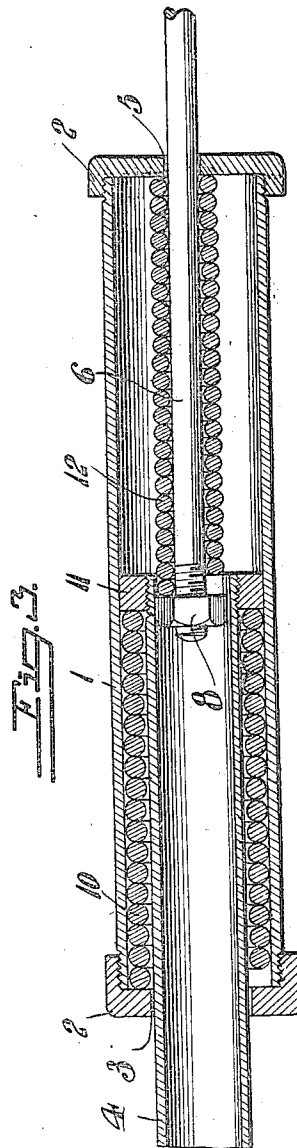


Patented Apr. 10, 1917.

1,222,480.



Witnesses
John D. Shalading
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UNITED STATES PATENT OFFICE.

GUY WINDOW SMITH, OF OAKLAND, CALIFORNIA.

TOW-LINE CONNECTOR.

1,222,480.

Specification of Letters Patent.

Patented Apr. 10, 1917.

Application filed June 20, 1916. Serial No. 104,771.

To all whom it may concern:

Be it known that I, GUY W. SMITH, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Tow-Line Connectors, of which the following is a specification.

This invention relates to improvements in tow line connectors and has particular application to a shock absorbing connector.

In carrying out the present invention, it is my purpose to provide a tow line connector which will be found especially useful in connection with the tow lines of motor vehicles, boats, etc., and whereby the shock or jar incident to the initial tightening of the tow line under the action of the towing vehicle will be eliminated, thereby reducing the strain on the line and absorbing the shock which would be otherwise transmitted to the vehicles.

It is also my purpose to provide a device of the class described which may be readily and conveniently carried in the vehicle when the same is not in use and which will embody comparatively few parts and these so arranged and correlated as to reduce the possibility of derangement to a minimum.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter set forth in and falling within the scope of the claim.

In the accompanying drawing:

Figure 1 is a view in side elevation of a tow line connector constructed in accordance with the present invention.

Fig. 2 is a longitudinal sectional view therethrough showing the parts in normal position.

Fig. 3 is a similar view showing the parts in towing position.

Referring now to the drawing in detail, 1, designates a cylinder, while 2, 2 indicate caps threaded onto the ends of the cylinder and closing the latter. Formed in one of the caps 2 is an opening 3 and arranged within the cylinder 1 concentrically thereof is a relatively small cylinder 4 having one end projecting through the opening 3 and the other end alining axially with a relatively small opening 5 in the other cap 2. Arranged within the relatively small cylinder 4 is a draw rod 6 having one end projecting through the relatively small opening

5 and formed with an eye 7, and the other end equipped with a nut 8 disposed adjacent to the projecting end of the cylinder 4. Threaded into the projecting end of the cylinder 4 is the shank of a hook 9. Encircling the cylinder 4 and disposed within the cylinder 1 is a coiled expansion spring 10 having one end abutting a collar 11 threaded onto the inner end of the cylinder 4 and the other end in engagement with the cap 2 through which the cylinder 4 projects, while surrounding the draw rod 6 and disposed within the relatively small cylinder 4 is a coiled expansion spring 12 having one end abutting a nut 8 and the other end in engagement with the cap 2 through which the draw rod passes. This spring 12 is preferably of less strength than the spring 10.

In practice, one end of the tow line is fastened in the eye 7, while the hook 9 may be engaged with either the leading vehicle or the towed vehicle. Upon the initial pull of the leading vehicle, the draw rod 6 moves outwardly through the opening 5 and compresses the spring 12 and as soon as the spring 12 has been compressed the cylinder 4 moves outwardly through the opening 3 against the action of the spring 10. Thus, the strain on the cable incident to the initial tightening thereof is reduced and the transmission of shock or jar to the vehicles eliminated.

While I have herein shown and described the preferred form of my invention by way of illustration, I wish it to be understood that I do not limit or confine myself to the precise details of construction herein described and delineated, as modification and variation may be made within the scope of the claim and without departing from the spirit of the invention.

I claim:

A tow line connector comprising a cylinder, caps closing the ends of said cylinder, a relatively small cylinder within the first-mentioned cylinder and having one end projecting through one of said caps, a draw rod in the last-mentioned cylinder and having one end thereof projecting through the other cap, a coiled expansion spring within the first-mentioned cylinder surrounding said relatively small cylinder and having one end abutting the cap through which the said small cylinder projects, a collar on the inner end of said small cylinder engaging

the other end of said cylinder, a second spring surrounding said draw rod and having one end in engagement with the cap through which the draw rod projects, a nut
5 on the inner end of said draw rod engaging the remaining end of said second-named spring, the outer end of said draw rod being formed with an eye, and a hook connected

to the outer end of said relatively small cylinder.

In witness whereof I affix my signature
in presence of two witnesses.

GUY WINDOW SMITH.

Witnesses:

P. WILBERT,

A. W. BEAM.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."