(No Model.)

C. A. HILL.

SPRING APPLIANCE FOR HARNESS.

No. 457,156. Patented Aug. 4, 1891.

Fig. 1.

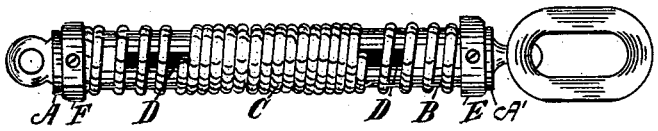


Fig. 2.

Fig. 3.

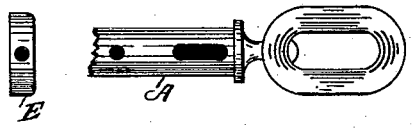
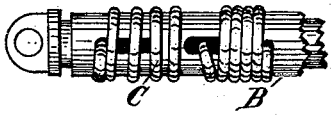


Fig. 4.



WITNESSES:

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CLEMENT ARTHUR HILL, OF SHEFFIELD, ENGLAND.

SPRING APPLIANCE FOR HARNESS.

SPECIFICATION forming part of Letters Patent No. 457,156, dated August 4, 1891.

Application filed October 20, 1890. Serial No. 368,766. (No model.) Patented in England September 17, 1889, No. 14,622.

To all whom it may concern:

Be it known that I, CLEMENT ARTHUR HILL, a citizen of England, residing at Sheffield, in the county of York, England, have invented certain new and useful Improvements in Spring Appliances for Harness, Road, and other Vehicles, and for other purposes, (and for which I have obtained a patent in Great Britain, No. 14,622, dated September 17, 1889;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a spring appliance for harness in which there is combined with two draw-rods a longitudinally-slotted frame within which they work, a spring wound on said frame and passing at one end through a slot in the latter, the said spring connecting said draw-rods and frame, and the motion of the said draw-rods in either direction being resisted by elastic connection with said frame.

In the accompanying drawings, Figure 1 represents a side elevation of the devices embodying my invention. Fig. 2 represents in detail the slotted tubular frame. Fig. 3 represents in detail the collar and draw-bar, and Fig. 4 represents a modification of Fig. 1.

A and A′ represent the draw-rods provided with holes and slots. These rods are also each provided at one end with an eye, hook, or swivel attachment to receive the harness connections.

B is the tubular frame, slotted at D and D to allow spring C to pass through the rods A and A′, also to allow motion of said spring. Said frame B is also provided with holes to receive the pins which secure the collars E and F upon its ends. These collars E and F are provided with holes for securing them and act as stops, against which the ends of spring C are compressed.

The draw-rods A and A′ fit within the tubular frame B and are held normally so by spring C, which passes around frame B on its outer surface and then through slots D and D and the holes in the ends of said draw-rods. This will constitute the extension part of my device. The spring C, after passing through the holes in rods A and A′, passes out through slots D and D on the opposite side of the frame B, and is again wound around the said frame at each end until it reaches the collars E and F, respectively. These collars E and F are held on the end of frame B by means of pins which pass through frame B and the slots in the draw-rods A and A′ and are secured on the opposite sides of the said collars, respectively. This will constitute the compression part of my device.

In my modification shown in Fig. 4 I do away with these collars by turning the ends of the spring C in through additional slots cut in frame B and the draw-rods A and A′, the outer ends of the slots in the frame B acting as the stops, the ends of the spring C working freely in the slots in the draw-rods.

This invention may be used on any chain, rope or the like, where it is desirable to break any sudden shock or strain.

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

1. In combination with two draw-rods and a longitudinally-slotted frame within which they work, a spring wound on said frame and passing at one end through a slot in the latter, the said spring connecting said draw-rods and frame, and the motion of the said draw-rods in either direction being resisted by elastic connections with said frame, substantially as set forth.

2. In combination with a slotted tube, a spring wound thereon and passing at one end through a slot therein, and draw-rods working within said tube and having the said spring attached thereto, the arrangement of the latter being such that a part will be compressed while a part is expanded by the same motion of the draw-bars, so as to constitute, in effect, two springs of reverse action, substantially as set forth.

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

CLEMENT ARTHUR HILL.

Witnesses:
WM. MCGOWAN,
FRANK M. CLARK.