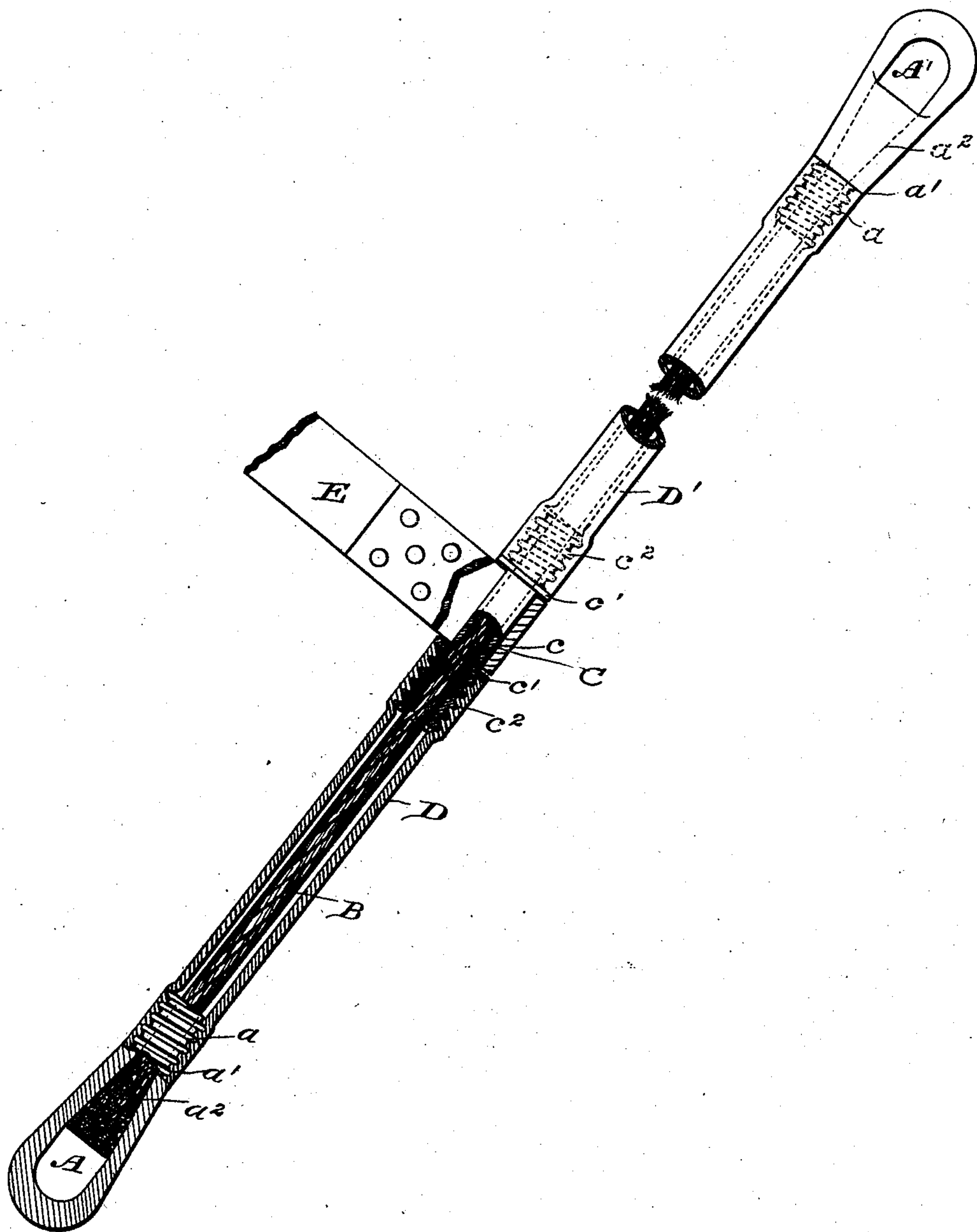


No. 833,756.

PATENTED OCT. 23, 1906.

S. SHISLER.  
HARNESS TRACE.  
APPLICATION FILED MAR. 21, 1904.



WITNESSES:

G. Davis

G. W. Saywell

INVENTOR:

Sherman Shisler  
by his attorney

J. D. Fay



# UNITED STATES PATENT OFFICE.

SHERMAN SHISLER, OF CLEVELAND, OHIO, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE CABLE TRACE COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

## HARNESS-TRACE.

No. 833,756.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed March 21, 1904. Serial No. 199,069.

*To all whom it may concern:*

Be it known that I, SHERMAN SHISLER, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Harness-Traces, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle so as to distinguish it from other inventions.

My invention relates to harness-traces, its object being to provide a trace structure which will combine economy of construction with durability.

Said invention consists of means hereinafter fully described, and particularly set forth in the claims.

The annexed drawing and the following description set forth in detail certain means embodying the invention, such disclosed means constituting but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing the figure represents a broken view of a trace embodying my invention, partly in section and showing a billet transversely attached thereto.

Two draft-eyes A and A' are each provided with a reduced end portion or nipple *a*, having, preferably, a serrated outer surface, as shown, and a shoulder *a'*, such nipples each being hollow and adapted to receive the respective end portions of a steel cable B. Each eye is formed with a conical bore *a<sup>2</sup>*, into which the extremities of the cable are expanded and fixedly secured therein by means of solder, as will be readily understood, such method of securing a cable to an eye being old and well known. Intermediately of the two eyes, upon the cable, and at that part of the trace at which it is desired to secure the belly-band billet E, is a hollow member or sleeve C, which is preferably fixedly secured in place by means of solder, but may be loosely mounted, if desired. This sleeve is provided with a central cylindrical bearing-surface *c*, flanked by two flanges *c' c'* and two end portions or nipples *c<sup>2</sup> c<sup>2</sup>*, the latter being also preferably provided with serrated-surfaces, as shown. The remaining exposed part of the cable is enveloped by a covering consisting of two cover portions D and D'. Each

such cover portion consists of a tube of waterproof material, such as ordinary rubber. One end of each such cover portion is slipped over the end or nipple of an eye and the other over the proximate end or nipple of the sleeve C. The internal diameter of the tube may be made such as to enable it to be readily slipped over the cable and envelop same loosely and to receive the nipples snugly and form a water-tight joint therewith. These cover portions are made of a length such as to fit neatly between the shoulders *a' a'* of the eyes and the flanges *c' c'*, and the diameters of the said flanges and shoulders are made substantially equal to that of the covering when fitted upon the nipples, as shown. It will be noted, therefore, that the cover portions D and D' are removable and can be replaced when desired.

In the illustrated construction and assembling of the structure the sleeve is first secured in place upon the cable, the cover portions next slipped upon the latter, the ends of such cable then fastened in the eyes, and the cover portions finally slipped upon and secured to the serrated nipples. The structure hence consists of a continuous cable, provided at its respective ends with two draft-eyes fixedly secured thereto and a waterproof covering surrounding the cable intermediately of the two eyes, such covering including a member or hollow sleeve E, since the latter is connected in a waterproof manner with the rubber. By means of the shoulders and reduced end portions in the draft-eyes the rubber may be secured thereto, so as to produce a waterproof joint, and the outer surface of the rubber covering may be made flush with the abutting portion of the eyes, thereby omitting the formation of shoulders, which would be liable to catch and wear adjacent parts of the harness or injure the draft-animal. It will therefore be seen that a trace constructed in the manner specified will combine the tensile strength of the cable with simplicity and economy of construction. At the same time bearing for a billet E is provided, as shown. The waterproof covering by having water-tight connection not only with the eyes of the trace, but also with such bearing, fully protects the trace from moisture and consequent oxidation. By making the covering as has been described



ordinary rubber tubing may be employed, if desired, the tubing selected having, preferably, an internal diameter, such as will permit it to loosely surround the cable, whereby it may be readily slipped upon the latter in the assembling of the trace.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the means herein disclosed provided the means stated by any one of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention—

1. In a harness-trace, the combination of two draft-eyes, a continuous cable having its ends respectively secured to said eyes, a sleeve through which said cable passes, and a covering enveloping the cable portion intermediately of said sleeve and eyes respectively.

2. In a harness-trace, the combination of two draft-eyes, a continuous cable having its ends respectively secured to said eyes, a sleeve through which said cable passes, a belly-band billet secured to said sleeve, and two separate cover portions enveloping said cable intermediately of said sleeve and eyes.

3. In a harness-trace, the combination of a cable, two end pieces or draft-eyes respectively secured to opposite ends of said cable, a member through which said cable passes and mounted upon same intermediately of its ends, a waterproof covering surrounding that portion of said cable intermediate of said eyes and said member.

4. In a harness-trace, the combination of a cable, a draft-eye secured to one end of said cable, a hollow member through which said cable passes and mounted upon the latter intermediately of its ends, and a covering surrounding that portion of said cable between said hollow member and eye.

5. In a harness-trace, the combination of two draft-eyes, a cable having its ends respectively secured to said eyes, a sleeve having two end portions and a bearing-surface intermediate of said end portions, said sleeve being fixed to such cable intermediate of said two eyes, and two waterproof cover portions

enveloping said cable, the ends of said cover portions being respectively secured in a waterproof manner, to one such eye and the proximate end portion of said sleeve.

6. In a harness-trace, the combination of a draft-eye provided with a serrated end portion, a cable rigidly secured in said eye and provided with a sleeve having an outer bearing-surface and a serrated portion, and a waterproof cover for said cable securely fastened to the serrated portions of said eye and sleeve.

7. In a harness-trace, the combination of a draft-eye provided with a serrated end portion, a cable rigidly secured in said eye and provided with a sleeve having an outer bearing-surface and a serrated portion, and a removable waterproof cover for said cable fastened to the serrated portions of said eye and sleeve.

8. In a harness-trace, the combination of two draft-eyes provided with serrated end portions, a cable having its ends rigidly secured to said eyes respectively, a sleeve fixed to said cable intermediately of said two eyes and provided with two serrated end portions and a bearing-surface intermediate of the same, and two movable waterproof cover portions loosely enveloping said cable and each secured at one end to the serrated end portion of one of said draft-eyes, and at the other end to the proximate serrated end portion of said sleeve.

9. In a harness-trace, the combination of two draft-eyes provided with reduced serrated end portions, a cable having its ends rigidly secured to said eyes respectively, a sleeve fixed to said cable intermediately of said two eyes and provided with two serrated end portions and a bearing-surface intermediate of the same, and two waterproof cover portions loosely enveloping said cable and each secured in a waterproof manner at one end to the serrated end portion of one of said draft-eyes, and at the other end to the proximate serrated end portion of said sleeve.

Signed by me this 17th day of March, 1904.

SHERMAN SHISLER.

Attest:

G. W. SAYWELL,  
A. E. MERKEL.