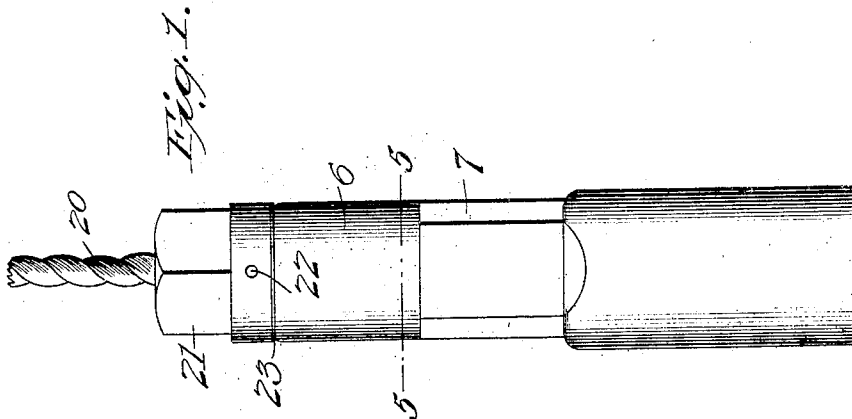
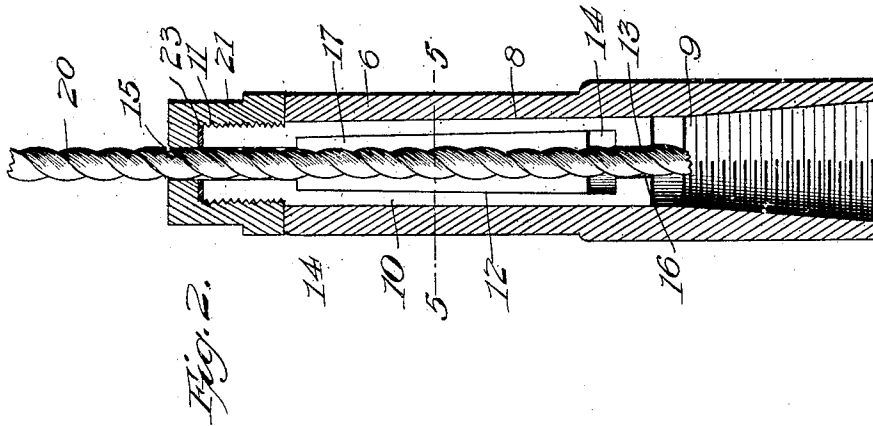


W. W. PARMETER.
 DRILL ROPE COUPLING.
 APPLICATION FILED AUG. 15, 1910.

1,056,295.

Patented Mar. 18, 1913.

2 SHEETS—SHEET 1.



WITNESSES
L. H. Cochran
R. H. Jones

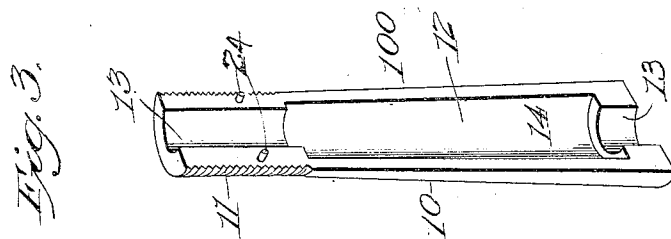
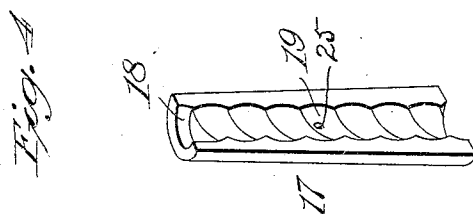
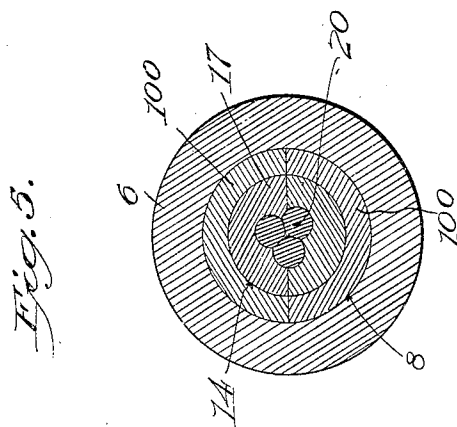
INVENTOR
Wallace W. Parmeter
 By *Geo. S. Vashon* Attorney

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2 SHEETS—SHEET 2.



WITNESSES

T. L. Moors
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UNITED STATES PATENT OFFICE.

WALLACE W. PARMETER, OF ELDRED, PENNSYLVANIA.

DRILL-ROPE COUPLING.

1,056,295.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed August 15, 1910. Serial No. 577,330.

To all whom it may concern:

Be it known that I, WALLACE W. PARMETER, a citizen of the United States, residing at Eldred, in the county of McKean and State of Pennsylvania, have invented new and useful Improvements in Drill-Rope Couplings, of which the following is a specification.

This invention relates to couplings designed to secure cables to tools, and especially to secure the wire or other cables to drills and the like used in boring wells, and is in the nature of an improvement upon the construction described and claimed in United States Letters Patent No. 890091 granted to me June 9, 1908.

The general object of the present invention is to simplify, cheapen and improve the operation of the construction shown in the patent referred to.

In the construction described and claimed in my prior patent, the cable was prevented from slipping too far through the drill end of the coupling by the tool itself and there was some liability of the occurrence of this slipping when the tool was detached.

A special object of the present invention is to avoid this difficulty and to secure the coupling to the cable that they will be held together just as rigidly when the tool is detached as when it is attached to the coupling.

With these objects in view the invention consists in the improved construction, arrangement and combination of parts herein-after fully described and afterward specifically pointed out in the appended claim.

I have illustrated one embodiment of my invention in the accompanying drawings, in which:

Figure 1 represents a view in side elevation, the cable being shown secured in the coupling. Fig. 2 represents a sectional view taken on a diametric plane passing through the device of Fig. 1. Fig. 3 represents in perspective, one section of the core, looking at the interior thereof. Fig. 4 represents a similar view of one of the clamping members. Fig. 5 represents a transverse sectional view on an enlarged scale, taken on the plane indicated by the broken line 5—5 in Figs. 1 and 2.

Like reference characters mark the same parts in all of the figures of the drawings.

Referring specifically to the drawings, 6 indicates the tubular body portion or casing of my coupling preferably partially of an-

gular outward form, as at 7, to facilitate the application of a wrench or holding tool, and having a central longitudinal bore or opening 8 extending through it which increases in diameter gradually from the top to a point indicated at 9 and from this point to the bottom more abruptly, the pitch increasing materially at said point 9. That part of the bore from the top to the point 9 is smooth but that portion below that point may be threaded or otherwise prepared to receive a suitable boring or other tool to be suspended from the cable (not shown).

At 10 is indicated a tubular core conically tapered, increasing in diameter from the top to the bottom with preferably about the same pitch as that portion of the bore or opening 8 above the point 9 and of a greater length than that part of said bore, the greater portion of its length being preferably smooth on the outside, while the upper portion is threaded as at 11.

The core 10 is preferably composed of two identical halves or sections 100, one of which is shown in detail in Fig. 3, each section preferably having a central longitudinal semi-conical chamber, as at 12 in Fig. 3, extending the greater part of its length and a central longitudinal semi-cylindrical groove, leading from each end of said chamber 12, as at 13 in Fig. 3, to the respective ends of the bore. When these sections 100 are brought together to form the core 10, the chambers 12 and bores 13 register accurately and form in the core a central longitudinally extending conically tapered chamber 14, Fig. 2, and two central, longitudinal, cylindrical openings 15 and 16, the one leading from the top of the chamber 14 out through the top of the core 10 and the other from the bottom of the chamber through the bottom of the core, all as shown in said Fig. 2.

At 17 in Fig. 4, is shown in detail one section of two identical clamping members adapted to fit within the chamber 14 of the core 10, as shown in Fig. 2, the said clamping members being increasingly tapered on their outer surfaces from the top to the bottom to correspond with the taper of the walls of the chamber in which they fit, and provided with interior longitudinally extending grooves, as at 18 in Fig. 4, forming, when the sections are brought together, as in Fig. 2, a longitudinal bore, preferably formed with spiral grooves, as

at 19 in Fig. 4, to correspond in pitch with and receive and hold the twisted strands of a cable 20, (Fig. 2). The spiral grooves may be omitted if desired.

5 The clamping members are preferably of slightly less length than the chamber 14 of the core 10 in order that they may be afforded a slight longitudinal adjustment to cause them, by virtue of their conical form and the corresponding form of the chamber, to more closely clamp the cable when desired.

At 24 is indicated a nut, interiorly threaded to fit upon the thread 11 of the core 10 when the parts are assembled, said nut being locked against accidental turning of by any suitable means, such for instance, as a set screw as at 22, in Fig. 1.

A proper fit of the two sections of the core 20 is assured when they are brought together by any suitable means, such, for instance, as small pins or lugs 21 (see Fig. 3) which project transversely from one section and engage corresponding recesses in the other section (not shown).

At 23, Fig. 2, is indicated packings of any suitable form and material, serving, when the parts are assembled, to keep all water and sediment from entering into the interior of the body of the device, thereby preventing damage by oxidation or otherwise, which would prevent the sliding of the core in the body, to tighten the grip of the clamp on the cable. A packing may be used at the lower end of the core but this is usually unnecessary as the tool screwed into the lower end of the body is generally sufficient to prevent the entrance of water between the body and core.

40 To assemble the parts of the device, the cable is passed through the nut 21 and the bore of the body 6, the end of the cable projecting beyond the lower end of the body being now wrapped with wire, or held in a temporary clamp to prevent untwisting. The clamping members 17 are now placed upon the cable and a pin driven into it through a suitable hole, as for instance at 25 in Fig. 4 and the two members 100 of the core 10 placed upon the cable inclosing the clamping members in the chamber 14, the two members being caused to fit together in their proper places by the lugs 24 fitting into their receiving recesses, (not shown).

55 The core, with the inclosed clamping members and cable, is passed upward through bore of the body until it fits closely in the upper portion of the bore of the body, the threaded portion of the core projecting

above the top of the body upon which the nut 21 is now screwed squeezing the packing 23 between the nut and the upper end of the body and drawing the core upward in the upwardly decreasing bore of the body and causing the clamping members to tightly grasp the cable. This grasp of the clamping members on the cable is also assisted and increased by the longitudinal play allowed the clamping members in the chamber 14 of the core.

In some instances the clamping members may be dispensed with and the interior of the core formed with spiral grooves or corrugations to directly clamp the cable.

It will be obvious that by the present invention, I have simplified and cheapened the construction of my prior patent herein referred to, by dispensing with several of its parts, and this has been done without detracting from its efficiency, and while I have specifically described the construction of the several parts, I do not wish to be understood as limiting myself to these exact constructions, many changes and variations probably being possible without departing from the spirit and scope of the invention as claimed.

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

A rope coupling comprising a tubular body formed with a tapering longitudinal opening, the lower end of said opening being provided with tool engaging means, a longitudinally tapering core within said body, said core being formed of duplicate sections, each section having a tapering central recess and end grooves communicating therewith, said recesses and grooves forming when the sections are assembled a central longitudinally tapering chamber and reduced longitudinally extending guiding grooves, the upper ends of said sections being externally threaded and projecting beyond the upper end of the body, clamping members formed of duplicate sections fitted in and corresponding to the center of the core chamber and having a limited longitudinal movement therein, and a nut engaging the threaded end of the core to lock the same within the body.

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

WALLACE W. PARMETER.

Witnesses:

W. H. CAREY,
RUFUS B. STONE.