

No. 670,328.

Patented Mar. 19, 1901.

C. F. RIGBY.
ROPE SOCKET.

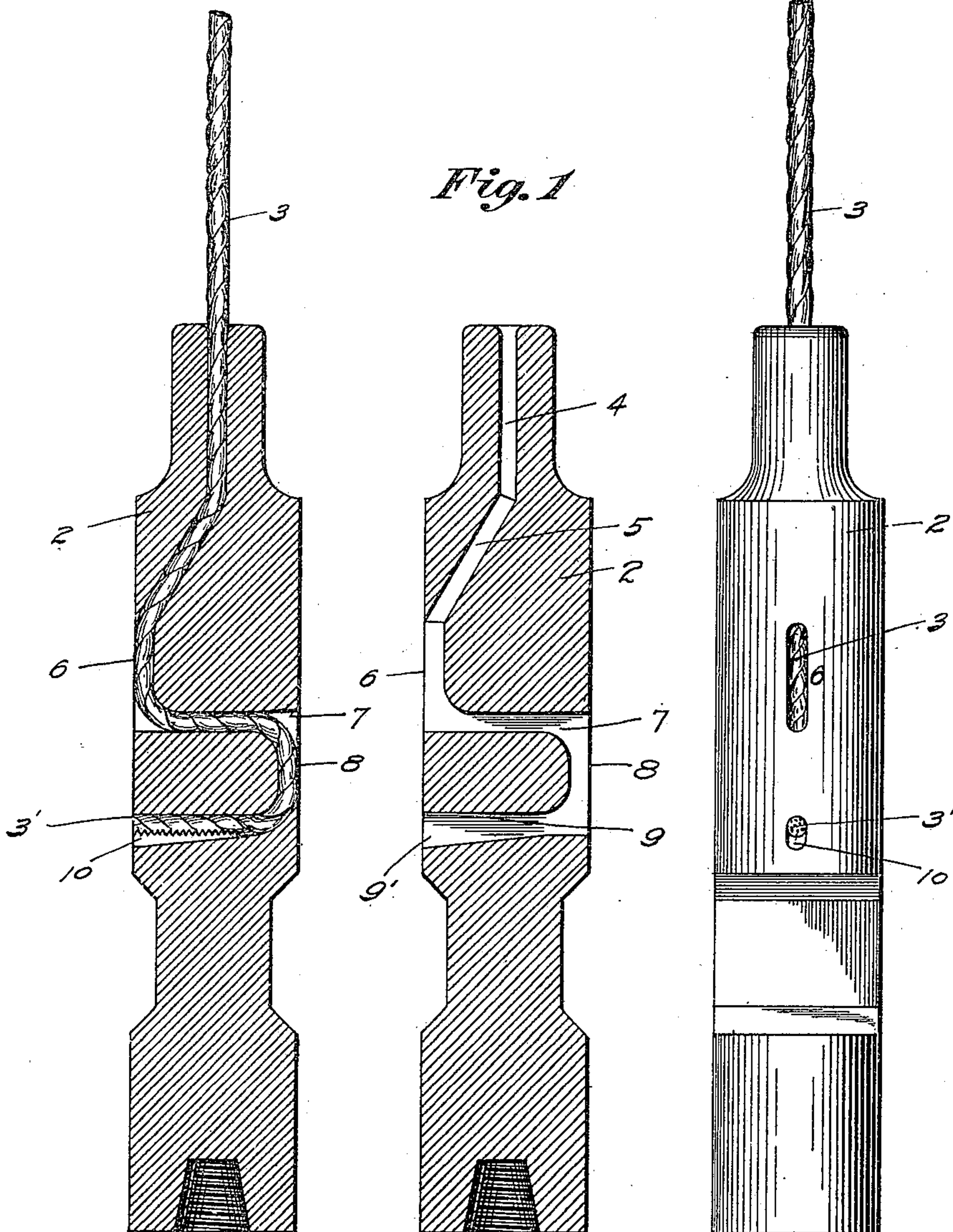
(Application filed Aug. 27, 1900.)

(No Model.)

Fig. 2

Fig. 3

Fig. 1



Witnesses
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UNITED STATES PATENT OFFICE.

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ROPE-SOCKET.

SPECIFICATION forming part of Letters Patent No. 670,328, dated March 19, 1901.

Application filed August 27, 1900. Serial No. 28,164. (No model.)

To all whom it may concern:

Be it known that I, CLARK F. RIGBY, a citizen of the United States, residing at Mannington, in the county of Marion and State of West Virginia, have invented new and useful Improvements in Rope-Sockets, of which the following is a specification.

This invention relates to sockets for well-drilling cables; and its primary object is to provide a socket to which a wire cable may be permanently secured.

Wire cables are coming into general use in the drilling of oil and gas wells; but great difficulty has been experienced in permanently securing them to the sockets. Cables parting from their sockets have been of frequent occurrence, necessitating expensive "fishing" operations and resulting in some cases in loss of the entire string of tools and abandonment of the wells. With my improved socket accidents of this nature are avoided, as in practical use it has demonstrated its efficiency in securely holding the wire cable.

My invention consists in a socket constructed as hereinafter fully described and claimed, and illustrated by the accompanying drawings, wherein—

Figure 1 is a vertical sectional view of the socket with the cable detached, and Fig. 2 is a similar view with the cable attached. Fig. 3 is an elevation of the socket shown in Fig. 2 looking in the direction of the arrow.

Referring to the drawings, 2 is the socket, to the lower end of which the string of tools is secured in the usual manner, and 3 is the cable. The bore or passage-way in the socket through which the cable extends is of irregular form, its upper portion extending vertically downward from the upper end of the socket, as shown at 4. Beneath this straight portion the cable-passage is somewhat similar to the letter S, as it extends diagonally from the lower end of portion 4, as indicated at 5, to face 6 of the socket, and from thence straight through the socket at 7 to face 8, and from thence downward and backward through the socket at 9, where it opens again through face 6, portion 9 being slightly enlarged at 9' to receive wedge 10 for securing the extremity 3' of the cable. With the cable extending through this tortuous passage-way

and secured by the wedge at its extremity it is quite impossible for it to pull out. The frictional engagement of the cable and socket due to the winding course of the former through the latter is such that the direct securing means—to wit, the wedge at the cable extremity—is relieved of much of the strain it would be subjected to in a straight connection. While the passage-way is crooked or tortuous, the form is such that it may be drilled without inconvenience.

It will be observed that the cable passage-way is made continuous by forming depressions in the faces of the socket-head and in the line of the passage-way to receive the loops or bends in the cable. Thus the cable is confined wholly within the bounds of the head, with no portion projecting to become worn by frictional contact with the casing.

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

1. A rope-socket formed with a tortuous cableway, said way opening downward through the upper extremity of the socket and consisting of vertical way portion 4, way portion 5 inclined from the lower end of portion 4 and opening through the face of the socket, horizontal way portion 7 connected by a depression in the face of the socket to the lower extremity of way portion 5, and way portion 9 beneath way portion 7 and connected thereto at one end by a depression in the face of the socket, substantially as shown and described.

2. An improved rope-socket for deep-well drilling, consisting of an elongated body adapted to unite with a string of tools and formed with a winding or tortuous cableway opening through the upper extremity of the body and through the vertical face thereof, the cableway where opening through the vertical face being of sufficient depth to confine the cable wholly within the bounds of the body, substantially as shown and described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CLARK F. RIGBY.

Witnesses:

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A. A. J. GASKILL.