No. 668,828. Patented Feb. 26, 1901.

G. F. BELL.

ROPE SOCKET FOR WELL DRILLING TOOLS.

(Application filed Dec. 31, 1900.)

(No Model.)

Fig. 1.

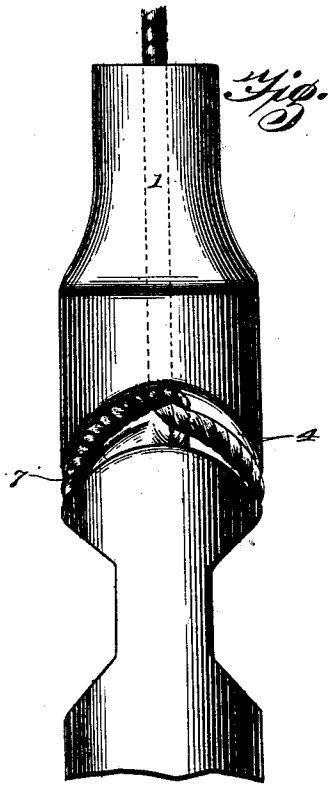


Fig. 2.

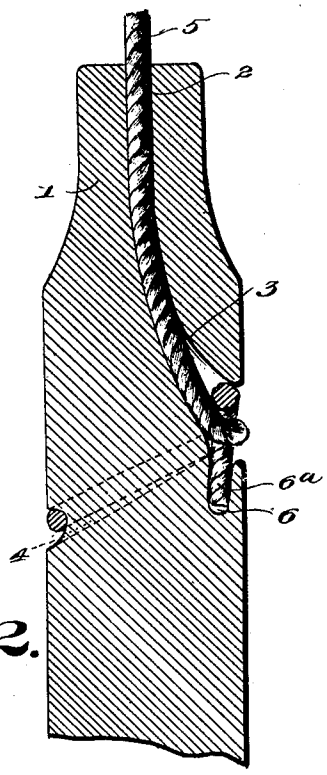


Fig. 3.

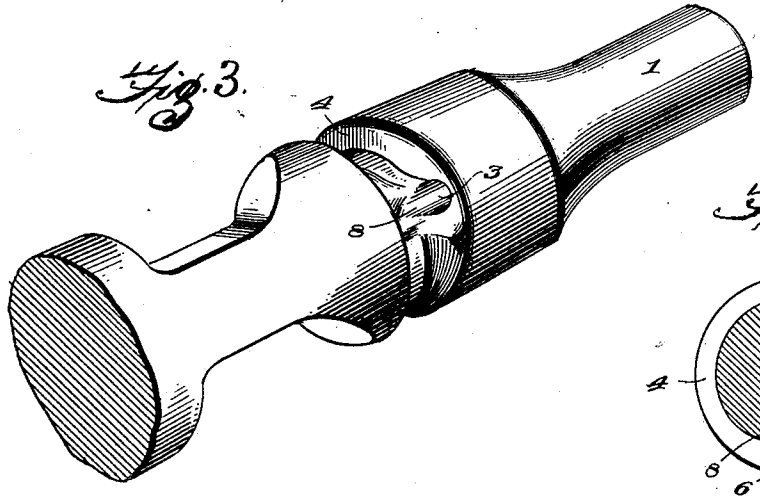
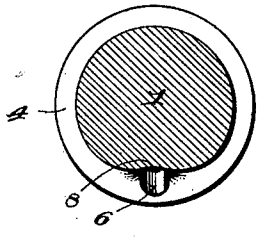


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE F. BELL, OF SISTERSVILLE, WEST VIRGINIA.

ROPE-SOCKET FOR WELL-DRILLING TOOLS.

SPECIFICATION forming part of Letters Patent No. 668,828, dated February 26, 1901.

Application filed December 31, 1900. Serial No. 41,714. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. BELL, a citizen of the United States, residing at Sistersville, in the county of Tyler and State of West Virginia, have invented a new and useful Rope-Socket for Well-Drilling Tools, of which the following is a specification.

The invention relates to improvements in rope-sockets for well-drilling tools.

The object of the present invention is to improve the construction of devices for securing wire ropes or cables to well-drilling tools and to provide a simple, inexpensive, and efficient device capable of enabling a wire rope, cable, or similar flexible connection to be readily attached to and quickly removed from a well-drilling tool or analogous device and capable of firmly and securely engaging the same when the flexible connection is attached thereto.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is an elevation of a rope-socket constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a perspective view of the rope-socket, the rope being detached. Fig. 4 is a transverse sectional view.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a shank designed to form a part of a well-drilling tool and provided with a longitudinal bore or opening 2, extending from the center of one end along the shank and provided with an inner portion 3, arranged at an angle to the outer portion and extending therefrom to the exterior of the shank, at one side thereof, and communicating with a diagonally-arranged annular groove 4, which is adapted to receive a bight or loop of a cable or rope 5, as clearly illustrated in Fig. 1 of the accompanying drawings. The inner portion of the longitudinal bar is slightly enlarged to form a seat 5 for the rope at the point where the loop is formed, and after the rope is twisted to form the loop its lower terminal is fitted in a longitudinal socket 6, arranged slightly out of alinement with the longitudinal bore or opening 2, to receive the end of the rope or cable after the same is moved.

The lower end of the rope or cable is passed through the longitudinal bore, which has its angularly-disposed portion slightly curved, as clearly shown in Fig. 2 of the accompanying drawings, and after leaving the longitudinal bore the rope or cable is passed around the shank to form the loop 7, and the end of the rope or cable is extended upward over the body portion of the same and is then brought downward beneath the loop, whereby the strain on the cable will hold the end 6 of the same firmly in the longitudinal socket. The shank is provided at the mouth of the socket with a slight longitudinal groove 8 to prevent the wire rope or cable from bulging at that point, and the said wire rope or cable lies wholly within the annular groove and will not be worn by any reciprocation or longitudinal movement of the shank. The annular groove diverges from the inner or lower curved portion of the longitudinal bore or opening, as clearly shown in Fig. 2, and the shank is firmly clamped by the rope or cable, and the groove extends over a greater surface than it would were the groove arranged at right angles to the longitudinal axis of the shank, whereby the weakening effect of the groove is reduced to a minimum. By moving or forcing the rope or cable downward through the longitudinal bore or opening of the shank the loop or bight is loosened and the end of the rope or cable may be readily withdrawn from the socket of the shank.

It will be seen that the device is exceedingly simple and inexpensive in construction, that it is especially adapted for attaching wire ropes or cables to well-drilling tools, and that it will enable such a rope or cable to be securely fastened to a tool or similar device and quickly unfastened therefrom when it is desired to remove or change tools.

What is claimed is—

1. A device of the class described comprising a shank having a longitudinal bore and provided with a groove extending around the shank and located at the inner end of the bore and adapted to receive a loop or bight of a rope or cable after the latter has been passed

through the said bore, said shank being provided with a longitudinal socket arranged to hold the end of the rope or cable, substantially as described.

2. A device of the class described comprising a shank provided with an annular groove and having a longitudinal bore extending from the groove to one end of the shank, said shank being provided at the opposite side of the groove with a longitudinal socket, substantially as described.

3. A device of the class described comprising a shank having an annular groove disposed diagonally and adapted to receive a loop or bight of a rope or cable, said shank being provided at one side of the groove with a longitudinal socket to receive the end of the rope or cable and having a bore extending longitudinally of the shank from the opposite side of the groove, and provided with an angularly-disposed inner portion, the shank being hollowed out at the inner end of the bore to receive the knotted or connected portion of the loop or bight, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE F. BELL.

Witnesses:
R. L. GREGORY,
W. D. MOORE.