J. H. CALER & D. POWELL.

ROPE-CLAMP.

No. 189,019. Patented April 3, 1877.

Fig. 1.

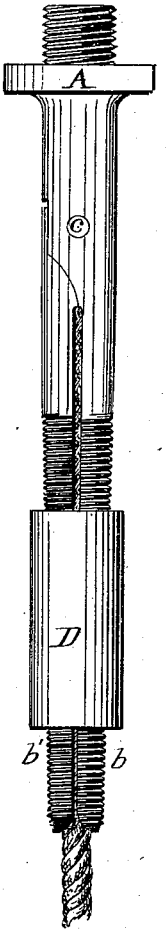

Fig. 2.

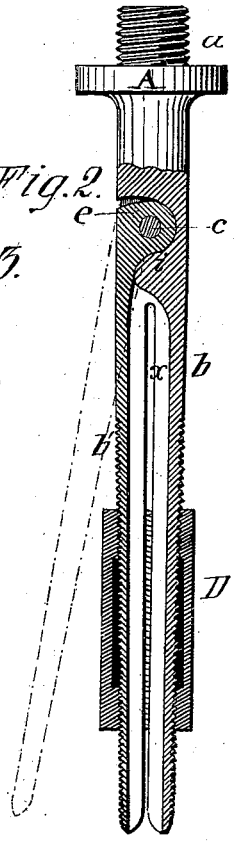

Fig. 3.

Attest:

N. C. Robinson

Fred. Benjamin.

Caler & Powell

by their Atty

L. E. Foster.

UNITED STATES PATENT OFFICE.

JOHN H. CALER AND DAVID POWELL, OF FALLSTON, PENNSYLVANIA.

IMPROVEMENT IN ROPE-CLAMPS.

Specification forming part of Letters Patent No. **189,019**, dated April 3, 1877; application filed February 26, 1877.

To all whom it may concern:

Be it known that we, JOHN H. CALER and DAVID POWELL, of Fallston, Beaver county, Pennsylvania, have invented Improvements in a Device for Attaching Ropes to Oil-Well Tools, &c., of which the following is the specification:

The object of our invention is a clamp for well-boring tools, &c., constructed as fully described hereafter, to insure a strong and secure attachment of the rope, to permit the ready application and removal of the same, and to increase the durability of the device.

In the drawing, Figure 1 is an external view of our improved rope-clamp; Fig. 2, a longitudinal section, and Fig. 3 a view showing the end of the rope.

A is the metallic shank of the device, terminating at one end in a threaded projection, *a*, adapted to sockets in the boring-tools, to which the device is to be applied, or in a socket to receive a threaded stem of the tool. The shank is prolonged at the opposite end to form a hollow finger or jaw, *b*, corresponding to a similar jaw, *b'*, which is pivoted to the shank by a pin, *c*, and capable of being opened to a limited extent, as shown in dotted lines, Fig. 2.

The space or socket *x*, inclosed by the jaws *b b'* when the same are closed, is increased in diameter from the outer to the inner end, and is adapted to receive the enlarged or tapered end *y* of the rope C, said enlargement being formed by overlaying cords by plaiting or otherwise.

The jaws taper toward the ends, and may be threaded externally to receive a long sleeve or nut, D, round or angular in shape, as may be desired, and having a tapering opening, so that as it is carried toward the threaded head *a* of the stem it will bring the jaws more closely together, and bind them more closely upon the enlarged end of the rope, which is so firmly secured that it cannot be withdrawn without removing the nut and opening the jaws.

It will be seen, however, that the rope is not fastened by the gripe or frictional clamping of the jaws, but by the contraction of the opening below the enlarged end *y*, which cannot pass through the mouth of the socket, contracted by the action of the nut or sleeve, and prevented by the same from expanding under any strain liable to be exerted.

This construction also tends to prevent any excessive strain on the pin *c;* but to relieve the latter entirely a rounded socket is formed in the jaw *b*, adapted to the rounded head *e* of the jaw *b'*, which head, therefore, has its bearing on the shoulder *i* of the socket, preventing the straining of the pin.

One of the greatest objections to the ordinary clamps for the tools of wells is the difficulty of detaching the rope; another is the weakening of the rope by teeth, rivets, &c., which penetrate the same.

It will be seen that the above device secures the rope firmly without the use of any rivets or teeth, and that a very slight movement of the jaw *b'* is sufficient to quickly release the rope, or to secure the end after its insertion.

It will be apparent that other devices for holding the jaws may be used, as a plain sleeve or ring in place of a threaded nut, and that both jaws may be hinged together or to the stem.

We claim—

1. A rope-clamp consisting of a stem, A, provided with tapering jaws *b b'*, and with a sleeve, D, said jaws inclosing a socket, *x*, enlarged at the inner end, and corresponding to the tapering end *y* of a rope, C, all as set forth.

2. The combination of the shank A, its jaw *b*, socket and shoulder *i*, and the pivoted jaw *b'*, its head *e*, and recess, as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

J. H. CALER.
DAVID POWELL.

Witnesses:
BENJ. WILDE,
C. M. MERRICK.