

W. H. DOWNING.
Rope-Clamps.

No. 141,706.

Patented August 12, 1873.

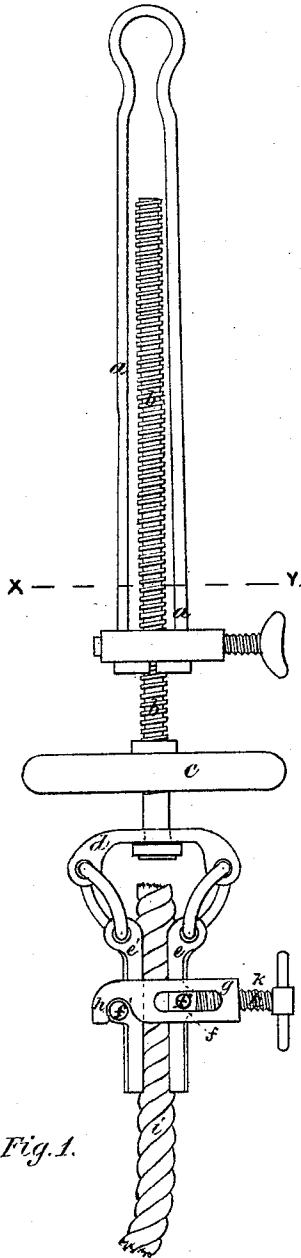


Fig. 1.

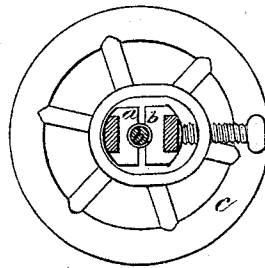


Fig. 2.

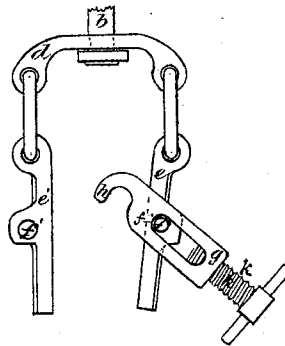


Fig. 3.

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J. E. Haskell } Witnesses.

Wm H. Downing,
Inventor:
by *A. B. Howland*
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UNITED STATES PATENT OFFICE.

WILLIAM H. DOWNING, OF SHAMBURG, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF HIS RIGHT TO BENJAMIN MASSETH, OF SAME PLACE.

IMPROVEMENT IN ROPE-CLAMPS.

Specification forming part of Letters Patent No. **141,706**, dated August 12, 1873; application filed
June 19, 1873.

To all whom it may concern:

Be it known that I, WILLIAM H. DOWNING, of Shamburg, in the county of Venango and State of Pennsylvania, have invented certain Improvements in Temper-Screws and Cable-Clamps for Drilling Artesian Wells, of which the following is a specification:

In the temper-screws and clamps in ordinary use the swivel is attached by a hook directly to the walking-beam, and the entire screw, with its clamps, necessarily turns with the drill-cable; and the swivel being upon the upper end of the nut, the latter also turns at times with the cable.

The object of my invention is, first, to provide the screw with a hand-wheel, or other equivalent device, for convenience in turning it, and to arrange the swivel upon the lower end of the screw, below the hand-wheel and between it and the cable-clamps, so that the latter may be turned with the cable and drill without turning the screw or its nut, at the same time allowing the screw to be readily and rapidly turned or paid out without in any way interfering with the turning of the drill; and, second, to provide the screw with an improved clamp for holding the cable.

Figure 1 is a side view of the entire device. Fig. 2 is a horizontal section on line X Y; and Fig. 3 is a detached view of the swivel and clamps, showing the latter thrown open for the reception of the cable.

a is an open nut embracing the screw, and constructed in the usual manner, with a set-screw to close the parts upon the screw, as shown. *b* is the screw, working through and within the nut. *c* is a hand-wheel, secured upon the shaft of the screw, below the nut; and *d* is the swivel, working upon the lower end of the screw-shaft, and below the hand-wheel. The upper end of the open nut *a* is formed with a loop, and hung upon the end of the walking-beam.

Under the above arrangement of parts it will be seen that the drill and the screw may be turned, each entirely independent of the other and in opposite directions, when neces-

sary, and all the moving parts of the device are within convenient reach of the operator.

The cable-clamp is suspended from the swivel, as shown in Figs. 1 and 3. It consists of two jaws, *e* and *e'*, which have projecting lugs cast upon them at *f* and *f'*. A slotted hook-clasp, *g*, embraces the jaw *e*, the lugs *f* working within the slots in the clasp, as shown. The outer end of the clasp *g* is made with hooks at *h h*. When ready for use the cable is placed between the jaws *e* and *e'*, the outer hooked end of the clasp *g* is hooked over the lugs *f'* in the jaw *e'*, and the whole tightened firmly upon the cable *i* by means of the set-screw *k*, as shown in Fig. 1.

In drilling Artesian wells in soft rock, as also in jarring out tools when fast, it is at times necessary to raise or lower the tools, by means of the screw *b*, quite rapidly, and without interfering with the regular turning of the drill. With the ordinary arrangement of temper-screws two men are required to handle the apparatus at such times; but with the above arrangement one man can handle it with ease under all circumstances, even when the screw is to be turned rapidly in a direction opposite to that of the drill.

I claim as my invention—

1. The described arrangement and combination of the fixed open nut *a*, screw *b*, hand-wheel *c* or its equivalent, and swivel *d*, the hand-wheel being fixed upon the screw below the nut, and the swivel below the hand-wheel, substantially as set forth.

2. The described cable-clamp, consisting of the jaw *e* with its lugs or pins *f f*, the jaw *e'* with its lugs or pins *f' f'*, and the slotted hook-clasp *g* with its hooked ends *h h* and set-screw *k*, said clasp being arranged upon and embracing the jaw *e* and hooking over the lugs or pins upon the jaw *e'*, the whole constructed and operating substantially as and for the purposes set forth.

WM. H. DOWNING.

Witnesses:

C. L. POOR,

H. B. FRANCIS.