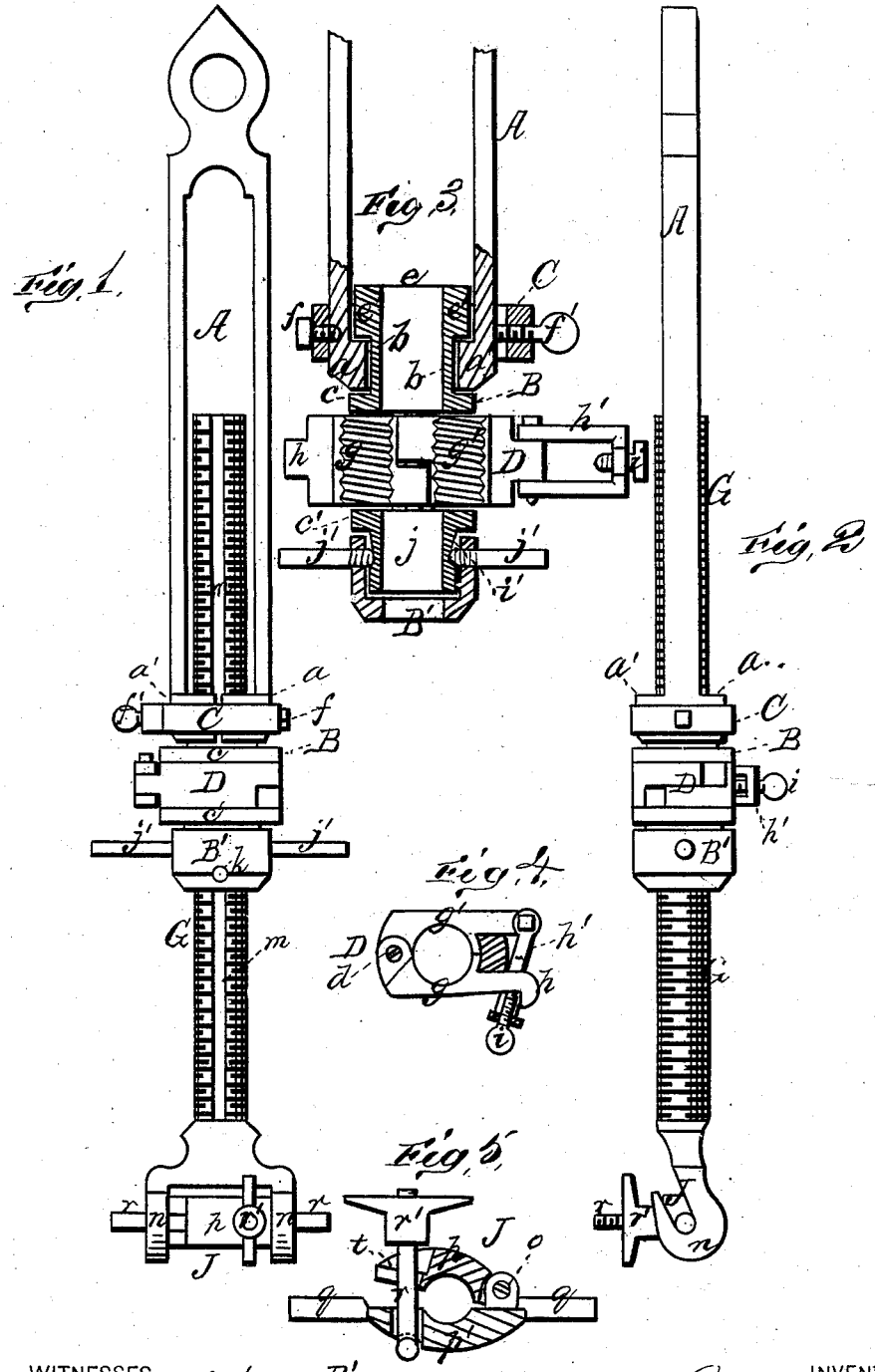
H. J. MILLER.

Temper-Screw for Oil-Wells.

No. 203,751. Patented May 14, 1878.



WITNESSES

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HENRY J. MILLER, OF OIL CITY, PENNSYLVANIA.

IMPROVEMENT IN TEMPER-SCREWS FOR OIL-WELLS.

Specification forming part of Letters Patent No. **203,751**, dated May 14, 1878; application filed April 20, 1878.

To all whom it may concern:

Be it kown that I, HENRY J. MILLER, of Oil City, in the county of Venango and State of Pennsylvania, have invented a new and valuable Improvement in Temper-Screws; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of my improved temper-screw. Fig. 2 is an edge view thereof. Fig. 3 is a longitudinal section of the lower part of the same, and Figs. 4, 5, 6, and 7 are details.

This invention has relation to improvements in temper-screws for well-boring purposes.

The nature of the invention consists in combining, with the suspension-frame having the usual jaws provided with inside flanges, a nut having a sleeve provided with an annular groove adapted to receive said flanges, whereby the nut is swiveled to and below the frame.

It also consists in a nut swiveled to the lower end of the frame, composed of a cage-like structure, and of two threaded clamp-sections, hinged to said cage and adapted to be closed upon the screw, which sections, when opened, allow the screw to be readily and expeditiously removed from the suspension-frame.

It also consists in combining, with a suspension-frame, a clamp-nut swiveled thereto, and a longitudinally-grooved screw, a manipulating-sleeve, having handles projecting therefrom, provided with an interior key-seat and swiveled to the nut-cage, and a fetter or key engaged in said seat and fitting into the groove of the screw, whereby the sleeve is locked to the screw, and the latter is operated by turning the former.

It furthermore consists in combining, with a temper-screw having spaced parallel hooks upon its lower end, a rope-clamp consisting of two jaws hinged together, one of the jaws having journal-arms at its ends adapted to bear in the hooks, a clamp-screw extending through the jaws, and a clamp-nut on the projecting end of said screw, as will be hereinafter more fully set forth.

In the annexed drawings, the letter A designates the suspension-frame, of the usual form and dimensions, and cleft at its lower end to form semi-annular jaws *a a'*, having at their lower end the flanges *b*. B indicates the frame of the nut, consisting of a top and bottom plate, *c c'*, connected together by the post *d*, and provided at each end with a tubular projection. The projection *e* of plate *c* has at its upper end a flange, *e'*, and when it is passed between the jaws *a a'* this flange *e'* engages the flanges *b* of the said jaws, as shown in Fig. 3, in such a manner that the frame B has free rotary movement relative to the frame A. The jaws are held in the groove by means of an annular yoke, C, embracing the jaws, and provided with opposite clamp-screws *f f'*. One of the posts *d* is round, and on it are pivoted the sections *g g'* of the nut D, the said sections being semi-annular and screw-threaded on their insides to correspond with the male thread of the screw G. The section *g* has on its free edge a hook, *h*, and the section *g'* a vibrating link, *h'*, that engages said hook, as shown in Fig. 4, and is confined thereto by means of a set-screw, *i*. Plate *c'* has a projecting tubular sleeve, *j*, provided with an annular groove, *i'*.

B' represents an actuating annular cap that is passed over sleeve *j*, and confined thereto by the handles *j'*, that are screwed into the cap and engaged with the groove *i'* aforesaid, thus swiveling the actuating-cap to the said projection. In this cap is formed a recess, *l*, of the form of the letter **L**, and in said recess is seated a key or fetter, *k*, that, being engaged with a longitudinal groove, *m*, in the screw G, locks the cap and screw together. By turning the handles *j'* the screw may be run up or down through the nut D at pleasure. At the lower end of the screw are the parallel hooks *n*, that serve to support the rope-clamp J. This latter is composed of two jaw-sections, *p p'*, hinged together, as shown at *o*, Fig. 5. The section *p'* has at each end a projecting arm, *q*, which has its bearings in one of the hooks, the clamp being thus connected to the screw. *r* indicates a clamp-screw, extending through a perforation in the section *p'*, and an open slot, *t*, in the free edge of the section *p*, and *r'* a thumb-nut on said screw, which, being set

up, causes the rope to be rigidly clamped between the jaws.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an oil-well temper-screw, the combination, with the suspension-frame A, having jaws *a a'* and flange *b*, of the nut B D, having sleeve *e*, with edge flange *e'*, and the clamp-yoke C, substantially as specified.

2. The combination, with a suspension-frame, A, of the nut swiveled to the lower end thereof, consisting of the frame B, the clamp-sections *g g'*, hinged thereto, the section *g*, having hook *h*, and the section *g'*, a vibrating bail, *h'*, with set-screw *i*, substantially as specified.

3. The combination, with the suspension-frame A, a clamp-nut swiveled thereto, and a longitudinally-grooved screw, G, of a manipulating sleeve or cap, B', having handles *j'* and the interior key-seat *l*, and swiveled to said nut, and a key or fetter engaged in the said recess and in the groove of the screw, substantially as specified.

4. The combination, with a temper-screw, G, having the spaced parallel end hooks *n*, of a rope-clamp, J, having the journal-arms *q*, the jaw-sections *p p'*, hinged together, the screw *r*, and thumb-nut *r'*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

HENRY JOHN MILLER.

Witnesses:
W. F. GROVES,
JOHN WILLINGS.