D. McLEAN & J. HERVERK.

TEMPER-SCREWS FOR USE IN WELL-BORING.

No. 193,771. Patented July 31, 1877.

Fig 1.

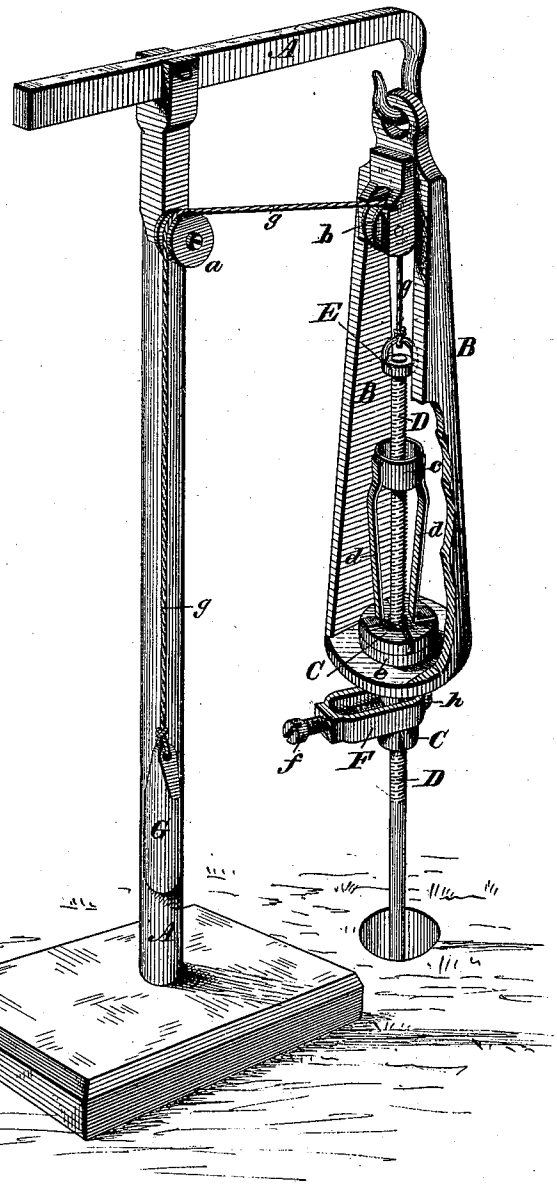


Fig 2.

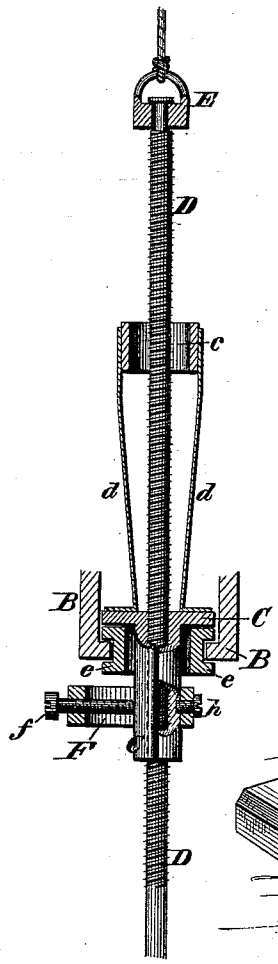
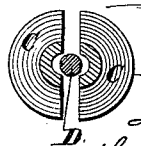


Fig 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

DONAL McLEAN AND JOHN HERVERK, OF VALLEY, PENNSYLVANIA.

IMPROVEMENT IN TEMPER-SCREWS FOR USE IN WELL-BORING.

Specification forming part of Letters Patent No. 193,771, dated July 31, 1877; application filed January 6, 1877.

To all whom it may concern:

Be it known that we, DONAL McLEAN and JOHN HERVERK, of Valley, Clarion county, Pennsylvania, have invented an Improved Temper-Screw for Use in Well-Boring; and we do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of our apparatus, some portion being cut away to show the construction more clearly. Fig. 2 is a vertical section. Fig. 3 is a detail.

The same letters indicate the same part in both figures.

This invention consists in the peculiar construction of the apparatus hereinafter particularly described.

In the accompanying drawing, A represents a walking-beam, to which the apparatus is attached. It is provided with a hook, upon which is hung the frame B, which supports the temper-screw D. This screw has a swivel, E, at top, to which is attached a cord or chain, *g*, running over pulleys *b a*, and having a weight or counterpoise, G, attached to its end, as shown. The counterpoise should be equal in weight to the screw and its attachments. A split nut, C, provided with spring-arms *d d*, and an annular head, *c*, surrounds the screw D, and passes down through the bottom of the frame B. A clamp, F, is fixed to one of the jaws of this nut by the screw *h*, and the nut is closed upon the screw D by means of the clamp-screw *f*. When this screw is retracted, the jaws of the split nut are separated by the action of the spring-arms *d d*, whose reaction is outward.

The operation is obvious from the construction. When the jaws of the split nut C are open, the screw is drawn up to the highest position by the counterpoise. The jaws are then closed by clamp-screw *f*, and the screw worked down in the usual way as the drilling progresses. When it has reached the lowest point the jaws are released, and the screw drawn up for a repetition of the process.

What we claim is—

The combination of the screw D, provided with the split nut and clamp, with the swivel E, cord *g*, pulleys *a b*, and counterpoise G, all arranged and operating substantially as specified.

The above specification of our said invention signed and witnessed at Valley, Pennsylvania, this 30th day of November, A. D. 1876.

DONAL McLEAN.
JOHN HERVERK.

Witnesses:
D. E. BRENEMAN,
BENJ. F. KECK.