

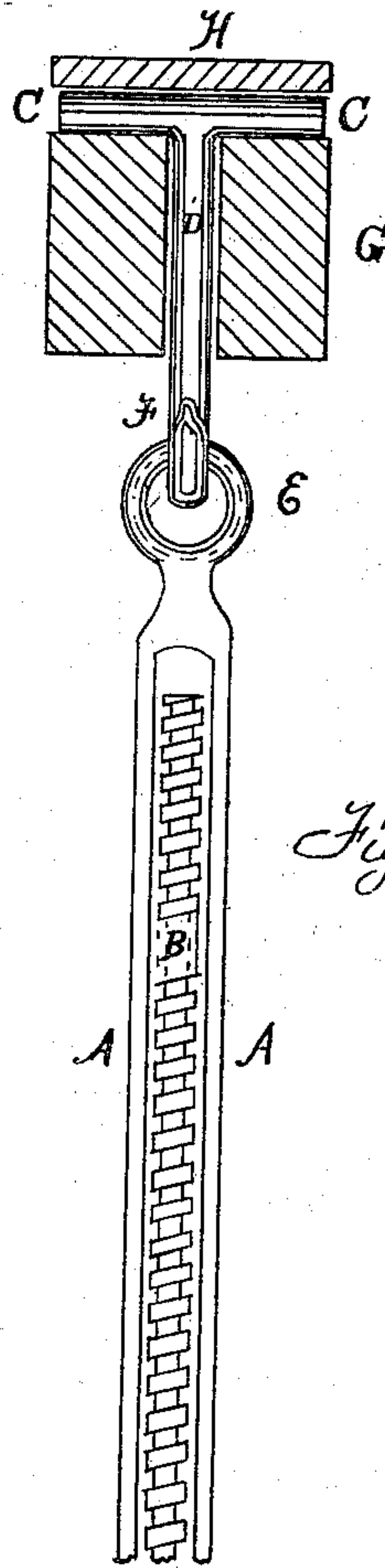
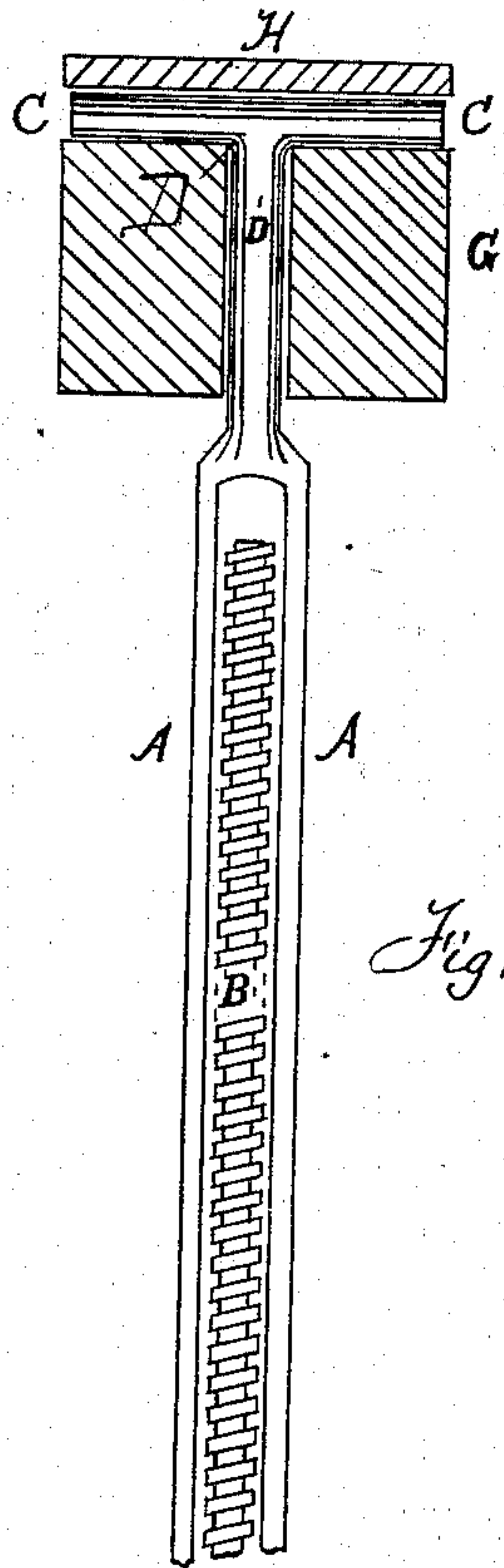
(No Model.)

O. A. KNOX.

TEMPER SCREW FOR DRILLING WELLS.

No. 254,876.

Patented Mar. 14, 1882.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ORRIN A. KNOX, OF BRADFORD, PENNSYLVANIA.

## TEMPER-SCREW FOR DRILLING WELLS.

SPECIFICATION forming part of Letters Patent No. 254,876, dated March 14, 1882.

Application filed November 16, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, ORRIN A. KNOX, of Bradford, McKean county, Pennsylvania, have invented new and useful Improvements in Temper-Screws for Drilling Wells; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and the letters or figures of reference marked thereon.

My invention relates to that class of devices called "temper-screws." Temper-screws as heretofore constructed were provided with an eye in their upper end for the purpose of attaching them to a hook upon a "cross-T" suspended from the walking-beam, which alternately lifted and lowered the temper screw and the heavy tools suspended therefrom. The joint thus formed is constantly working, and soon wears the hook and eye to such an extent as to render their use dangerous to the driller, who is obliged to stand directly beneath in order to keep the tools constantly turning. Many serious accidents have occurred by breakage at this point, and expensive repairs are always necessary, whether the eye and hook are broken or only greatly worn.

The object of my invention is to produce a device that will accomplish the same result in a cheaper, better, and more satisfactory manner, without danger of any accidents from this source. To that end the nature of my invention consists in forming the hook and temper-screw in one piece, so that the friction, instead of being upon a hook and eye, will be upon a "cross-T" which rests upon a bearing of wood formed in the walking-beam, thus reducing the friction to the minimum and distributing it over a greater area than by the old way.

In the drawings, Figure 1 represents an elevation of my improved temper-screw, and Fig. 2 the form now in common use.

A A represent the reins of the temper-screw broken off from below; B, a screw which works

in a nut (not shown) attached to the lower part of the reins; D, a T, and G a walking-beam.

The part D is composed of cross-pieces C C and stem D'. The stem D' passes through the slot in the walking-beam, and is joined to the reins at or near the same point where the hook and eye in the old form of device was placed. In my form the screw and reins can be longer, which is a manifest advantage in working, as it will not be necessary to suspend the drilling so often to lift the screw up.

The cross-pieces C C serve as journals for the temper-screw and the tools attached thereto. There is no break from parts C C to the nut at the end of the reins. This is a manifest advantage over the old form, which was provided with a hook that passed through the eye of the temper-screw. Each movement of the walking-beam allowed the eye to slide upon the hook, the consequence being that the great weight of tools attached to the temper-screw soon wears the hook or eye, or both, to such a thinness that it would be dangerous to continue drilling. The whole weight, when my device is used, rests upon the cross-arms, which in turn rest upon the walking-beam, and are held in place by straps H, attached to the walking-beam in any suitable manner.

What I claim as new is—

1. A temper-screw having its reins and journals formed in one piece, substantially as and for the purpose set forth.
2. A temper-screw having a neck to fit within the slot of a walking-beam, and journals formed integral with the neck, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand.

ORRIN A. KNOX.

Witnesses:

S. W. VANDERSAAL,  
D. S. LEWIS.