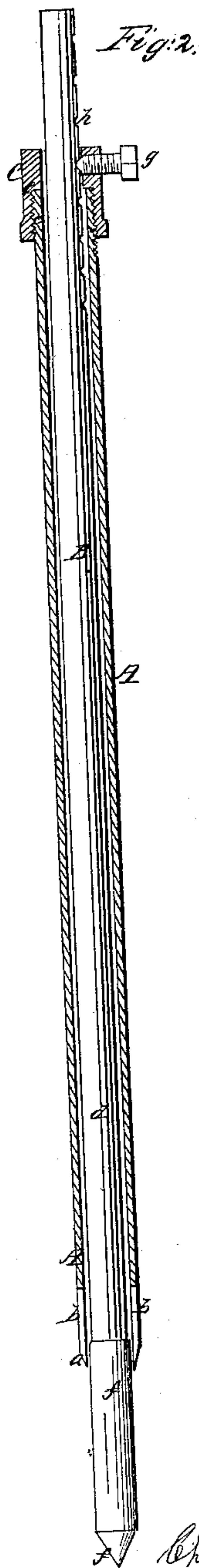
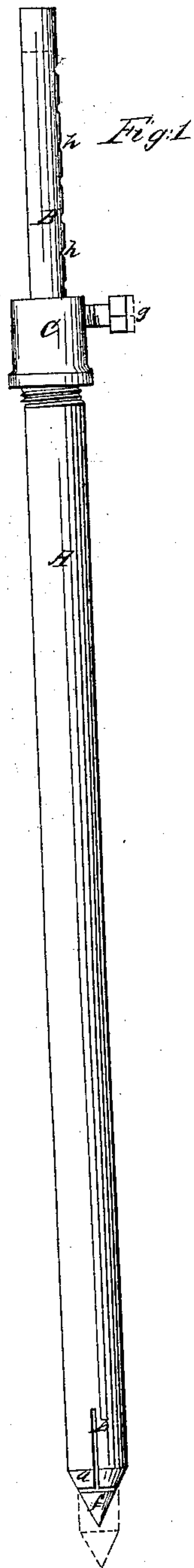


*C. W. Kinne,  
Well Tubing.*

*N<sup>o</sup> 50,42.*

*Patented Sep. 26, 1865.*



*Fig. 3*



*Witnesses.*

*R. J. Osgood.*

*A. S. Acker*

*Inventor.*

*Chas. W. Kinne*

*By J. Fraser & Co.  
Attys.*

# UNITED STATES PATENT OFFICE.

CHARLES W. KINNE, OF CORTLAND, NEW YORK.

## IMPROVED MODE OF SINKING WELL-TUBES.

Specification forming part of Letters Patent No. 50,142, dated September 26, 1865.

*To all whom it may concern:*

Be it known that I, CHARLES W. KINNE, of Cortland, in the county of Cortland and State of New York, have invented a new and useful Improvement in Sinking Well-Tubes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is an elevation of my improvement in the act of driving into the earth; Fig. 2, a similar view, but with the tubing in section and with the rod or bar forming the point driven down below the end of the tubing for the purpose of making a reservoir or cavity in the earth for the collection of water; Fig. 3, a view of the upper end of the central rod or bar.

Like letters of reference indicate corresponding parts in all the figures.

My improvement belongs to that class where tubing is driven into the earth by positive force to form wells. Various devices for this purpose have been known. In one an opening-point is simply attached to the lower end of the tubing, which is provided with perforations in the sides to admit water. In another the opening-point is provided with a perforated hollow shank extending up into the tubing, and when driven in place the tubing is raised sufficiently to expose the perforations; and in a third a rod or core is situated within the tubing, its lower end resting in a detached point and its upper end passing up to the top, the whole so arranged that after the tubing has been driven deep enough the point can be driven still deeper, so as to form a reservoir for the water to collect.

In principle my device resembles the last named, a rod or bar being employed within the tubing; but my invention consists in the particular construction and arrangement whereby the end of the central rod or bar itself forms the opening-point and is capable of being adjusted downward so as to form a double wedge for opening the way, and whereby the adjusting collar or shoulder that holds the tubing in place at the top screws upon the end of the tubing, so that the screw-threads shall not become battered in driving.

In the accompanying drawings, A indicates the tubing; B, the central rod or bar, and C

the adjustable shoulder at the top, which holds the tubing in place while being driven.

The tubing A is of the ordinary arrangement, except that its lower end, *a*, is beveled downward or made sharp-edged and is provided with slots *b b*, as clearly represented. The upper end has the usual screw-threads, *c*, for attaching the pump.

The interior rod or bar, B, extends from top to bottom, projecting above the tubing sufficiently to receive the blows in driving. That portion *d* that rests in the body of and projects above the tubing is of a smaller diameter than the opening of the tubing itself, so that it can be easily withdrawn. I do not design that the tubing shall rest against or come in contact with it. The lower end, *s*, however, which forms the opening-point, is made of a larger diameter a suitable length so as to fill the diameter of the opening of the tubing. The extremity is made pointed, so as to easily penetrate the earth.

The collar or shoulder C simply slides on the central rod or bar, B, and is secured to it at any desired position by means of a set-screw, *g*, which strikes into any of a series of depressions or holes *h h* made vertically on the face of the rod. These holes prevent the collar from either sliding or turning, and therefore hold it steadily in place, notwithstanding the great strain to which it is subject in driving. The collar or shoulder is provided with a female screw, *e*, into which fastens the male screw *c*.

I claim no advantages resulting from the general use of the interior rod, B, but only those which accrue from my particular construction and arrangement of it.

There are two principal features resulting from my construction:

First. The opening-point *f* is the lower end of the rod itself and forms a part of it. Therefore its use is not limited to a single well, but it applies to many. As a matter of economy this is of the utmost consequence. In all other devices with which I am acquainted where the interior rod is employed its lower end rests in a detached opening-point, which must remain in the well beneath the tubing. Thus a separate point is required with each well. I avoid this expense, for the same point answers as long as the rod lasts.



Second. I screw the collar C onto the end of the tubing at *c*, so as to prevent battering of the end of the tubing and the consequent injury of the screw-threads. This is necessary to properly attach the pump. In the devices before referred the collar simply rests above the end of the tubing; and in applying the force necessary to drive the tubing in place the end of the same becomes bruised. It will be seen that inasmuch as the threads are inter-matched battering cannot ensue.

In addition to these primary advantages there are others of some consequence.

In Fig. 2 the point *f* is shown as lowered at some distance below the end of the tubing. If the whole is driven down into the earth in this position and the interior rod is then withdrawn, it will be seen that a cavity or reservoir will be formed beneath the tubing for the collection of water, and that without releasing the rod after the tubing is driven and driving still lower, as is the case with other devices. Another advantage is, that the point *f* and the bevel *a* form a double wedge at some distance apart, which it is apparent in philosophical principles will open the way much easier than if the whole wedge were combined in the single point. If desirable, however, the latter may be employed, as indicated by the black lines in Fig. 1. The slits *b b*, by giving some flexibility to the end of the tubing, enable it to be driven with much greater ease. After the tubing has been driven in place the interior rod is

removed by simply loosening the set-screw *g* and unscrewing the collar C from the end of the tubing, when the rod easily draws up.

I do not claim, broadly, the interior rod or bar, nor the collar; but

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

1. Forming the opening-point *f* as a part of the interior rod, B, and using the same, in combination with the tubing A, in such a manner that a separate point for each well is dispensed with, substantially as herein set forth.

2. Coupling the adjustable collar C with the tubing A by means of the screw-threads *a e*, and connecting the said collar with the interior rod, B, by means of the set-screw *g* and holes *h h*, the whole arranged substantially as herein specified, for the purpose of preventing the bruising of the end of the tubing and for retaining the same in place.

3. The arrangement and combination as a whole, consisting of the interior rod, B, with fixed point *f*, tubing A, with sharp-edged extremity *a*, and the adjustable collar C, connected by the screw-threads *a e*, substantially as described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CHAS. W. KINNE.

Witnesses:

R. F. OSGOOD,

J. A. DAVIS.