(No Model.)

J. H. SOUTH.

Boring Wells.

No. 243,643. Patented June 28, 1881.

Fig. 1.

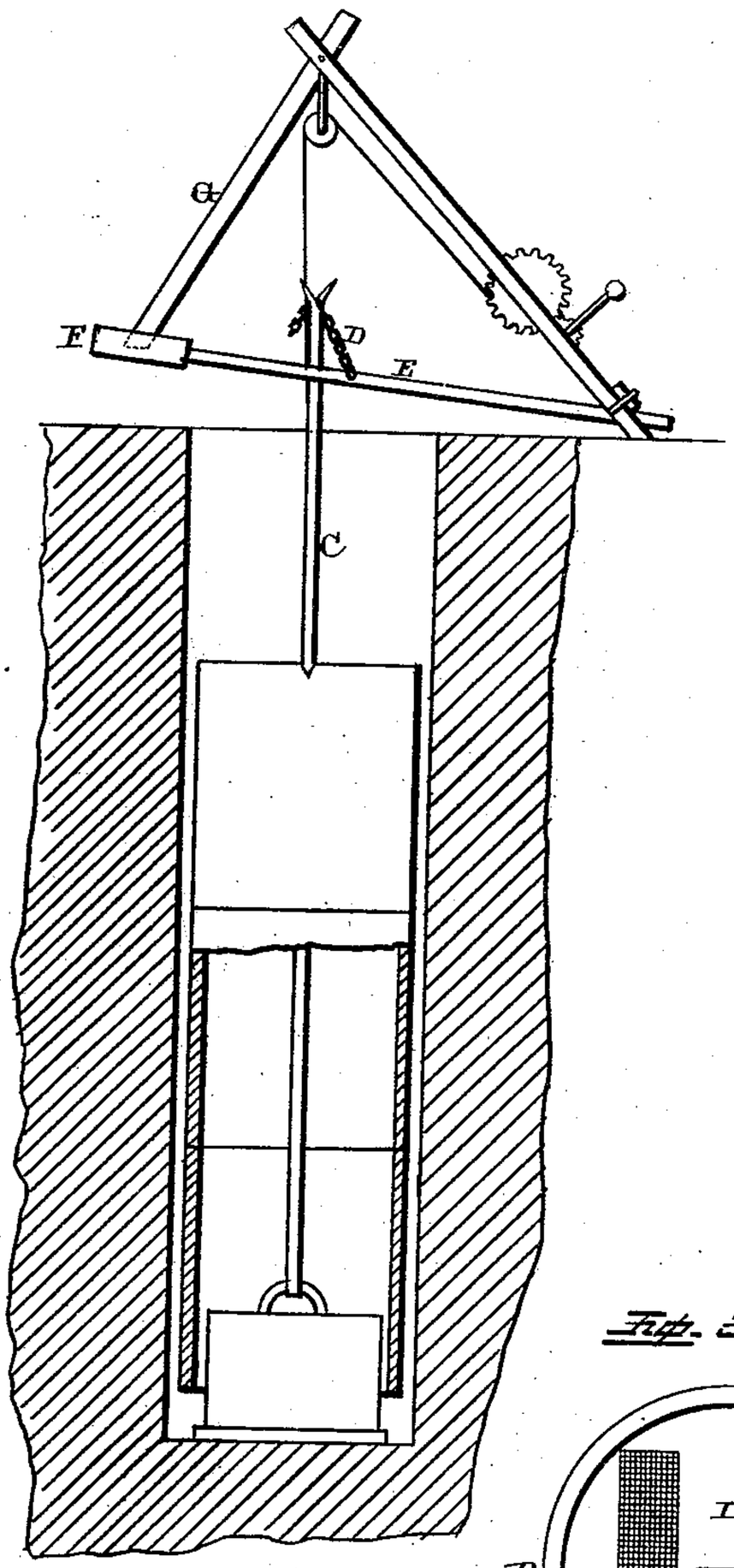


Fig. 2.

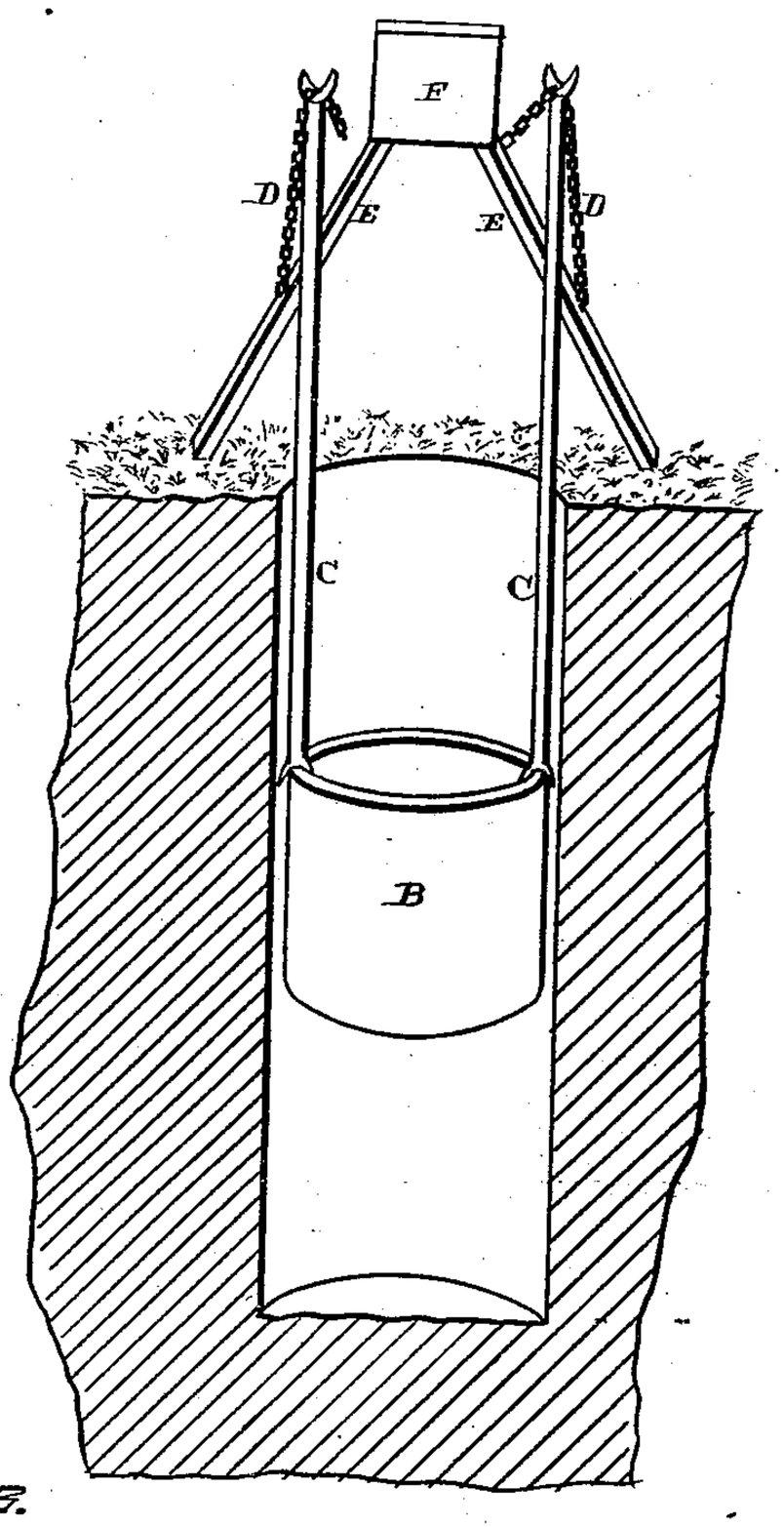
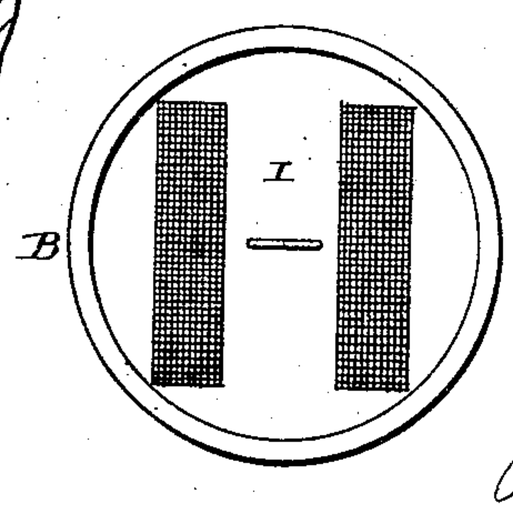


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES H. SOUTH, OF MONDAMIN, IOWA.

BORING WELLS.

SPECIFICATION forming part of Letters Patent No. 243,643, dated June 28, 1881.

Application filed April 6, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. SOUTH, of Mondamin, in the county of Harrison and State of Iowa, have invented certain new and useful Improvements in Boring Wells; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in the method of lowering tubing into wells; and it consists in pressing the sections of the tube into the well by means of rods which have the derrick fastened to their upper ends, whereby nearly the whole weight of the derrick is utilized in pressing the section into position.

It further consists in the arrangement and combination of parts, which will be more fully described hereinafter.

The object of my invention is to utilize the weight of the derrick in forcing the sections of tubing into position, and especially where quicksand is encountered, and where the hole, as it is bored, would rapidly fill up if the tubing were not quickly inserted into position.

Figure 1 is a side elevation of my invention. Fig. 2 is a perspective of the same. Fig. 3 is a plan view of the bottom piece of the well.

A bucket-auger is employed in boring the hole for the well, and the sections of tubing B, of any desired length, are then inserted into the hole which has been dug by the auger. This auger will be operated in the usual manner, and the derrick, which is placed over the well, will be provided with a windlass for drawing up the dirt from the hole in the auger-bucket. After the hole has been bored a suitable distance one of the sections of tubing is inserted into the hole, and then the pressure-rods C are applied to its top edge. These rods have their lower ends forked, so as to catch over the top of the tubing, whereby they are prevented from slipping off, and their upper ends are also forked, so that either one of the prongs will catch in any one of the links of the chains D, which are used in connecting the upper ends of these presser-rods with the presser-levers E. The two presser-levers have their ends united together by means of the metallic plate F, and which plate has a hole made through or in it to receive the lower end of the braced post G of the derrick. To these two presser-levers the chains are fastened at any suitable point, and then the chains are hooked or fastened to the tops of the two presser-rods, as shown in Fig. 1. The brace-post of the derrick is lifted from the ground, and its lower end, provided with an iron pin, is placed in the hollow in the plate which connects the two ends of the presser-levers together. As the two presser-levers are raised above the ground by means of the chains, and as the derrick is thus made to throw the greater part of its weight upon these two levers, it will readily be seen that this weight is transferred from the presser-rods to the top edge of the section of tubing which is being inserted in position in the well. After the auger has become filled with earth and the windlass is used to raise it upward, the whole weight of the auger, together with the friction in raising it upward, is added to the weight of the derrick in forcing the section of tubing into place.

In certain sections of the country, in boring wells quicksands are encountered at different depths, and which, unless the tubing is quickly inserted into place, will so completely fill up the hole which has been dug as to make the digging of the well a very difficult and costly operation. By thus having the sections of the tubing placed one above the other and the whole weight of the derrick constantly resting upon them, as soon as quicksand is encountered the weight and pressure of the derrick will instantly force the section downward, so as to cut off the flow of sand into the well. In this manner, no matter at what depth the quicksand may be encountered, it can be so easily controlled that it will interfere very little with the digging of the well. After the well has been dug to a suitable distance a bottom, I, made of strong wood, iron, or any other suitable metal, may be inserted in position, and through this bottom will be made any suitable number of openings, which are covered with wire-cloth. These sections of wire-cloth allow water to freely pass up into the well, but will prevent quicksand, dirt, or other similar substances from being carried into the well in such quantities as to fill up the well.

I am aware that sections of tubing have been forced into the hole prepared for them by means of pressure upon their upper ends; but never before has the whole weight of the derrick been used in this manner.

Having thus described my invention, I claim—

1. The combination of a derrick adapted to be raised at one end, connecting-chains, and presser-rods with the sections of tubing, the whole weight of the derrick being applied to the top sections of the tubing, substantially as shown.

2. The combination of the sections of tubing with the presser-rods, the presser-levers, the connecting-chains, and the derrick, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES HARVEY SOUTH.

Witnesses:
L. McBRIDE,
J. L. McCLANNAHAN.