

(No Model.)

J. H. HILL.

EXTRACTOR FOR TUBE WELLS.

No. 412,707.

Patented Oct. 8, 1889.

Fig. 1.

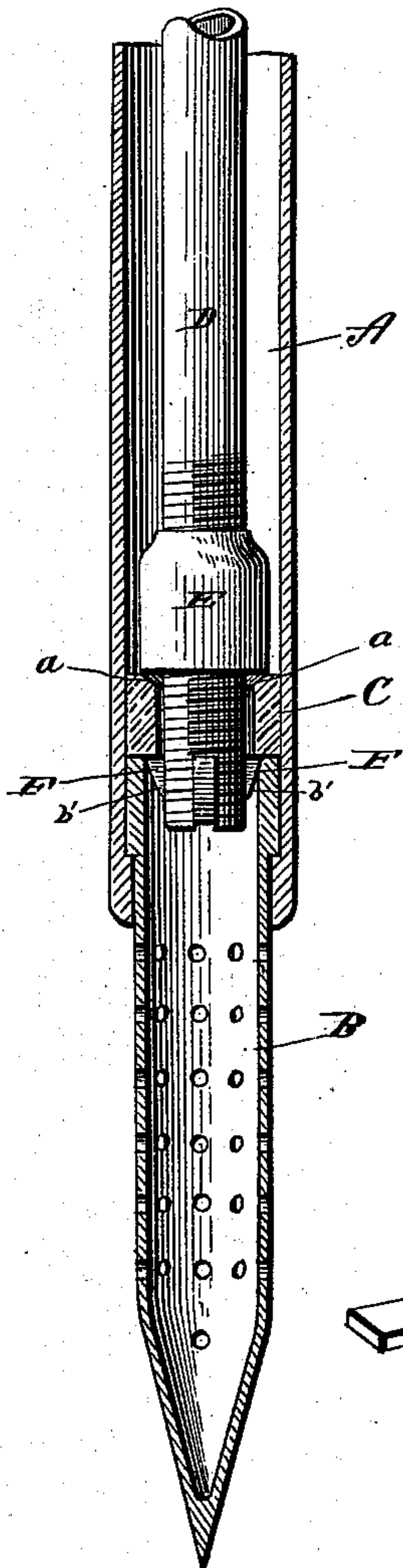


Fig. 2.

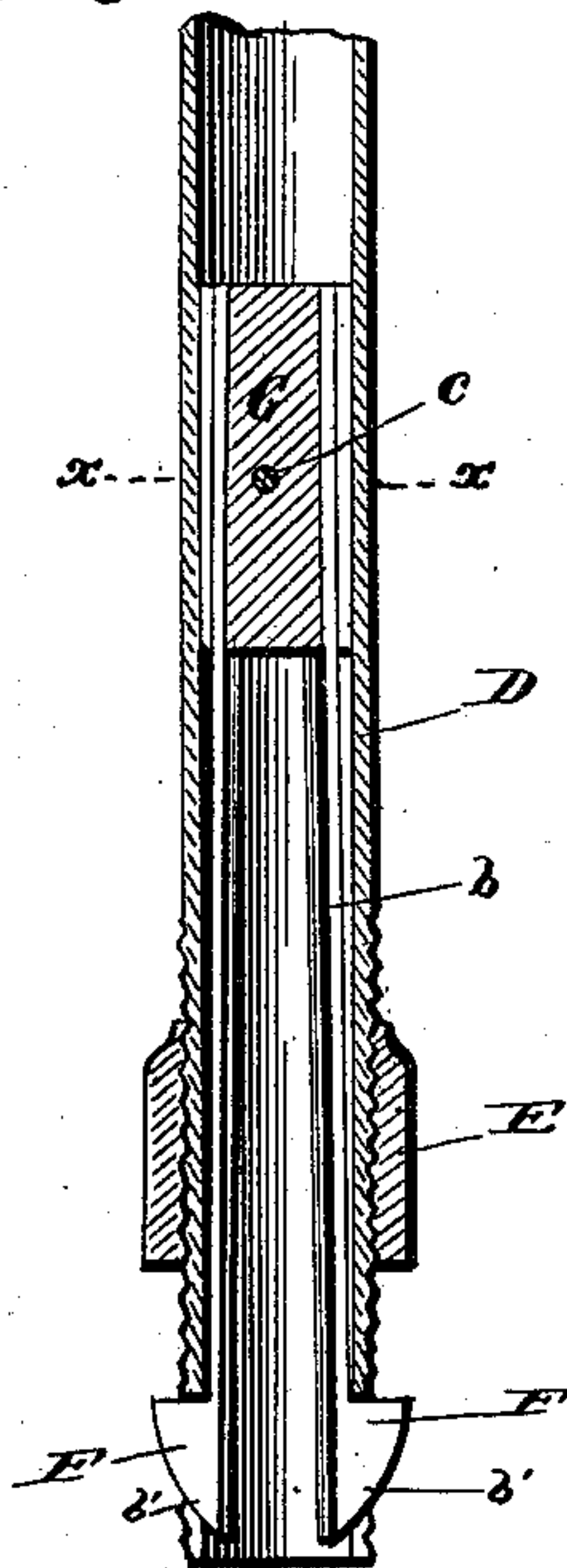


Fig. 3.

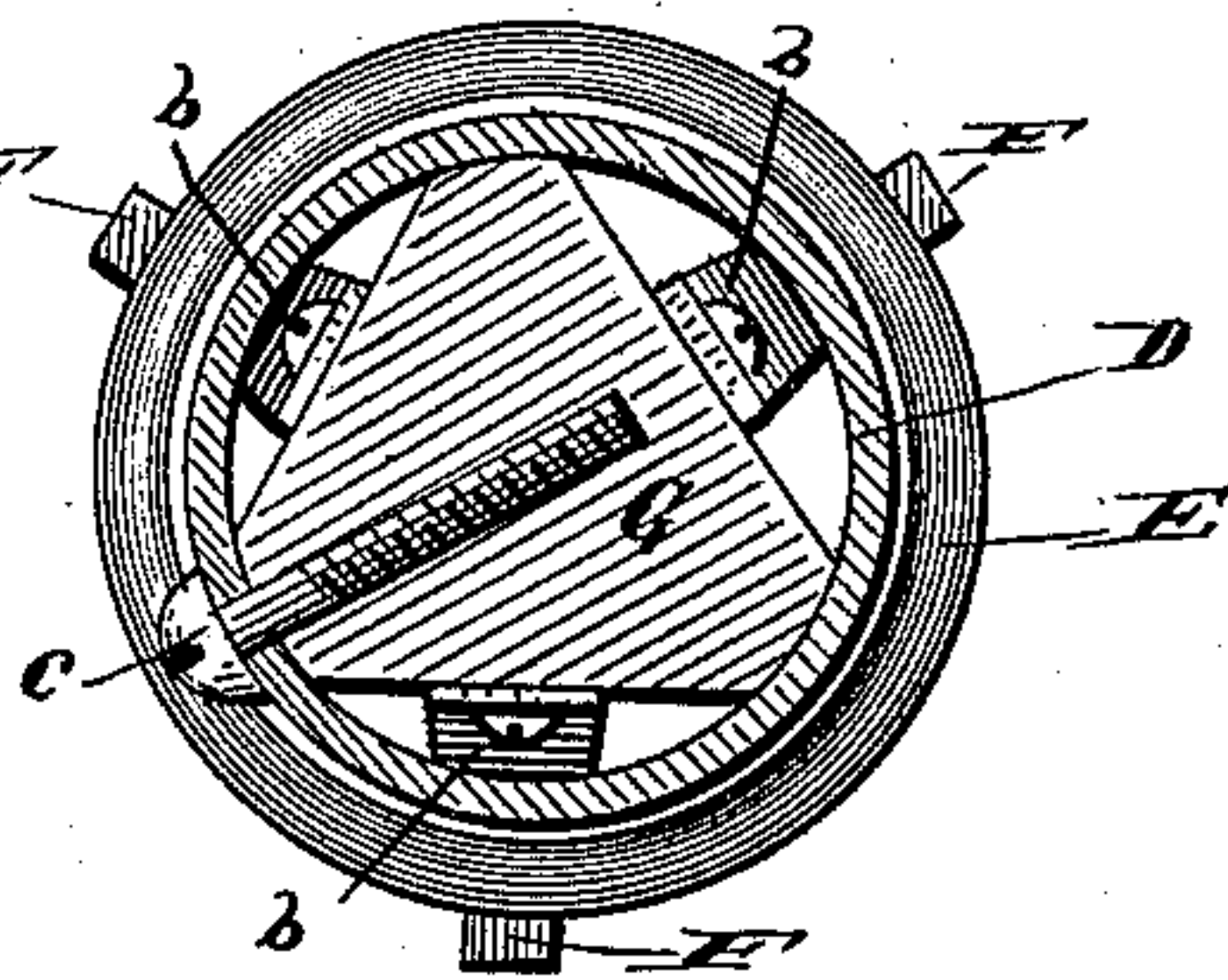
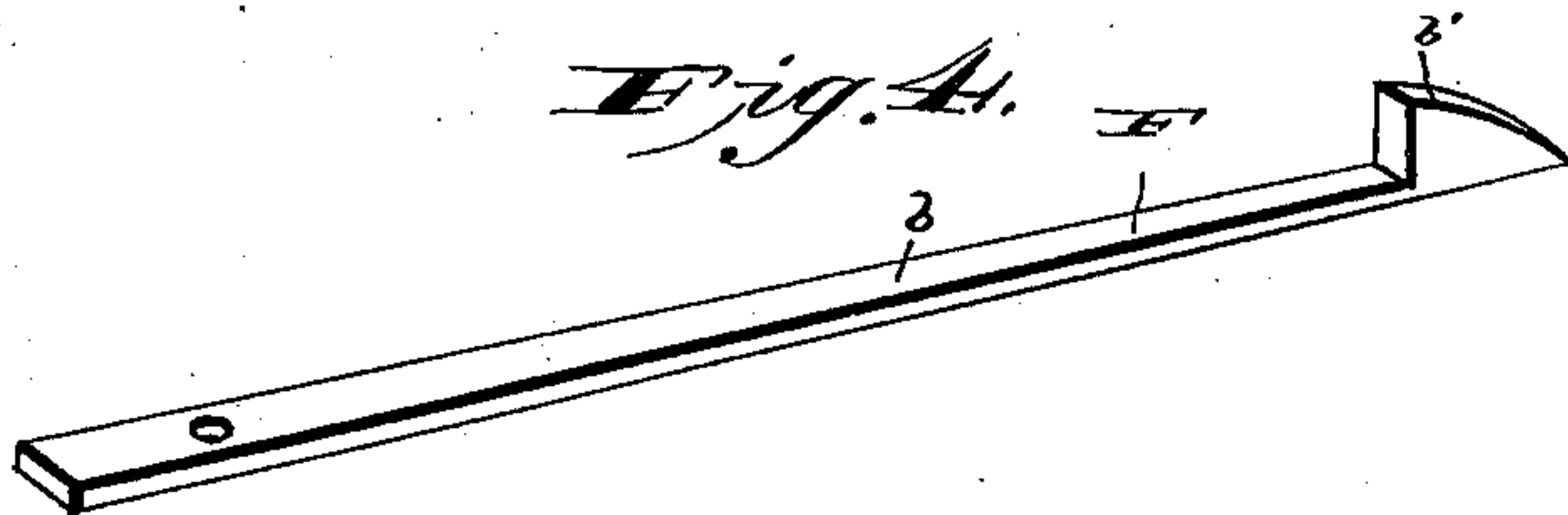


Fig. 4.



Witnesses

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JUSTIN H. HILL, OF CHICAGO, ILLINOIS.

EXTRACTOR FOR TUBE-WELLS.

SPECIFICATION forming part of Letters Patent No. 412,707, dated October 8, 1889.

Application filed April 19, 1889. Serial No. 307,816. (No model.)

To all whom it may concern:

Be it known that I, JUSTIN H. HILL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Extractors for Tube-Wells; of which the following is a specification, reference being had therein to the accompanying drawings, in which—

10 Figure 1 represents a transverse vertical sectional view of the lower end of a tube-well, showing my improved extractor in the act of withdrawing a packing-ring therein; Fig. 2, a similar view of the extractor in detail; Fig. 3, a transverse sectional view on the line $x\ x$ of Fig. 2, looking downward; Fig. 4, a detail perspective view of one of the spring-catches.

20 The invention has for its object the production of a simple and effectual device for withdrawing or extracting the rubber rings located at the bottom of tube-wells whenever the rings become worn or useless from long usage, and it is therefore desired to replace them with new ones; and it consists in certain novel features of construction and arrangements of parts, that will be fully hereinafter set forth, and particularly pointed out in the claims appended.

30 The invention is extremely simple, and will be fully understood and appreciated from the drawings, when taken in connection with the following description.

35 The letter A designates the cylinder, and B the pointed strainer of the well, both of which parts are of the usual construction. Within the cylinder or tube A, and resting on the top of the strainer, is the rubber packing-ring C, which is of the usual construction, with the exception that it is beveled at its upper inner edge, as shown at a in Fig. 1, to facilitate the action of the spring extractors or catches.

45 D designates the tubular extracting-rod, which is provided at its lower end with external screw-threads. Screwed on the lower end of this tubular rod is a vertically-adjustable stop collar or sleeve E, the lower

end of which strikes and rests upon the upper end of the rubber ring C when the extractor-rod is forced down in the well; that portion of the rod below the adjustable collar projecting through and below the ring, as shown. By adjusting this stop-sleeve up or down rings of different lengths may be accommodated, as is evident.

The spring-catches F consist each of a leaf-spring portion b and a beveled nose or head b' , and they are inserted in the tubular rod, their beveled noses downward. There are preferably three of these catches secured in the tube at equal distances apart. They are preferably held securely in the tube by means of a triangular block G, secured in the tube a short distance from its lower end by means of a screw c , which latter is passed through the tube and tapped into the block, as shown, the upper ends of the spring portions b being secured to the respective faces of the triangular block. The beveled noses of the catches project normally out through slots in the lower end of the tubular rod, so that when the device is forced down in the well they will automatically catch under the lower end of the ring, the bevel a on the rubber ring and the bevel on the noses serving to facilitate in pressing the catches inwardly to pass the ring, as is obvious. When the device is thus inserted, the ring may be withdrawn by simply withdrawing the rod. The three catches, being equal distances apart, serve to hold the ring straight and prevent binding in the withdrawing operation.

Of course more than three spring-catches may be employed, if it is so desired.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An extracting-tool consisting of a tubular rod screw-threaded externally at its lower end, a vertically-adjustable collar tapped on this rod, and three or more spring-catches inserted in the said tubular rod and provided with beveled projecting noses, substantially as described.

2. The combination of a tubular rod D,

provided with vertical slots at its lower end,
a vertically-adjustable collar tapped upon
the lower end of this rod, a removable block
G, secured in the tube D, and the spring-
5 catches F, secured to the block G and pro-
vided with beveled noses which project out
through the notches in the lower end of the
said tube D, substantially as described.

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

JUSTIN H. HILL.

Witnesses:

RICE H. BELL,
WILLIAM HAGER.