

(No Model.)

3 Sheets—Sheet 1.

T. DE LA MARE & J. MECHAM.
APPARATUS FOR DRILLING WELLS.

No. 488,116.

Patented Dec. 13, 1892.

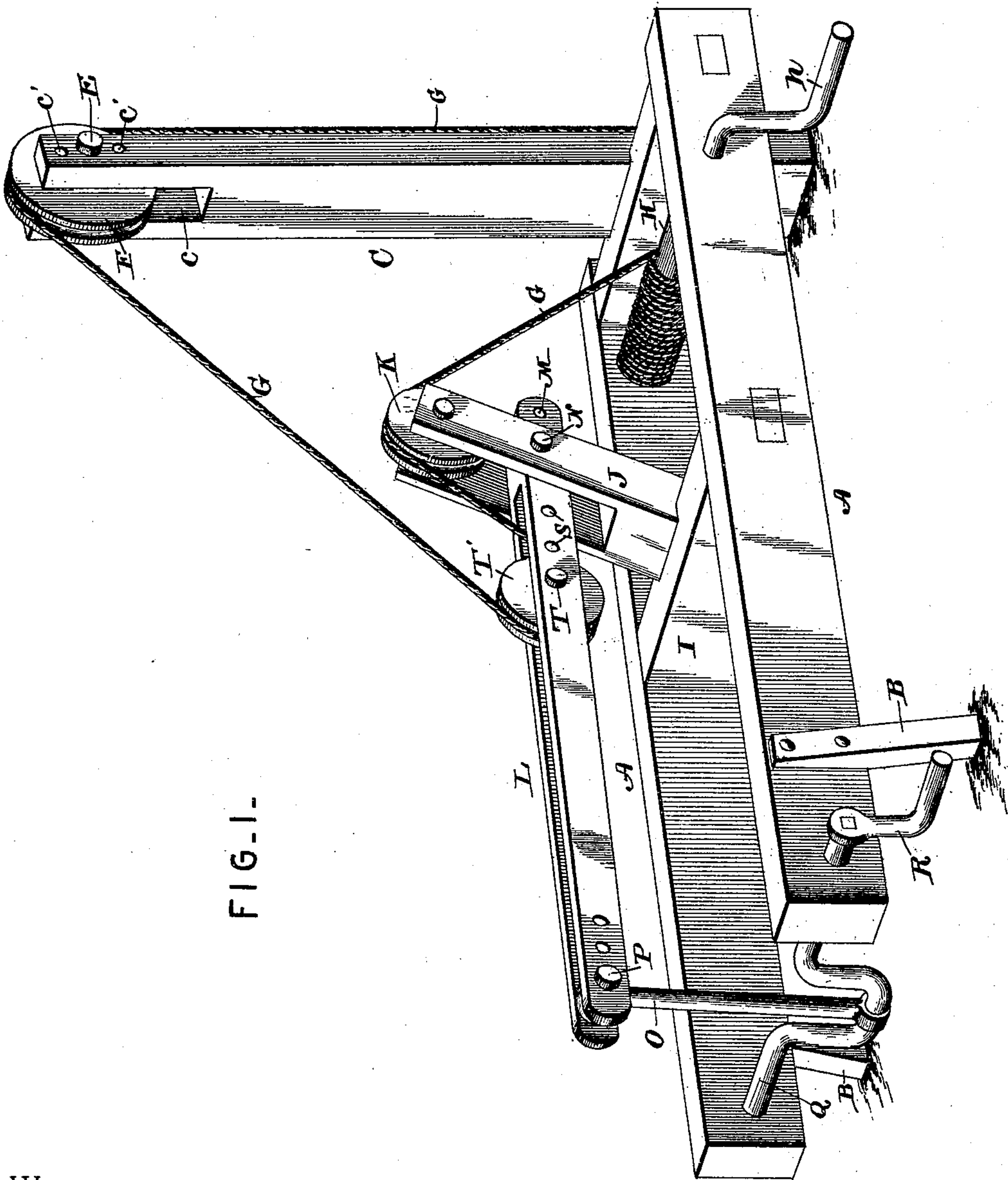


FIG. 1.

Witnesses

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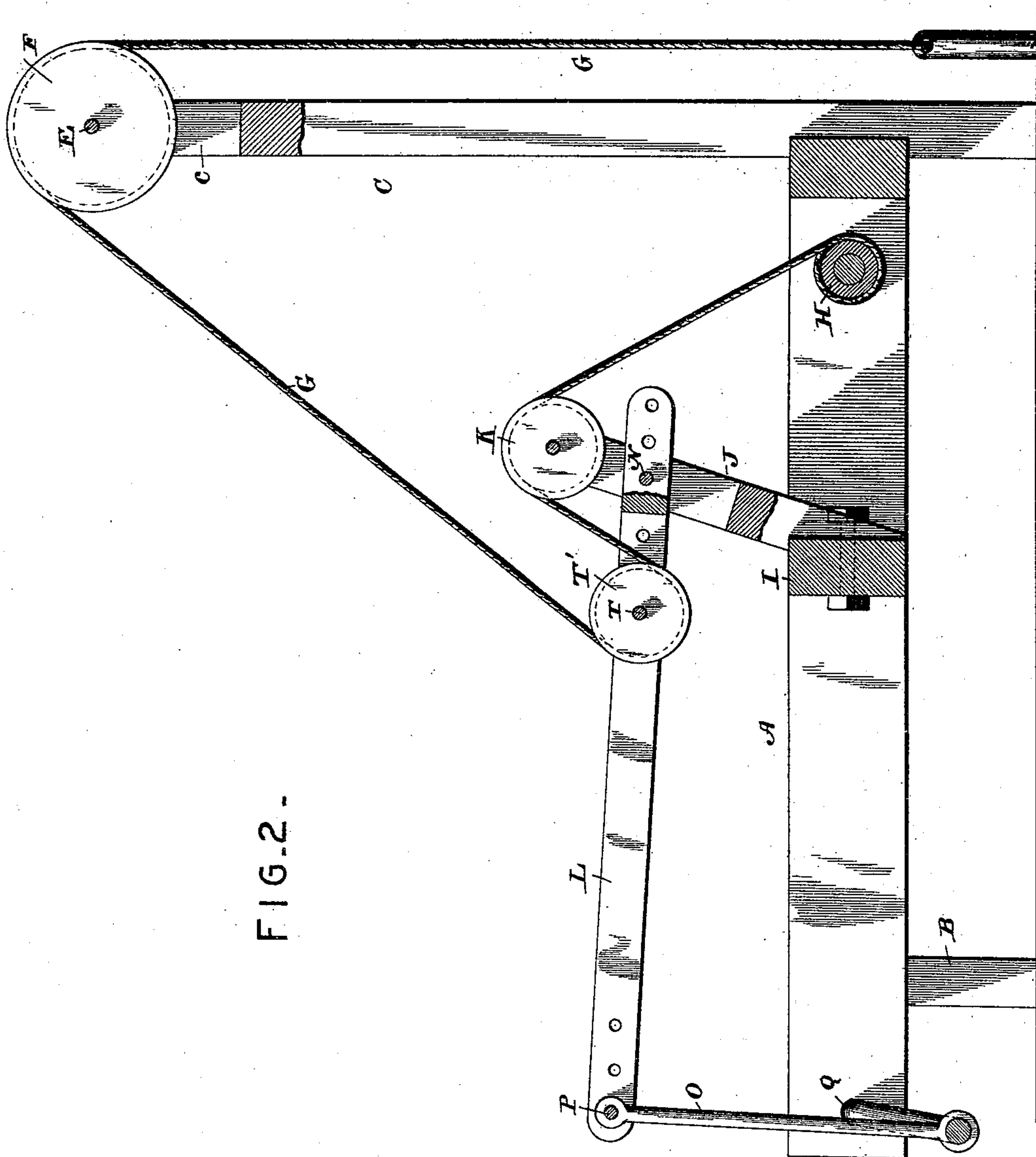
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3 Sheets—Sheet 2.

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No. 488,116.

Patented Dec. 13, 1892.



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(No Model.)

3 Sheets—Sheet 3.

T. DE LA MARE & J. MECHAM.
APPARATUS FOR DRILLING WELLS.

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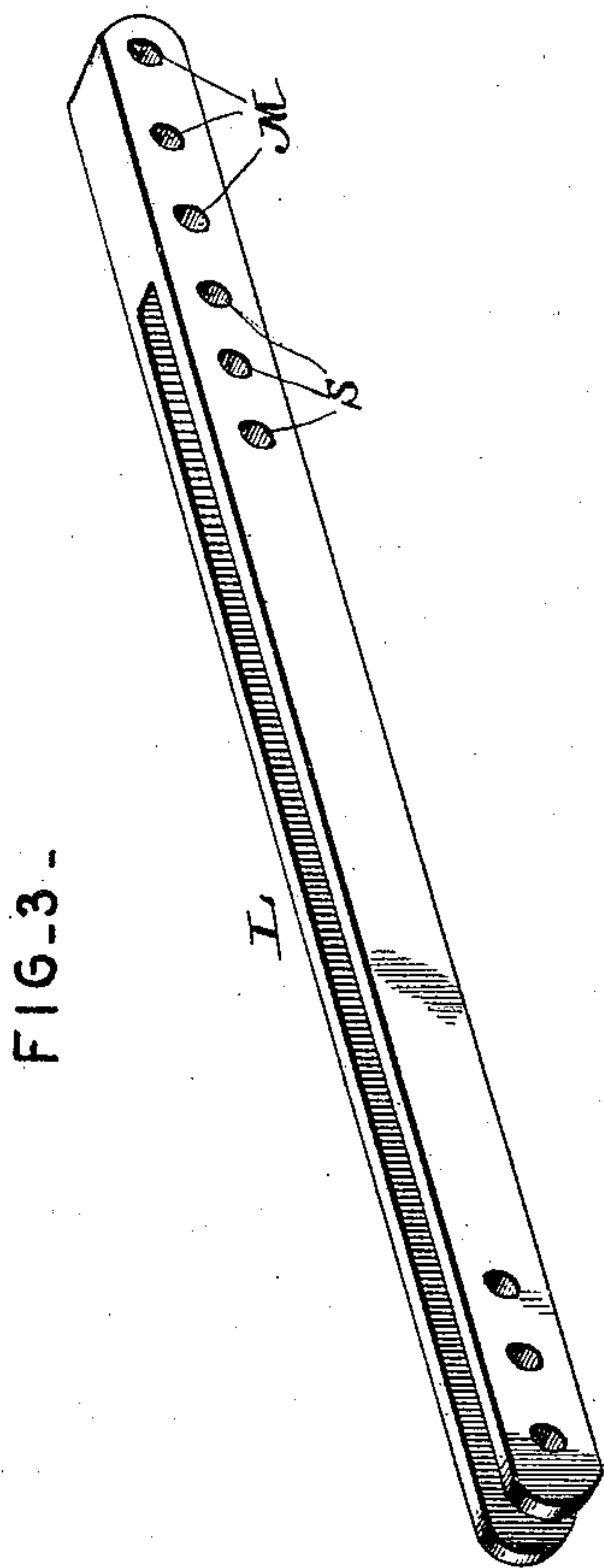


FIG. 3 -

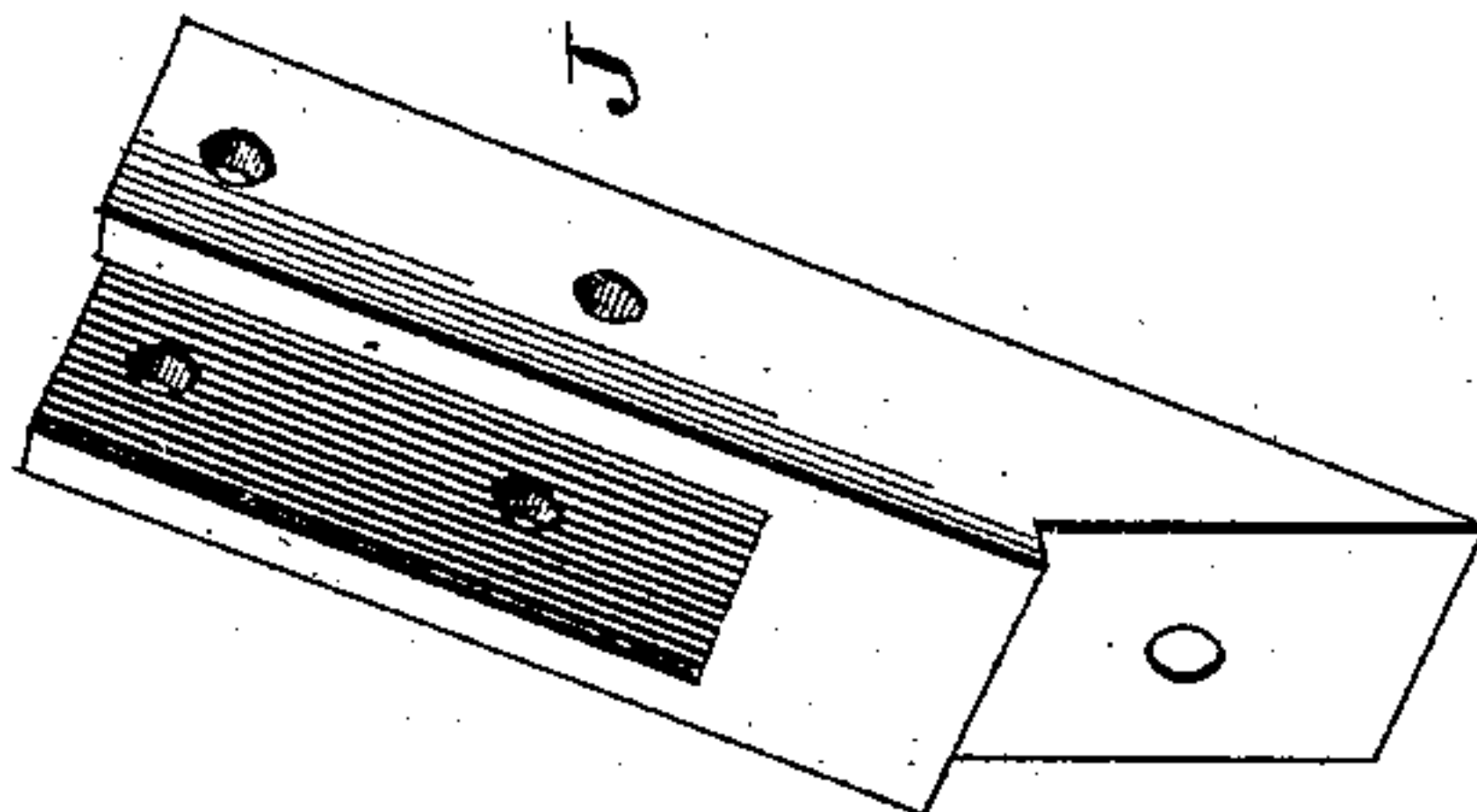


FIG. 4 -

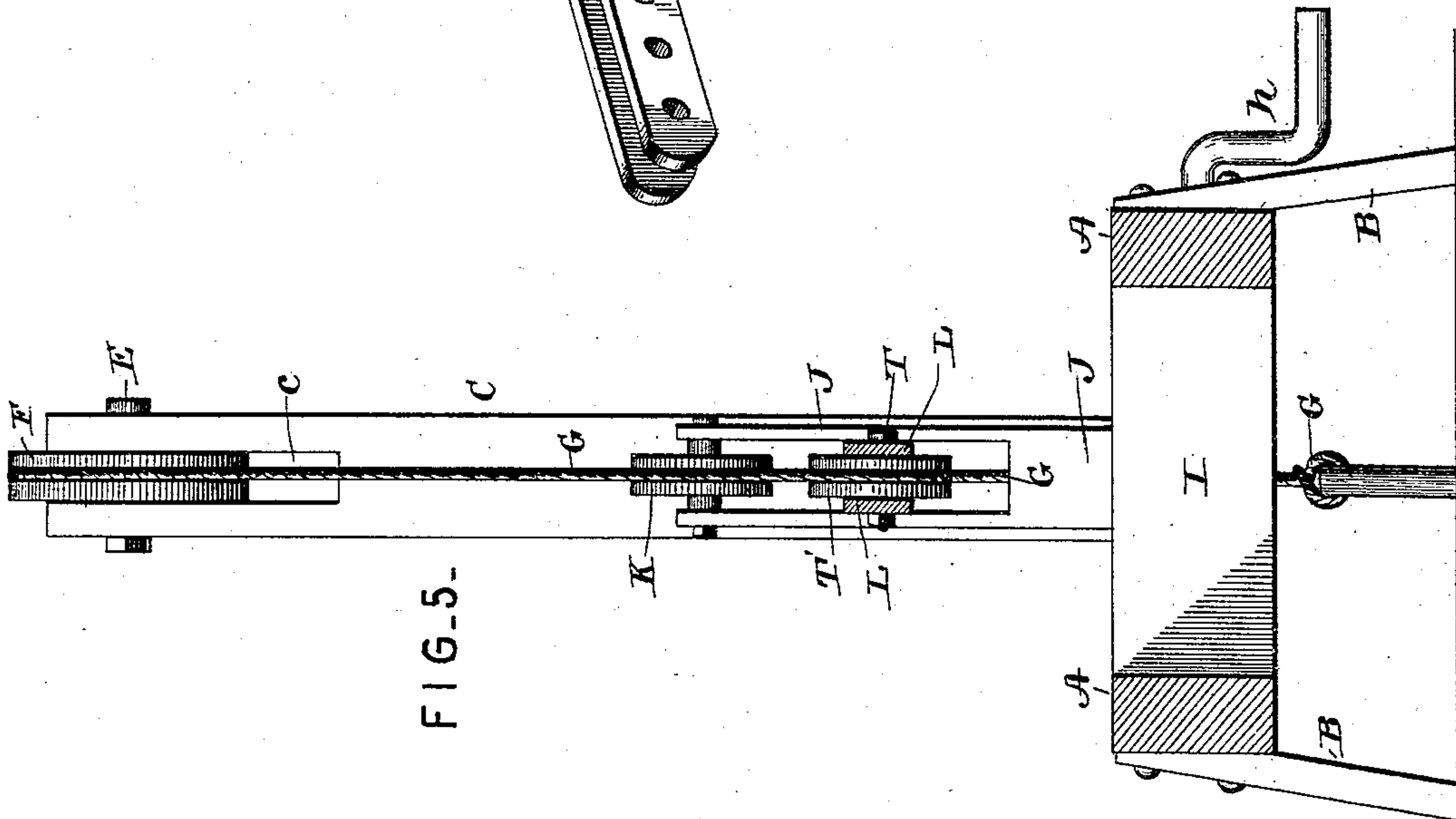


FIG. 5 -

Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS DE LA MARE AND JOSEPH MECHAM, OF TOOEELE, UTAH; SAID
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APPARATUS FOR DRILLING WELLS.

SPECIFICATION forming part of Letters Patent No. 488,116, dated December 13, 1892.

Application filed May 31, 1892. Serial No. 435,034. (No model.)

To all whom it may concern:

Be it known that we, THOMAS DE LA MARE and JOSEPH MECHAM, citizens of the United States, residing at Tooele, in the county of Tooele and Territory of Utah, have invented a new and useful Apparatus for Drilling Wells, of which the following is a specification.

This invention relates to apparatus for drilling wells; and it has for its object to provide an improvement in well-drilling apparatus wherein the drill is operated by the reciprocations of a walking-beam.

To this end it is the main object of the invention to provide an improved construction, whereby an increased leverage is attained which may be easily adjusted to various lengths of stroke, while at the same time the apparatus is simple in construction and easily manipulated, an important feature being that the same rope is used for drilling that is employed for removing the drills from the well.

With these and many other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a well-drilling apparatus constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a detail in perspective of the slotted walking-beam. Fig. 4 is a similar view of the bifurcated supporting-arms. Fig. 5 is a vertical transverse sectional view of the apparatus.

Referring to the accompanying drawings, A represents a suitable framework, rectangular in shape and supported upon the supporting-legs B and the derrick C, connected with one end thereof and extending above the same. The said derrick C is provided with an upper bifurcated end *c*, having a series of perforations *c'*, which adjustably receive the journal-bolt E, upon which and in said bifurcated end is journaled the grooved derrick-wheel F, over which passes one end of the drill-rope G, connected at one end to the ordinary drill and at the other end to the winding-drum H. The said winding-drum H is

provided at one end with the crank *h*, by means of which the same may be operated for paying out the drill-rope as the drilling progresses and for elevating the drills from the well when necessary. Directly in front of the winding-drum H and secured within the framework A is the cross-piece I, to which is secured the lower end of the bifurcated supporting-arm J. The said bifurcated supporting-arm J is fixedly secured to said cross-piece and inclines toward the derrick at one end of the frame and carries in the extreme upper end thereof the guide-pulley K, over which passes the drill-rope G from the drum when the apparatus is drilling. Pivoted at one end within the bifurcated supporting-arm J and under the guide-roller in the top thereof is the elongated horizontal slotted walking-beam or lever L. The said slotted walking-beam or lever is provided at each end thereof with a series of adjustment perforations M, so that the said lever can be adjustably mounted upon its pivot-bolt N within the inclined supporting-arm, and also adjustably connected at its outer swinging end to the swinging operating-pitman O. The said pitman O is pivotally mounted upon the bolt P, adjustably engaging the perforations in the outer slotted end of said lever and is loosely connected at its lower end with the operating crank-shaft Q, journaled in the end of the frame A, opposite to the derrick C. The said crank-shaft Q may be provided with an operating-eccentric connected with said pitman, so as to swing the walking-beam or lever, if found advisable, and is provided at one end with the operating crank-handle R, by means of which the same may be driven, which may, also, be of any other suitable power. The horizontal walking-beam L is further provided at a point adjacent to the pivoted end thereof with the auxiliary adjusting perforations S, which receive the pivot-bolt T, upon which is mounted the beam roller or pulley T', working within the slot of said lever and receiving the drill-rope G, which passes under the same from the adjacent guide-pulley K, and thence over the upper elevated derrick pulley or wheel F. It can be readily seen that the said horizontal walking-beam or lever can have the length thereof readily adjusted for giving the same

any length of stroke desired, and also that by adjusting the lever-roller T' to and from the adjacent guide-pulley K above the same the stroke may be correspondingly length-
5 ened and shortened, as the work may require, according to the depth of the well in which the drill plays.

Having thus described our invention, what we claim, and desire to secure by Letters Pat-
10 ent, is—

In an apparatus for drilling wells, the combination of the horizontal frame, a derrick secured to and supporting one end of the frame and provided with an upper bifurcated end, a
15 derrick-wheel adjustably mounted in said upper bifurcated end, a winding-drum journaled in the frame at the derrick end thereof and normally stationary, a bifurcated supporting-arm mounted in the frame and inclining toward
20 the derrick, a fixed guide-pulley journaled in the upper end of said arm, a horizontally-slotted walking-beam or lever having adjustment perforations at both ends and at an intermediate point, a pivot-bolt adjustably piv-
25 otting one end of the lever within said bifur-

cated arm below the upper fixed guide-roller, an operating crank-shaft journaled at one end of the frame, a connecting-rod connected to said shaft and adjustable in the perforations
30 at the free end of the walking-beam or lever, a rope-actuating roller or pulley having its journals adjustably mounted in the intermediate perforations of the slotted walking-beam or lever adjacent to and below the plane of
35 the guide-pulley, and the drill-rope winding on said winding-drum, passing therefrom over the top of the fixed guide-roller, thence through the walking-beam or lever and around the ad-
40 justable actuating-roller therein, and then over the top of the derrick-wheel to the drill, substantially as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

THOMAS DE LA MARE.
JOSEPH MECHAM.

Witnesses:

A. J. McCUISTION,
JAS. G. BROWN.