

No. 777,252.

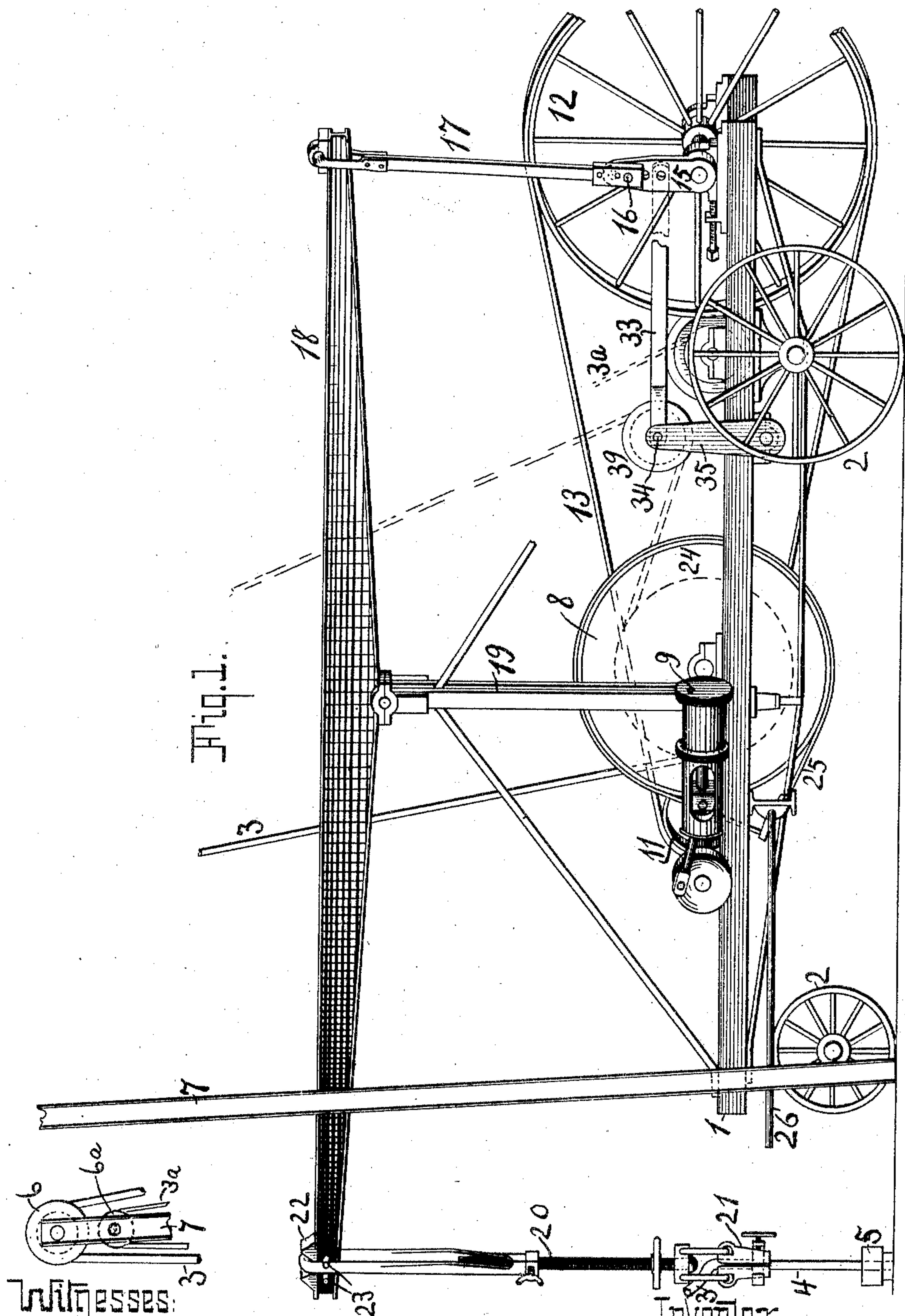
PATENTED DEC. 13, 1904.

C. E. GLENN.  
PORTABLE WELL MAKING MACHINERY.

APPLICATION FILED JULY 6, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



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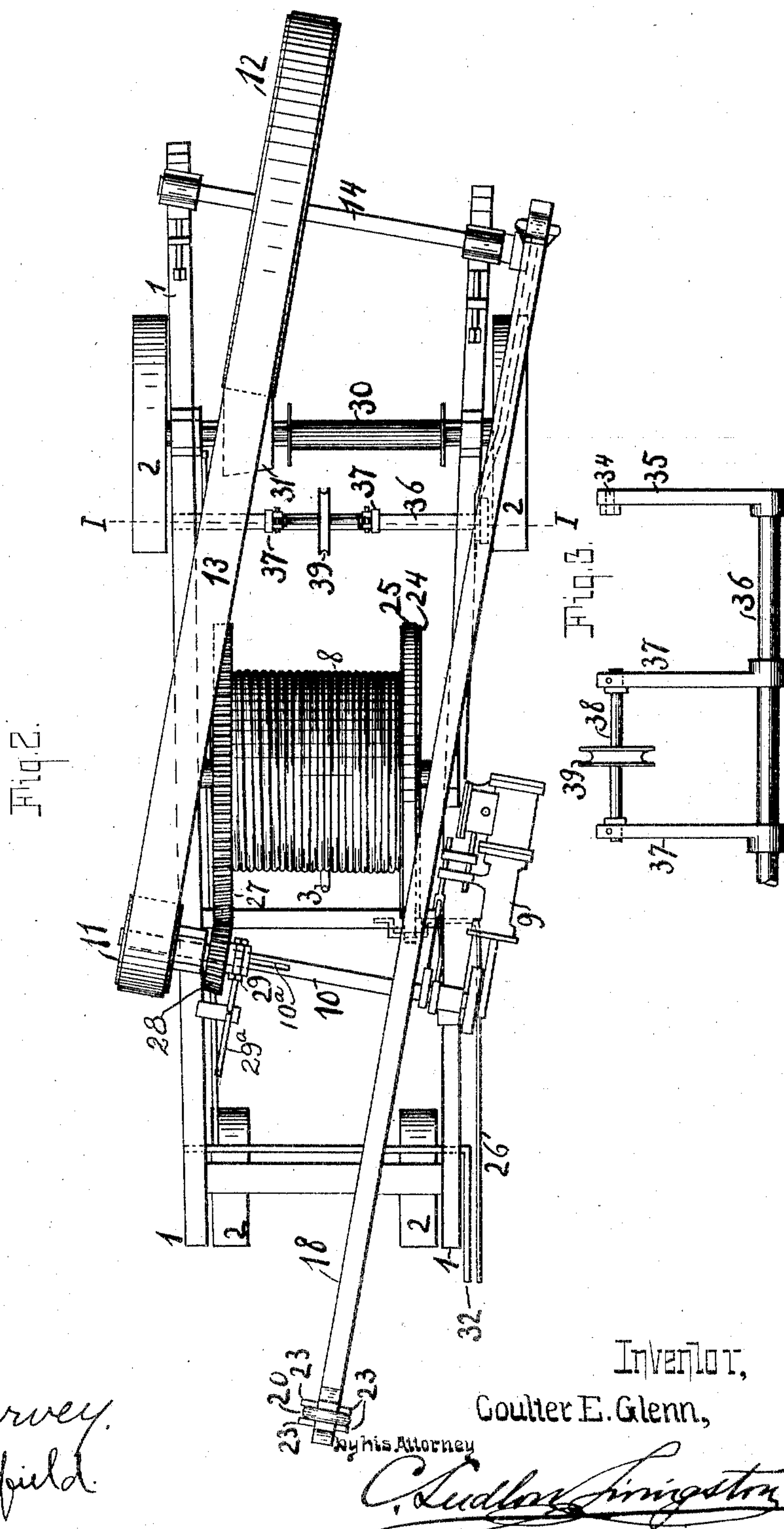
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# UNITED STATES PATENT OFFICE.

COULTER E. GLENN, OF OAKMONT, PENNSYLVANIA.

## PORTABLE WELL-MAKING MACHINERY.

SPECIFICATION forming part of Letters Patent No. 777,252, dated December 13, 1904.

Application filed July 6, 1904. Serial No. 215,486. (No model.)

*To all whom it may concern:*

Be it known that I, COULTER E. GLENN, a citizen of the United States, residing at Oakmont, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Portable Well-Making Machinery, of which the following is a specification.

My invention relates to well-making machinery, and more especially to that class known in the art as "rock-drilling" and "pipe-driving" machines; and it consists in the features of construction and the arrangements and combinations substantially as hereinafter more particularly set forth.

I am aware that there are many forms of well-drillers in practical use, some of which use a double walking-beam, while others use a single walking-beam. To secure efficiency of operation in single-beam machines, it is necessary that the end of the walking-beam be directly under the rope-wheel at top of the derrick and that the rope should hang in a center line running longitudinally through the supporting-frame of the machine. In practice it has been found necessary to connect the rear end of the single walking-beam to an outside crank on the crank-shaft, which said shaft and the driving parts have heretofore been placed square with the bed-frame of the machine, and this arrangement has been accompanied by the disadvantage of a wobbling motion due to the walking-beam not being square with the crank-shaft. The main purpose of my invention is to eliminate this wobbling motion incidental to the usual mode of arrangement of the single walking-beam, and I accomplish this end by placing the engine-shaft and crank-shaft square with the walking-beam and all of these parts out of square with the bed-frame, so that the front end of the walking-beam is directly over the well-hole, directly under the rope-wheel at top of the derrick, and centering with the bed-frame of the machine, thus bringing all working parts of the machine in line with the work to be done and obviating the wobbling motion incidental to the walking-beam when it is not set at a right angle with the crank-shaft. This wobbling

motion has been found in practice to shake the bolts loose and to twist the samson-post at every stroke of the tools and is very destructive of the machinery. As it is necessary to set the frame of the machine in such a position that a center line through the machine will pass directly over the drill-hole, so that the ropes or lines will properly spool on the rope-drum and bring an equal strain on all parts of the machine when pulling tools or heavy strings of casing out of the drill-hole, if a single walking-beam be used it must most conveniently be set at an angle with the bed-frame, and by the use of my invention the wobbling motion incidental to the usual arrangement may be avoided.

In the accompanying drawings, which form part of this specification, Figure 1 shows in elevation and partly in perspective a side view of a well-known form of a portable well-driller as modified by my improvements. Fig. 2 shows a plan view of the same machine and sets out the relative position of the various working parts in their relation to each other and to the bed-frame, as more fully set out below. Fig. 3 is a cross-section through the dotted lines I I, showing the construction of the spudding-in attachment.

Similar figures of reference designate corresponding parts in Figs. 1, 2, and 3 of the drawings.

Referring now to the drawings for a detailed description of my invention, numerals 1 1 represent the bed-frame of a portable driller, supported on the truck-wheels 2 2. The drilling-rope 3, attached to the drilling-tool 4 in the casing 5, passes over the rope-wheel 6 at the top of the derrick 7 to the reel 8. An engine or motor 9, attached to bed-frame 1 1, is connected to the driving-shaft 10, having thereon the driving-pulley 11, driving the pulley 12 by means of the belt 13, revolving the shaft 14, attached by suitable pillow-blocks to the bed-frame 1 1 and set out of square with said bed-frame and parallel with shaft 10. Pulleys 11 and 12 are thus set in line with each other, so that a belt will run true on them. Upon the opposite end of shaft 14 is a crank 15, which carries wrist-pin



16, on which is journaled the pitman 17, the upper end of which is suitably fastened to the walking-beam 18, which is supported by a samson-post 19, attached to the bed-frame

5 11. Temper-screw 20 passes over and around the end of walking-beam 18 and rests in the cradle 22 and is limited in its lateral movement by the pins 23 23. The clamp 21 permits the attachment of the drilling-rope 3 to  
10 temper-screw 20.

The walking-beam 18 is set at a right angle with the shafts 10 and 14, so that there will be no sidewise or lateral motion to the beam when in action, which occurs in all cases  
15 where a single beam is used working out of line with the frame. Rope-reel 8 is furnished on one end with brake-wheel 24, provided with brake-band 25 and lever 26 of any ordinary design. On opposite side of reel 8 is a  
20 bevel-gear 27, meshing with the beveled pinion 28, attached to the shaft 10 by means of a spline-key in the collar 29 and capable of being moved along said shaft into or out of mesh with gear 27 by means of the lever 29<sup>a</sup>.  
25 10<sup>a</sup> is a spline-key seat in shaft 10. A rope 3<sup>a</sup>, attached to a bailer of any ordinary construction, passes over the pulley 6<sup>a</sup> to the sand-reel 30, driven by a beveled friction-wheel 31, thrown into contact with belt-pulley 12 by  
30 means of the lever 32.

When spudding attachment is used, pitman 17 having first been disconnected, the pitman 33 is connected to wrist-pins 16 and 34 in spudding-crank 35 on one end of spudding-shaft  
35 36, journaled on bed-frame 11. This shaft 36 carries two cranks 37 37, through the outer ends of which runs shaft 38, which carries rope-wheel 39, around which may be passed the drill-rope 3, as shown in dotted lines.  
40 The operation of my device corresponds in most respects with the usual modes of operation well known in the art of well-drilling, and I will therefore not set forth same in this specification.

45 My principal improvement consists in the correlative arrangement of the moving parts and their respective positions with regard to each other. Another novel and useful improvement is the method in which I attach the

temper-screw 20 upon the end of the walking- 50 beam, as more fully set forth above.

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

1. In a portable well-driller the combination 55 with a walking-beam out of square with the bed-frame of the driller, of a crank-shaft square with said walking-beam, substantially as described.

2. In a well-drilling machine the combina- 60 tion with a walking-beam out of square with the bed-frame, of means of operating said walking-beam alined with said walking-beam and out of line with the bed-frame of said machine. 65

3. In a portable well-driller the combination with a walking-beam, engine, pulleys and belt in parallel with each other and at an angle with the bed-frame of the driller of an engine-shaft and crank-shaft square with said walk- 70 ing-beam.

4. In a portable well-driller the combination with a walking-beam of a crank-shaft at right angles therewith and out of square with the bed-frame of the driller. 75

5. In a portable well-driller the combination of a bed-frame a walking-beam supported obliquely thereon and means of operating said walking-beam and alined therewith.

6. In a well-driller in combination with a 80 bed-frame, a walking-beam, engine, engine-shaft, crank-shaft and connecting parts all in alinement with each other supported askew on said bed-frame.

7. In a portable well-driller the combination 85 with a bed-frame a rope reel or reels thereon and square therewith of a walking-beam supported obliquely on said bed-frame and means for operating said walking-beam and in aline- 90 ment therewith.

In testimony whereof I have hereunto set my hand in the presence of two witnesses, whose signatures are subscribed.

COULTER E. GLENN.

Witnesses:

HARRY C. WALLEY,  
LESLIE C. GIRTS.