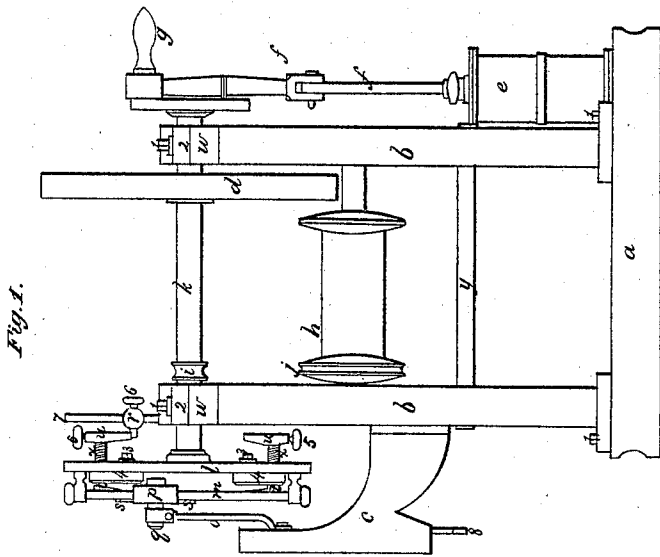


*R. H. Lecky,*

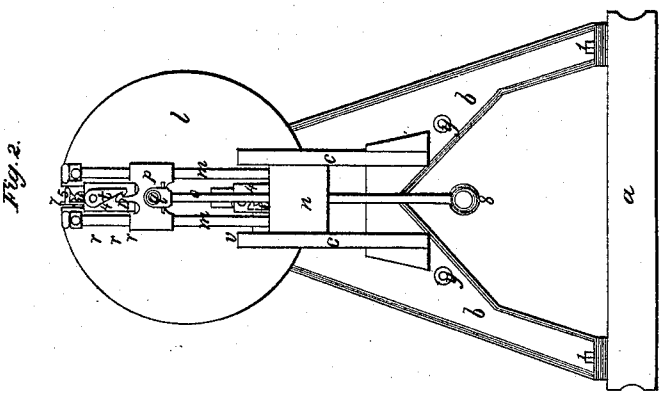
*Artesian Well Drill and Pump.*

*N<sup>o</sup> 33,351.*

*Patented Sep. 24, 1861.*



*Fig. 1.*



*Fig. 2.*

*Witnesses*

*James Johnston*  
*G. P. Steck*

*Inventor.*

*R. H. Lecky*

# UNITED STATES PATENT OFFICE.

ROBERT H. LECKY, OF ALLEGHENY CITY, PENNSYLVANIA.

## IMPROVED MACHINE FOR DRILLING OIL-WELLS.

Specification forming part of Letters Patent No. 33,351, dated September 24, 1861.

To all whom it may concern:

Be it known that I, ROBERT H. LECKY, of the city and county of Allegheny and State of Pennsylvania, have invented a new and Improved Machine for Drilling and Pumping Oil-Wells; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

The nature of my invention consists in the use and arrangement of a drop-head, catches, tripper, revolving slides, and sliding head, the whole being arranged, constructed, and operated in the manner hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, Figure 1 is a side view of the machine. Fig. 2 is an end view of the same.

*a* is the base of the machine.

*b* is the frame, which is bolted to the base *a* by means of bolts or screws 1.

*y* are rods, which are used for the purpose of steadying and preventing the frame from spreading apart.

*w* are the journal-boxes of the shaft *k*.

2 are the caps of the journal-boxes, and are held to their place by means of bolts 1.

*i* is a small pulley on shaft *k*, and is used in connection with the large pulley *j* for driving the hoisting-drum *h*.

*d* is a balance-wheel.

*e* is the cylinder of the driving-engine.

*f'* is the piston-rod.

*f* is the pitman.

*g* is the crank.

7 is a rod used for holding the tripper *r*, which is held in the desired position on the rod 7 by means of the set-screw 6.

On the end of the shaft *k* is secured the disk *l*, in which are two slots, in which are placed the butments, (marked 4,) which are held in their proper position by means of the set-screws 3.

*v* are marks or a scale used regulating the position of the butments 4 in the slots of the disk *l*. To the butments are attached the catches *t*, which are moved by the triggers

*u*. The catches *t* and triggers *u* are held in their proper position by the spiral springs *x*. The triggers *u* may be set at any desired angle by means of the set-screws 5.

*m* are the slides for the drop-head *p*, and are secured to the disk *l*. The drop-head *p* slides upon the slides *m* and is furnished with two catches *s*. The ends of the catches *s* and *t* are beveled off, so that they may pass each other and lock the spring *x*, allowing the catches *t* to yield for that purpose.

*c* are the slides of the sliding head *n*, which is connected to the drop-head *p* by means of rod *o*, which is held to the wrist *q* by means of a strap and key, forming what is called a "strap-joint."

To the sliding head *n* is attached the rod 8, to which the drilling-tools are attached.

The operation of my improvement is as follows: Having all things arranged and constructed as described and represented, power is applied to the crank *g*, which will cause the disk *l* to revolve, which will bring the triggers *u* in contact with the tripper *r*, and thereby uncouple the catches *s* and *t*, which will allow the drop-head *p* and the sliding head *n* to drop. At each drop of the heads *p* and *n* the catches *s* and *t* become locked and remain so until the triggers *u* again come in contact with the tripper *r*, which will again uncouple them and allow the heads to drop. The stroke of the drilling-tool is regulated by moving the butments in or out from the center of the disk *l*. For a long stroke they are moved out from the center. For a short stroke they are moved in toward the center.

It will be observed that by my improved drilling-machine a quick stroke is imparted to the drilling-tool, and that it will answer for pumping as well as for drilling oil-wells.

Having thus described the nature, construction, and operation of my invention, what I claim as of my invention, and desire to secure by Letters Patent of the United States, is—

1. The use of drop *p*, having a revolving and perpendicular motion and used in combination with the self-acting catches *t* and tripper *r*, as herein described, and for the purpose set forth.

2. The use of the revolving slides *m* when used in connection with the drop *p* or the equivalent of said drop, as herein described, and for the purpose set forth.

3. The arrangement of the rod 7, tripper *r*, butments 4, sliding head *n*, and rods *o* and 8, when used in combination with the drop *p*

and revolving slides *m*, as herein described, and for the purpose set forth.

R. H. LECKY.

Witnesses:

GEORGE P. STECK,  
JAMES MILLER.