

*Mc Gill & Gibson,
Boring Artesian Wells.*

Nº 53,022.

Patented Mar. 6, 1866.

Fig. 1

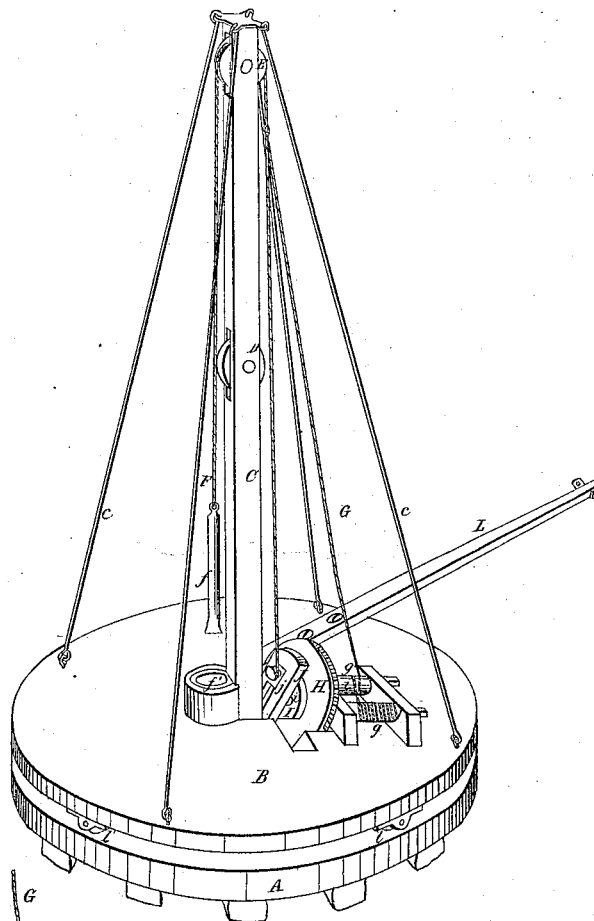


Fig. 4

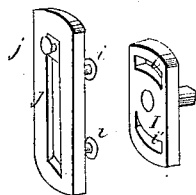


Fig. 2

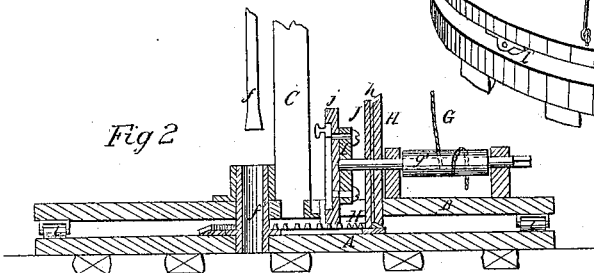
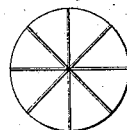


Fig. 3



Witnesses

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Inventor

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UNITED STATES PATENT OFFICE.

W. C. MCGILL AND A. J. GIBSON, OF CINCINNATI, OHIO.

IMPROVED DRILLING AND HOISTING MACHINE.

Specification forming part of Letters Patent No. 53,022, dated March 6, 1866.

To all whom it may concern:

Be it known that we, W. C. MCGILL and A. J. GIBSON, of Cincinnati, in the State of Ohio, have invented a new and useful Improvement in Drilling-Machines for Drilling for Oil, of which the following is a full and clear description thereof, reference being had to the accompanying drawings, making a part of this specification.

Our invention relates to a revolving platform, derrick, and drill, with an independent drop of the drill and derrick and windlass for elevating the tools for the purpose of drilling.

Figure 1 is a perspective view of our improved drilling-machine. Fig. 2 is a sectional view taken longitudinally through our machine. Fig. 3 is a diagram showing the revolution of the drill, the red lines indicating each drop of the drill. Fig. 4 is a perspective view of our device for dropping the drill and elevating it in one half-revolution.

A is a flooring, above which revolves the revolving platform B upon rollers *l*. Platform B may be moved by sweep L. Situated nearly centrally, and vertically situated, also, is the standard C, which bears the sheaves D for elevating and lowering the sand-box and E for operating drill *f* by means of cord F, which passes over it. Cord F is secured to sliding block *j*, which moves freely in a groove in the revolving cam J. On the opposite face of cam J project, from near its ends, pins *i*, constructed so as to move freely in the circular slots *i'* in double lever I. Lever I is permanently secured to the axle, which bears the drum *g'* and also the gear-wheel H, which meshes in the stationary gear H'. *h* is a plane surface of the gear-wheel H, which traverses upon a tramway inside of the toothed gearing. *c* are guys for permanently securing in position the standard C.

Cord G is attached to cord F and passes around the drum *g'*, from which it passes to *g*, about which it is coiled. *f'* is a well-hole passing through the center of the drilling-machine.

Operation: The platform B is revolved, which causes the gear-wheel H to revolve, since it meshes into the stationary gear H'. Motion is thus given to the double lever I secured to the same axle. The revolving cam J is drawn around with the lever I, which elevates drill *f*. The sliding block *j*, when the revolving cam J is at an angle of about forty-five degrees, will slip up the slot in J. To facilitate said movement, to insure a rapid descent of the drill, the double lever I is connected with it, by means of which a vibratory motion is given the cam J.

By means of the revolving platform in connection with the machinery the drill is caused to cut the rock or earth at regular angles, very much economizing in the operation of drilling.

Drum *g* contains the bulk of the rope which is passed about drum *g'*. As the drill passes down the rope G is allowed to pay out, cord F being secured at intervals at other points.

The platform B rests upon rollers outwardly at *l*, also the plane revolving surface *h*, which traverses the tramway within the stationary gear. This gives support to the center of the platform B.

Having described our invention, the uses and operation of its various parts, we make the following claims:

1. The revolving platform and derrick, as and for the purpose herein described and set forth.
2. The revolving derrick and drill, combined and operating substantially as herein described.
3. Slides and parts I, *i'*, J, *j*, and *i*, in combination with cord F.
4. The combination of the revolving platform B, drum or windlass *g'*, and derrick, for the purpose hereinbefore mentioned.

W. C. MCGILL.
A. J. GIBSON.

Attest:

WM. DOEGEN,
CARLO STEPHO.