O. Wheeler,

Boring Artesian Wells,

No. 53,715. Patented Apr. 3, 1866.

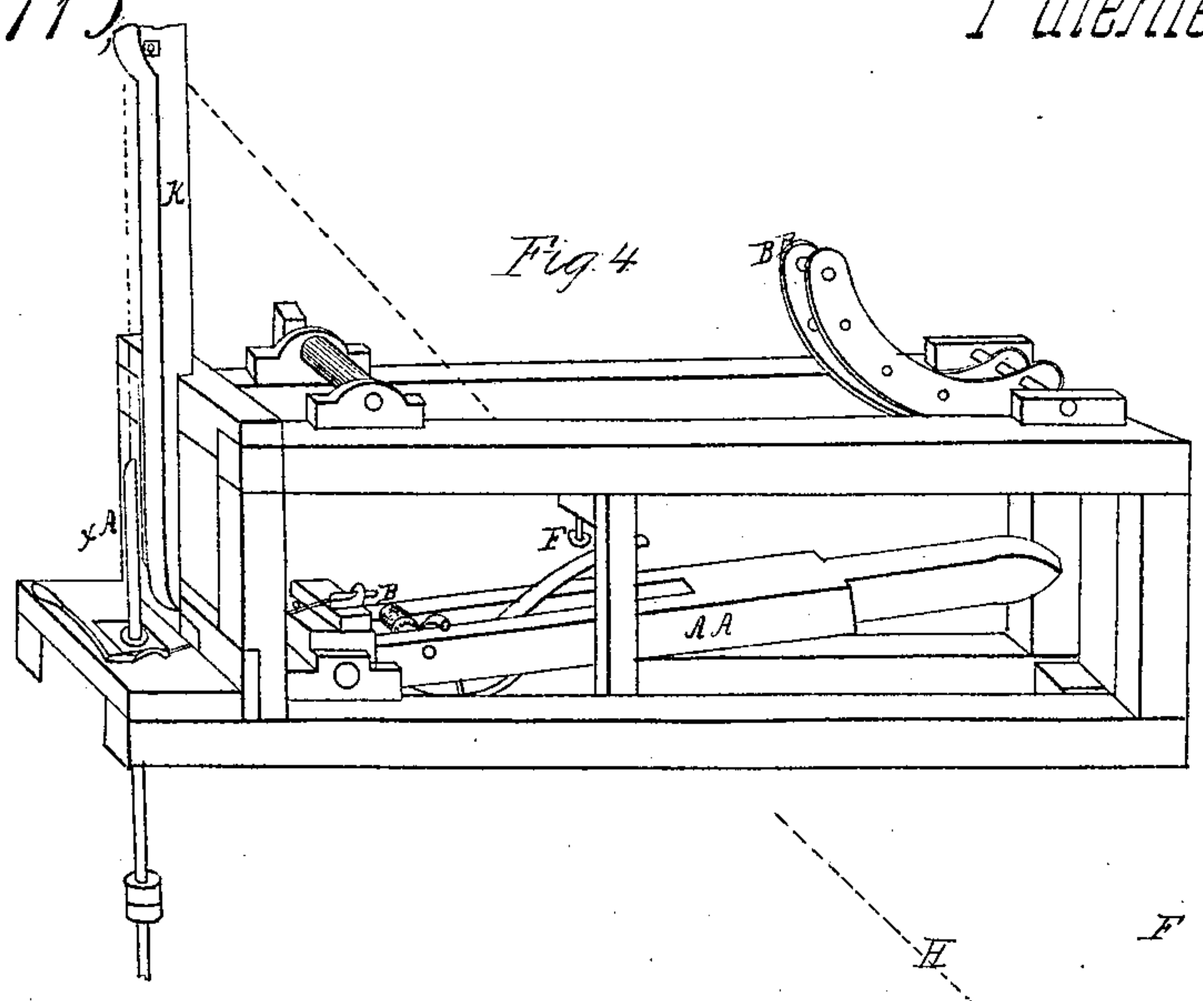

Fig. 4

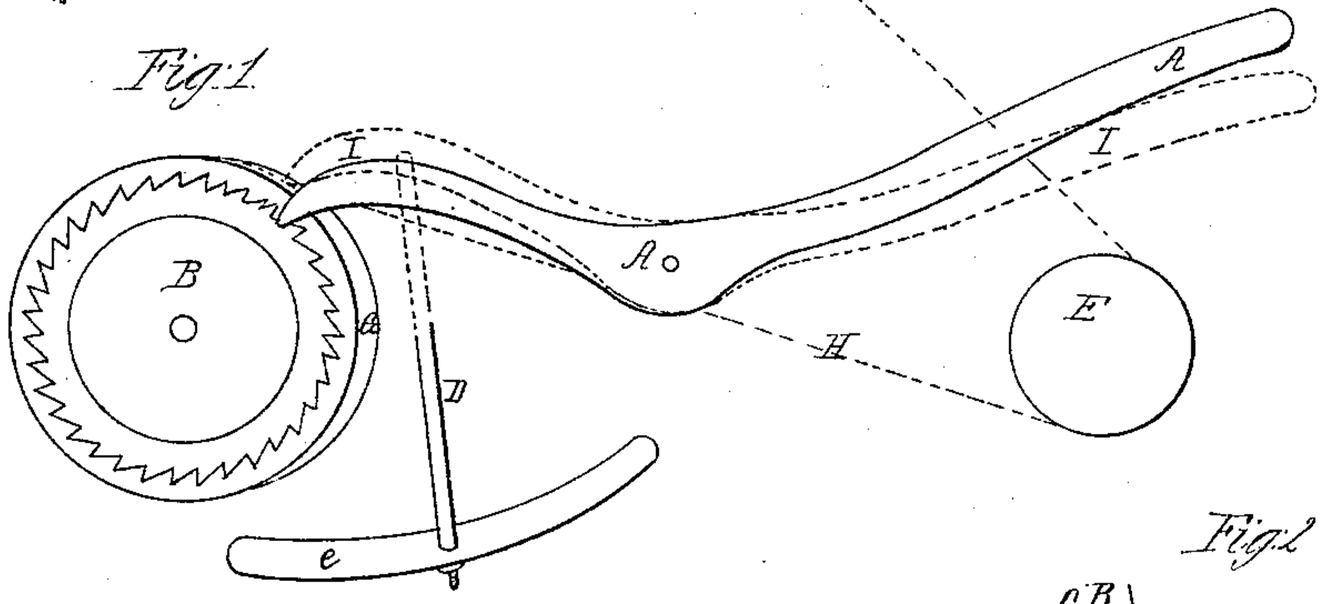

Fig. 1

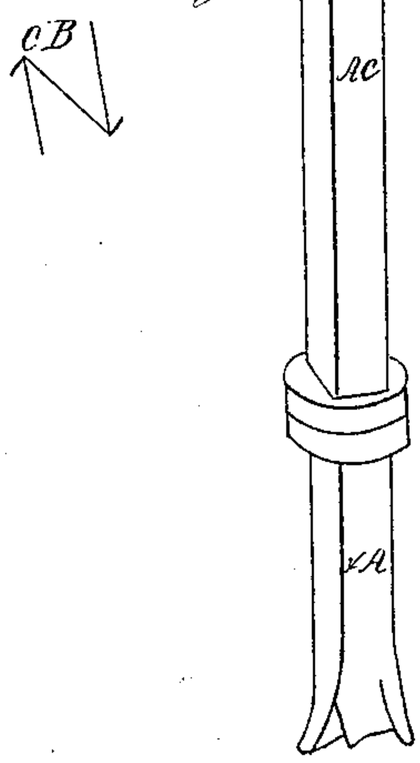

Fig. 2

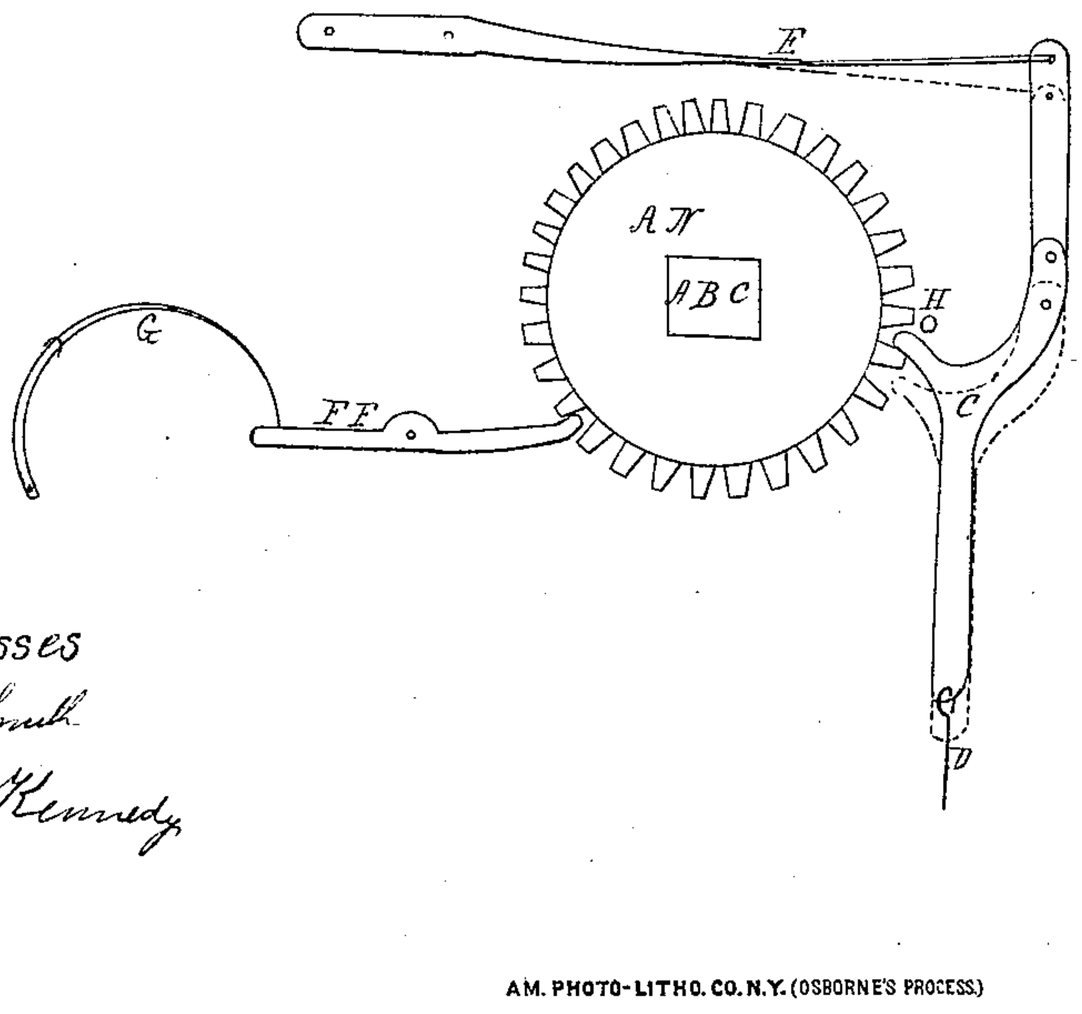

Fig. 3

Witnesses
James Smith
Nelson Kennedy

UNITED STATES PATENT OFFICE.

DANIEL WHEELER, OF DECORAH, IOWA.

IMPROVEMENT IN BORING ARTESIAN WELLS.

Specification forming part of Letters Patent No. **53,715**, dated April 3, 1866.

To all whom it may concern:

Be it known that I, DANIEL WHEELER, of Decorah, in the county of Winnesheik and State of Iowa, have invented a new and useful Improvement in the Machine for Boring Artesian Wells; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figures 1, 2, and 3 are detached parts, showing the nature of my improvement. Fig. 4 is a perspective view of the whole machine.

This invention relates, first, to an improved mode of unwinding or uncoiling the rope to which the drill-rod is suspended as the drill pierces the rock; second, automatically turning the drill at each stroke, which in other boring-machines is now done by hand; third, a drill with its cutting-edge so shaped as to more effectually pierce the rock.

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

The ratchet-wheel B, Fig. 1, is attached to the end of the roller on which the rope H H is wound. The catch A, Fig. 1, which works in the ratchet-wheel, prevents the rope from unwinding. The rope H H passes around another roller, E, Fig. 1, and from thence up over the derrick K, Fig. 4, to the drill-rod X A, Fig. 4, the rollers B and E and catch A, Fig. 1, being attached to lever A A, Fig. 4, and as the stirrup B B, Fig. 4, revolves it presses the lever A A down, and by means of the rope raises the drill. As the stirrup passes on it relieves the lever and allows the weight of the drill and rods to draw it up. As the drill works into the rock the rope raises the lever farther until the upper end of the catch A, Fig. 1, strikes the stop F, Figs. 1 and 4, thus raising the lower end of catch and allowing the ratchet-wheel to turn one cog, thus unwinding the rope, when the action of spring C C, Fig. 1, immediately draws the catch back again.

A N, Fig. 3, represent a metal cog-wheel with a square hole through its center, through which the drill-rod works up and down. The dog C, Fig. 3, has its end at D attached to the top of the axle on which the lever A A, Fig. 4, works, and which is also a part of said lever. As the lever is pressed down by the stirrup B B, Fig. 4, the dog C, Fig. 3, is drawn so as to turn the cog-wheel one cog, thus turning the drill, while the stationary dog F F, held by its spring G, Fig. 3, holds the cog-wheel stationary till the next revolution of the machine.

X A, Fig. 2, represent the drill with its square rod A C attached. C B, Fig. 2, represent the improved shape of the cutting-edge of drill.

As drills are commonly made the cutting-edge radiates from the center of the drill, thus cutting in nearly parallel lines, while this drill, being shaped as shown at C B, Fig. 2, possesses cutting-edges which work nearly at right angles, or cross-cuts its work, thus more effectually reducing the surface of the rock.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of stop F, catch A, and ratchet B, in combination with rollers B and E or any equivalent contrivance, working substantially as described.

2. The cog-wheel A N, with the square hole A B for the drill-rod to work in, in combination with the moving dog C, stop-dog F F, and spring E, connected with dog C, or an equivalent contrivance, working substantially as described.

DANIEL WHEELER.

Witnesses:
HENRY KELLY,
JOS. KELLY.