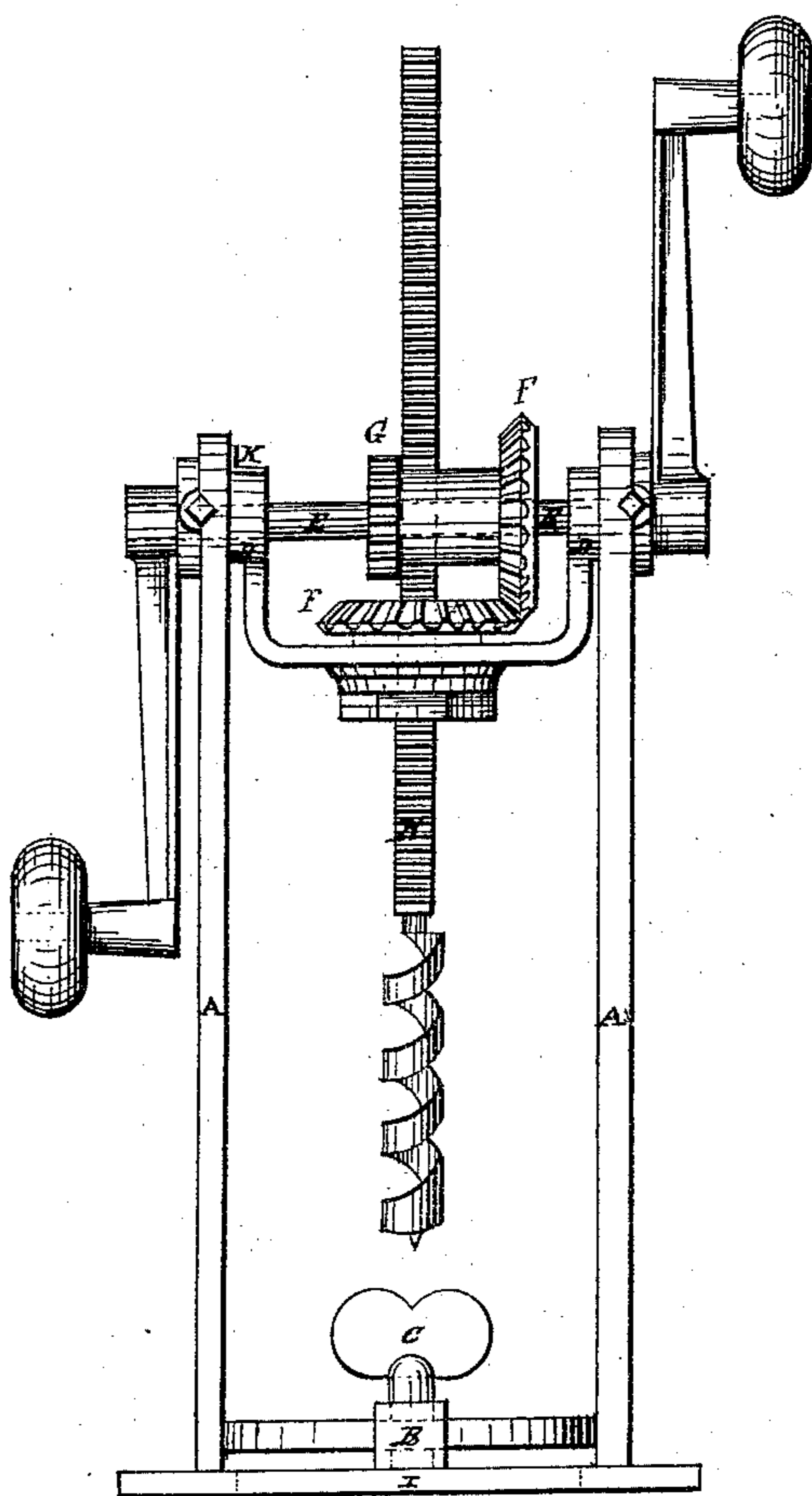


G. S. DERR.  
WOOD-BORING MACHINE.

No. 184,065.

Patented Nov. 7, 1876.



Witnesses:

Martin Connolly  
J. H. Hume

Inventor

George S. Derr.

# UNITED STATES PATENT OFFICE.

GEORGE S. DERR, OF SOUTH BEND, INDIANA.

## IMPROVEMENT IN WOOD-BORING MACHINES.

Specification forming part of Letters Patent No. **184,065**, dated November 7, 1876; application filed October 26, 1876.

*To all whom it may concern:*

Be it known that I, GEORGE S. DERR, of the city of South Bend, in the county of St. Joseph and State of Indiana, have invented a new and useful Improvement in Boring-Machines, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing.

The figure in the drawings represents a side elevation of my machine.

The object of my invention is to construct a machine by means of which I am enabled to bore at any angle or at any depth; and the nature thereof consists in the combination of the devices employed, as more fully hereinafter set forth.

A A are the supports; B B, the reversible fastenings; C C, the fastening-screws; D D, trunnions connected with gear-support; E, the driving-shaft; F F, the driving-gear; G, lifting-pinion; H, the auger-shaft; K, the angle-indicator, provided with a threaded socket. The machine is fastened to the material to be bored (represented in the drawing by I) by passing the screws C C through the reversible fastenings B B, into said material. A bit of the requisite size is screwed into the socket of the auger-shaft. The auger or bit is placed against the material to be bored at the angle

required. The crank is then turned, and the hole bored. To withdraw the auger or bit, the driving-gear is thrown out of gear, which brings the lifting-pinion G into gear with a rack upon the auger-shaft. The motion of the crank is reversed, and the bit or auger is withdrawn from the hole. The auger-shaft is caused to turn by a key placed in the driving-gear and fitting in a slot in the shaft, permitting said shaft to slide upon it.

To bore a hole deeper than can be bored by the auger-shaft represented in the present application, I attach a similar shaft to the one shown, by screwing it into the top of it.

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

The frame or supports A A, provided with the reversible fastenings B B and screws C C, in combination with a gear-support mounted on the trunnions D D, the auger-shaft H, driving-shaft E, bevel-gears F F, and lifting-pinion G, all constructed to operate substantially as and for the purpose specified.

GEORGE S. DERR.

Witnesses:

MARTIN CONNOLLY,  
H. A. STEWARD.