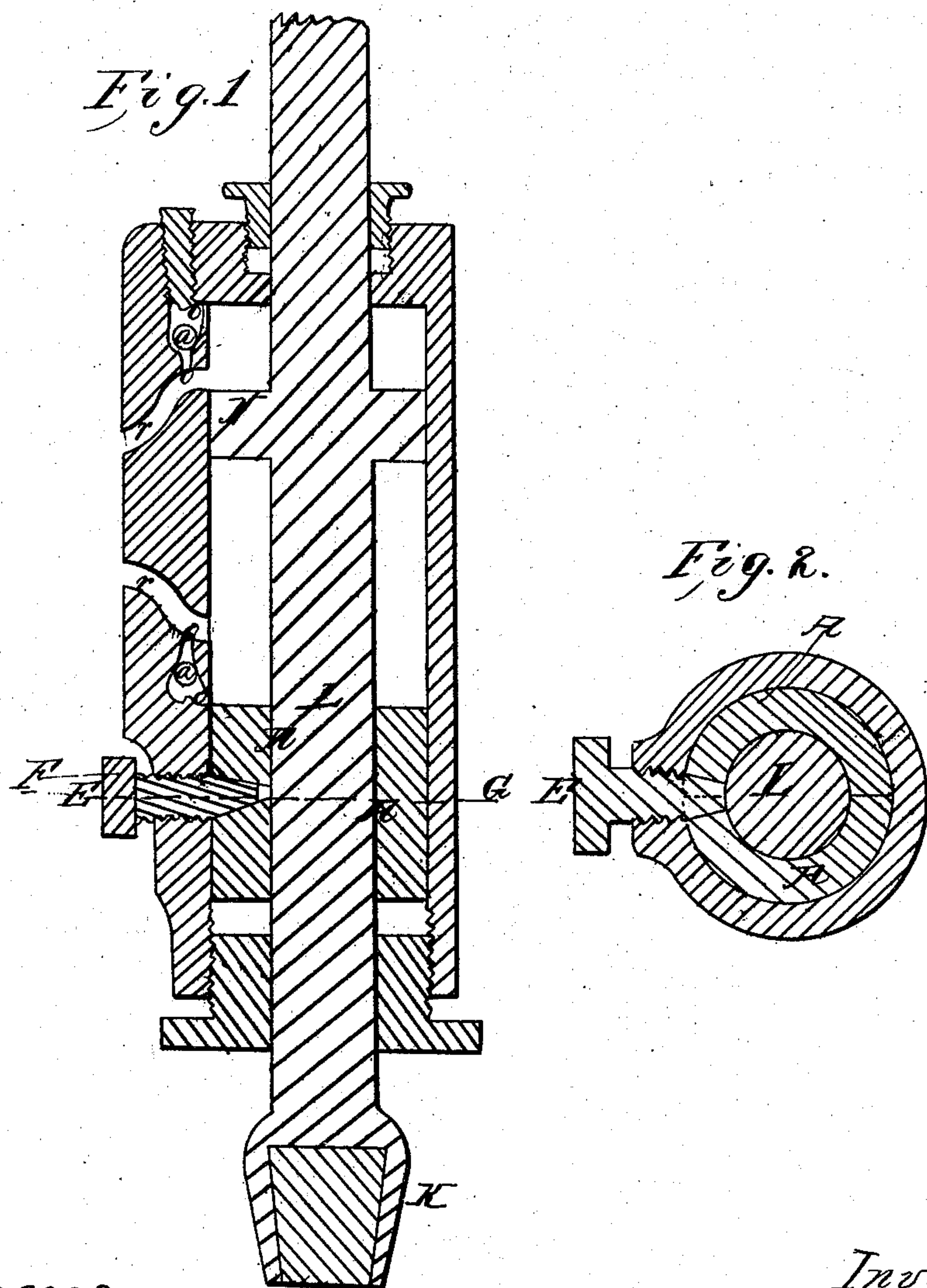


Wood & Robinson,  
 Steam Rock Drill.  
 N<sup>o</sup> 78,853. Patented June 9, 1868.



Witnesses  
 Dr. J. W. L. L. L.  
 Ashur A. Terry

Inventor  
 De Volson Wood.  
 Stillman W. Robinson.

# United States Patent Office.

DE VOLSON WOOD AND STILLMAN W. ROBINSON, OF ANN ARBOR, MICHIGAN.

*Letters Patent No. 78,853, dated June 9, 1868; antedated March 31, 1868.*

## IMPROVEMENT IN STEAM-ENGINES.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, DE VOLSON WOOD and STILLMAN W. ROBINSON, both of the city of Ann Arbor, county of Washtenaw, and State of Michigan, have invented new and useful Improvements on Machines for Drilling Rocks, Channelling and Cutting Stone; and we 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—

Figure 1 is a longitudinal section through the centre of the piston-rod and steam-passages.

Figure 2 is a cross-section through F G of fig. 1.

Our improvement consists in so constructing the cylinder-heads, that the piston-rod L, piston N, enlargement K, for the tool-holder, and an enlargement at the rear end if necessary, may be a single solid piece. They are constructed as follows: A short cylindrical annulus, composed of two or more segmental pieces A A, and fitted to the bore of the cylinder, and the rod L is entered the cylinder to serve as a head, and is held in place by one or more screws E. The follower may be in two parts like a coupling-nut, and the piston packed in the usual way.

What we claim as new, and desire to secure by Letters Patent, is—

The segmental pieces A A, to serve as a cylinder-head, substantially as described.

DE VOLSON WOOD,  
STILLMAN W. ROBINSON.

Witnesses:

DENSMORE CRAMER,  
ASHUR A. TERRY.