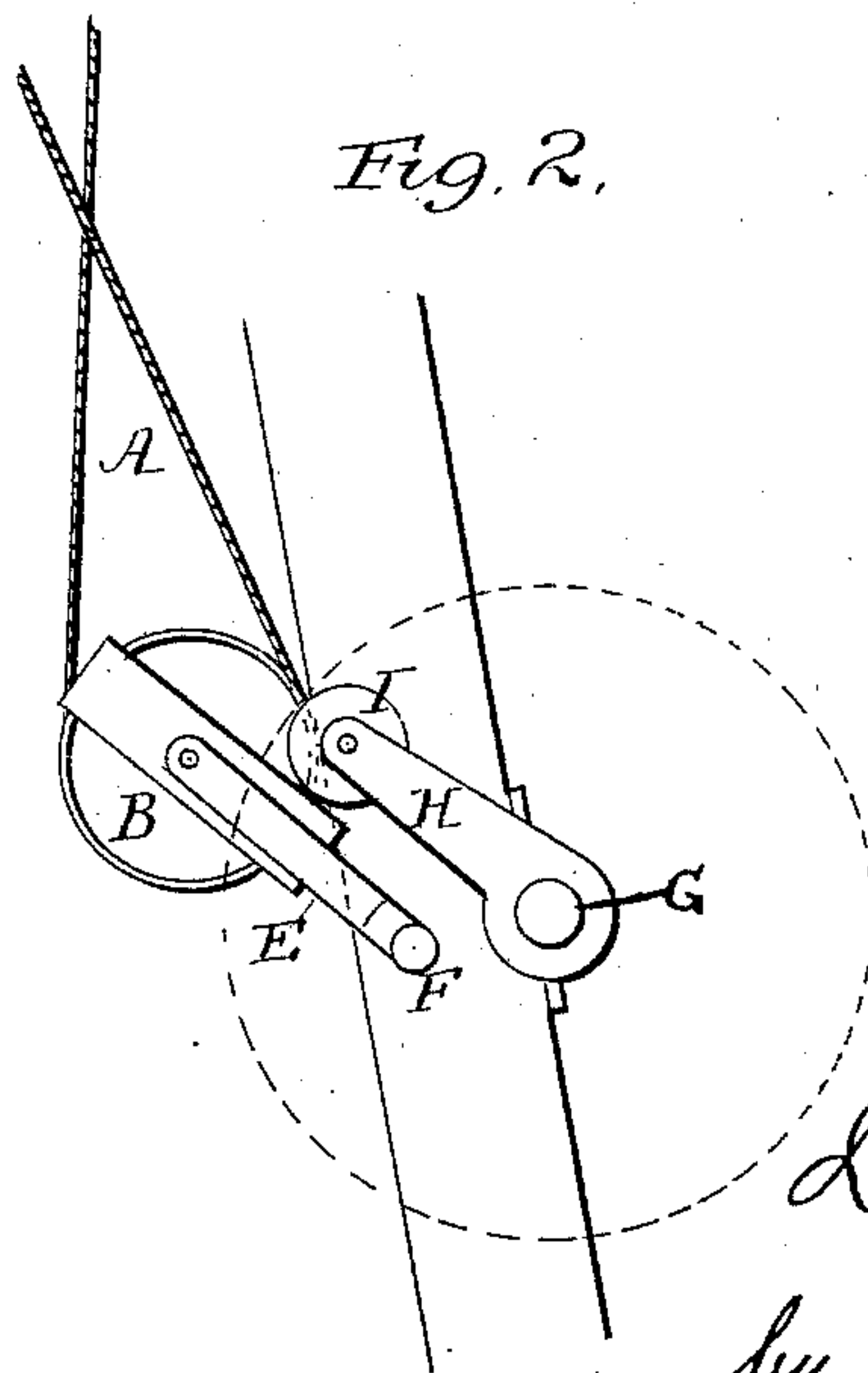
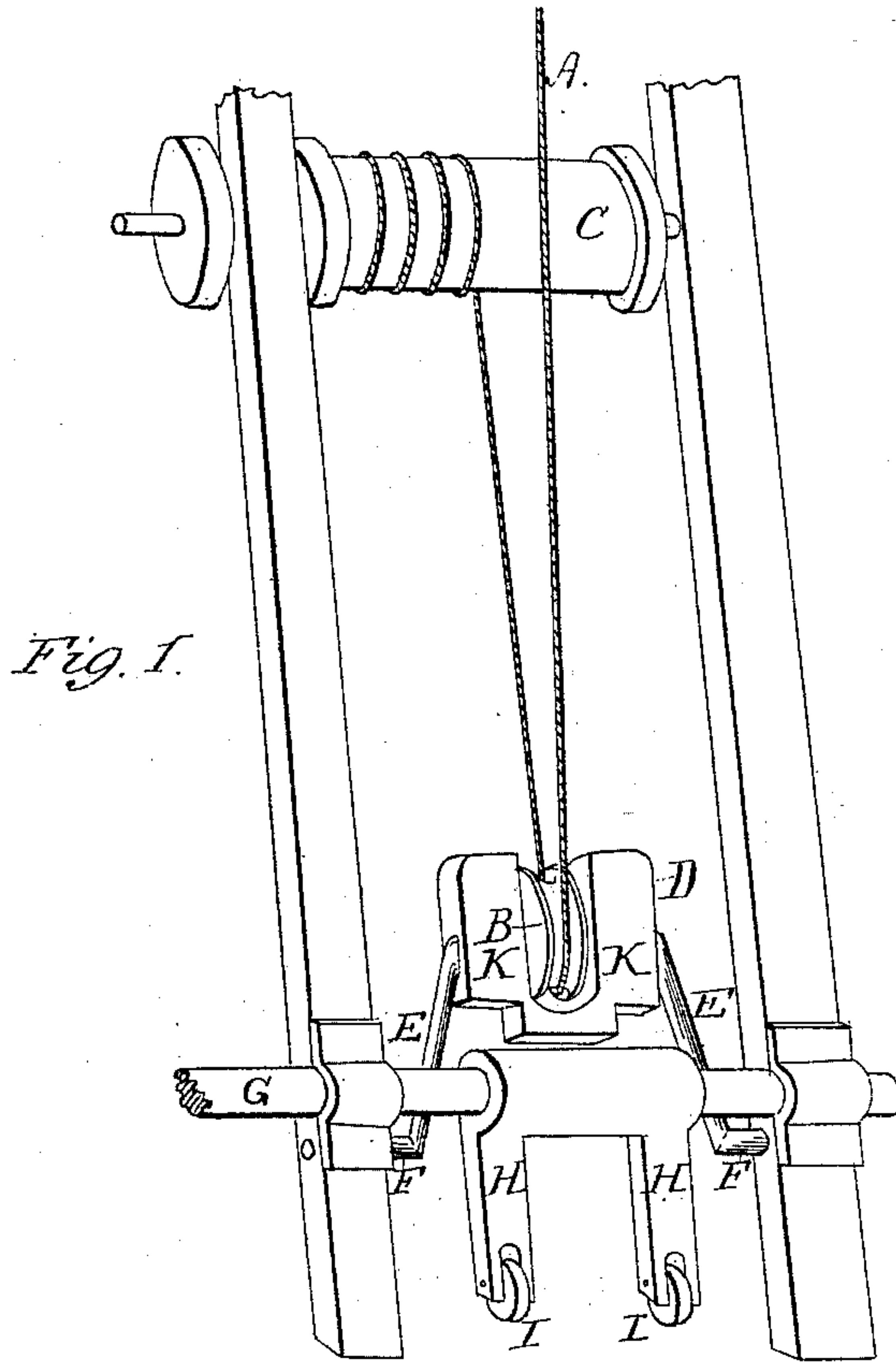


(No Model.)

D. J. CULY.  
WELL DRILLING MACHINE.

No. 374,292.

Patented Dec. 6, 1887.



Attest:  
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att'y.

# UNITED STATES PATENT OFFICE.

DAVID J. CULY, OF FELTON, MINNESOTA.

## WELL-DRILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 374,292, dated December 6, 1887.

Application filed April 26, 1887. Serial No. 236,266. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID J. CULY, a citizen of the United States, residing at Felton, in the county of Clay and State of Minnesota, have invented a new and useful Improvement in Well-Drilling Machines, of which the following is a specification.

My invention relates to a class of machines used for boring holes in rock by means of a metal drill operated by a rope; and the object of my improvement is to provide a simple, durable, and easy-working method of raising and dropping the drill and cushioning the shock of fall and rebound. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view, and Fig. 2 a sectional side view, of moving parts.

Similar letters refer to similar parts throughout.

In the drawings the frame represented in Fig. 1 is placed by the side of and against the derrick over the well-hole. The rope A, Fig. 1, extends upward over a pulley in the derrick and down to the drilling-tools. This rope passes around a pulley, B, and thence to a drum, C, Fig. 1, on which the surplus rope is wound, and from which it is unwound as the drilling progresses. The pulley B is set in a block or frame, D, supported by cranks E E, swinging in bearings in frame at F F.

The surfaces K K of the frame D constitute tracks upon which the trundles I I engage during the operation of the machine. On the same frame, but in front and above the bearings F F, I put a shaft, G, extending across the frame in line parallel with bearings F F. To this

shaft is attached a collar having two projecting arms, H H, Fig. 1. In the end of each of these arms I put a trundle, I I, Fig. 1. These trundles run upon tracks upon the pulley-block at K K. The shaft G is caused to revolve by power and carries around the arms H H.

The weight of the drilling-tools on the rope A tends to hold the pulley B and block D up. When the arms come around, the trundles I I strike the tracks K K and swing the pulley and block downward and forward, the cranks E E turning in their bearings at F F, thus depressing the rope and raising the drill until the trundles run off the tracks K K, when they are released and the drill falls. The arms H H and the cranks E E are of nearly the same length. Their length and the distance between the bearings are such that the tracks K K are opposite the pulley B. When the drill drops, it imparts a momentum to the pulley and block, which is arrested by the elasticity of the rope, thus cushioning the shock of the fall of the drill and catching it as it rebounds.

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

1. The combination, with the pulley, pulley-block, and its cranks, of the shaft carrying arms to depress them, substantially as and for the purposes herein specified.

2. The combination, with the pulley-block having tracks on its sides, of the arms provided with trundles, substantially as and for the purposes herein specified.

DAVID J. CULY.

Witnesses:

E. M. BRADFORD,  
W. W. WATERBURY.