

(No Model.)

L. & J. P. GRISCOM.

APPARATUS FOR MANIPULATING DRILL RODS.

No. 328,213.

Patented Oct. 13, 1885.

FIG. 2

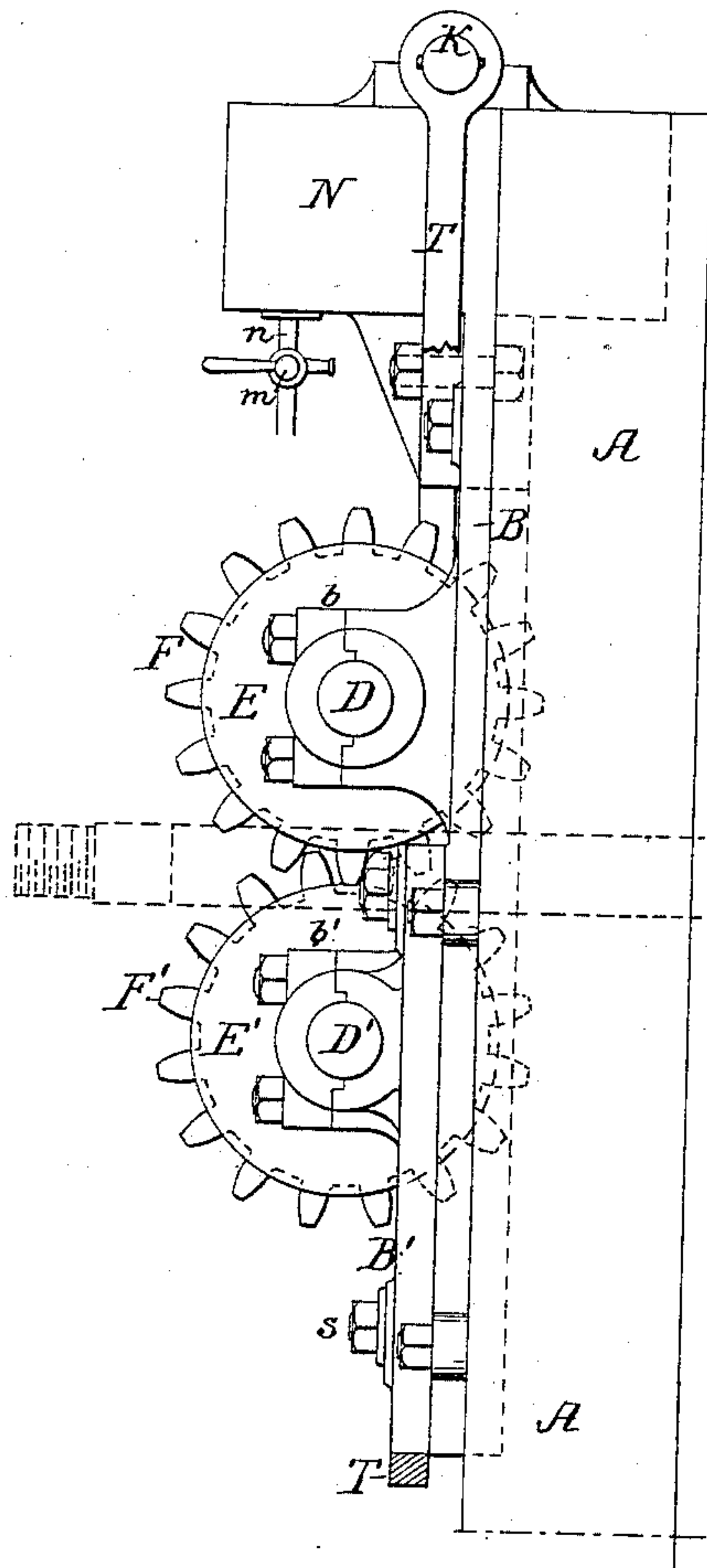


FIG. 1

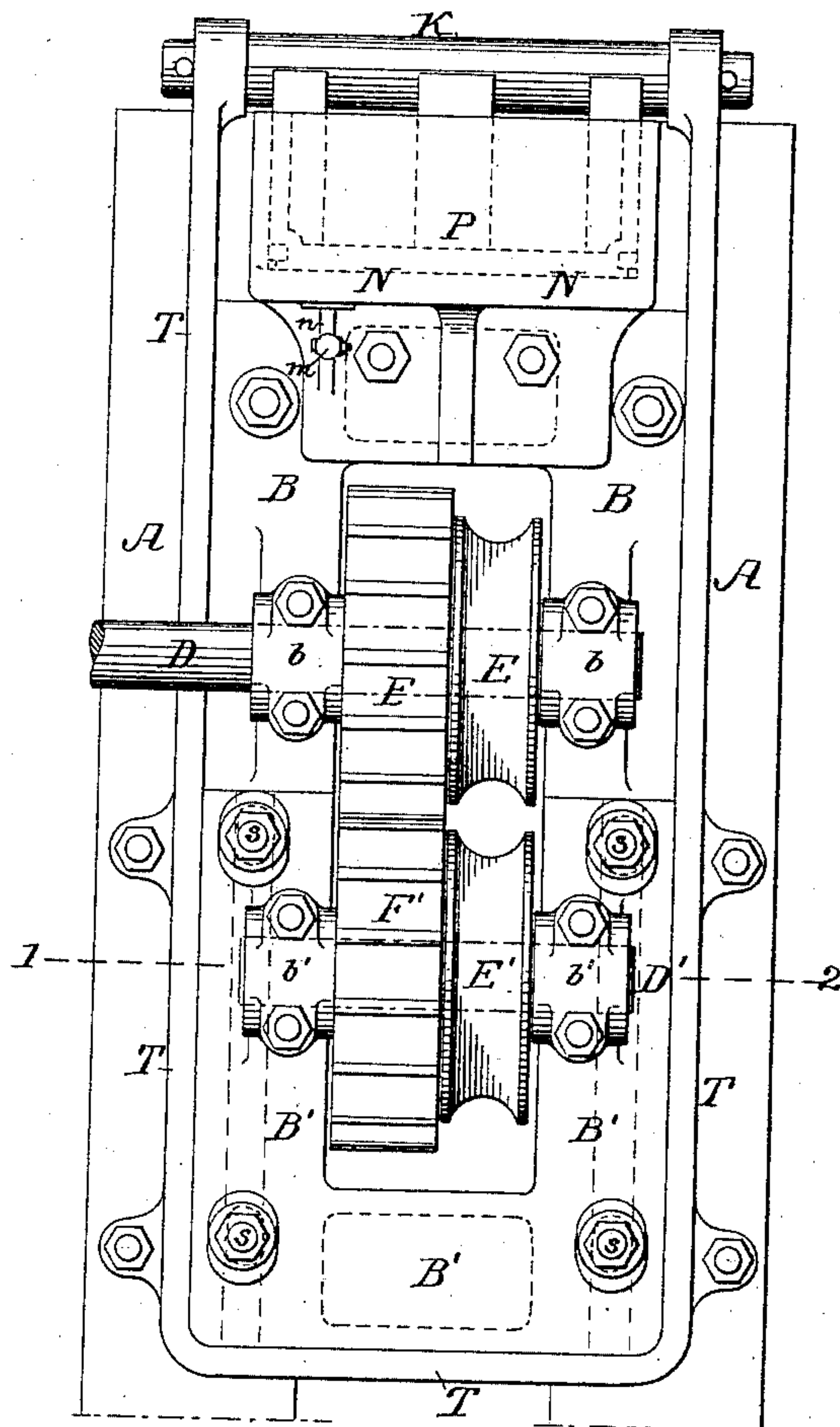
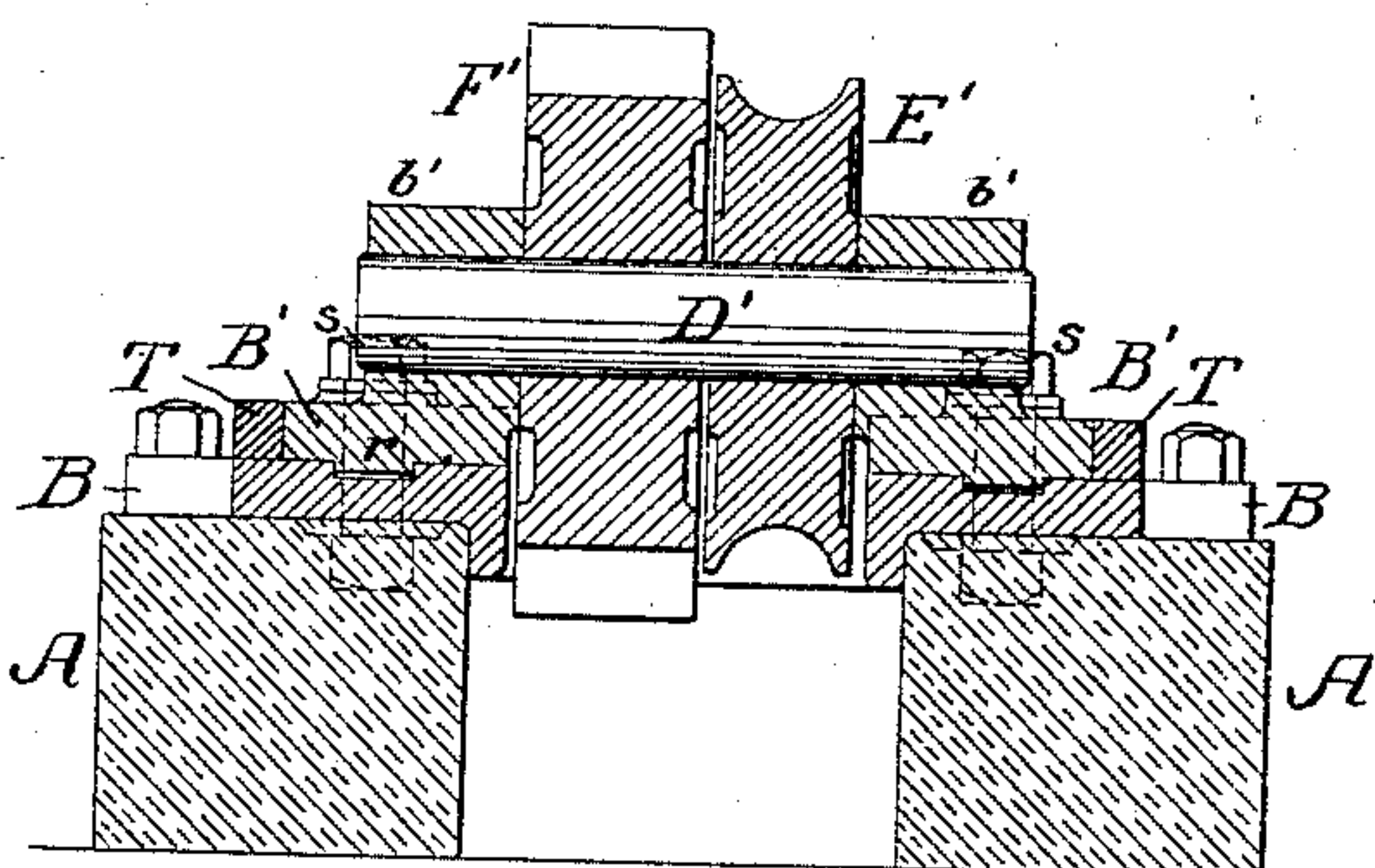


FIG. 3



Witnesses:

Alex. Barkoff

John E. Parker

Inventors:

Lewis & John P. Griscom

by their Attorneys:

Howson & Sons



# UNITED STATES PATENT OFFICE.

LEWIS GRISCOM AND JOHN P. GRISCOM, OF POTTSVILLE, PENNSYLVANIA.

## APPARATUS FOR MANIPULATING DRILL-RODS.

SPECIFICATION forming part of Letters Patent No. 328,213, dated October 13, 1885.

Application filed June 19, 1885. Serial No. 169,185. (No model.)

*To all whom it may concern:*

Be it known that we, LEWIS GRISCOM and JOHN P. GRISCOM, both citizens of the United States, and residing in Pottsville, Pennsylvania, have invented certain Improved Apparatus for Manipulating Drill-Rods, &c., of which the following is a specification.

The object of our invention is to construct a machine for inserting drill-rods into and withdrawing them from holes drilled in the rock, more especially where such holes are in a horizontal or angular direction. The ordinary method of introducing drill-rods into such holes has been by means of block and tackle; but this, besides being tedious, inconvenient, and clumsy, often results in the breaking of the rod should the latter meet an obstruction.

In the accompanying drawings, Figure 1 is a front view of our improved machine. Fig. 2 is a side view, and Fig. 3 is a transverse section on the line 1 2, Fig. 1.

A A are two posts, of a suitable form, and to these posts are bolted a bed-plate, B, having bearings *b b* for a horizontal power-driven shaft, D, which carries within the slotted frame a grooved pulley, E, and cog or gear wheel F.

On the face of the bed-plate B is mounted an open plate, B', which is provided on its under side with longitudinal ribs *r*, Fig. 3, adapted to corresponding grooves on the face of the bed-plate B, and through the slots in this plate B' pass guiding-plates *s*—four in the present instance. This plate B carries bearings *b'* for a short shaft, D', carrying a grooved pulley, E', and gear-wheel F', engaging with the corresponding wheel, F, the grooved pulleys E and E' being immediately opposite each other, so that when they are brought toward each other they can grasp between them the drill-rod to be inserted into or withdrawn from the drill-hole.

The apparatus being arranged in a vertical position, as shown in Figs. 1 and 2, the plate B' and the pulley and gear-wheel carried thereby are supported by a strap, T, suspended from a cross-head, K, on the upper end of a piston, P, (shown by dotted lines in Fig. 1,) adapted to a cylinder, N, mounted on the bed plate or frame and having an open top. This cylinder is provided with an inlet-pipe, *n*, preferably having a three-way cock to per-

mit of the introduction of steam, water, or compressed air or other operating fluid to raise the piston.

In employing the machine to withdraw a drill-rod from a hole, for instance, the end of the rod is introduced between the two grooved pulleys E E' and operating fluid is then admitted to the cylinder N below the piston to raise the latter, and with it through the strap T, the plate B, which carries the grooved pulley E', and gear-wheel F', power having in the meantime been applied to the shaft D to rotate the wheels and pulleys so that when the latter grip the rod it can be rapidly withdrawn from or inserted into the hole.

We claim as our invention—

1. The herein-described apparatus for inserting drill-rods into and withdrawing them from their holes, said apparatus consisting of a frame carrying a rotating grooved pulley and a corresponding grooved pulley adapted to be adjusted toward and from the other, but rotated therewith, substantially as set forth.

2. The herein-described apparatus for inserting drill-rods into and withdrawing them from their holes, said apparatus consisting of a fixed frame carrying a grooved pulley, a movable frame carrying a corresponding grooved pulley geared with the first, said movable frame being adjustable from and toward the first grooved pulley, all substantially as described.

3. The combination of the frame carrying a rotary grooved pulley, and a cylinder with the movable plate carrying a corresponding grooved pulley, and a piston adapted to said cylinder and supporting said movable plate.

4. The combination of the bed-plate, and rotary grooved pulley adapted to bearings therein, and cylinder N, with the piston adapted thereto, and movable plate carrying a grooved pulley, and a strap carried by the piston and supporting said movable plate, all substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

LEWIS GRISCOM.  
JNO. P. GRISCOM.

Witnesses:

WALTER I. RALM,  
H. G. JUNGKURTH.