(No Model.)

L. S. WOODBURY.

SUPPORT FOR ROCK DRILLS.

No. 323,482. Patented Aug. 4, 1885.

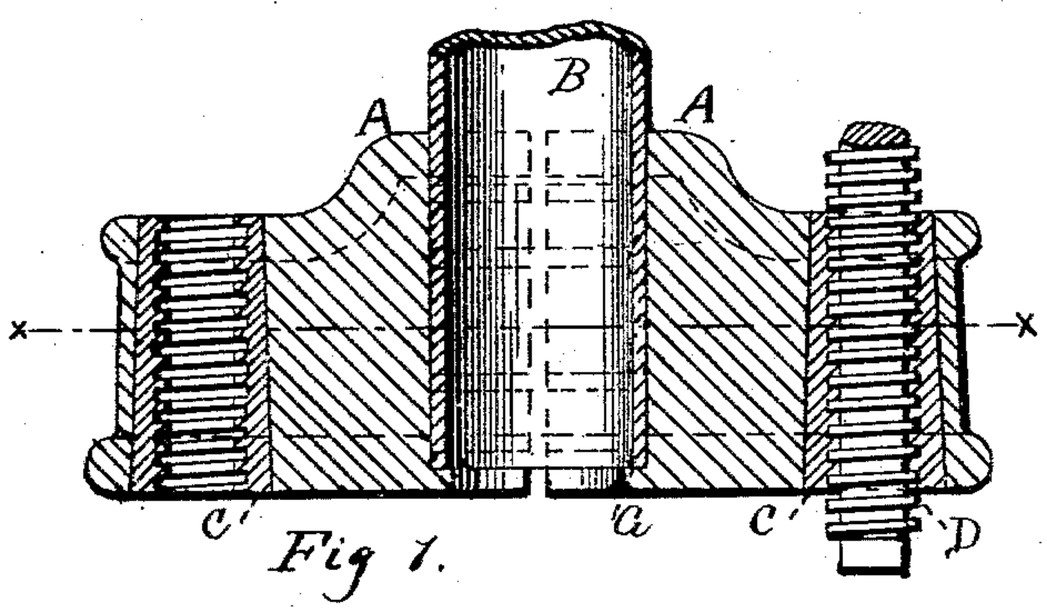

Fig 1.

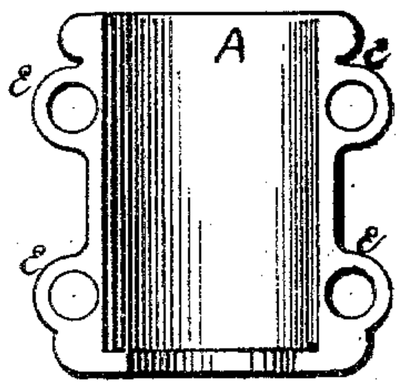

Fig 2.

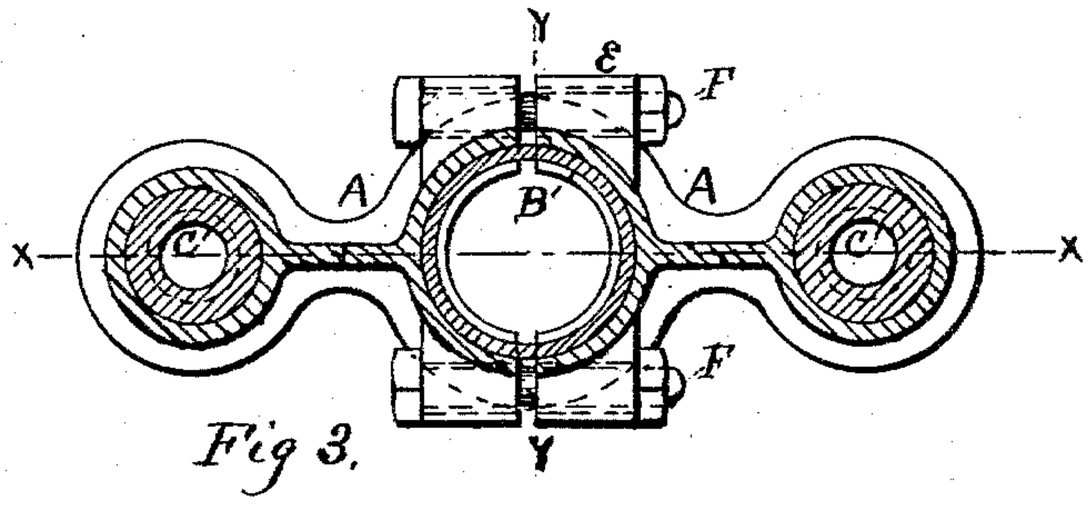

Fig 3.

Witnesses.
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LEANDER S. WOODBURY, OF CALUMET, MICHIGAN.

SUPPORT FOR ROCK-DRILLS.

SPECIFICATION forming part of Letters Patent No. 323,482, dated August 4, 1885.

Application filed March 13, 1885. (No model.)

To all whom it may concern:

Be it known that I, LEANDER S. WOODBURY, a citizen of the United States, residing at Calumet, in the county of Houghton and State of Michigan, have invented a new and useful Improvement in the Column for Supporting a Rock-Drill when it is in operation, set forth in the annexed specification.

My invention relates to that class of columns which are adjustable as to length by means of jack-screws in the foot, by which the head of the column is pressed firmly against any convenient abutment, as the "hanging wall" in a mine, or the roof or sides of a tunnel.

Its objects are, first, to increase the durability and decrease the repairs incident to the columns in common use; second, to get different lengths of columns without having a completed column for every desired length outside the limit of adjustment by the jack-screws; third, to enable the operator to replace the parts subject to the greatest wear without sending the whole column to the surface. These objects are accomplished in the device illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the lower end of the column and the foot on line *x x*, Fig. 3. Fig. 2 is an end elevation of one of the parts of the foot as on line *y y*, Fig. 3. Fig. 3 is a horizontal section of the foot and post on line *x x*, Fig. 1.

Similar letters refer to similar parts throughout the drawings, in which—

A is the foot, which is made in two pieces, which, being drawn together by the bolts F, Fig. 3, firmly clamps the lower end of the post B. G is a shoulder at the bottom of the foot for the purpose of an abutment for the post B. *c c* are the jack-screw nuts, the outside of which is turned tapering, the foot being bored to receive the same. The jack-screws D (a portion of only one of which is shown,) and the upper end of the part B are common to most rock-drill columns.

All the parts are made of metal, the foot A preferably a steel casting and the nuts *c* of bronze.

In the rock-drill columns usually used the foot consisted of a block of wood, to the ends of which are bolted the jack-screw nuts, and to the top of which is bolted an iron foot, upon which is shrunk the upright or post, which is usually a piece of wrought-iron pipe. This method of construction is the source of constant annoyance and expense for repairs, caused by the wood splitting and the constant loosening of the nuts and iron foot referred to, and of the post where shrunk upon the same; and as in tunneling and mining operations the width and height of the opening is very variable, and often beyond the limit of the jack-screws, six or more completed columns of variable lengths are required constantly on hand.

By referring now to Figs. 1, 2, and 3, it will be seen how these particular derangements are obviated. The post B is simply a piece of ordinary wrought-iron pipe cut to the desired length, and the usual cap fixed to the upper end. The lower end is inserted into the foot until it strikes the shoulder G, when the four bolts, F, which pass through the ears E are screwed up, clamping the whole together perfectly solid; and any tendency to loosen from any cause can be readily stopped by a still further tightening of the bolts F.

In all devices of this character the jack-screw nuts become quickly worn out on account of the gritty material about them. In the columns usually used these consisted of heavy castings, the whole of which had to be thrown away when the thread was worn out. To avoid this waste, and to enable the operator of the drill to quickly replace a worn-out nut, I bore the ends of the foot, Fig. 1, tapering to a standard taper and size, to which the nuts *c* are always fitted. Now, when a nut is worn out in the thread, it is simply driven out and a good one inserted without delay to the drill.

I do not confine the application of the nuts thus described to the particular foot described. They may be fitted to any foot, or even to the castings which constitute the nuts of the old device.

In my invention there is only required, to provide for the varying width and height of opening referred to, different lengths of the post B, each of which is easily adjusted to the same foot—a consideration of no little importance where the room for operation is contracted.

Having thus fully described my invention

and the necessity therefor, what I claim as new, and desire to secure by Letters Patent, is—

1. In a column for the support of a rock-drill, a base or foot having tapering seats in the outer ends for the reception of nuts formed tapering to fit the seats, with screws passing through the nuts for raising and lowering the said base, with said nuts constructed solid.

2. In a column for the support of a rock-drill, the combination, with the post, of a base formed of two parts having flanges on their inner ends, formed with semicircular seats for the post, with bolts passing through the flanges connecting the parts and clamping the post, and having tapering seats on their outer ends for the reception of nuts formed tapering to fit the seats, with screws passing through the nuts for raising and lowering the said base, with said nuts constructed solid.

LEANDER S. WOODBURY.

Witnesses:
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