(No Model.)

P. KELLY.

DRIFT COLUMN OR SUPPORT FOR ROCK DRILLS.

No. 376,659. Patented Jan. 17, 1888.

Fig. 1.

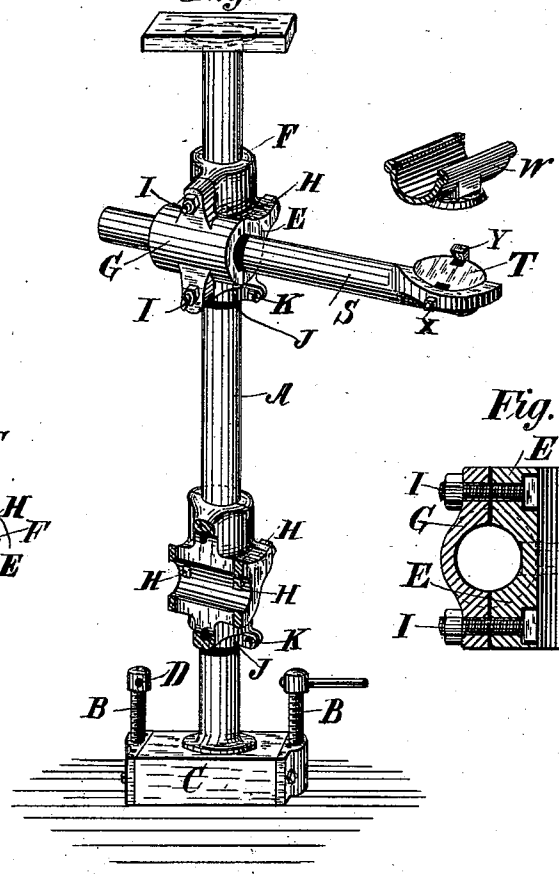


Fig. 2.

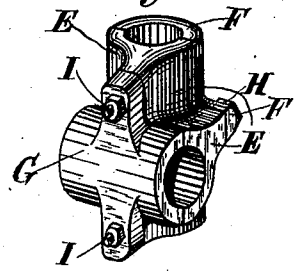
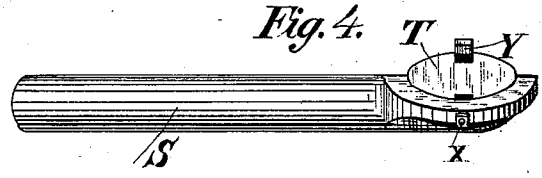


Fig. 3.

Fig. 4.



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DRIFT COLUMN OR SUPPORT FOR ROCK-DRILLS.

SPECIFICATION forming part of Letters Patent No. 376,659, dated January 17, 1888.

Application filed December 14, 1886. Serial No. 221,575. (No model.)

To all whom it may concern:

Be it known that I, PATRICK KELLY, a resident of the city of Poughkeepsie, county of Dutchess, State of New York, have invented certain new and useful Improvements in Drift Columns or Supports for Rock-Drills, of which the following is a specification.

My invention relates to the class of columns or devices employed in drifts, tunnels, headings, or other similar localities for supporting rock-drills.

My invention relates more particularly to the adjustable supports arranged on the column, and which serve as bearings for arms supporting the drills.

The object of my invention is to allow for greater freedom of motion and more ready adjustment of the arms supporting the drills than heretofore has been possible in any similar devices of which I am aware, and, further, to facilitate the removal of the arms and drills when preparing for a blast or a change in the position of the column is desired.

In the accompanying drawings, which illustrate my invention, similar letters of reference indicate like parts.

Figure 1 is a side elevation in perspective, representing a column and arm constructed according to my invention, and likewise showing one hub-bearing for an arm with the arm face-plate removed. Fig. 2 is a detached view, in perspective, of the three-part hub, such as serves to support a radial arm. Fig. 3 is a vertical section of the same on the line *x x* of Fig. 2 and shows the location of the clamping-bolts in the hub. Fig. 4 is a detached view, in perspective, of one of the arms and shows the arrangement of the clamping-seat for the drill-carriage.

In the drawings, A indicates a tubular metallic column, made extensible by means of the jack-screws B, located in threaded holes on opposite sides of the block C at the base of the column, and provided with transverse holes D for the insertion of the bars used to turn the jack-screws.

E is a three-part hub bored vertically to receive the column and horizontally to receive a tangential arm, S, which may be tubular or solid. The construction of this hub is shown in detail in Figs. 2 and 3, E indicating the central or body portion, F the column face-plate, and G the arm face-plate. The column face-plate F is adapted to be secured to the part E by means of the bolts H, which have their heads countersunk in the horizontal bore of the hub. The plate G is likewise secured by bolts I, the heads of which are similarly countersunk in the vertical boring of the hub. The ends of the bolts are screw-threaded and provided with tightening-nuts.

The diameter of the borings of the hub is preferably slightly less than that of the column and arm, this for the purpose of having the hub tightly grasp the column or arm when the tightening-nuts are screwed up, thus securing the hub upon the column in any desired position and allowing for its vertical and circumferential adjustment, and also securing the tangential arm and allowing for its horizontal adjustment and rotation in its bearing in the hub.

In order to more effectually secure the hub in any desired position upon the column, I provide the safety clamping-ring J, made in two parts and adapted to be drawn together with the tightening-nuts K.

The drawings represent the column as provided with but one arm, but with a second hub with the arm face-plate G removed. It will be obvious that with the face-plate restored to its position a second arm can be secured upon the column.

It will be understood that by removing or loosening the nuts on the end of the bolts I the face-plate G can be removed or so loosened as to release its grasp upon the arm, thus allowing for its ready removal.

Upon the end of the arm S is arranged the clamping-seat T for the drill-cylinder carriage W. This clamping-seat device is substantially similar to that described in United States Letters Patent No. 264,524, and granted to Joseph C. Gethens, September 19, 1884, and it is not necessary to describe its construction in this specification, the only difference between that shown in the drawings and that described in the patent aforesaid being that the body or seat of the clamp in the present instance is formed integrally with the arm, the seat for

the drill-carriage occupying a plane preferably below the level of the top of the arm.

X is the nut on the end of the clamping-bolt Y of the drill-seat.

I do not wish to limit myself, however, to the specific construction of the clamp or of the seat for the carriage, as I may find it desirable to use a different clamp or to modify it in various ways; neither do I wish to be limited to a three-part hub, as I may find it convenient to decrease the number of parts or otherwise alter its form while still preserving its function.

I claim as my invention—

1. A tubular column for the support of rock-drills, provided with an extension screw or screws in the end thereof, and a three-part split hub on said column bored vertically and horizontally and provided with threaded bolts and nuts, the heads of said bolts countersunk in the respective tubular bearings.

2. The combination, with the column A and horizontal arm S, of a drill-clamp on the arm and a coupling adjustable vertically on the column and comprising a horizontal sleeve wherein said arm is held and in which the arm may be adjusted lengthwise, substantially as described.

3. The combination, with the column A and the arm S, of the coupling having the divided sleeve, with their axes at substantially right angles to each other, and composed of the center piece, E, having formed in its opposite sides semicircular portions of the sleeves and having recesses for the bolt-heads, and cap-pieces F and G and bolts I, securing the said cap-pieces and having their heads received in said recesses, substantially as described.

In testimony whereof I have hereunto subscribed my name this 27th day of November, A. D. 1886.

PATRICK KELLY.

Witnesses:

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V. M. BRASCHI.