W. PRELLWITZ.

MOUNTING FOR AIR FEED DRILLS.

APPLICATION FILED MAY 25, 1909.

1,019,361.

Patented Mar. 5, 1912.

2 SHEETS—SHEET 1.

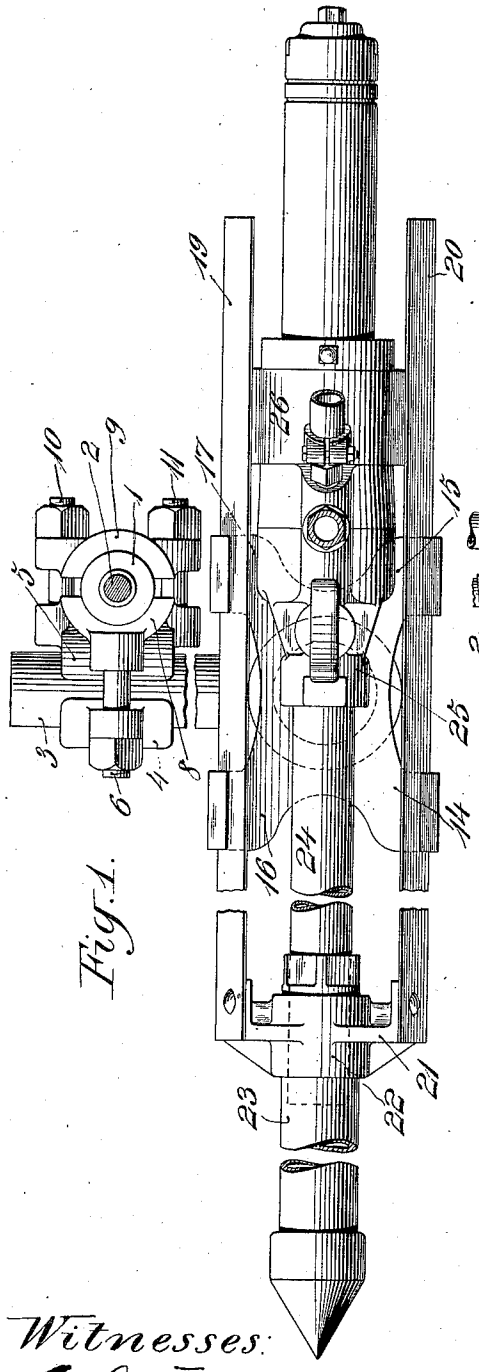

Fig. 1.

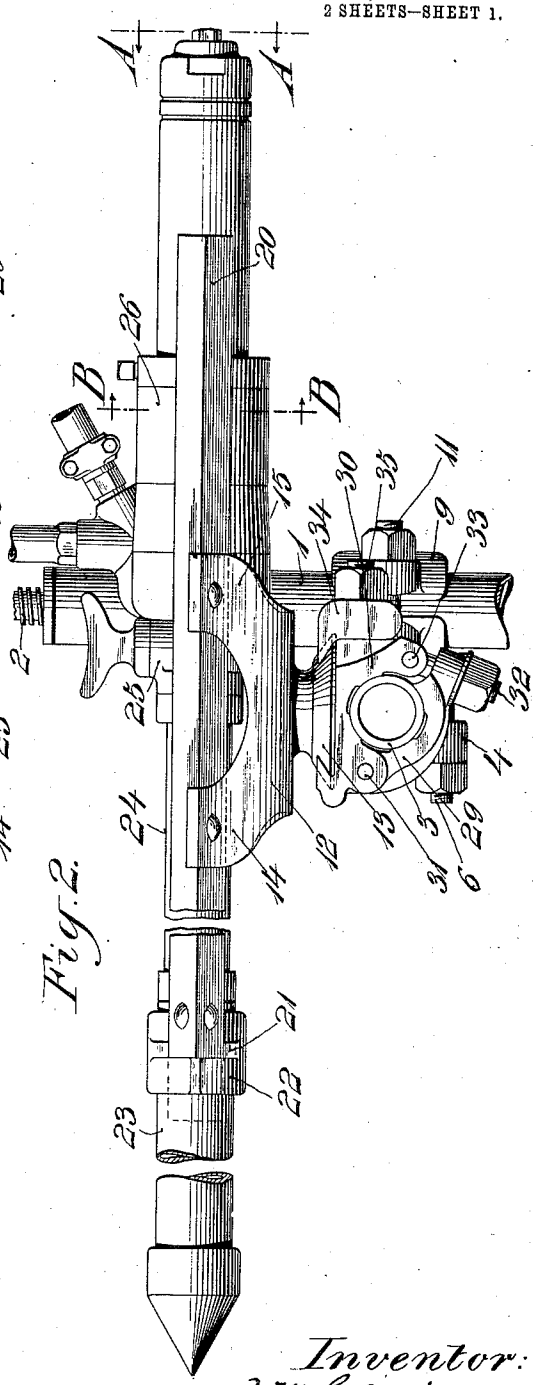

Fig. 2.

Witnesses:
A. Gruber
Henry Thieme

Inventor:
Wm Prellwitz
By Brown & Durand
his attorneys

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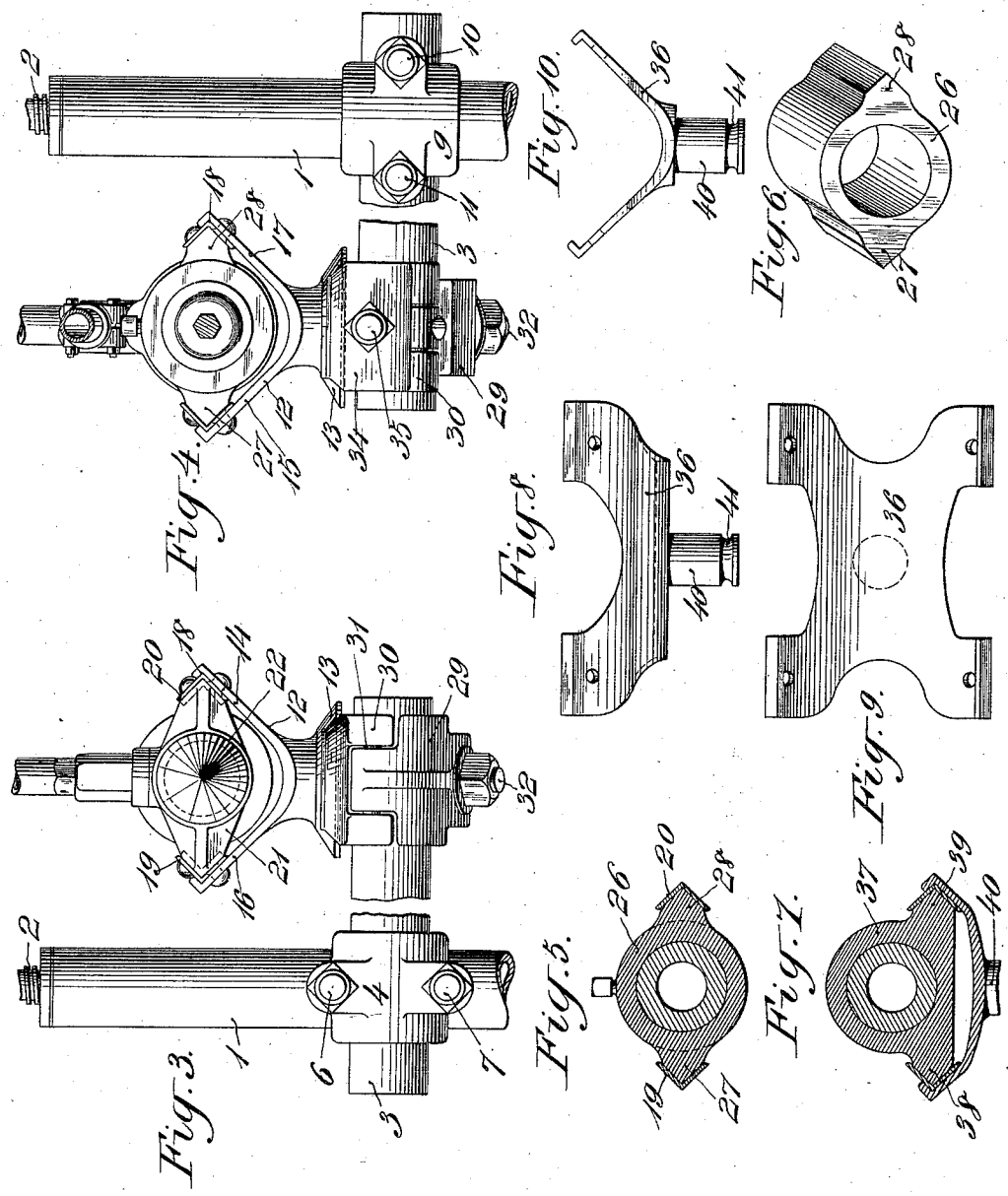

Witnesses:
H. C. Gretter
Henry D. Thieme

Inventor:
Wm Prellwitz
By Brown Brown & Brown
his Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM PRELLWITZ, OF EASTON, PENNSYLVANIA, ASSIGNOR TO INGERSOLL-RAND COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

MOUNTING FOR AIR-FEED DRILLS.

1,019,361. Specification of Letters Patent. Patented Mar. 5, 1912.

Application filed May 25, 1909. Serial No. 498,202.

To all whom it may concern:

Be it known that I, WILLIAM PRELLWITZ, a citizen of the United States, and a resident of Easton, in the county of Northampton and State of Pennsylvania, have invented a new and useful Mounting for Air-Feed Drills, of which the following is a specification.

My invention relates to a mounting for air feed drills in which a bracket is employed to secure ways to a main support, a cross head connecting the ways being utilized as a support for the air feed cylinder, the feed piston being secured to the head block and a guide ring being fitted with guides to slide along the ways while permitting the drill to be oscillated by the operator.

In the accompanying drawings, Figure 1 is a top plan view of an air feed drill attached to a branch support from a column, the column being shown in cross section. Fig. 2 is a view of the same in side elevation, Fig. 3 is an end view looking from left to right as the drawing, Fig. 2, is held. Fig. 4 is a transverse section in the plane of the line A—A, Fig. 2, through the steel, showing the tool or machine in end elevation. Fig. 5 is a transverse section in the plane of the line B—B, Fig. 2. Fig. 6 is a view of the guide ring in detail in perspective. Fig. 7 is a transverse section showing a modified form of guide ring and bracket. Figs. 8 and 9 show in side elevation and top plan respectively, views in detail of the bracket shown in cross section in Fig. 7, and Fig. 10 is an end view of another form of bracket.

The column here represented as forming the primary support, is denoted by 1 and is made extensible by a screw section 2. The branch support is denoted by 3 and is constructed to be clamped to the column 1 by clamping sections 4 and 5 and their bolts 6 and 7, the clamping section 5 being provided with a half socket 8 extending at an angle to clamping section 5, for coöperating with a half section 9 and bolts 10 and 11, to hold the branch support 3 in proper relation to the column 1.

The bracket for supporting the ways along which the tool or machine slides is denoted by 12 and consists of a trunk terminating at the bottom in a flat cone 13, and branches, in the present instance four branches, denoted by 14, 15, 16, 17, extending outwardly and upwardly from the trunk and provided with V-shaped grooves or recesses 18 for the reception of the V-shaped ways 19, 20. The ways 19, 20, may be extended in opposite directions beyond the arms of the bracket 12 to any feasible distance, thereby lengthening the extent of the feed movement of the tool without great increase in weight. The ways 19, 20, are connected at one end by a cross head 21 provided with a central hollow hub 22 in the outer end of which the feed cylinder 23 of the air feed tool or machine is fixedly secured.

The tubular piston 24 of the air feed tool or machine is fixed to the head block 25 and passes through the hub 22 of the cross head 21 and into the air feed cylinder 23, in which it has an air-tight sliding fit.

The body of the tool or machine has a rocking movement in a guide ring 26, the latter being provided with V-shaped guides 27, 28, see Figs. 4 and 5, fitted to slide in the ways 19, 20. While the guide ring 26 serves to support the greater part of the weight of the tool or machine, the latter is held steady by the bearing of the tubular piston 24 within the air feed cylinder 23 fixed to the cross head 21.

The two-part skeleton support for the tool or machine is light, handy and efficient and provides for materially lengthening the extent of feed movement of the tool or machine without great increase of weight. The ways and their cross head also form a convenient and effective support for the air feed cylinder and the guide ring while supporting the tool or machine and guiding it along the ways during its feed movement also provides for a sufficient amount of rocking or oscillating movement to keep the tool cutting to advantage.

The cone base 13 of the trunk of the bracket 12, is locked to the branch support 3 by a pair of clamping elements 29, 30, hinged together at 31, and locked in clamping position by a bolt 32 hinged to the element 30 at 33, and a third element 34 held in position by a bolt 35, the elements 30 and 34 being provided with jaws to overlap the opposite edges of the cone base, in a manner well known in the art.

In Figs. 7 to 9 inclusive, a bracket 36 is shown constructed to receive a guide ring 37 having its guides 38, 39, arranged in a plane below the central horizontal plane and the trunk 40 of the bracket is extended in cylindrical form and provided with a retaining groove 41.

The form of bracket shown in Fig. 10 differs from that shown in Fig. 8 only in extending the way supporting arms upwardly and outwardly in a manner quite similar to that shown in Figs. 1 to 4 inclusive.

What I claim is:

1. In mining apparatus a drill support comprising ways, a cross-head connecting the ways and forming a support for an air feed cylinder and a guide ring fitted to slide along the ways and forming a support for a drill cylinder, the drill cylinder being fitted to rock within the said guide ring.

2. In mining apparatus, a drill support comprising a bracket, ways attached to and projecting in opposite directions from the bracket, a cross-head connecting the ways and forming a support for an air feed cylinder and means for supporting a drill cylinder in sliding and rocking adjustment on the ways.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this 24th day of May 1909.

WILLIAM PRELLWITZ.

Witnesses:
F. GEORGE BARRY,
C. S. SUNDGREN.