

No. 649,548.

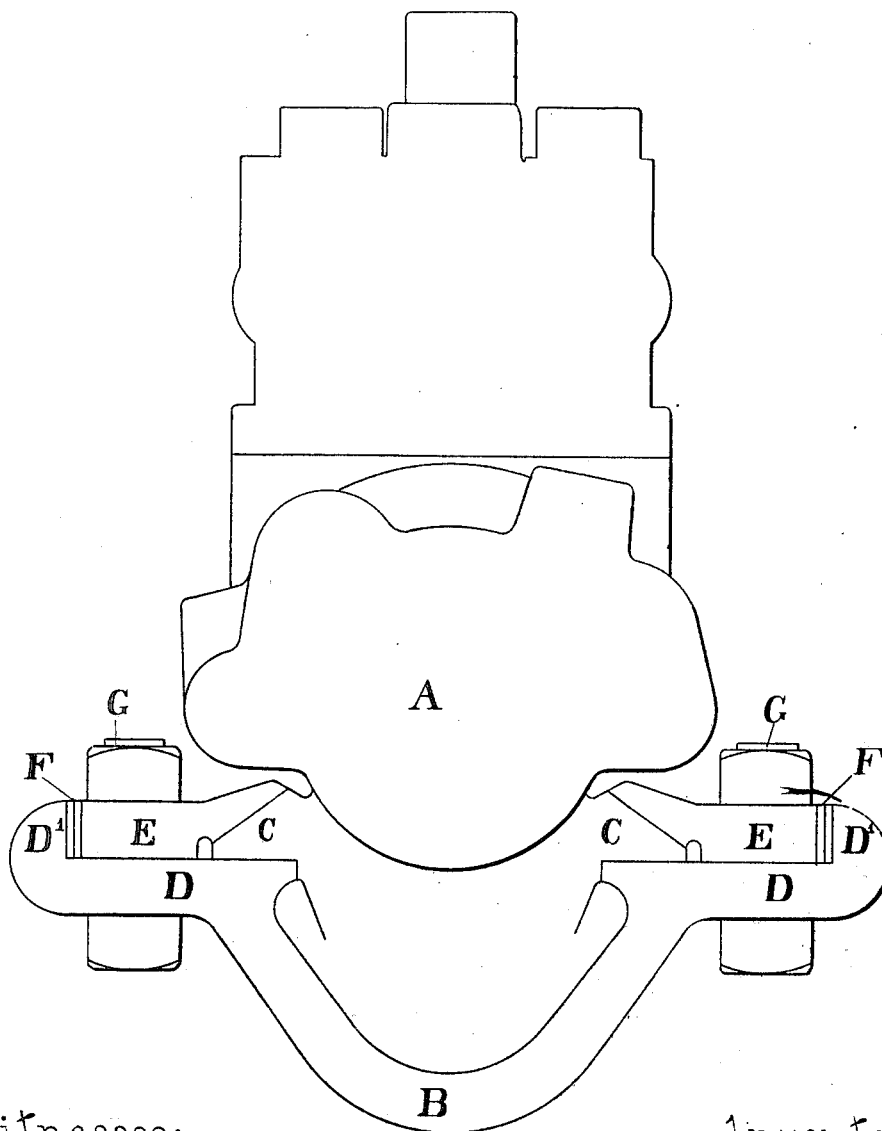
Patented May 15, 1900.

P. H. REARDON.

ADJUSTING DEVICE FOR ROCK DRILL SLIDES.

(Application filed Dec. 13, 1899.)

(No Model.)



Witnesses:

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# UNITED STATES PATENT OFFICE.

PATRICK H. REARDON, OF SAN FRANCISCO, CALIFORNIA.

## ADJUSTING DEVICE FOR ROCK-DRILL SLIDES.

SPECIFICATION forming part of Letters Patent No. 649,548, dated May 15, 1900.

Application filed December 13, 1899. Serial No. 740,215. (No model.)

*To all whom it may concern:*

Be it known that I, PATRICK H. REARDON, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Adjusting Devices for Rock-Drill Slides; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to the construction of rock-drills and like devices wherein it is necessary to maintain accurate alinement of comparatively-heavy parts reciprocating at high velocities.

A source of rapid deterioration in rock-drills is the bad alinement of the cylinder with the guide-frame, due to improper adjustment in the slides and guides to take up the effect of wear. This maladjustment, which is practically unavoidable in the ordinary form of slides and guides employed in rock-drills, throws the line of shock across the structure, thus introducing destructive strains and undue and disintegrating vibration.

It is obvious that improvements in the form and construction of rock-drills and their component parts, which will obviate the difficulties and provide for the requirements thus referred to, will add materially to the life and effective utility of such devices. To accomplish this end is, stated generally, the object of the present invention.

More specifically stated, the object is to provide means for maintaining accurate alinement of the drill with its slide-frame as the slides and guides wear by usage.

Referring to the drawing, which is an end view of a rock-drill and its supporting guide-frame, A is a cylinder resting upon the drill-frame B. The drill-cylinder is provided with suitable longitudinal slide-strips C, preferably made wedge-shaped in section, which are fitted to guides D on the drill-frame B, which is provided with adjustable gibs E E. Each guide D is provided with a longitudinal upwardly-projecting rib D', forming a positive backing for its gib. Parallel strips F are also provided between the gib E and the backing D' to take up the wear on the guides and slides and insure parallelism of the cylinder after such adjustment. Gib-holding bolts G

are provided to secure the gibs E E after adjustment.

As heretofore intimated, it is exceedingly important to the life and integrity of the drill that perfect alinement shall be maintained between the longitudinal axes of the cylinder and the frame. The arrangement of the gibs E E and the guides D, with their backing-ribs D' and parallel strips C, insures this necessary parallelism, as they form continuously a practically-solid guide for the drill-slides unaffected by the vibration incident to operation. In their absence, no matter how carefully bolted, this vibration would work the gibs backward and permit of destructive play and lost motion between the cylinder and the frame. These backing ribs and strips provide also against the maladjustment by unskilled operators, such as almost invariably have the management and operation of this character of devices, by making it practically impossible to set the gibs up other than truly parallel.

It is obvious that changes and modifications will suggest themselves to mechanics to adapt the invention herein to various conditions of operation without departing from the essential character thereof. I therefore do not desire to confine myself to the exact form or proportion of parts herein shown; but

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

1. In a rock-drill, a longitudinally-movable cylinder, a frame to which the cylinder is slidably attached and a longitudinal slide and guide between the cylinder and frame, said guide being provided with a fixed longitudinal rib and detachable means interposed between the rib and the cylinder whereby the parallelism of the cylinder with the fixed rib is enforced.

2. In a fluid-actuated rock-drill a cylinder, a frame to which the cylinder is slidably attached and a longitudinal slide and guide between the cylinder and the frame, said guide being provided with a detachable gib and a fixed longitudinal rib adapted to effect the alinement of said gib and means independent of the cylinder adapted to follow up and maintain the parallelism of said gib.

3. In a fluid-actuated rock-drill a cylinder,

a frame to which the cylinder is slidably attached and a longitudinal slide and guide between the cylinder and the frame, said guide being provided with a detachable gib with 5 bolts or other suitable means for locking said gib in place independent of the cylinder and a fixed longitudinal rib adapted to effect the alinement of said gib and means adapted to follow up and maintain the parallelism of 10 said gib.

4. In a fluid-actuated rock-drill a cylinder, a frame to which the cylinder is slidably attached and a longitudinal slide and guide be-

tween the cylinder and the frame, said guide being provided with a detachable gib with 15 bolts or other suitable means for locking said gib in place independent of the cylinder and a fixed longitudinal rib adapted to effect the alinement of said gib and means adapted to follow up and maintain the parallelism of 20 said gib comprising one or more independent parallel strips between said gib and rib.

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Witnesses:

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