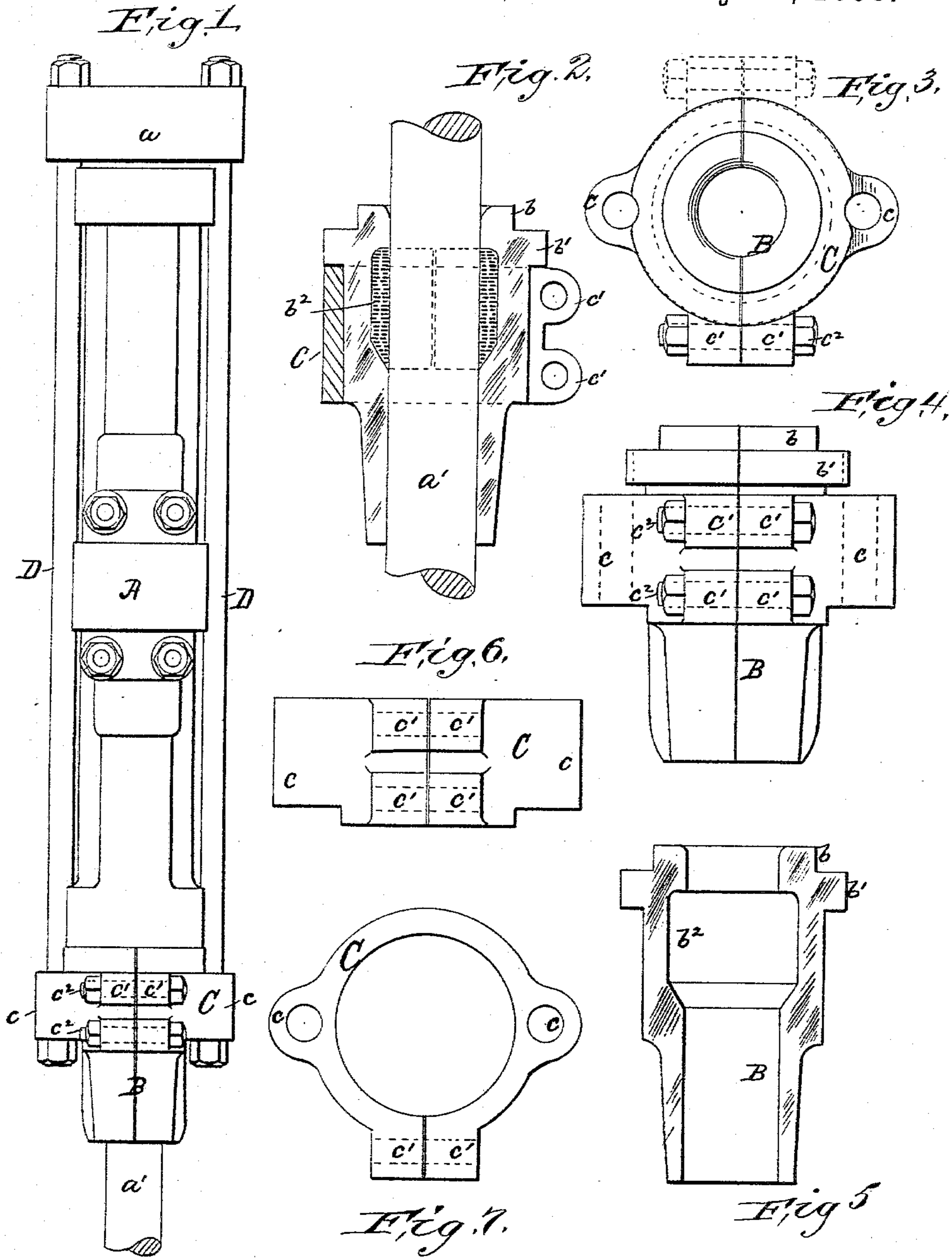


(No Model.)

G. B. SEDDON.
ROCK DRILL.

No. 559,818.

Patented May 12, 1896.



WITNESSES:
C. W. Benjamin
A. J. Fuleb.

INVENTOR
George B. Seddon
BY *Arden S. Fitch,*
ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE B. SEDDON, OF NEW YORK, N. Y.

ROCK-DRILL.

SPECIFICATION forming part of Letters Patent No. 559,818, dated May 12, 1896.

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To all whom it may concern:

Be it known that I, GEORGE B. SEDDON, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Rock-Drills, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates particularly to the front cylinder-head of a rock-drill; and the object of my invention is to simplify the construction of such head and at the same time to augment its effectiveness and durability.

My invention consists in a front cylinder-head for rock-drills, composed of a longitudinally-sectional cylindrical bushing comprising an upper portion to seat to the drill-cylinder, internally recessed throughout its extent, and a lower portion to fit throughout its extent to the piston-rod, together with a cylindrical slit sleeve fitting to and inclosing only the said upper recessed portion of said sectional bushing, and provided with external perforated lugs on opposite edges of its slit with clamping-bolts therein, and also with peripheral perforated lugs on its opposite sides, whereby while the said sleeve holds said sectional bushing in position upon the drill-cylinder it will operate by its clamping-lugs to bind said bushing-sections together at the portion thereof which is internally recessed, and consequently to press a packing in the recess in said upper portion of said bushing to the piston-rod throughout the length of said upper portion of the bushing, leaving the lower portion of said sectional bushing-face beyond said sleeve to support the piston-rod in its play therein without excessive friction between said rod and said lower portion of said bushing.

Figure 1 is a plan of a drill-cylinder provided with a front cylinder-head containing my invention. Fig. 2 is a longitudinal section, enlarged, of the said head and showing part of the piston-rod therein. Fig. 3 is an enlarged plan of said head, and Fig. 4 is an elevation of the same. Fig. 5 is an elevation of the interior of one of the bushing-sections, and Figs. 6 and 7 are respectively an elevation and plan of the slit sleeve detached from the bushing.

A is a drill-cylinder, of which a is the rear head, and a' is the piston-rod extending from the piston within the cylinder.

My improved front cylinder-head is composed of the cylindrical bushing B, which is longitudinally divided into sections that are preferably similar and equal, as shown.

The sectional bushing B comprises two portions—namely, an upper portion B' , which seats to the front or lower end of the cylinder, as by an end b , turned to fit into the cylinder, and a flange b' , which abuts against the rim of the cylinder, and a lower portion B^2 , which reaches below said upper portion and which may be tapering or of somewhat less diameter than said upper portion, as shown. Within the upper portion B' of said sectional bushing and extending longitudinally of it substantially throughout its length is formed the packing-recess b^2 . The lower portion B^2 of the sectional bushing is bored to fit to the piston-rod throughout the longitudinal extent of said portion.

C is a slit sleeve, which is adapted in internal diameter to fit to the exterior of the upper portion B' of the cylindrical sectional bushing, and is adapted in length or width to inclose only said upper portion of said bushing, leaving the lower portion thereof uninclosed and extending free below the lower rim of said sleeve, as shown. The said sleeve is furnished with the external perforated lug c' on opposite edges of its slit, as shown, and in said lugs are the clamping-bolts c^2 . The sleeve is further furnished with the peripheral perforated lugs c , by which said sleeve and its contained bushing constituting the front cylinder-head are secured to the end of the cylinder by the usual long holding-bolts D, which reach from the rear head a to and through the aforesaid lugs c , as shown. It is evident that while the described sleeve C serves to bind the sections of the bushing together and to hold them to their seat in the end of the cylinder the clamping action of the bolts c^2 will operate to exert their binding effect only on that portion B' of the sectional bushing in which is the packing in the recess b^2 therein, and that said sleeve will act to bind the sections throughout the extent of said upper portion B' of the bushing, and hence to compress the packing in the recess b^2

to the piston-rod throughout the extent of said recess; and it is also evident that the lower portion B² of the sectional bushing which is bored to fit to the piston-rod will in its position extended below the said sleeve C be left free to support and form a bearing for the piston-rod without excessive friction between said rod and its said bearing in said portion B² of said sectional bushing. A front cylinder-head is thus constituted in which the use of a gland is avoided, and in which while the piston-rod is given an efficient and easily adjusted packing therein the piston-rod has a support and bearing beyond the packing with comparative freedom from unnecessary friction.

In place of the slit sleeve described, one which is split, as indicated in Fig. 3, may be employed, in which case the clamping-lugs and bolts on the sleeve are duplicated at the second slit, as illustrated in said figure.

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

In a front cylinder-head for a rock-drill, the combination with a longitudinally sectional cylindrical bushing comprising an upper portion, to seat to the drill-cylinder, internally

recessed throughout its extent, and a lower portion bored to fit throughout its extent to the piston-rod, of a cylindrical slit sleeve fitting to and inclosing only the said upper recessed portion of said sectional bushing, and provided with external perforated lugs on opposite edges of its slit, with clamping-bolts therein, and also with peripheral perforated lugs on its opposite sides; whereby while the said sleeve serves to hold said sectional bushing in position upon the drill-cylinder, it will bind said sections of the bushing at the portion thereof only which is internally recessed and thus press a packing in the recess in said upper portion to the piston-rod throughout the extent of said upper portion of the bushing, leaving the lower portion of the sectional bushing free beyond said sleeve to support and give bearing to the piston-rod in its play therein, without excessive friction between said rod and said lower portion of the bushing; substantially as specified.

GEORGE B. SEDDON.

Witnesses:

ARDEN S. FITCH,

A. T. FALES.