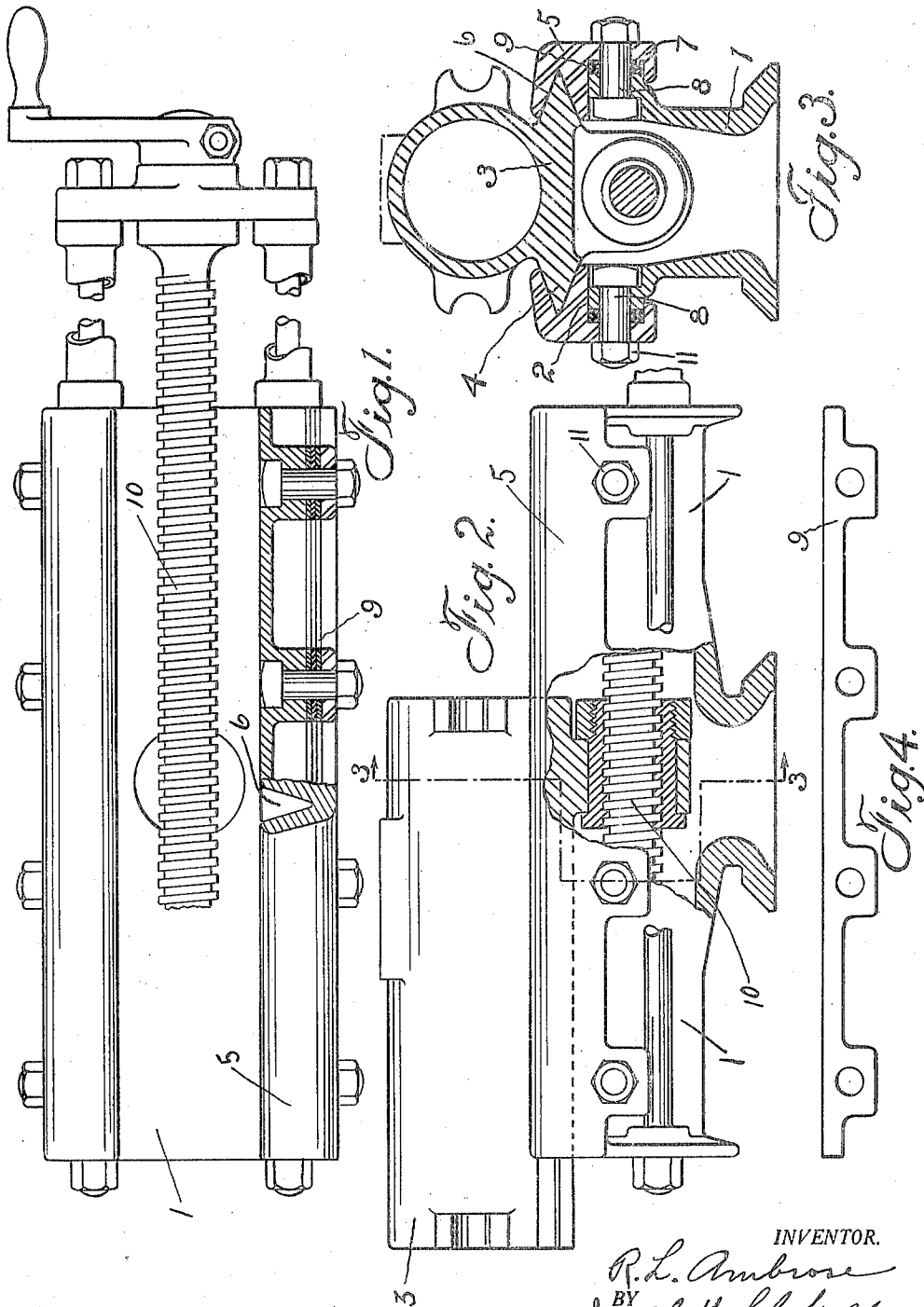


R. L. AMBROSE.
MOUNTING FOR DRILLS.
APPLICATION FILED APR. 27, 1918.

1,345,731.

Patented July 6, 1920.



INVENTOR.
R. L. Ambrose
BY *Joseph H. Schofield*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ROBERT L. AMBROSE, OF EASTON, PENNSYLVANIA, ASSIGNOR TO INGERSOLL-RAND COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

MOUNTING FOR DRILLS.

1,345,731.

Specification of Letters Patent.

Patented July 6, 1920.

Application filed April 27, 1918. Serial No. 231,184.

To all whom it may concern:

Be it known that I, ROBERT L. AMBROSE, a citizen of the United States, residing at Easton, in the county of Northampton and State of Pennsylvania, have invented a certain new and useful Improvement in Mountings for Drills, of which the following is a specification.

This invention relates to fluid operated rock drills and especially to a mounting or carriage for the same to advance the drill as the drilling progresses.

The objects of the present invention are to provide a mounting or shell for fluid operated rock drills which will permit the easy taking up of wear upon the engaging and wearing parts of the rock drill and mounting or shell; also, to allow a larger amount of wear to be taken up without affecting the vertical adjustment of the drill in relation to the mounting to avoid binding of the lead screw in its sockets, which occurs in the usual construction after a substantial amount of wear has been taken up. A further object is to provide a mounting which is simple, compact, and one that will not easily be put out of order.

The above objects are accomplished by the invention a practical embodiment of which is represented in the accompanying drawings, in which,—

Figure 1 shows a plan view of the mounting or shell,

Fig. 2, a vertical elevation of the same,

Fig. 3, a cross sectional view of the same taken on the line 3—3 of Fig. 2, and

Fig. 4, one of the liners used in the adjustment of parts of the mounting.

Referring more particularly to the drawings, the shell is shown at 1 and is provided on either side with horizontally lying lateral projections 2 having parallel flat surfaces between which projections is an opening or depression in which a lead screw 10 is located for advancing and withdrawing the drill casing 3. On either side of the drill casing or cylinder 3 are provided V-shaped projections 4 extending outwardly from the drill casing 3 and engaging shell caps 5 mounted on the shell 1 at either side. The shell caps 5 are provided with V-shaped recesses 6 which allow close engagement between the carriage or shell 1 and the shell caps as clearly shown in Fig. 3, and provide bearings for the projections 4 which

will hold the drill 3 rigidly in alinement but will permit longitudinal movement of the drill 3. Constant operation of the drill body 3 in its carriage 1 produces a large amount of wear upon the engaging and wearing surfaces of the projections 4 and recesses 6 which, unless properly taken up, will permit the drill to become loose within the mounting and lose its alinement in relation thereto.

The present construction provides for taking up this unavoidable wear in the following manner. Extensions 7 are provided on the shell caps 5 extending downwardly over the horizontally lying projections 2 on the sides of the carriage or shell 1. Extending through these extensions 7 are horizontal bolts 8 one end of each of which is countersunk into portions of the shell 1 as clearly shown in Fig. 3. Nuts 11 on the outside end of these bolts permit the shell caps 5 to be firmly held against the projections 2. Between the ends of the projections 2 and the caps 5 are thin vertical liners 9 extending over the ends of the projections which serve to space the caps from the shell projections a slight distance but retain them in alinement and in close engagement with the drill casing 3. Adjustment for wear of these parts is compensated for by simply removing one or more liners from either side of the shell 1 until the caps 5 engage the extensions 4 of the drill with sufficient contact to prevent looseness between the drill and the shell and still permit the drill to slide freely forwardly and backwardly. The present construction permits the adjustment of the shell caps 5 to be made without varying the distance between the center line of the drill casing 3 and the lead screw 10. This overcomes the difficulty which has frequently occurred in the past of the binding of the lead screw in its bearings when a large amount of adjustment has been made. This has been due to the fact that in the adjustment of the mounting in relation to the drill cylinder wear has been taken up in one direction only with a consequent result that the distance between the center lines of the drill cylinder and mounting was constantly being altered. In the present construction this distance is not affected by the adjustment of the shell caps 5 for the reason that the wear is taken up equally on the upper and lower surfaces of

the V-shaped depressions 6 and the movement of the shell caps 5 is lateral only.

It is to be understood that the present showing and description discloses only one specific embodiment of the present invention and that other forms and modifications are included within the spirit and scope of the invention as expressed in the appended claims.

10 What I claim is:

1. In a carriage or mounting for rock drills, a shell having horizontally lying lateral projections, shell caps fitting over said projections, horizontal bolts for drawing said shell caps over said projections and V-shaped recesses and projections between the shell caps and the cylinder casing, whereby slack or play in all directions between the cylinder casing and shell caps is taken up by one adjustment and the

alinement of the cylinder casing restored to the original position.

2. In a carriage or mounting for rock drills, a shell having horizontally lying lateral projections, shell caps fitting over said projections and horizontally adjustable vertical liners between the projections and shell caps, horizontal bolts for drawing said shell caps over said projections and compressing said liners, and V-shaped recesses and projections between the shell caps and the cylinder casing, whereby slack or play in all directions between the cylinder casing and shell caps is taken up by one adjustment and the alinement of the cylinder casing restored to the original position.

In testimony whereof, I have hereunto set my hand.

ROBERT L. AMBROSE.