

Dec. 1, 1936.

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2,062,991

ROCK DRILL MOUNTING

Filed March 22, 1933

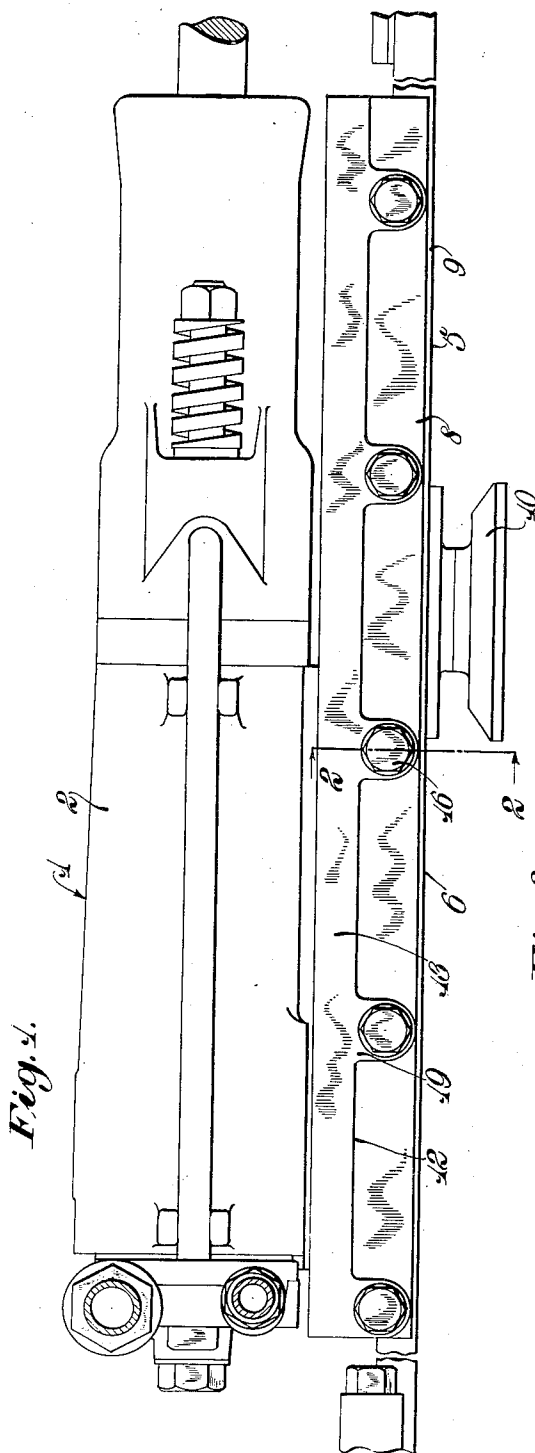


Fig. 1.

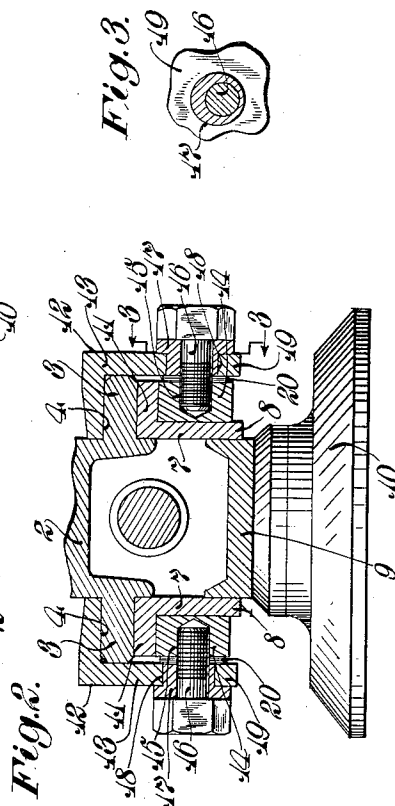


Fig. 2.

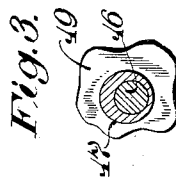


Fig. 3.



Fig. 4.

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UNITED STATES PATENT OFFICE

2,062,991

ROCK DRILL MOUNTING

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Application March 22, 1933, Serial No. 662,125

15 Claims. (Cl. 308—3)

This invention relates to rock drill mountings, and more particularly, but not exclusively, to improvements in an adjustable guide shell mounting for a rock drill of the drifter type.

5 An object of this invention is to provide an improved rock drill mounting. Another object is to provide an improved mounting for a drifter type rock drill. A further object is to provide an improved adjustable guide shell mounting for a rock drill of the drifter type. Still another
10 object is to provide an improved adjustable guide shell mounting having simple and effective means to compensate for any wear of the drill guides. Yet another object is to provide an improved
15 adjustable guide shell mounting having improved adjusting means for the drill guideways to compensate for the wear of the drill guides. A still further object is to provide simple and effective means whereby wear of the parts in the mounting
20 of a rock drill can be taken up and said parts effectively held in their adjusted relation. These and other objects and advantages of the invention will, however, hereinafter more fully appear.

In the accompanying drawing there is shown
25 for purposes of illustration one form which the invention may assume in practice.

In this drawing,—

Fig. 1 is a side elevational view of the illustrative form of the improved guide shell mounting
30 having a rock drill of the drifter type mounted thereon.

Fig. 2 is a transverse vertical sectional view taken substantially on line 2—2 of Fig. 1.

Fig. 3 is a detail sectional view taken on line
35 3—3 of Fig. 2.

Fig. 4 is a perspective view illustrating one of the eccentric adjusting elements.

In this illustrative embodiment of the invention there is shown a rock drill generally designated
40 1 of a well known design comprising a casing 2 having lateral guides 3, 3 adapted for sliding movement along the guideways 4, 4 of a guide shell mounting 5. The rock drill may be fed along the guide shell by any suitable means such
45 as a manually rotatable feed screw journaled on the shell and engaging a feed nut on the drill in the manner well known to those skilled in the art.

In this illustrative construction the shell guideways 4, 4 are made adjustable to compensate for
50 any wear of the drill guides 3, 3, as hereinafter described. The guide shell comprises a body 6 composed of longitudinal angle members 7, 7 arranged side by side in parallel relation and having their vertical sides or flanges 8, 8 welded to
55 a longitudinally and horizontally disposed chan-

nel member 9. Welded to the bottom surface of the member 9 is a usual trunnion engaging support or swivel 10. The horizontal upper flanges or sides 11, 11 of the parallel angle members 7, 7 constitute the bottom wear plates of the drill
5 guideways 4, 4. The upper wear plates of these guideways are formed by angle members 12, 12 arranged outside of the angle members 7, 7, as shown in Fig. 2, and having depending flanges or
10 sides 13, 13 arranged parallel with the flanges of the inner angle members 7, 7. The upper wear plates are made adjustable relative to the inner wear plates, and the means for adjusting the same comprises boss-like projections 14 welded to the
15 outer sides of the vertical flanges of the angle members 7, 7 and arranged at spaced points along the length of the angle members. These projections are provided with threaded openings 15
20 for receiving adjusting screws 16. Rotatably mounted on these screws are adjusting elements 17 having reduced eccentric portions fitting within bores 18 formed within depending lugs 19
25 integral with the angle members 12. When any wear of the drill guides 3, 3 occurs such wear may be taken up by loosening the screws 16 and
30 rotating the eccentric adjusting elements 17 to move the angle members forming the upper wear plates inwardly toward the angle members 7, 7 forming the inner wear plates, the screws there-
35 after being tightened to rigidly clamp the adjusting elements 17 in position between the projections 14 and the heads of the screws. Means is also provided for adjusting the outer angle
40 members 12, 12 laterally relative to the inner angle members 7, 7 and herein comprises shims or washers 20 interposed between the projections 14 and the inner surfaces of the adjusting elements 17. When it is desired to adjust the angle
45 members 12, 12 laterally, this may be accomplished by inserting or removing the shims.

As a result of this invention it will be noted that an improved adjustable guide shell for a rock drill is provided having improved and simplified
50 adjusting means for effectively taking up both lateral and vertical wear of the drill guides. It will further be noted that the improved adjusting means are of a simple and rugged construction which may be readily adjusted and which are of a construction whereby the shell may not
55 be materially heavier than the ordinary type of guide shell without such adjusting means. It will still further be evident that by the provision of separate adjusting devices for effecting lateral and vertical adjustments of the upper wear plates of the shell guideways, it is possible to com-

pensate for different degrees of vertical and lateral wear upon the guides, a feature of distinct advantage over guide shells of the ordinary type or adjustable guide shells having but a single lateral or vertical adjustment or a single adjustable device for both adjustments. These and other uses and advantages of the improved adjustable guide shell will be clearly apparent to those skilled in the art.

10 While there is in this application specifically described one form which the invention may assume in practice, it will be understood that this form of the same is shown for purposes of illustration and that the invention may be modified and embodied in various other forms without departing from its spirit or the scope of the appended claims.

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

20 1. An adjustable guide shell for rock drills including a shell body having, when in horizontal position, horizontal guideways formed by bottom wear plates and cooperating adjustable top wear plates, and means for adjusting said top wear plates vertically toward and from said bottom wear plates to vary the height of the guideways including eccentric adjusting elements rotatable on horizontal axes extending transversely across the guide shell and operatively interposed between the shell body and said top wear plates, and means for holding said adjusting elements in their adjusted position.

2. An adjustable guide shell for rock drills including a shell body having, when in horizontal position, horizontal guideways formed by bottom wear plates and cooperating adjustable top wear plates, and means for adjusting said top wear plates vertically toward and from said bottom wear plates to vary the height of said guideways including horizontal screws threadedly connected to the sides of the shell body and having their outer ends projecting horizontally laterally from the sides of the shell body and eccentric adjusting elements rotatably mounted on said screws and operatively connected to said adjustable top wear plates.

3. An adjustable guide shell for rock drills including a shell body having, when in horizontal position, horizontal guideways formed by bottom wear plates and cooperating adjustable top wear plates, and means for adjusting said top wear plates vertically toward and from said bottom wear plates to vary the height of the guideways including horizontal screws threadedly connected to the sides of the shell body and having their outer ends projecting horizontally laterally from the sides of the shell body and eccentric adjusting elements rotatably mounted on said screws and operatively connected to the adjustable top wear plates, said screws when tightened clamping said adjusting elements against rotation relative to said screws and shell body.

4. An adjustable guide shell for rock drills including a shell body having, when in horizontal position, horizontal guideways formed by bottom wear plates and cooperating adjustable top wear plates, and means for adjusting said top wear plates vertically toward and from said bottom wear plates to vary the height of the guideways including eccentric adjusting elements mounted on the shell body and operatively connected to the top wear plates, said adjusting elements rotatable on horizontal axes extending transversely across the guide shell, and means for adjusting said top wear plates laterally relative to the bot-

tom wear plates to vary the width of the guideways including adjusting elements interposable between the sides of the shell body and said eccentric adjusting elements.

5. An adjustable guide shell for rock drills including a shell body having, when in horizontal position, horizontal guideways formed by bottom wear plates and cooperating adjustable top wear plates, and means for adjusting said top wear plates vertically toward and from said bottom wear plates to vary the height of the guideways including eccentric adjusting elements mounted on the shell body and operatively connected to the top wear plates, said adjusting elements rotatable on horizontal axes extending transversely across the guide shell, and means for adjusting said top wear plates laterally relative to the bottom wear plates to vary the width of the guideways including adjusting elements interposable between the sides of the shell body and said eccentric adjusting elements, and means for clamping said eccentric adjusting elements and said lateral adjusting means in stationary adjusted position with respect to the shell body.

6. An adjustable guide shell for rock drills including a shell body having, when in horizontal position, horizontal guideways formed by bottom wear plates and cooperating top wear plates, and means for adjusting said top wear plates vertically toward and from said bottom wear plates to vary the height of the guideways including eccentric adjusting elements mounted on the shell body and operatively connected to the top wear plates, said adjusting elements rotatable on horizontal axes extending transversely across the guide shell, and means for adjusting said top wear plates laterally relative to the bottom wear plates to vary the width of the guideways including adjusting means interposeable between the sides of the shell body and said eccentric adjusting elements, and means for clamping said eccentric adjusting elements and said lateral adjusting means into stationary adjusted position with respect to the shell body including a plurality of separate adjusting devices one individual to each eccentric adjusting element.

7. An adjustable guide shell for rock drills including a shell body having, when in horizontal position, horizontal guideways formed by bottom wear plates and cooperating adjustable top wear plates, and means for adjusting said top wear plates vertically toward and from said bottom wear plates to vary the height of the guideways including eccentric adjusting elements mounted on the shell body and operatively connected to the top wear plates, said adjusting elements rotatable on horizontal axes extending transversely across the guide shell, means for adjusting said top wear plates laterally relative to the bottom wear plates to vary the width of the guideways including shims interposeable between the sides of the shell body and said eccentric adjusting elements, and means for clamping said eccentric adjusting elements and said shims in stationary adjusted position with respect to the shell body.

8. An adjustable guide shell for rock drills including a shell body having, when in horizontal position, horizontal guideways formed by bottom wear plates and cooperating top wear plates, and means for adjusting said top wear plates vertically toward and from said bottom wear plates to vary the height of the guideways including eccentric adjusting elements mounted on the shell body and operatively connected to the top wear plates, said adjusting elements rotatable on hori-

zontal axes extending transversely across the guide shell, and means for adjusting said top wear plates laterally relative to the bottom wear plates to vary the width of the guideways including 5
 5 shims interposeable between the sides of the shell body and said eccentric adjusting elements, and means for clamping said eccentric adjusting elements and said shims in stationary adjusted position with respect to the shell body including a 10
 10 plurality of separate adjusting devices one individual to each eccentric adjusting element.

9. An adjustable guide shell for rock drills including a shell body having, when in horizontal position, horizontal guideways formed by bottom 15
 15 wear plates and cooperating adjustable top wear plates, and means for adjusting said wear plates relative to each other to vary the height of the guideways including eccentric adjusting elements rotatably mounted on the side of the shell body 20
 20 on horizontal axes extending transversely across the shell body and operatively connected to the top wear plates, said eccentric adjusting elements adjustable into different positions to vary the relation of the top and bottom plates, and means 25
 25 projecting horizontally from the sides of the shell body and adjustable relative to said eccentric elements for holding said eccentric elements in their different adjusted positions.

10. An adjustable guide shell for rock drills including a shell body having, when in horizontal position, horizontal guideways formed by bottom 30
 30 wear plates and cooperating adjustable top wear plates, and means for adjusting said top wear plates toward and from said bottom wear plates to vary the height of the guideways including a 35
 35 plurality of eccentric elements operatively connected to the top wear plates and rotatably mounted on the shell body to turn on horizontal axes extending transversely across the shell body, 40
 40 said top wear plates having integral portions provided with bores for receiving said eccentric elements, and means projecting horizontally from the sides of the shell body for holding said eccentric elements in their different adjusted positions.

11. An adjustable guide shell for rock drills including a shell body having, when in horizontal position, horizontal guideways formed by bottom 45
 45 wear plates integral with the shell body and cooperating adjustable top wear plates, and means for adjusting said top wear plates vertically toward and from said bottom wear plates to vary the height of the guideways including adjustable 50
 50 eccentric elements rotatable on horizontal axes extending transversely across the shell body parallel with the plane of the guideways and operatively interposed between the shell body and the top wear plates, and means projecting horizontally 55
 55 laterally from the sides of the shell body for holding said eccentric elements in their adjusted position.

12. An adjustable guide shell for rock drills including a shell body having, when in horizontal position, horizontal guideways formed by bottom 60
 60 wear plates and cooperating adjustable top wear plates, said top plates having depending per-

forated lugs spaced along the length thereof, and means for adjusting said top wear plates vertically toward and from said bottom wear plates to vary the height of the guideways including eccentric 5
 5 adjusting elements mounted on the shell body for rotation on horizontal axes extending transversely across the shell body parallel with the plane of the guideways and having eccentric portions arranged in the perforations in the top 10
 10 plate lugs, and means projecting horizontally laterally from the sides of the shell body and cooperating with said eccentric elements for holding the latter in their adjusted position.

13. An adjustable guide shell for rock drills including a shell body having, when in horizontal 15
 15 position, horizontal guideways formed by bottom wear plates and cooperating adjustable top wear plates, and means for adjusting said top plates vertically toward and from said bottom wear plates to vary the height of the guideways including 20
 20 eccentric adjusting elements operatively interposed between the shell body and the top wear plates and rotatable about horizontal axes parallel with the planes of the wear plate surfaces, and means cooperating with said eccentric elements 25
 25 and projecting horizontally from the sides of the shell body for holding said eccentric elements in their adjusted position.

14. An adjustable guide shell for rock drills including a shell body having, when in horizontal 30
 30 position, guideways formed by bottom wear plates and cooperating adjustable top wear plates, the top plate having depending lugs spaced along the length thereof, and means for adjusting said top 35
 35 plates vertically toward and from the bottom wear plates to vary the height of the guideways including eccentric adjusting elements operatively interposed between the shell body and said top 40
 40 plate lugs and rotatable on horizontal axes parallel with the planes of the wear plate surfaces, and means cooperating with said eccentric elements and projecting horizontally from the sides of the shell body for holding said eccentric elements in their adjusted position.

15. An adjustable guide shell for rock drills including a shell body having, when in horizontal 45
 45 position, guideways formed by integral bottom wear plates and cooperating adjustable top wear plates, the shell body having projecting bosses formed thereon, said projecting bosses spaced 50
 50 along the length of the shell body and said top plates having depending lugs spaced along the length thereof and having openings adapted to register with openings in said bosses, and means 55
 55 for adjusting the top plates vertically toward and from the bottom wear plates to vary the height of the guideways including screws threaded within the openings in said bosses and projecting horizontally from the sides of the shell body, and eccentric 60
 60 adjusting elements rotatably mounted on said screws and having eccentric portions mounted in the openings in said lugs, said screws adapted to be tightened to hold the eccentric elements in their adjusted position.

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