

W. BOYD.
 REVOLVING HAMMER.
 APPLICATION FILED JULY 17, 1909.

956,515.

Patented May 3, 1910.



Fig. 2.

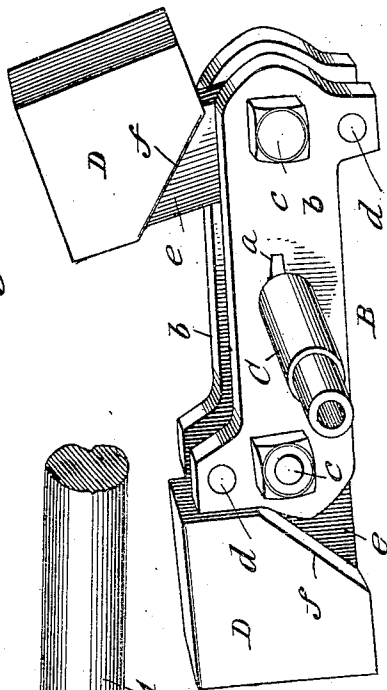


Fig. 1.

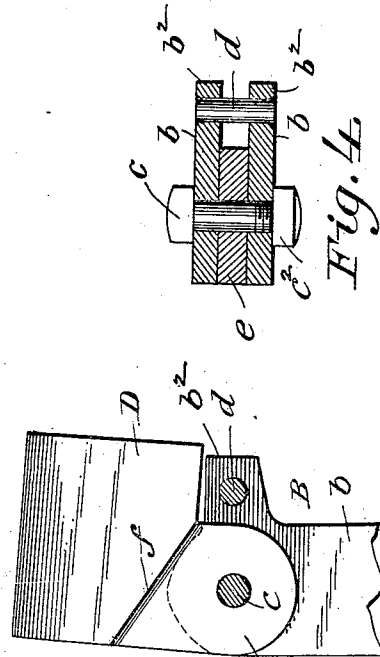


Fig. 3.

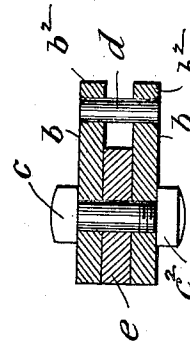


Fig. 4.

WITNESSES
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UNITED STATES PATENT OFFICE.

WHEELER BOYD, OF IDAHO SPRINGS, COLORADO.

REVOLVING HAMMER.

956,515.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WHEELER BOYD, citizen of the United States, residing at Idaho Springs, in the county of Clear Creek and State of Colorado, have invented new and useful Improvements in Revolving Hammers, of which the following is a specification.

My invention pertains to power hammers of the revolving type; and it consists in the peculiar and advantageous revolving hammer, hereinafter described and claimed, designed more particularly to be used to advantage in combination with the drill holder of a rock drill or any other endwise movable element.

In the accompanying drawings which are hereby made a part hereof: Figure 1 is a perspective view showing a portion of a drill holder and my novel revolving hammer as properly arranged, relative to each other, and also showing one of the heads of the hammer in the position it occupies immediately before it strikes the rear end of the holder. Fig. 2 is a similar view showing the manner in which the hammer heads pass the rear end of the holder. Fig. 3 is a detail view illustrative of the manner in which the heads are connected with the body of the hammer. Fig. 4 is a detail transverse section, taken in the plane indicated by the line 4—4 of Fig. 1.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which:

A is an endwise movable element which may be, and preferably is, the drill holder of a rock drill, and is designed to be supported and guided in the conventional or any other suitable manner which I have deemed it unnecessary to illustrate.

B is the body of the revolving hammer, and C is the shaft to which the said body is keyed, as indicated by *a*, or otherwise fixed so as to rotate therewith. The shaft C is designed to be supported by and rotate in a frame (not shown), and power is transmitted from a suitable motor (also not shown) to said shaft in order to actuate the hammer. As best shown in Figs. 1 and 2, the hammer body B comprises plates or bars *b* separated by an intervening space and having oppositely disposed edge projections *b*² at points adjacent their ends, transverse pins *d* fixed in the said edge projections, and bolts *c* extending through the plates or bars

b, back of the transverse pins *d* and equipped with nuts *c*² or other suitable devices for securing them in position.

In addition to the body B and shaft C, the revolving hammer comprises heads D carried by the body and designed to be thrown outwardly by centrifugal action incidental to the rotation of the body at a high rate of speed. The said heads are beveled, as indicated by *f*, whereby they are enabled to swing toward and from the position shown at the top of Fig. 1, and each head is also provided with a shank *e*, which is interposed and adapted to swing between the body plates *b*, and is pivoted on one of the before-mentioned transverse bolts *c*.

In the practical operation of my improvements, it will be manifest that when the hammer is revolved at a high rate of speed, each of the heads D will, while in the position shown at the top of Fig. 1, strike the rear end of the holder A a sharp blow, and will then swing backwardly on the said body and pass the rear end of the said holder, after the manner shown in Fig. 2. It will also be manifest that the centrifugal action incidental to the rapid rotation of the hammer, will cause each of the heads D to swing forwardly after said head clears the rear end of the holder A, and thereupon the edge projections *b*² of the plates or bars *b* will engage the inner side of the head, and by so doing will limit the forward swinging movement of the head and assure the head occupying the correct position, relative to the body, when said head again reaches its uppermost position and is about to strike the rear end of the holder A. During the rearward swinging movements of the heads D on the body B, the bevels *f* of the heads will obviously enable the same to clear the ends of the plates *b*, as will be readily understood by comparison of Figs. 1 and 2.

It will be gathered from the foregoing that my novel revolving hammer is compact and strong in construction, the latter being due in large measure to the provision of the edge projections *b*² for limiting the forward movements of the heads D, and the transverse pins *d* which connect said edge projections and lend increased strength thereto. It will also be noted that in addition to strengthening the edge projections *b*², the pins *d* serve to connect the plates or bars together in a strong and durable manner.

I prefer to employ bolts *c* for the purpose

of pivotally connecting the heads D to the body B, inasmuch as said bolts permit of either head being readily removed and as readily replaced in proper position relative to the body.

The construction herein illustrated and described constitutes the best practical embodiment of my invention that I have as yet devised, but it is obvious that in the future practice of the invention such changes or modifications may be made as do not involve departure from the scope of my invention as defined in the claim appended.

Having described my invention, what I claim and desire to secure by Letters-Patent, is:

A revolving hammer having a body comprising spaced plates or bars, oppositely disposed edge projections on said plates or

bars, and arranged adjacent the ends thereof, transverse pins extending through and adapted to lend increased strength to said edge projections and also adapted to connect the plates or bars together, and transverse bolts extending through the plates or bars and arranged back of the edge projections and the transverse pins therein, in combination with heads having shanks arranged between the plates or bars of the body and pivotally mounted on the transverse bolts, and also having the bevels *f*.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WHEELER BOYD.

Witnesses:

W. G. ATKINS,

R. MCGILLVIRRY.