

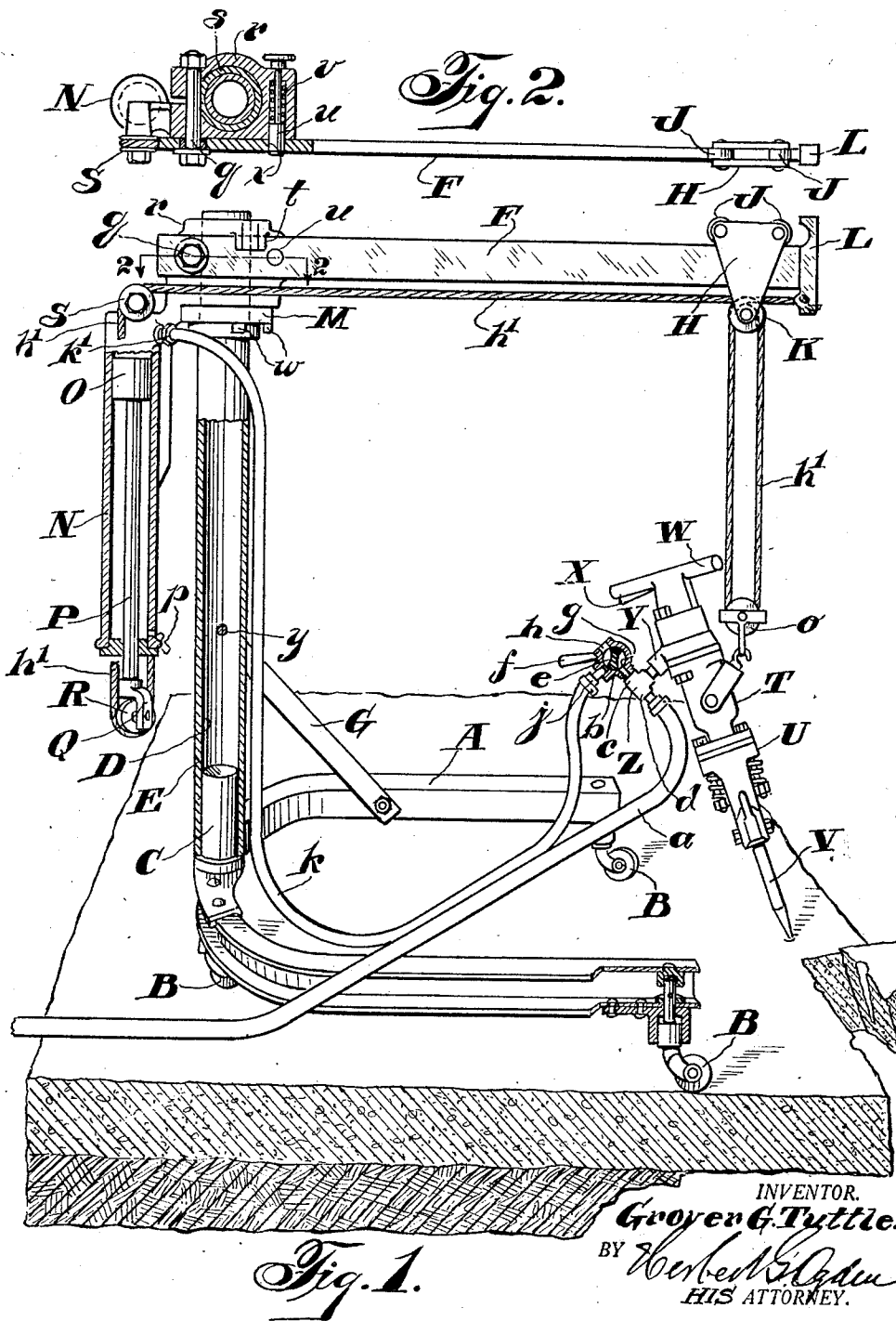
Jan. 17, 1928.

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1,656,546

MOUNTING FOR PERCUSSIVE TOOLS

Filed July 15, 1926



UNITED STATES PATENT OFFICE.

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MOUNTING FOR PERCUSSIVE TOOLS.

Application filed July 15, 1926. Serial No. 122,631.

This invention relates to mountings for percussive tools, but more particularly to a mounting for a fluid actuated rock drill of the hammer type styled a concrete or paving
5 breaker.

The objects of the invention are to enable a concrete breaker or similar tool to be mounted on a portable carriage in a simple and convenient manner, and permit the tool to be counterbalanced by a pressure fluid
10 device, so that the work required of the operator is lightened and made easier.

Other objects of the invention are to secure simple pressure fluid means for adjusting
15 the position and height of the tool to accommodate the tool for various classes and conditions of work, and locate the control of both the counterbalancing means and the tool itself in a convenient position for manual
20 manipulation by the operator.

Further objects of the invention will hereinafter appear, and the invention consists of the combinations of elements and arrangement of parts having the general mode
25 of operation substantially as hereinafter described and claimed in this specification and shown in their preferred form in the accompanying drawings, in which

Figure 1 is a vertical perspective view of a mounting partly in vertical section, and

Figure 2 is a detailed view of the upper arm partly in horizontal section on the line 2-2 of Figure 1 looking in the direction of the arrows.

Referring to the drawings, the U-shaped frame A is mounted on suitable rollers or casters B and rigidly attached to this frame is a post C shown in this instance as solid. The bore D of the vertical hollow post E
35 fits slidably over the solid post C. The post E supports the horizontal arm F and is held rigidly vertical by the brace G. Upon the arm E is mounted the saddle H having the rollers J which enable the saddle to move
40 freely on the arm F. In the lower part of the saddle H are mounted two sheaves K, only one of which is shown. A stop piece L is secured to the outer end of the arm F for limiting the outward longitudinal movement
50 of the saddle H.

Mounted on the vertical post E by means of the collar M is the cylinder N having the piston O with the piston rod P therein. Fixed to the outer end of the piston rod P
55 is the pulley Q having the sheave R. The

guide sheave S is mounted at the upper closed end of the cylinder N and on an outwardly extending portion of the collar M.

The percussive tool or concrete breaker T has the front head U holding the drill steel
60 V, the handle W and the hand throttle X. The inlet Y of the tool Z is provided with the T-shaped connection Z having the motive fluid supply pipe a and the valve b attached to its outwardly extending arms c and d.
65 The valve b has the movable member e; operated by the handle f; the inlet passage g, the exhaust passage h and the motive fluid supply pipe connection j.

Interposed between the connection j of the valve b and the connection k' of the cylinder N is the supply pipe k which conducts motive fluid from the connection j to the point
70 k' to operate the piston O.

The cable k' secured to the stop piece L, passes over one sheave K, downward around the sheave o, upward through the second sheave at K, then along the arm F through sheave S, downward and around sheave R and is secured to the lower end of cylinder N
80 at p.

Referring to Figure 2, the arm F is rotatably mounted upon the bolt q which passes through the split end of the collar r securing the collar r to the bushing s. While the arm F is in use it is held rigidly at right angles to the post E by the stop t and the pin u. The helical spring v holds the pin u in place.

When a heavy tool is in use the workman finds it difficult to support the weight of the tool and to move it from place to place, but with the apparatus described above substantially all of the weight of the tool is supported by the arm F through the cable k' and the workman is free to give his attention and strength to guiding the tool. When it becomes necessary to move the tool he does so by turning the handle f until a free passage for motive fluid is obtained, from the inlet g to the point k'. Pressure is thus exerted
90 upon the piston O and it is forced downward thus raising the tool. The arm F may then be swung to any desired position except that it is limited in its swing by the stops w which prevent the arm F from taking such a position that the combined weight of the arm F and tool T might upset the apparatus.

The mounting is disassembled by removing the percussive tool, drawing pin u from the hole x in the arm. The arm then swings
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downward about the bolt *g* and takes a position parallel to the post N. The pin *y* is removed and the arm F, cylinder N and post E may be lifted from post C as a unit.

I claim:

In a mounting for a fluid actuated rock drill, the combination of a portable carriage having a U shaped frame supported on wheels, a demountable, upright support, a horizontal arm adjustable on said upright support, a saddle having a pulley, said saddle traveling on said horizontal arm, a cylinder connected to the rearward end of said arm, a piston in said cylinder, a piston rod
15 having a pulley attached thereto, a cable

having one end secured to the outer end of said horizontal arm, then passing over said saddle pulley and forming a loop, and also passing over said piston rod pulley, the rearward end of the cable being connected to the cylinder, a sheave carried by the said loop, means for supporting a percussive tool on said sheave, means for supplying pressure fluid to the cylinder, whereby the weight of the tool may be counterbalanced by the pressure in the cylinder and the tool may be
20 adjusted vertically to the work. 25

In testimony whereof I have signed this specification.

GROVER G. TUTTLE.