Dec. 11, 1945. J. A. HENDERSON 2,390,709

PORTABLE DRILL SUPPORT

Filed March 17, 1944

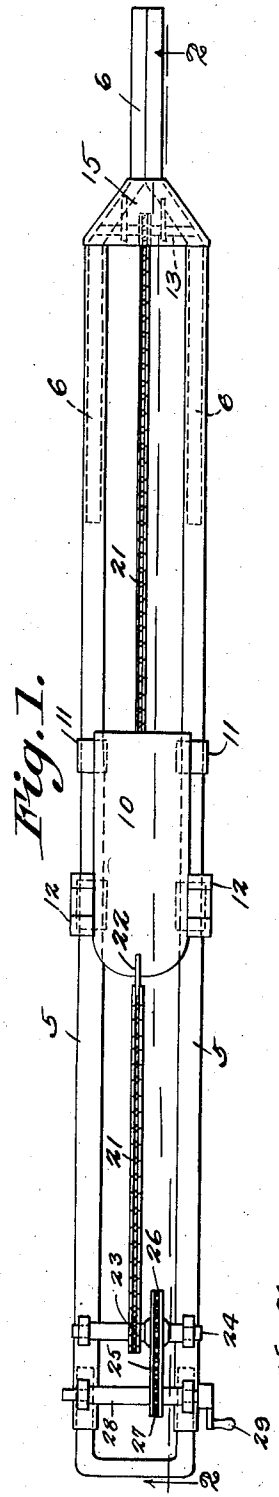


Fig. 1.

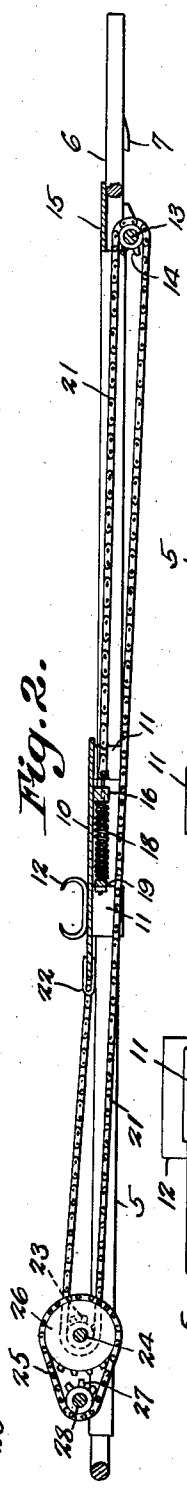


Fig. 2.

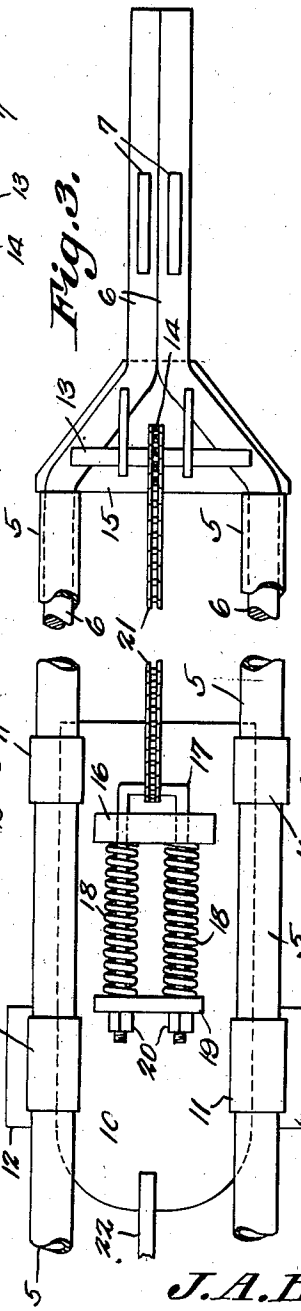


Fig. 3.

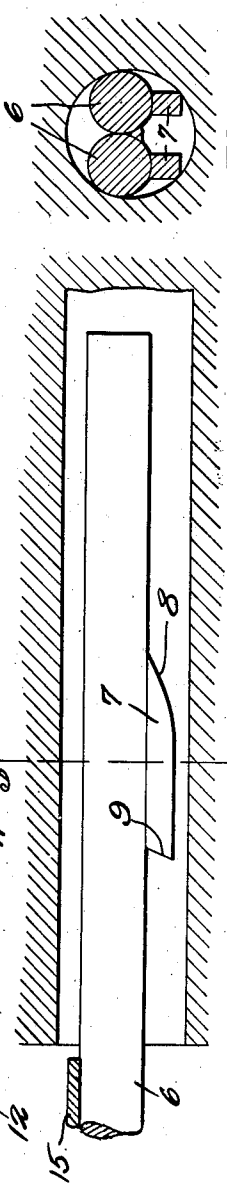


Fig. 4.

Fig. 5.

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PORTABLE DRILL SUPPORT

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1 Claim. (Cl. 255—51)

This invention relates to a portable support for jack hammers or drills, the primary object of the invention being to provide means for supporting a jack hammer during the drilling operation, thereby relieving the operator of the weight of the jack hammer, since it is common practice to manually support a jack hammer in its proper position, during drilling, to insure accurate drilling.

An important object of the invention is to provide a support of this character having means controlled by the operator, for feeding the jack hammer to its work, under the desired pressure for the effective operation of the jack hammer.

Still another object of the invention is to provide a quick detachable means for securing a jack hammer or drill to its support, without the use of tools.

Another object of the invention is to provide a support for a jack hammer which will absorb vibrations and shocks directed to the support by the rapidly operating jack hammer.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawing:

Figure 1 is a plan view of a portable support, constructed in accordance with the invention.

Figure 2 is a sectional view taken on line 2—2 of Fig. 1.

Figure 3 is an enlarged fragmental bottom plan view of the device.

Figure 4 is an enlarged sectional view illustrating the supporting end of the frame of the device as positioned in an opening adjacent to the opening being drilled.

Figure 5 is a sectional view taken on line 5—5 of Fig. 4.

Referring to the drawing in detail, the support comprises a frame embodying spaced parallel tubular members 5 in the open ends of which are positioned the supporting rods 6 which are secured to the tubular members in any suitable manner. As shown, the supporting rods 6 converge at the front end of the frame where they lie in close engagement with each other, the rods being preferably secured together by welding. Spurs 7 are secured to the lower sides of the supporting rods 6, as shown by Fig. 4 of the drawing, the front ends of the spurs being curved at 8, so that the supporting rods may be readily positioned in an opening formed in the surface to be bored. The rear ends of the spurs 7 are beveled at 9, presenting sharp edges to dig into the wall of the bore in which the supporting rods are positioned, and prevent the rods and frame from being forced outwardly away from the surface being bored or drilled.

The tubular members 5 provide a support for the carriage 10 which constitutes a wide plate having tubular bearings 11 that fit over the tubular members, so that the carriage may move freely, longitudinally of the tubular members to feed the jack hammer or drill supported thereon, to its work.

Clips indicated at 12 are mounted on the upper surface of the carriage 10 and are constructed to receive the handles of the usual jack hammer, the clips being such that they will grip the handles and securely hold the jack hammer in position.

Mounted at the forward end of the frame, is a shaft 13 on which the sprocket 14 is mounted, the shaft and sprocket being guarded against foreign matter, by means of the plate 15 which is shown as secured to the forward end of the frame, directly over the shaft and sprocket.

The reference character 16 designates a bracket which is secured to the undersurface of the carriage 10, the bracket having a pair of spaced openings, through which the U-bolt 17 extends, the U-bolt 17 providing a support for the coiled springs 18, that have their rear ends abutting the connecting bar 19, the opposite ends of the coiled springs engaging the bracket 16. Nuts 20 are mounted on the U-bolt 17 and provide means for tensioning the springs 18.

The carriage 10 is fed to its work, by means of the chain 21 which has one end thereof connected to the U-bolt 17, the opposite end thereof being connected to the rear end of the carriage 10, at 22, the intermediate portions of the chain moving over the sprocket 14 at the front end of the frame, and the sprocket 23, mounted on the shaft 24, at the rear end of the frame. Rotary movement is imparted to the shaft 24 and sprocket 23, through the chain 25 that operates over the substantially large sprocket 26, secured to shaft 24, and sprocket 27 secured to the shaft 28. The shaft 28 is rotated by means of the crank handle 29 which is secured to one end of the shaft 28, as shown by Fig. 1 of the drawing.

In the use of the device, the jack hammer or drill is positioned on the carriage as previously described. A pilot hole one foot deep is drilled

in the wall or surface, and the supporting rods 6 of the frame, are positioned in the pilot hole, supporting the frame. The operator now rotates the crank handle to feed the carriage 10 and jack hammer carried thereby, towards the surface adjacent to the pilot hole. The drilling operation may now be carried out, and by constantly exerting pressure on the crank handle 29, the carriage and jack hammer supported thereon will be fed to its work, the weight of the jack hammer being supported by the frame of the device, thereby relieving the operator of the excessive weight of the jack hammer.

What is claimed is:

In a portable jack hammer support, an elongated frame embodying a rod formed into a substantial U-shaped member, the ends of the rod converging and being secured together providing a wide extension at the forward end of the frame adapted to be positioned in a pilot opening in the surface being bored, supporting the frame, laterally spaced spurs extending downwardly from the extension, adapted to dig into the wall of the pilot opening securing the frame against twisting, and a carriage on the frame to which a jack hammer is secured and fed to its work.

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