

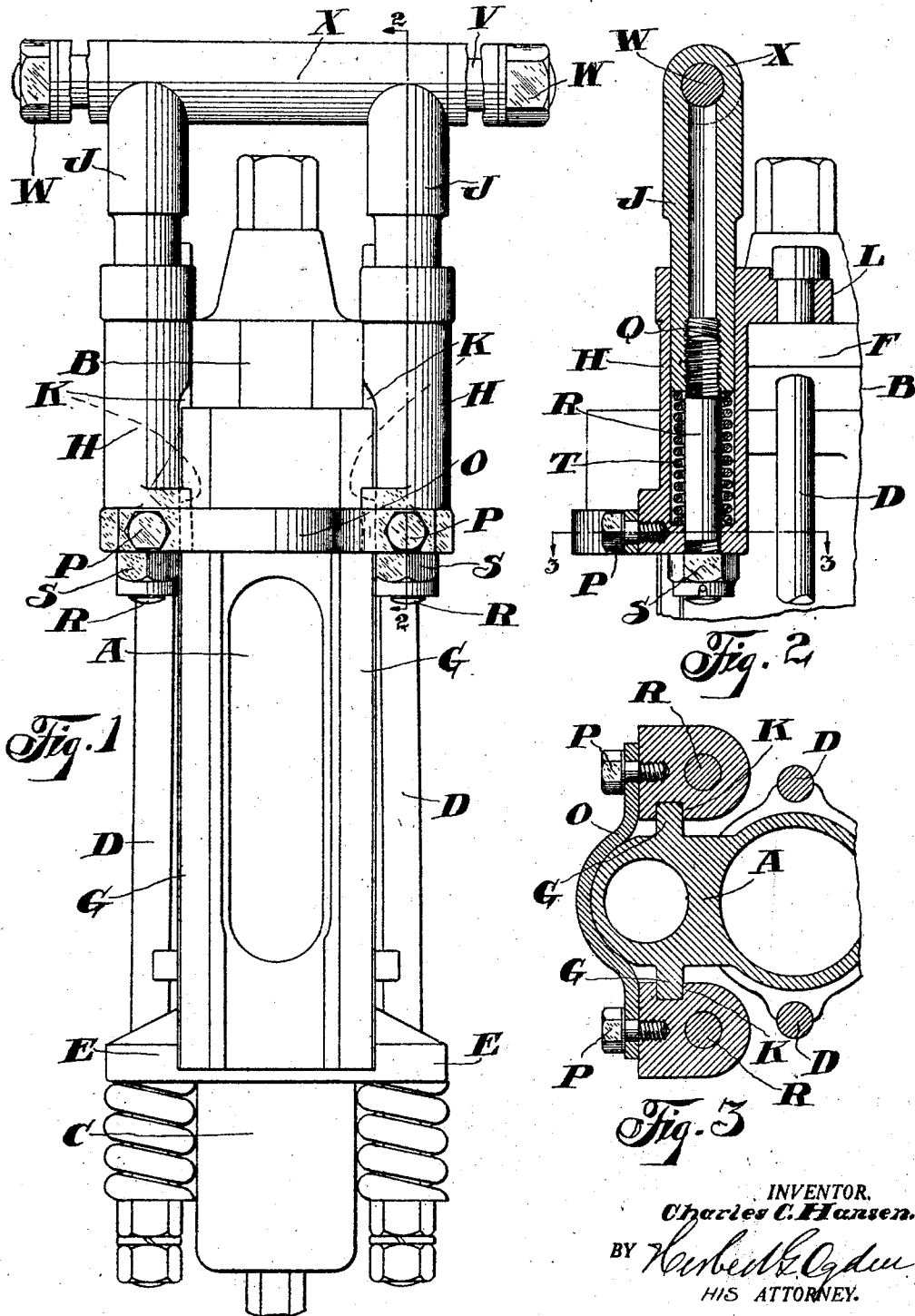
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C. C. HANSEN

SPRING SINKER HANDLE FOR DRIFTERS

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SPRING SINKER HANDLE FOR DRIFTERS.

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To all whom it may concern:

Be it known that I, CHARLES C. HANSEN, a citizen of the United States, and a resident of Easton, county of Northampton, and State of Pennsylvania, have invented a certain Spring Sinker Handle for Drifters, of which the following is a specification accompanied by drawings.

This invention relates to rock drills but more particularly to a means for converting a hammer drill of the drifter type into a hand-held drill of the sinker or plunger type.

Hammer drills of the aforesaid "Leyner" or drifter type are intended to be used mounted on either columns, tripods, or quarry bars, and are not equipped with handles for manual operation in vertical down drilling. Due to their great weight it is usually impossible to use them without some such support as a tripod or column. But in the case of the lighter drifters, weighing 125 lbs. or less, without the cradles, it is often desirable to use these drills as sinkers and pluggers, and thus cut down on the equipment necessary for a small quarry or excavating job.

One of the objects of this invention, therefore, is to provide a simple, rugged, detachable handle for use with a light rock drill of the "Leyner" or drifter type.

Another object of this invention is to provide a handle which, through its simplicity, may be quickly and conveniently applied to the rock drill, without any appreciable loss of time. A third object of this invention is to provide an easily attachable handle for the aforesaid type of drill which will also absorb a great deal of the vibration and kick back of the piston, which is very considerable with a drill of the drifter type and which would otherwise be transmitted to the hands and arms of the operator, making the drill difficult to operate.

My invention consists of the combination of elements, and features of novelty described in the specification, set forth in the appended claims, and illustrated in the accompanying drawings in which,

Figure 1 is a side elevation of a drifter or "Leyner" type drill with the handle attached,

Figure 2 is a detailed vertical sectional view of the handle and so much of the drill as will serve to make the invention clear,

taken along the line 2—2 in Figure 1, looking in the direction of the arrows, and

Figure 3 is a further enlarged cross sectional view of the drill along the line 3—3 in Figure 2 looking in the direction of the arrows.

Referring to the drawings, the cylinder A of a percussive fluid actuated rock drill is held in fixed relation to the back and front heads B and C respectively by means of the customary side bolts D, which engage the lugs E on the front head and the lugs F (shown in Figure 2) on the back head. These side bolts D in turn are fitted with the usual coil springs and double lock nuts and washers, which however do not enter into the invention. The cylinder A has cast integral with it the usual slides or ribs G intended to fit into the grooves provided in the cradle of a drifter mounting for the drill. The handle itself consists of three general elements as follows, the brackets H, legs J and cross handle bar X. The brackets H are cylindrical in form and grooves K have been cut in them to fit over the ribs or slides G of the drill cylinder. Retaining lugs L are also made integral with the brackets for engagement between the back head lugs F, and the heads of the side bolts D. A cross brace O between the two brackets H preferably attached to the brackets by bolts P serves to strengthen the brackets in relation to each other. The brackets H have hollow bores to receive the handle legs J which are likewise preferably hollow and threaded in the inside bores Q. In the assembly thereof the legs J enter the bores of the brackets H at one end, and are held in place by threaded studs R, which enter and engage the threaded bores Q of the legs and are held in relation to the brackets H by means of the stud nuts S. Coil springs T are also inserted in the bores of the brackets H, and are compressed between the bottoms of the legs J and the shoulders in the bore of the brackets H. The legs J are suitably attached to the hollow cross handle bar X which may be covered with some resilient material such as rubber hose. A handle rod V of any preferred length extends through the cross handle bar X and is fitted at both ends with the nuts W. The application of this handle to a drill and its use therewith is as follows: Assuming that a drill of the "Leyner" or

drifter type is to be used as a hand-held drill, the operator first backs it off its cradle by means of the usual crank attached to the cradle. He then loosens the side bolts D
 5 withdraws them, and holds the drill preferably in a vertical position with its back head B uppermost. As a convenient mode of assemblage the brackets H, assembled with legs J, the cross bar K, and the cross brace
 10 O may then run over the slides or ribs G until the retaining lugs L stop against the back head lugs E. The side bolts D are then replaced, their heads serving to hold the retaining lugs L against the back head
 15 lugs E and are drawn up tight. The drill is then ready for use. Any other convenient mode of attaching the handle to the rock drill may be used. I am not to be understood as limiting my invention to the exact
 20 and precise details of the drawings but more to the general elements of the combination which provide for the adequate bracing of the handle against the different longitudinal and vertical strains set up by its mode of
 25 use.

I claim:

1. A spring handle for attachment to a fluid operated percussive rock drill of the drifter type, comprising handle brackets
 30 having grooves adapted to engage the usual ribs or slides on the cylinder of the rock drill, a cross brace between the said brackets, lugs on said brackets corresponding to the back head lugs of the rock drill, for attaching
 35 the said brackets to the cylinder by means of the usual side bolts, a handle attached to said brackets, and spring means within said brackets for absorbing the vibration of the rock drill.
- 40 2. A spring handle for attachment to a fluid actuated percussive rock drill of the drifter type, comprising handle brackets having retaining lugs integral therewith for attaching said brackets to the rock drill

by means of the usual back head lugs and
 45 side bolts, said brackets also having grooves for slidable engagement with the usual ribs or slides of the rock drill cylinder, a cross brace between said brackets, legs fitting into
 50 said brackets, a cross bar attached to said legs, and spring means between said brackets and said legs for absorbing the vibration of the rock drill.

3. A spring handle for attachment to a fluid actuated percussive rock drill of the
 55 drifter type, comprising hollow handle brackets, a cross brace holding said brackets in spaced relationship to each other, said brackets being formed with grooves for engagement with the usual ribs or slides on
 60 the rock drill cylinder, for holding the brackets in longitudinal relationship to the cylinder, retaining lugs integral with said brackets for engagement between the usual
 65 back head lugs and the heads of said side bolts of the drill for preventing longitudinal movement of the said brackets, shoulders at one end of the hollow bores of the brackets, hollow cylindrical interiorly threaded handle
 70 legs entering said cylindrical bores in said brackets and stud bolts entering the brackets from the ends opposite to the legs for retaining the legs in the brackets by engagement
 75 with interiorly threaded ends of the said legs, securing means at the opposite ends of said bolts bearing against the said brackets, coil springs in the bores of the brackets surrounding said stud bolts and compressed between the ends of the said legs and the
 80 said shoulders in the bores of said brackets, a hollow cross bar joining said legs, a resilient outer covering on the said cross bar, a handle rod through said cross bar, and nuts at each end of said handle rod.

In testimony whereof I have signed this
 85 specification.

CHARLES C. HANSEN.