

(No Model.)

J. HENDERSON & F. McCONAUGHY.
STONE LIFTER.

No. 543,017.

Patented July 23, 1895.

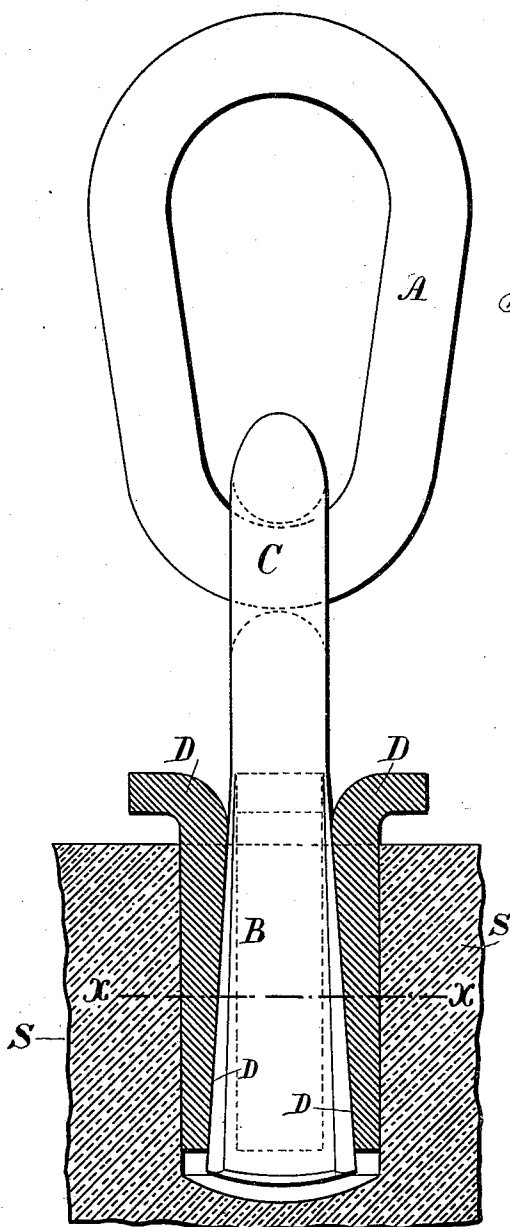


Fig. 1.

Fig. 3.

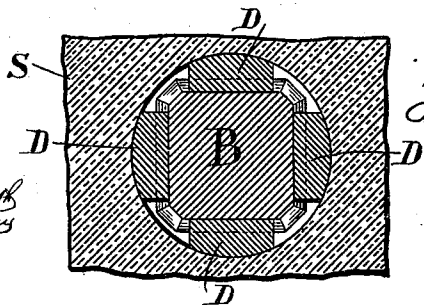


Fig. 2.

Witnesses
Chas. M. Smith
Geo. T. Pinckney

Inventors
James Henderson
Francis McConaughy
Per Lemuel W. Ferrell
Atty.

UNITED STATES PATENT OFFICE.

JAMES HENDERSON AND FRANCIS McCONAUGHY, OF SOMERVILLE, NEW JERSEY.

STONE-LIFTER.

SPECIFICATION forming part of Letters Patent No. 543,017, dated July 23, 1895.

Application filed June 23, 1894. Serial No. 515,538. (No model.)

To all whom it may concern:

Be it known that we, JAMES HENDERSON and FRANCIS McCONAUGHY, citizens of the United States, residing at Somerville, in the county of Somerset and State of New Jersey, have invented an Improvement in Stone-Lifters, of which the following is a specification.

This invention relates to a stone-lifter or lewis adapted to use in a circular hole.

Stone-lifters have heretofore been made with a central bolt widest at the bottom and with two sides inclined or converging and the hole has been made polygonal and wider at the bottom than at the top for the reception of the lewis, and in some instances an expandible bolt has been made to pass into a circular hole, the lower end of the bolt being conical and acting against a split cylinder to expand the same into the circular hole.

In the present invention considerable time is saved because the hole in the stone only requires to be drilled to the desired depth, and the lewis or stone-lifter acting all around within the hole is less liable to break out than those stone-lifters that only act at the opposite sides or ends of the hole.

In our present improvement the central bolt is tapering and largest at the lower end, and wedges are introduced into the hole around this conical or tapering bolt, and we prefer to employ four wedges, so that they take a uniform bearing upon the stone, and the entire stone around the hole would have to break away to allow the lewis to separate, thus obtaining greater strength in the stone-lifting device by this connection with the stone.

In the drawings, Figure 1 is a section of the stone and an elevation of the central bolt with two of the wedges in position. Fig. 2 is a sectional plan at the line $x x$, and Fig. 3 is a detached view of one of the wedges.

The bolt B is preferably formed with an eye Cat or near the upper end, through which passes a link A, that is adapted to receive a hook or other connecting device to the hoisting-tackle.

The lower end of the bolt B is largest, the sides of such bolt being conical or tapering, and the wedges D taper at about the same angle as the exterior surface of the bolt B, and are preferably made with hook-shaped

upper ends, as represented, and the exterior surfaces of these wedges are curved to correspond to the interior surface of the circular hole that is drilled in the stone S for the reception of the lewis or stone-lifting device, and the inner or back surfaces of the wedges correspond in shape to the exterior surfaces of the tapering portion of the bolt B.

It will now be understood that after a hole has been drilled in the stone of the proper size and depth the bolt B is inserted into the same, and the four wedges D are introduced around the bolt and they are tapped with a hammer to cause them to take a proper bearing against the stone, and in consequence of the friction against the stone being greater than the friction between the wedges and the central bolt, power applied to lift the stone by the central bolt will cause the wedges to hold firmly to the stone and the lifting device cannot pull out of the stone unless the stone breaks away laterally and separates from the mass of stone that is being lifted, and when the stone has been properly placed the lewis is separated therefrom by loosening the wedges separately and lifting them out from the circular hole previous to the removal of the bolt B. This can usually be effected by simply striking the upper end of the bolt B, as there is usually sufficient distance between its lower end and the bottom of the hole for the bolt to drop and the wedges to be loosened by tapping on the bolt. The bolt and wedges are most easily made and applied when the lower end of such bolt is square and the flat tapering sides are inclined or pyramidal.

We claim as our invention—

The combination in a stone lifting device, of a central bolt having an eye at the upper end to which the lifting device is applied, a square lower end and sides tapering uniformly, four separate wedges fitting against the tapering sides of the bolt and adapted to fit within a uniformly circular hole drilled in the stone, substantially as set forth.

JAMES HENDERSON. [L. S.]
FRANCIS McCONAUGHY. [L. S.]

Witnesses:

JAMES J. MEEHAN,
WM. JONES.