No. 798,440. PATENTED AUG. 29, 1905.

T. E. McNULTY.

LEWIS.

APPLICATION FILED MAY 29, 1903.

Fig. 1.

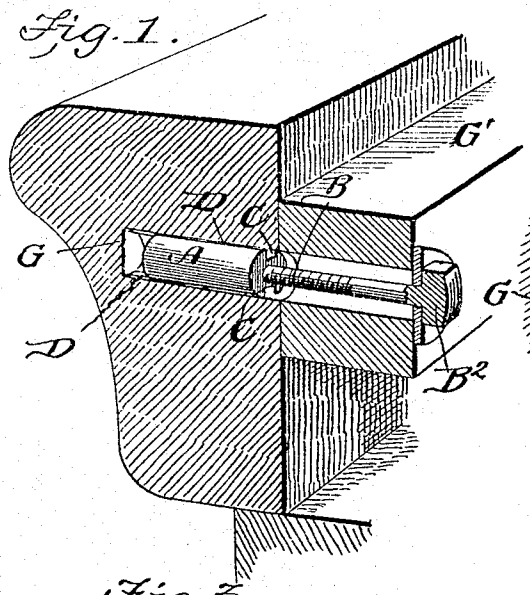


Fig. 2.

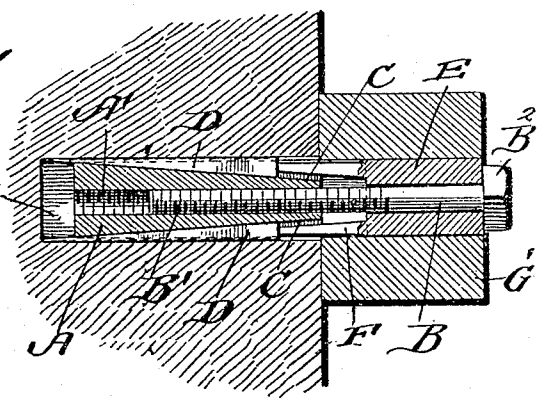


Fig. 5.

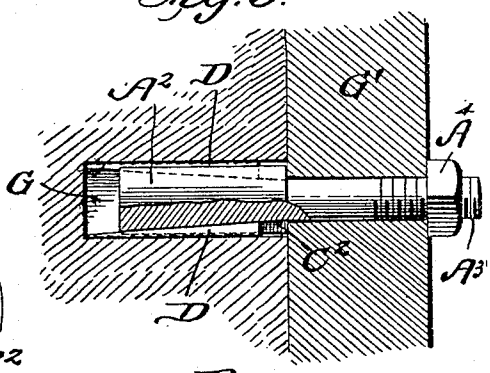


Fig. 3.

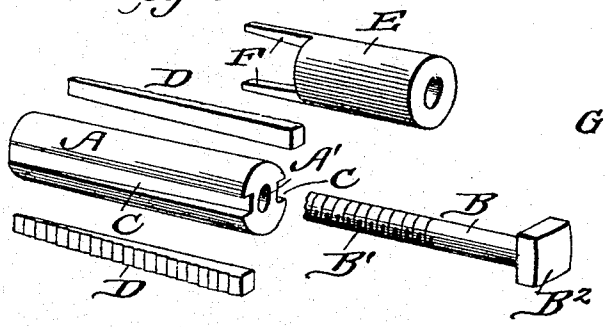


Fig. 6

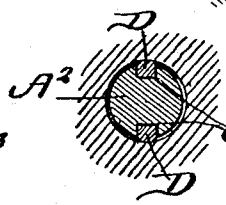


Fig. 4.

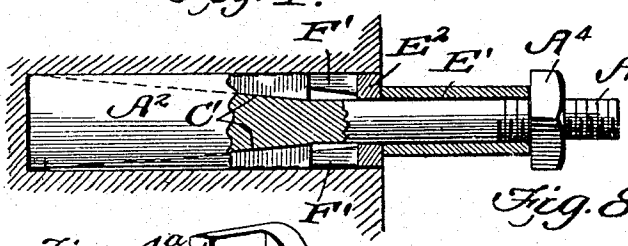


Fig. 4ª.

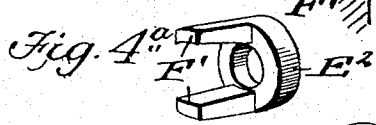


Fig. 7.

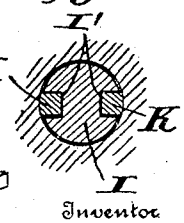


Fig. 8.

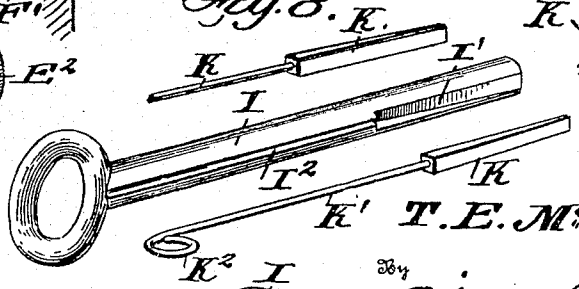
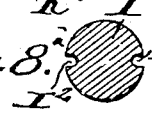


Fig. 8ª.



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UNITED STATES PATENT OFFICE.

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LEWIS.

No. 798,440. Specification of Letters Patent. Patented Aug. 29, 1905.

Application filed May 29, 1903. Serial No. 159,290.

To all whom it may concern:

Be it known that I, THOMAS E. McNULTY, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented a new and useful Lewis, of which the following is a specification.

This invention is an expansible bolt or lewis, the object of the invention being to provide a simple and efficient device by means of which large pieces of stone or rock can be lifted and also by means of which stone and similar objects can be securely connected to either wood or iron; and with these objects in view the invention consists in the novel features of construction and combination of parts hereinafter fully described, and pointed out in the claim.

In the drawings forming a part of this specification, Figure 1 is a sectional perspective view illustrating the practical application of my invention. Fig. 2 is a longitudinal sectional view illustrating the manner of applying the expanding-wedges. Fig. 3 is a view showing the various parts of the device separated. Fig. 4 is a sectional elevation illustrating a slightly-modified form of construction. Fig. 4^a illustrates a detail in perspective. Fig. 5 is an elevation, partly in section, illustrating a simplified modification. Figs. 6 and 7 are cross-sectional views. Fig. 8 is a detail perspective view of the device constructed especially for use as a lewis, and Fig. 8^a is a cross-sectional view taken through the upper portion of the bolt.

Referring now to Figs. 1, 2, and 3, A represents a cylindrical block having a threaded longitudinal bore A', into which screws the threaded end B' of the bolt B, said bolt having a head B^2. The block A has tapering grooves C cut in the sides thereof at diametrically opposite points, the forward ends of said grooves being deepest, the rear ends terminating in the cylindrical surface of the block. Wedges D are fitted into the grooves C, their broad ends being arranged foremost, and surrounding the bolt is a sleeve E, having legs F, which bear against the ends of the wedges D, and when the bolt B is turned so as to screw into the block A the said block is drawn toward the head of the bolt, the legs F bearing upon the wedges and forcing them down the inclined or tapering grooves, thereby forcing said wedges outwardly against the sides of the opening G produced in the block of stone or other material, the bolt and sleeve passing through a beam G', of iron or wood, and thereby securely connecting the said wood or iron by the expansion of the parts before referred to.

In Figs. 4 and 5 the inner end of the bolt A^2 has the tapering grooves C' produced therein, and the outer end of the bolt is threaded, as shown at A^3, and upon which screws a nut A^4, bearing upon a sleeve E' in Fig. 4 and directly against the beam in Fig. 5. In Fig. 4 a short collar E^2, carrying the legs F', is arranged between the wedges and the sleeve E', so that when the nut is tightened the sleeve and collar will force the wedges inwardly, thereby spreading them, as before described, whereas in Fig. 5 as the bolt is drawn outwardly the expansion takes place in the same general manner, the wedges being held firmly within the opening G', previously referred to as being made in the block of stone or other material.

In Fig. 8 I have shown my invention specially constructed as a lewis, in which the bolt or shank I has the inclined grooves I' produced at its inner end, and communicating with said inclined grooves are the longitudinal grooves I^2. Wedges K are adapted to work in the inclined grooves I, each wedge having a rod K' connected thereto, which rod slides in the grooves I^2 and has a suitable handle K^2 at its upper end. When the end of shank or bolt is inserted in the block of s to be raised, the wedges K occupy their uppermost positions, and after the said end has been so inserted the said wedges are then forced downwardly by means of the rods K', thereby expanding or forcing the said wedges apart and locking the bolt or shank and wedges securely in the opening produced in the rock to be lifted.

It will thus be seen that my invention is capable of use in a multiplicity of forms and that by means of the same large blocks of stone can be secured to wood or metal, as desired; but it will also be noted that the various parts of the device can be quickly and easily manipulated, so as to contract them whenever it is desired to disconnect the several parts, and it may be said that after the block A and wedges D have been securely locked in the opening G the sleeve E is removed, and in cases where the opening in the beam G' is of a greater diameter than the bolt-head a washer may be employed, as most clearly shown in Fig. 1 of the drawings.

The wedges D may have their edges ne

insure them biting into the stone, and thereby decrease the possibility of slipping.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A device of the kind described comprising a cylinder of uniform diameter having a threaded longitudinal bore, the said cylinder having external tapering grooves cut on opposite sides thereof, the forward ends of the grooves being of considerable depth and the rear ends of the grooves terminating in the circumferential surface of the cylinder, wedges adapted to fit in the grooves, a bolt having a head and a threaded portion adapted to work in the bore of the cylinder, a sleeve on the bolt between the head and the cylinder, and inwardly-projecting legs carried by the sleeve and concentric with respect to the bolt, said legs bearing at their inner ends on the outer ends of the wedges, as and for the purpose set forth.

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