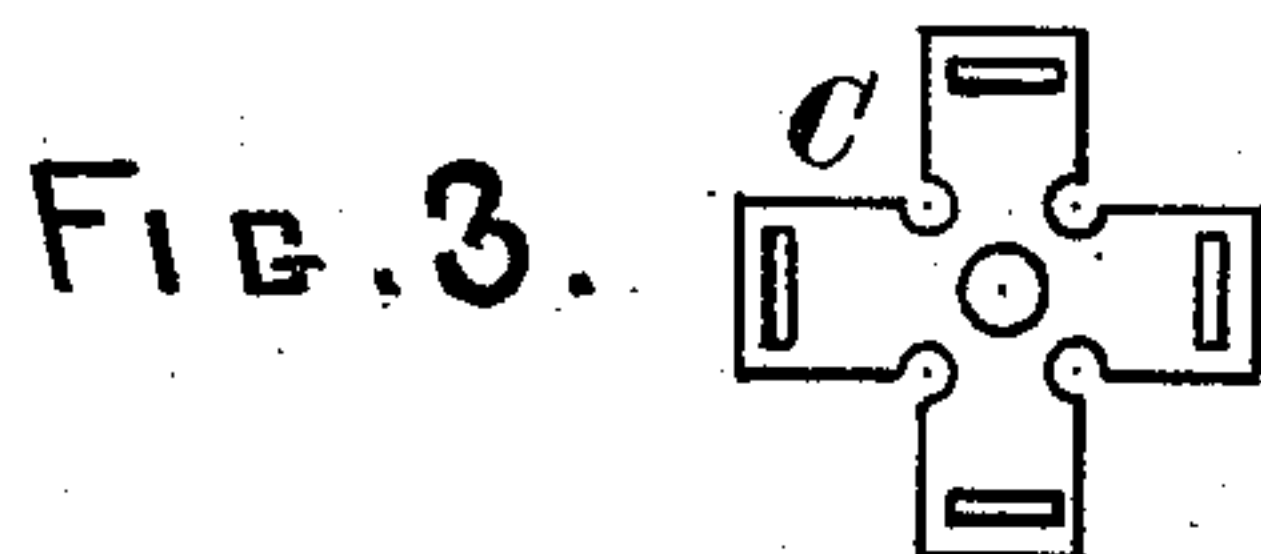
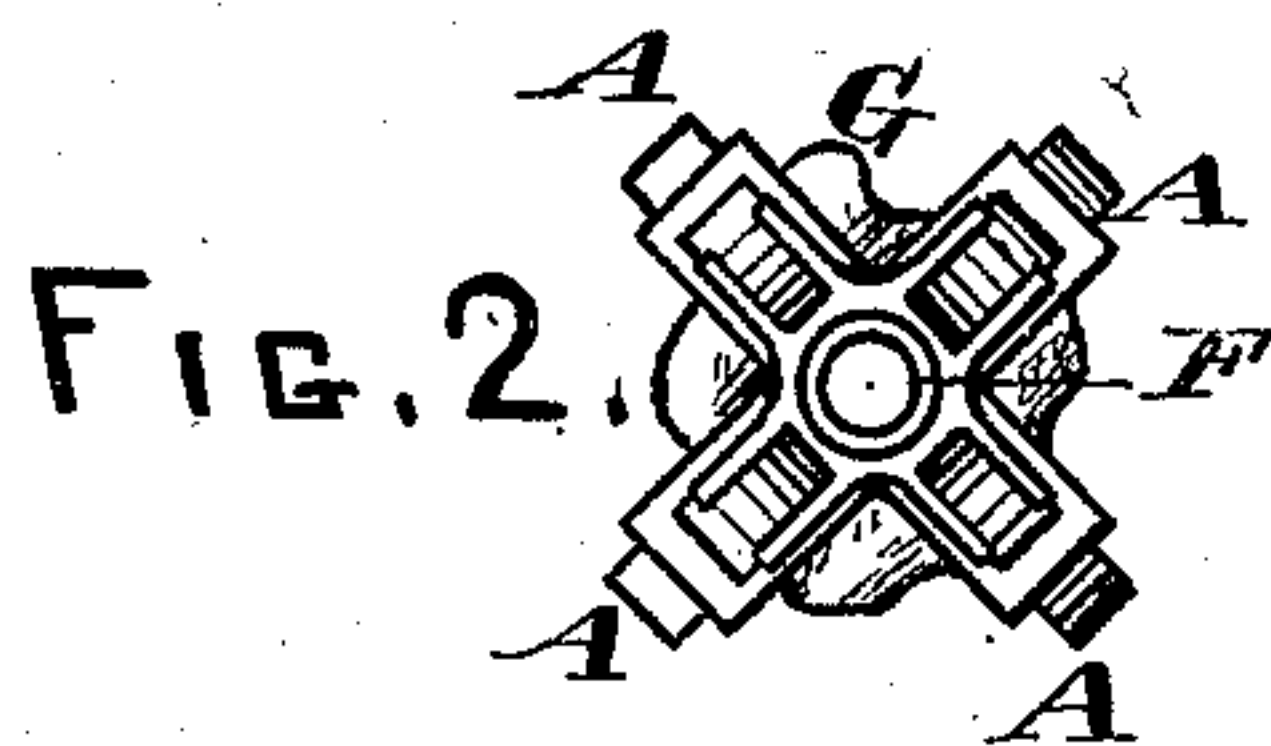
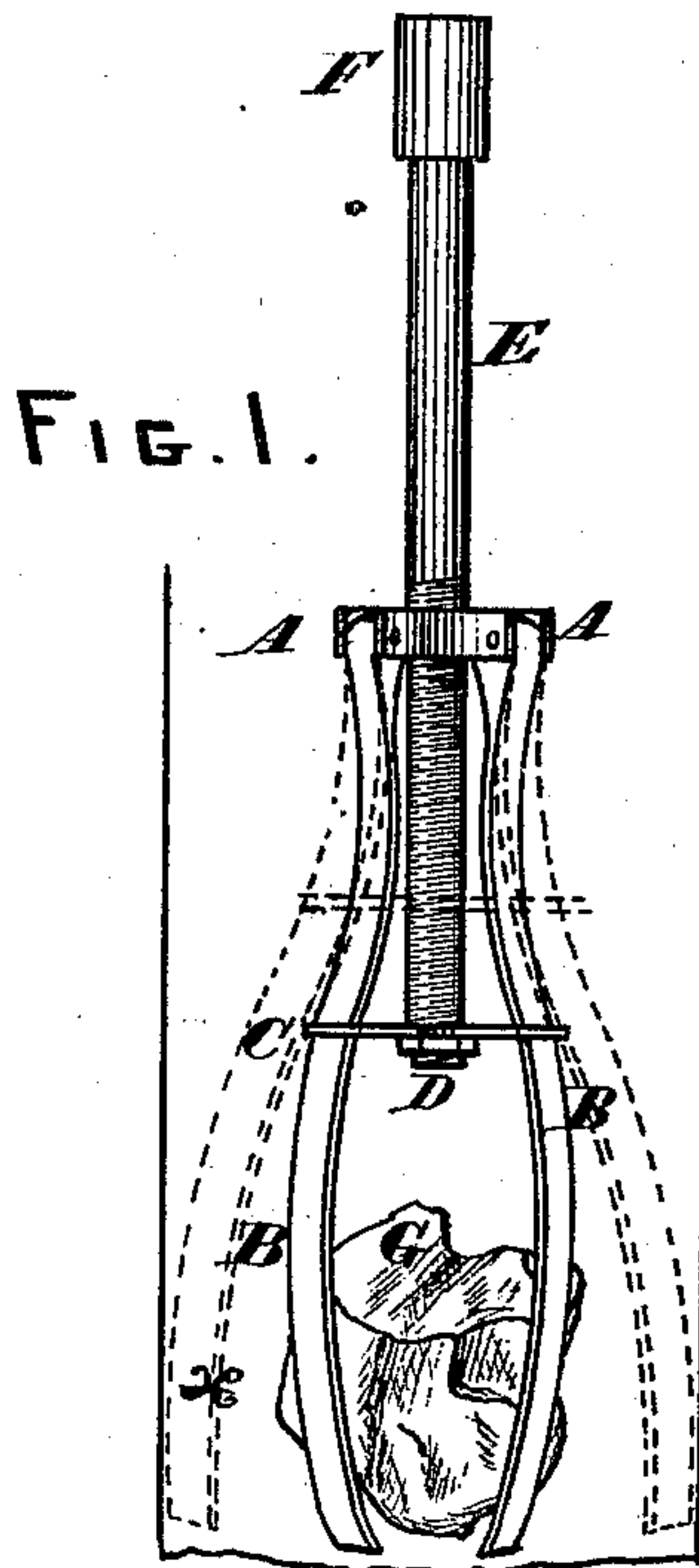


C. CAMPBELL.

GRAPPLES FOR REMOVING STONE FROM BORED WELLS.

No. 176,737.

Patented May 2, 1876.



ATTEST:

O. H. Adix.
Notary Public

INVENTOR:

Charles Campbell.
By G. A. Chapin,
Atty.

UNITED STATES PATENT OFFICE.

CHARLES CAMPBELL, OF CAMBRIDGE, ASSIGNOR TO JAY CAMPBELL, OF
DOOR CREEK, WISCONSIN.

IMPROVEMENT IN GRAPPLES FOR REMOVING STONE FROM BORED WELLS.

Specification forming part of Letters Patent No. **176,737**, dated May 2, 1876; application filed
January 20, 1876.

To all whom it may concern:

Be it known that I, CHARLES CAMPBELL, of Cambridge, in the county of Dane, in the State of Wisconsin, have invented a new and useful Improvement in Grapples for Removing Stone from Bored Wells, of which the following is a specification:

The present invention relates to a device for removing stone from bored wells, but it may be used for removing stone from other wells. In sinking wells in many places the auger comes in contact with small boulders, which, if not removed, prevent further boring. My object is to remove such obstructions by means of a simple device or apparatus which is portable and not expensive. The nature of the invention consists in three or more curved prongs, which are jointed to a cross-head, and are expanded or compressed by means of a vertical screw-rod and a sliding cross-head, through which the prongs pass, as the whole is hereinafter to be fully described and shown.

In the drawing, Figure 1 is an elevation of my improvement in grapples represented as grasping a stone; Fig. 2, a top view of the grapple with the prongs closed; Fig. 3, a plan view of the sliding cross-head through which the prongs pass.

A represents a cross-head, to which prongs B are jointed, as shown at Figs. 1 and 2. A rod, E, provided with a screw-thread, is tapped through this cross-head A, and its lower end is secured to the sliding cross-head C at D, so as to turn or rotate freely. In this case a tenon is turned on the rod and put through

the cross-head C, and held in place by a nut, D, and a washer. The prongs are to be made of steel or other suitable spring metal, and their points curved inward, so as to fasten to the stone to be raised. The rod E is provided with a coupling-sleeve, F, that an extension-rod, of gas-pipe, or other suitable rod, may be attached thereto by a screw-thread in the ordinary manner, said rod, in sections or in one piece, extending above the ground surface to permit it to be turned or operated.

In practice the grapple is to be lowered to the stone with arms or prongs B extended, as shown by dotted lines *x*, against the walls of the well, or nearly to them, so as to pass under the stone. The rod E is then turned, so as to force the cross-head C down on the prongs, to bring them firmly against the stone, as shown in Fig. 1. The device is then lifted out of the well, bringing the stone between the prongs. The device is also adapted to remove stone and other substances from the ordinary dug wells.

Four prongs are shown in the grapple, but three or more prongs may be used.

I claim and desire to secure by Letters Patent—

The prongs B, three or more, in combination with the sliding cross-head C, cross-head A, and coupling-rod E, in one or more sections, as and for the purpose set forth.

CHARLES CAMPBELL.

Witnesses:

G. L. CHAPIN,
O. H. ADIX.