

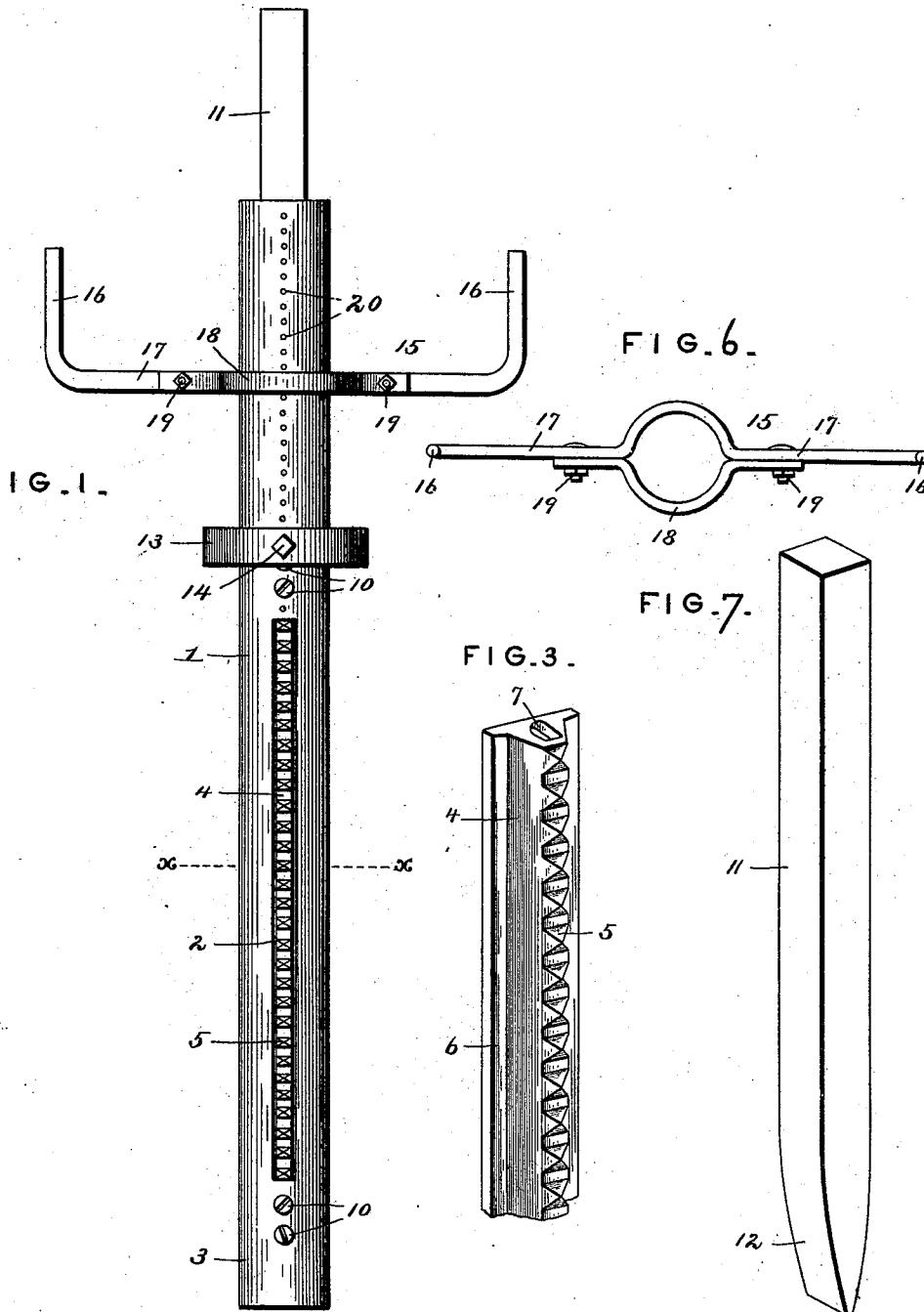
(No Model.)

2 Sheets—Sheet 1.

J. M. CROUCH.
QUARRYING TOOL.

No. 512,605.

Patented Jan. 9, 1894.



Witnesses

Harry L. Ames.
N. W. Riley

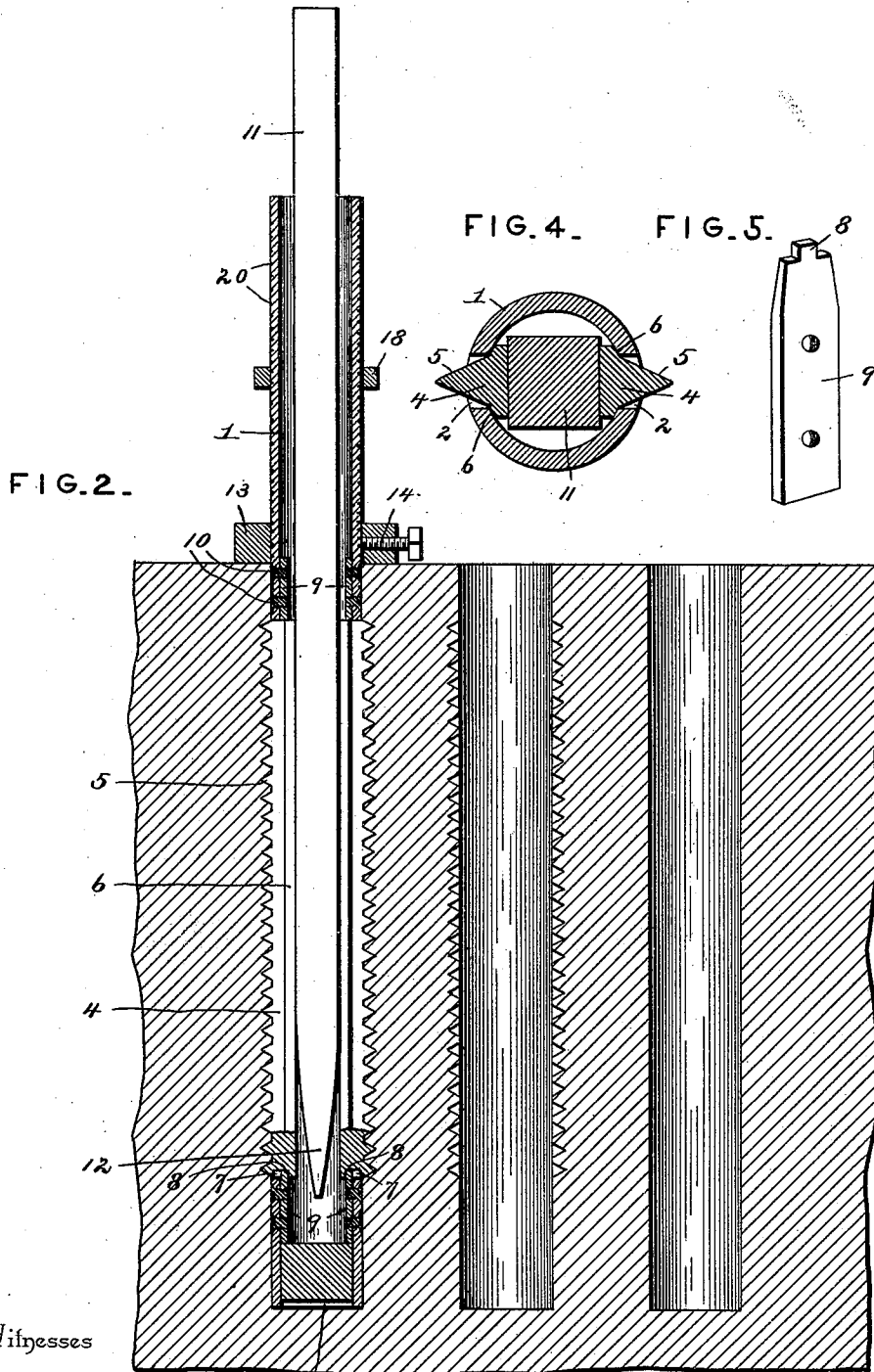
By his Attorneys,

James M. Crouch.
C. A. Snow & Co.

Inventor

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UNITED STATES PATENT OFFICE.

JAMES M. CROUCH, OF BUCKEYE CITY, OHIO.

QUARRYING-TOOL.

SPECIFICATION forming part of Letters Patent No. 512,605, dated January 9, 1894.

Application filed February 21, 1893. Serial No. 463,149. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. CROUCH, a citizen of the United States, residing at Buckeye City, in the county of Knox and State of Ohio, have invented a new and useful Quarrying-Tool, of which the following is a specification.

The invention relates to improvements in quarrying tools.

10 The object of the present invention is to provide a tool, for quarrying purposes, adapted to make a series of indentations in opposite sides of a drilled hole in a rock, to direct the fracture occasioned by blasting.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

20 In the drawings—Figure 1 is a side elevation of a tool constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view. Fig. 3 is a detail perspective view of one of the longitudinal chisel-cutters. 25 Fig. 4 is a horizontal sectional view on line $x-x$ of Fig. 1. Fig. 5 is a detail view of one of the chisel-cutter securing plates. Fig. 6 is a similar view of the handle. Fig. 7 is a detail view of the wedge-bar.

30 Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a tubular body, provided at opposite sides with longitudinal slots 2 and having its lower end 3 closed, and receiving within it a pair of longitudinal chisel-cutters 4, arranged at the slots and adapted to be expanded to project through the slots beyond the body to form a straight line of indentations at opposite sides of a hole to direct the fracture in blasting. Each chisel-cutter is provided with a series of pyramidal teeth 5, narrower than and adapted to project through the slot; and the chisel-cutter is T-shaped in cross-section to provide at each of its sides a longitudinal shoulder 6 to limit the outward movement or expansion and thereby expand the chisel-cutter only the desired distance. Each end of the chisel-cutter is provided with a recess 7, which is engaged by a projection 8 of a plate 9, which is secured to the body of the tool at each end of the slot; and this con-

struction connects the chisel-cutter loosely to the body and retains it in proper position for expansion. The plate is secured by screws 55 10, or other fastening devices, and is provided with threaded openings to receive the screws, which have their heads arranged in countersunk openings of the body 1. The expansion or outward movement of the chisel-cutters is 60 produced by a bar 11 having a wedge-shaped lower end 12. Other means may be employed for expanding the chisel-cutters, but the wedge-shaped bar is the most desirable as blows of the necessary force may be readily 65 given to the bar for driving the teeth of the chisel-cutters into the rock or stone.

The body is provided with an adjustable collar 13, which has a set screw 14 for securing it in its adjustment, and which is adapted 70 to suspend the tool in a hole to make the lines of indentations to the desired depth.

The tool also has a handle 15 having parallel ends 16 and a connecting portion 17, which is provided with a semi-cylindrical 75 bend and to which is secured a clamping section 18 by bolts 19. The clamping section is provided with a bend similar to that of the cross-piece or connecting portion 17, and the body 1 of the tool is clamped between the 80 bends.

The upper portion of the body is provided with indicator lines 20 extending from the upper ends of the slots to the top of the body, to enable the operator to tell at a glance the 85 position of the chisel-cutters when the body is inserted in a hole.

It will be seen that the tool is simple and comparatively inexpensive in construction, and that a line of indentations may be readily 90 made in opposite sides of a hole to direct the fracture in blasting.

Changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention. 95

What I claim is—

1. A quarrying tool comprising a body provided at opposite sides with longitudinal slots, chisel cutters arranged in the body and secured against longitudinal movement and capable of being projected outward through the slots and provided with teeth for forming a series of indentations, means for forcing the 100

chisel-cutters outward, and an adjustable collar mounted on the body and adapted to rest upon the rock or stone to be blasted adjacent to the hole for supporting the chisel cutters at the desired elevation, substantially as and for the purpose described.

2. In a quarrying tool, the combination of a tubular body provided at opposite sides with longitudinal slots, toothed chisel-cutters arranged in the body and provided at their backs with opposite longitudinal shoulders of greater width than the slots to limit the outward expansion of the chisel-cutters, and means for expanding the chisel-cutters, substantially as described.

3. In a quarrying tool, the combination of a tubular body provided at opposite sides with longitudinal slots, the toothed chisel-cutters provided at each end with a recess, plates secured to the body at the ends of the slots and provided with projections loosely engaging the recesses, and means for expanding the chisel-cutters, substantially as described.

4. A quarrying tool comprising a body provided at opposite sides with longitudinal slots,

chisel cutters provided at their outer sides with teeth mounted in the body and secured against longitudinal movement and capable of outward movement through the slots, and means for forcing the chisel cutters outward for forming a series of indentations, substantially as described.

5. A quarrying tool comprising a body provided at opposite sides with longitudinal slots, chisel cutters provided at their outer sides with teeth and mounted in the body and secured against longitudinal movement and capable of outward movement through the slots, and a longitudinally movable wedge interposed between the chisel cutters for forcing the latter outward, whereby a line of indentations is formed at opposite sides of the hole, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES M. CROUCH.

Witnesses:

LEVI T. BATES,
CHARLES STEPHENS.