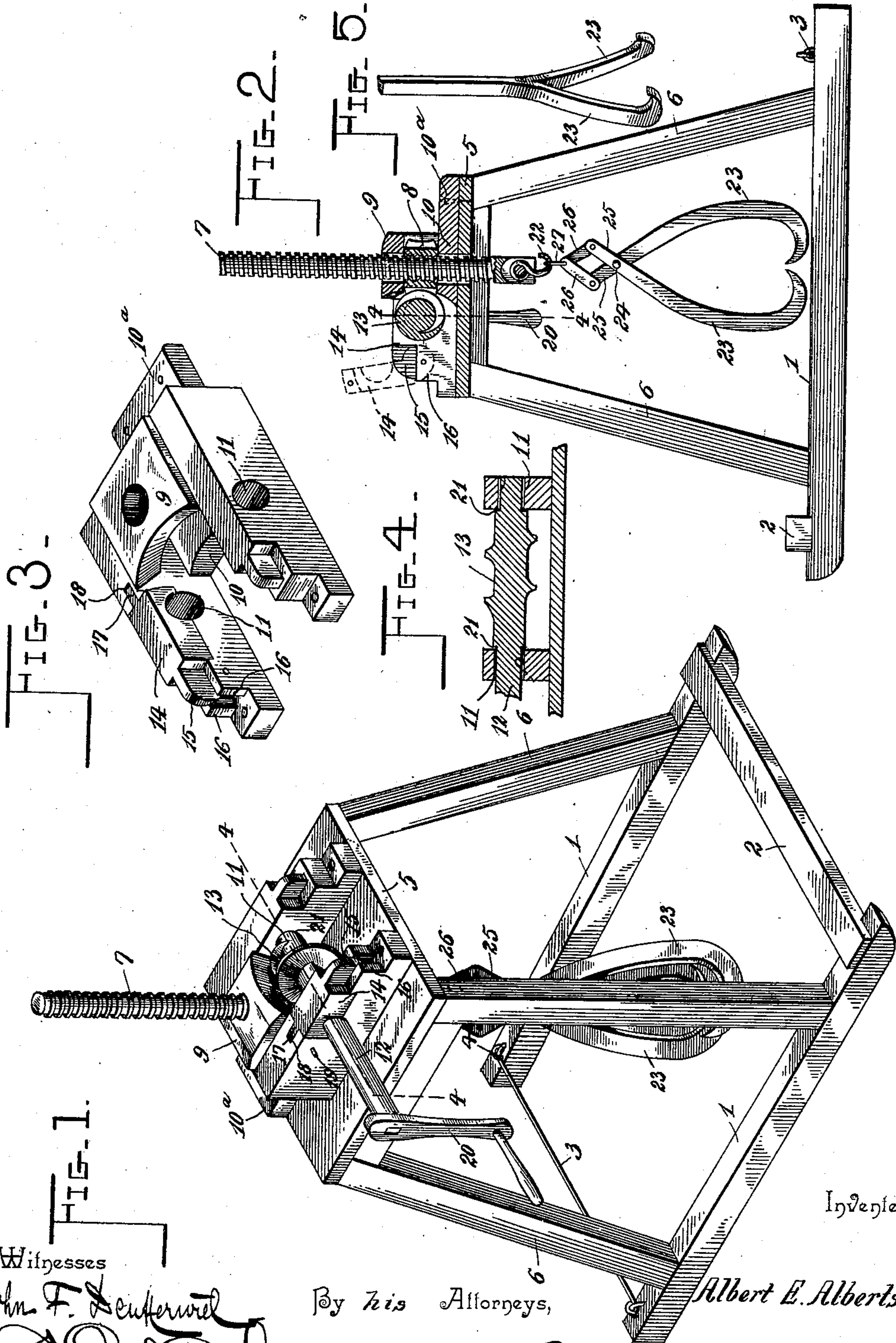


(No Model.)

A. E. ALBERTSON.
STUMP EXTRACTOR.

No. 601,113.

Patented Mar. 22, 1898.



Witnesses
John F. Schermer
[Signature]

By his Attorneys,

Cash & Co.

Inventor
Albert E. Albertson.

UNITED STATES PATENT OFFICE.

ALBERT E. ALBERTSON, OF ALEXANDRIA, MINNESOTA.

STUMP-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 601,113, dated March 22, 1898.

Application filed July 31, 1897. Serial No. 646,652. (No model.)

To all whom it may concern:

Be it known that I, ALBERT E. ALBERTSON, a citizen of the United States, residing at Alexandria, in the county of Douglas and State of Minnesota, have invented a new and useful Stump-Extractor, of which the following is a specification.

My invention relates to stump and stone pulling or lifting devices, and has for its object to provide a simple and efficient construction and arrangement of parts having strength and durability to resist the strain to which machines of this class are exposed, means being provided whereby the feed-nut may be released from engagement with the operating-shaft to facilitate the lowering of the lifting-rod preparatory to the engagement thereof with the lifting-claws or grapple.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings, Figure 1 is a perspective view of a machine constructed in accordance with my invention. Fig. 2 is a vertical sectional view of the mechanism in the plane of the feed-screw and showing the upper portion of the framework, the movable cap for one of the operating-shaft bearings being indicated in dotted lines in its raised position. Fig. 3 is a detail view in perspective of the casting in which the operating devices are mounted. Fig. 4 is a transverse section on the lines 4-4 of Figs. 1 and 2. Fig. 5 is a detail view of one of the grappling jaws or claws.

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

The framework of the machine embodying my invention comprises parallel runners 1, connected at their front ends by a fixed cross-bar 2 and at their rear ends by a displaceable cross-bar 3, consisting of a rod loosely connected by interlocking eyes at one end to one of the runners and hooked at the other end for engagement with a staple or keeper 4, a platform 5, and standards 6, rising from the runners and supporting the platform.

Extending vertically upward through the platform, preferably at a point near its center, is a lifting-rod 7, which is threaded

throughout a portion of its length to form a feed-screw, which is engaged above the plane of the platform by a feed-nut 8, which is preferably supported between the plane of the platform and a superjacent keeper 9. This keeper is formed as part of a casting (shown in detail in Fig. 3) and consisting of a horizontal seat 10, upon which rests the feed-nut, the keeper 9, arranged parallel with said seat, and side bearing-blocks 11, which are connected by said seat and keeper, the seat being extended to form a securing-ear 10^a, through which fastening devices may be passed into the platform. Additional fastening devices are employed to secure the reduced front ends of the bearing-blocks to the platform.

The adjustment of the feed-screw, and hence of the lifting-rod, is accomplished by the rotation of the feed-nut, and in order to communicate rotary motion to the feed-nut I employ an operating-shaft 12, mounted in the bearings 11 and provided with a worm 13, which meshes with worm-gear teeth on the feed-nut. It is desirable, however, to provide means whereby this shaft may be displaced in order to facilitate the backward rotation of the feed-nut to lower the lifting-rod preparatory to lifting an object, and hence one of the bearing-blocks is provided with a movable cap 14, pivotally mounted at one end by means of a tongue 15, arranged between ears 16, and provided at its free end with a tongue 17 to fit in a kerf 18, formed in the contiguous portion of the bearing-block. This kerf is preferably intersected by a transverse seat in which is fitted a securing-pin 19.

After an object has been lifted by means of the apparatus it frequently becomes desirable to dismount the operating-shaft, which is provided, as shown in the drawings, with a crank 20, and this may be accomplished by displacing the movable cap of one of the bearing-blocks, as indicated in dotted lines in Fig. 2, and drawing the other end of said shaft out of the opposite bearing, said shaft being provided with shoulders 21 to bear against the inner sides of the bearing-blocks to prevent endwise displacement during operation. It will be seen that the casting may be applied to any suitable support in that it is pro-

vided with all the means necessary for supporting the various operating parts of the mechanism.

The lifting-rod is provided at its lower end with a hook 22 for supporting grappling jaws or claws 23, the shanks of said claws being pivotally connected at 24 to allow independent swinging movement thereof. The extensions 25 of the shanks of the claws are connected by links 26, which in turn are terminally connected by a ring or eye 27, engaged by the hook 22.

An important feature of the above-described construction consists of the casting comprising the parallel side bearings spaced apart a sufficient distance to properly support the operating-shaft and a seat and keeper transversely connecting said bearing-blocks at one end and provided with vertically-alined openings for the reception of the feed-screw, said seat and keeper terminating short of the bearing-openings in said blocks to allow space for the feed-worm, which is axially arranged in a horizontal transverse position between the contiguous faces of the bearing-blocks. It will be seen that the sectional bearing-block provides for removing the operating-shaft, while the removal of the feed-screw allows the worm-gear or feed-nut to be displaced, thus facilitating the replacement of injured or broken parts and at the same time enabling said parts to be disconnected for the purposes of cleaning, storing, &c.

Various changes in the form, proportion, and the minor details of construction may be

resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

A casting comprising parallel spaced side bearings having transversely-alined bearing-openings, and parallel upper and lower plates transversely connecting and integral with said bearing-blocks, and respectively forming a keeper and a seat having vertically-alined openings, said keeper and seat connecting the bearing-blocks at one end and terminating short of the bearing-openings therein, in combination with an operating-shaft mounted in said bearing-openings of the blocks and provided between the planes of the inner surfaces of said blocks with a worm, a feed-nut arranged between and held in place by said keeper and seat and having a threaded bore alined with the openings therein, and a feed-screw extending through said alined openings and the bore of the feed-nut to maintain the latter in place between the keeper and seat, said feed-nut being provided with peripheral gear-teeth in mesh with the worm on the operating-shaft, substantially as specified.

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

ALBERT E. ALBERTSON.

Witnesses:

C. J. GUNDERSON,
C. F. WHITCOMB.