

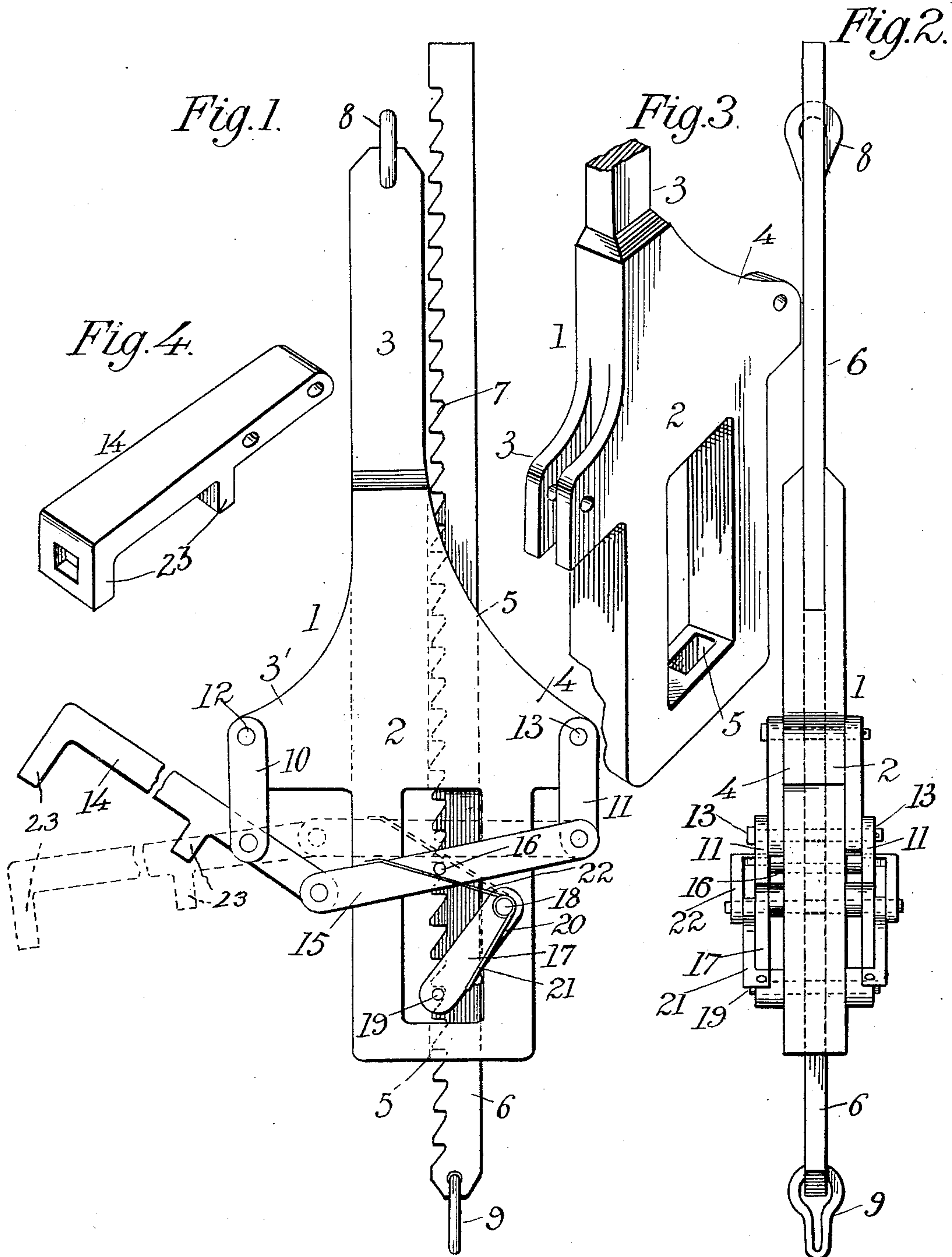
No. 677,490.

Patented July 2, 1901.

W. H. WRIGHT.  
STUMP EXTRACTOR.

(Application filed Apr. 24, 1901.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## STUMP-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 677,490, dated July 2, 1901.

Application filed April 24, 1901. Serial No. 57,307. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM HARRISON WRIGHT, a citizen of the United States, residing at Gilmanton, in the county of Belknap and State of New Hampshire, have invented a new and useful Stump-Extractor, of which the following is a specification.

My invention is an improved stump-extractor; and it consists in the peculiar construction and combination of devices hereinafter fully set forth and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a stump-extractor constructed in accordance with my improvements. Fig. 2 is a similar view of the same at right angles to Fig. 1. Fig. 3 is a detail perspective view of the integral frame. Fig. 4 is a similar view of one section of the toggle-jointed lever.

In the embodiment of my invention I provide a frame 1, which is preferably a single casting made of malleable iron and comprises the body 2, the vertical bar 3, which rises from the top of the same at one side thereof, and the oppositely-extending ears or lugs 3' 4. Vertical openings 5 are made in the body in a vertical plane on one side of the bar 3, and in the said openings is disposed a bar 6, which is adapted to move vertically in the said frame and is provided on one side with ratchet-teeth 7. At the upper end of the bar 3 is a link or ring 8, by which the same may be suspended from any suitable support, as a derrick-frame or the like, and to the lower end of the ratchet-bar 6 is attached a ring or link 9, by means of which a chain attached to a stump, rock, or other object to be moved vertically may be hooked.

Links 10 11 are respectively pivotally connected to the ears 3' 4, as at 12 13, said links depending from said ears. To the lower ends of said links are pivotally attached the members 14 15 of a toggle-jointed lever, as shown. The member 15 of said toggle-jointed lever extends transversely across the lower portion of the frame 1, on one side thereof, and is provided with a pin 16, which is adapted to engage the teeth of the ratchet-bar. A clevis 17 is pivotally attached to the lower portion of the frame 1 by a pin 18, and at the lower portion of the said clevis, which embraces the ratchet-bar 6, is a cross-pin 19, which is also

adapted to engage the teeth of the ratchet-bar and is normally kept in engagement with one of said teeth by gravity, thereby forming a gravity-detent. A spring 20, which is coiled on the pin 18, has one arm 21 in engagement with the rear side of said clevis, and the other arm 22 of said spring is adapted to be engaged with or detached from the section 15 of the toggle-jointed lever. The section 14 of said toggle-jointed lever is provided and formed integrally with keepers 23, by means of which a suitable operating-bar may be attached to said section 14 and readily unshipped therefrom.

In order to raise a stone or extract a stump, the frame 1 is suspended above the same by any suitable means and the ratchet-bar 6 is attached to the stone or stump by a suitable chain or the like device. A bar being attached to the section 14 of the toggle-jointed lever, the latter may be operated readily in such manner as to cause the section 15 of said toggle-jointed lever to alternately rise and descend. On each ascending movement of said section 15 the pin 16 thereof by engagement with one of the ratchet-teeth 7 will raise the ratchet-bar a corresponding distance. The clevis by engaging the pin 19 thereof by gravity with the ratchet-teeth of the bar 6 prevents descent of said ratchet-bar, and on the ensuing descent of the section 15 the latter, owing to the swinging links 10 11, engages its pin 16 with a lower ratchet-tooth, and hence the ratchet-bar may be raised by a step-by-step movement, as will be understood.

In order to lower the weight, the arm 22 of spring 20 is engaged with the section 15 of the toggle-jointed lever. Thereby by operating the toggle-jointed lever in such manner as to raise the section 15 thereof slightly the said spring will be caused by said section 15 to move the pin of the clevis 17 out of engagement with the ratchet-bar and permit the latter to be lowered by manipulating the toggle-jointed lever a distance equal to the space between two contiguous teeth of the ratchet-bar, the clevis then reengaging the ratchet-bar, as will be understood. Hence the ratchet-bar may be also lowered by a step-by-step movement.



Having thus described my invention, I claim—

1. In a stump-extractor, the combination of a frame, a ratchet-bar movable therein, a 5 toggle-jointed lever having its respective sections suspended from and adapted to swing with relation to said frame, one of said sections of said toggle-jointed lever having an element to engage the ratchet-teeth of said 10 ratchet-bar, and a gravity-detent engaging said ratchet-bar, substantially as described.

2. In a stump-extractor, the combination of a frame, a ratchet-bar movable therein, a 15 toggle-jointed lever comprising the sections 14, 15, the latter engaging the ratchet-teeth of said ratchet-bar, links connecting said sections to said frame, a gravity-detent to engage the teeth of said ratchet-bar, and a spring to connect said gravity-detent to said

section 15 of said toggle-jointed lever, where- 20 by said gravity-detent may be operated by said toggle-jointed lever, for the purpose set forth, substantially as described.

3. In a stump-extractor, the combination of a frame, a ratchet-bar movable therein, a 25 toggle-jointed lever comprising the sections 14, 15, the latter engaging the ratchet-teeth of said ratchet-bar, links connecting said sections to said frame, and a gravity-detent to engage the teeth of said ratchet-bar, sub- 30 stantially as described.

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

WILLIAM HARRISON WRIGHT.

Witnesses:

JOHN P. LANE,  
A. W. GOULD.