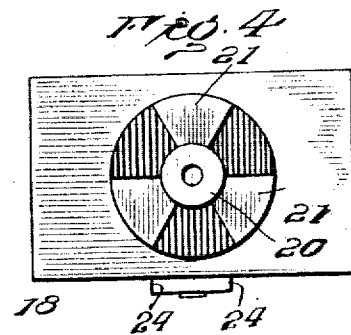
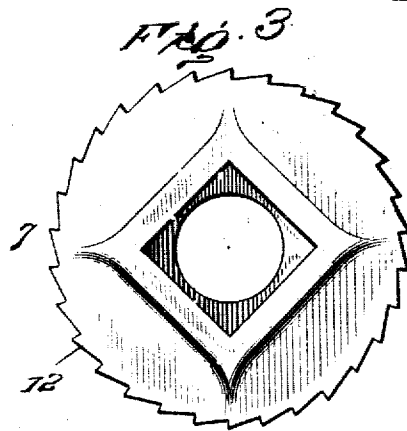
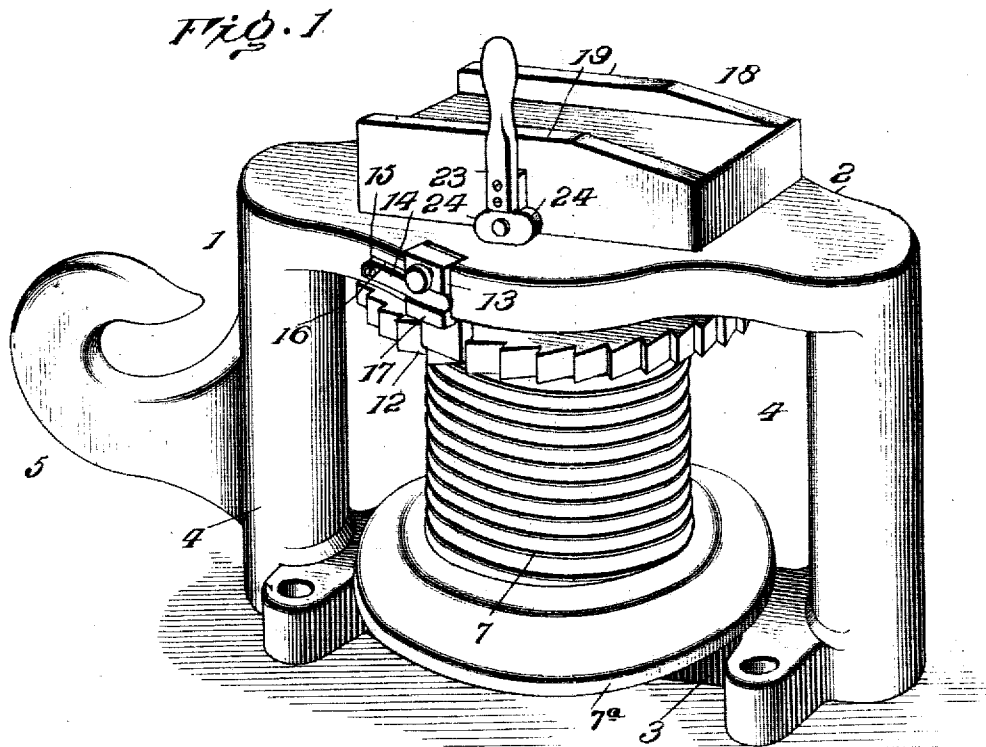


No. 812,063.

PATENTED FEB. 6, 1906.

G. B. MERCHANT.
WINDING MECHANISM FOR STUMP EXTRACTORS.
APPLICATION FILED MAY 31, 1905.

2 SHEETS—SHEET 1.



Inventor.

George B. Merchant.

Witnesses

Francis S. Perkins

By,

Levi H. David

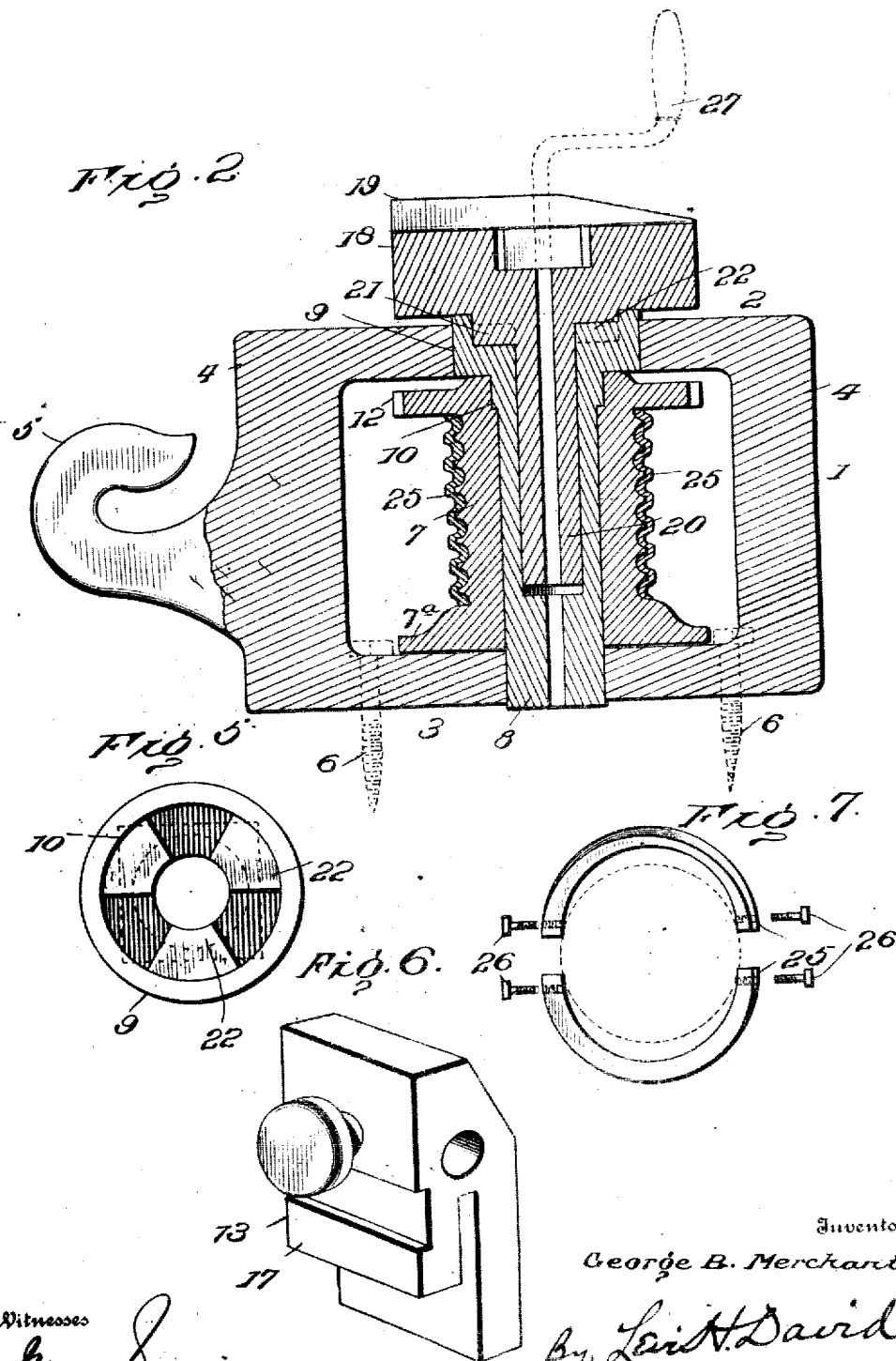
Attorney

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

GEORGE B. MERCHANT, OF JOHNSTON, SOUTH CAROLINA.

WINDING MECHANISM FOR STUMP-EXTRACTORS.

No. 812,063.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed May 31, 1905. Serial No. 263,046.

To all whom it may concern:

Be it known that I, GEORGE B. MERCHANT, of Johnston, in the county of Edgefield and State of South Carolina, have invented certain new and useful Improvements in Winding Mechanism for Stump-Extractors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The objects of this invention are to provide improved simple and highly-efficient means for controlling the winding of the rope or cable of a stump puller or extractor, to enable the diameter of the drum to be increased when a more rapid winding is desired, to allow of slack being taken up in the rope or cable, and to permit the sweep-bar casting to be readily disengaged from the drum.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective. Fig. 2 is a longitudinal sectional view. Fig. 3 is an end view of the drum. Fig. 4 is a bottom plan view of the sweep-bar casting. Fig. 5 is an end view of the drum-shaft. Fig. 6 is an enlarged view of the pawl or catch for the drum. Fig. 7 shows the drum-shell sections removed.

In the drawings I have only shown the mechanism embodying my invention, it not being necessary to illustrate the framework or carrier upon which the same is mounted or the means for applying draft-power to the drum, all such being well known in the art and my invention being in no way confined in this respect.

Referring to the drawings, 1 designates a skeleton-like frame composed of a top plate 2 and a bottom plate 3, connected at their ends by posts 4, an anchor-hook 5 being formed integral with one of the posts. This frame is secured to a suitable carrier (not shown) by means of bolts 6. (Indicated in Fig. 2.) 7 designates the drum, having at its lower end a circular plate 7^a, which rests on bottom of the frame, and through it is passed a shaft 8, which rests in an opening in said bottom, the upper end of such shaft being circumferentially enlarged, as at 9, to fit within a circular opening in top plate 2. Immediately adjoining this enlargement shaft 8 has a squared portion 10, which fits in a correspondingly-formed chamber in the upper

end of the drum, so that by turning shaft 8 the drum will be made to revolve with it. The drum 7 is formed with a spiral groove to accommodate the rope or cable, which groove prevents undue friction on the latter, and thus saves it from wear. On the upper end of this drum is a ratchet-wheel 12, with which a spring-held pawl or catch 13 is designed to engage, so as to hold the drum and prevent the accidental unwinding of the cable. This pawl or catch is mounted in the edge of top plate 2 and is normally held in engagement with the ratchet-wheel by a spring-plate 14, pivoted at 15 to a plate 16, secured to the side of said top plate. When, however, it is desired to hold the pawl out of engagement with the ratchet, the former is pulled outwardly by the operator grasping the free end of the spring-plate 14 and placing the same beneath an overhanging flange 17 on the outer face of the pawl. This serves to hold the latter out of engagement with the ratchet, permitting the drum to be turned to effect the unwinding of the cable.

18 designates the sweep-casting, to which the sweep-bar (not shown) is designed to be secured by bolting or otherwise, being located between the side guide-cheeks 19 of such casting. From the under side of this casting depends a short shaft 20, which extends downwardly into shaft 8. Surrounding this short shaft at its upper end is a series of lugs 21, which are designed to interlock with a corresponding series of lugs 22 in the circumferential enlargement 9 of shaft 8. When casting 18 is thus locked to shaft 8, the drum may be turned in either direction if the pawl is out of engagement with the ratchet or in the direction to effect the winding of the cable if the pawl is in engagement.

23 designates a lever fulcrumed on the side of casting 18 near the lower edge thereof and formed with two opposite rounded or cam-like portions 24, which when the lever is turned on its fulcrum will engage with the top of frame 1, and thereby sufficiently elevate the casting to disengage its lugs 21 from the lugs 22, thus permitting the drum to be turned independently of the sweep-bar or draft-power.

To enable the diameter of the drum to be increased, so that in the pulling of small stumps the operation may be performed more quickly, I provide the drum with a separate shell 25, grooved and corrugated to correspond to and fit in the grooves of the drum,

such shell being formed in two sections held in place by suitable screws 26. When greater power is desired, this shell is removed.

To enable me to take up any slack in the cable and without the necessity of operating the sweep-bar, I employ a crank 27, which is inserted axially of shaft 8, so that when the sweep-casting 18 is disengaged from the drum-shaft the latter may be turned to effect the winding of the cable on the drum.

The advantages of my invention are apparent. It will be seen that I have provided extremely simple and inexpensive means for controlling the winding and unwinding of the cable of a stump-extractor, that by means of the removable shell the speed of the device may be adjusted, and that by means of the lever 23 the sweep-bar casting may be readily thrown out of engagement with the drum-shaft, and also that the pawl or catch may be held out of engagement with the ratchet by the same spring by which it is held in engagement.

I claim as my invention—

1. The herein-described winding device comprising a drum for a cable having a spiral groove formed thereon, a sectional shell also having a spiral groove and designed to fit on and inclose said drum for regulating the diameter thereof, said shell being formed to fit in the grooves of the drum, means for holding such shell to the drum, and means for actuating the latter.

2. The herein-described winding device comprising a frame, a drum mounted therein having a ratchet-wheel at one end, a pawl or catch mounted on said frame for engaging said ratchet-wheel, a plate-spring affixed to the frame and designed to engage said pawl at either of two points, according as the pawl is in or out of engagement with said ratchet-wheel, and means for actuating the drum.

3. The herein-described winding device comprising a frame, a drum mounted therein having a ratchet-wheel at one end, a pawl or catch mounted on said frame for engaging said ratchet-wheel and having an overhanging flange, a plate-spring engaging said pawl for holding it in engagement with said ratchet-wheel, said plate-spring being capable of engaging said flange for holding the pawl out of engagement with said ratchet-wheel, and means for actuating the drum.

4. The combination with the frame having top and bottom members, of the drum rotatably mounted between said members, means

mounted on the top member for preventing accidental unwinding of the drum, the sweep-bar casting located above said member, capable of being moved vertically, means for normally interlocking said casting with the drum when the former is in its lowermost position, and means mounted on said casting and engaging said top member for disengaging said casting from the drum.

5. The combination with the frame, of the drum rotatably mounted therein, means for preventing the accidental unwinding of the drum, the shaft with which said drum rotates, the sweep-bar casting, means for normally interlocking said casting to said shaft, and a lever for disengaging the sweep-bar casting from the shaft.

6. The combination with the frame, of the shaft mounted therein having a rounded portion fitting in an opening of the frame and also having a squared portion, the drum having at one end a squared chamber to accommodate said squared portion, means for preventing the accidental unwinding of the drum, the sweep-bar casting mounted above said frame and designed to interlock with said shaft, and means for disengaging said casting from the shaft.

7. The combination with the frame, of the shaft mounted therein having a rounded portion fitting in an opening of the frame and also having a squared portion, the drum having at one end a squared chamber to accommodate said squared portion, means for preventing the accidental unwinding of the drum, the sweep-bar casting mounted above said frame and designed to interlock with said shaft, and a lever mounted on said casting having cam-like or rounded portions for engaging said frame for disengaging the casting from said shaft.

8. The combination with the frame, and the shaft, of the drum movable with said shaft, the sweep-bar casting, means for interlocking the latter with said shaft, means for disengaging such casting, and a crank for turning said shaft and drum independently of the casting.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE B. MERCHANT

Witnesses:

W. B. Ouzts,
H. G. Edson.