

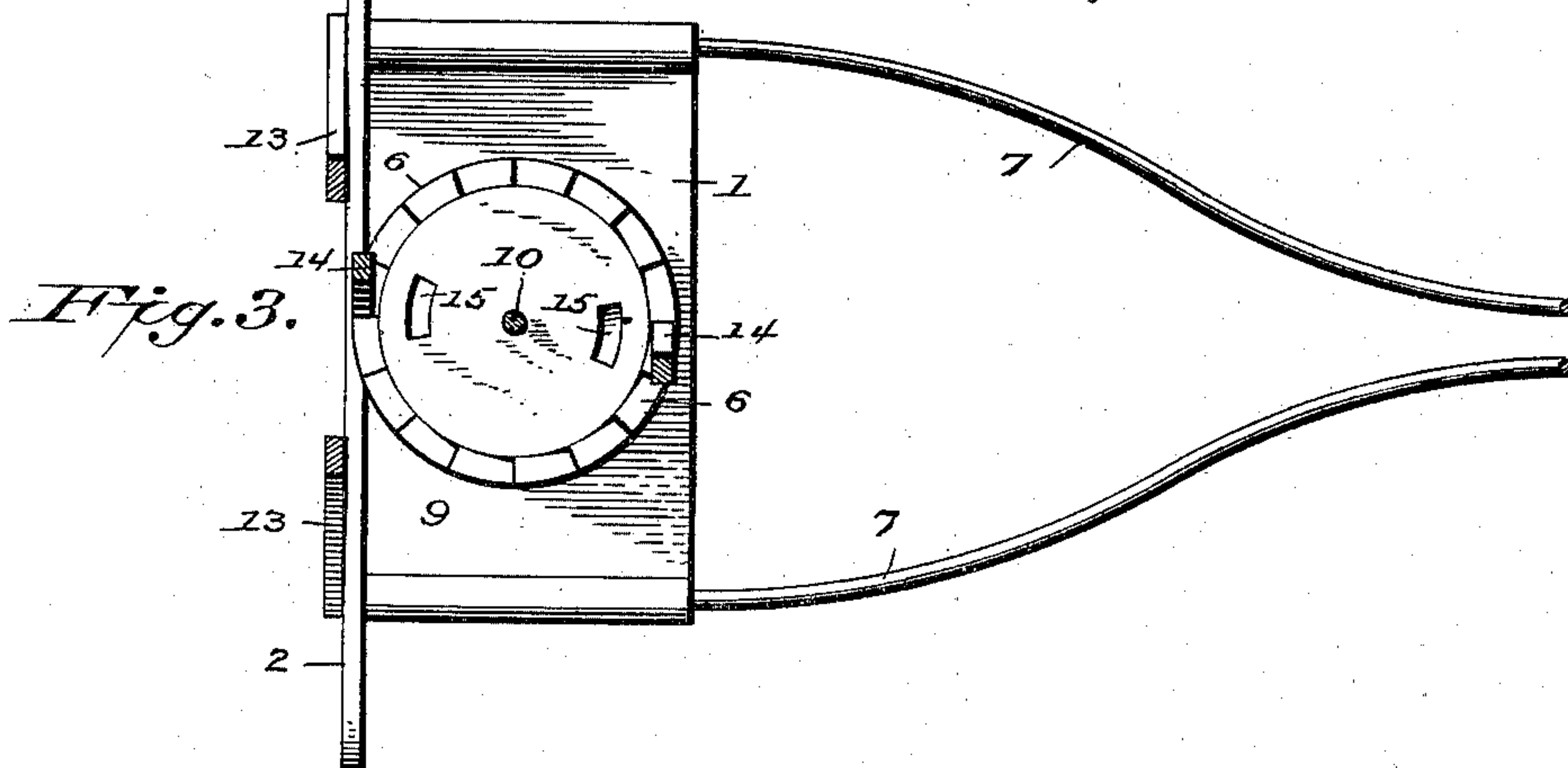
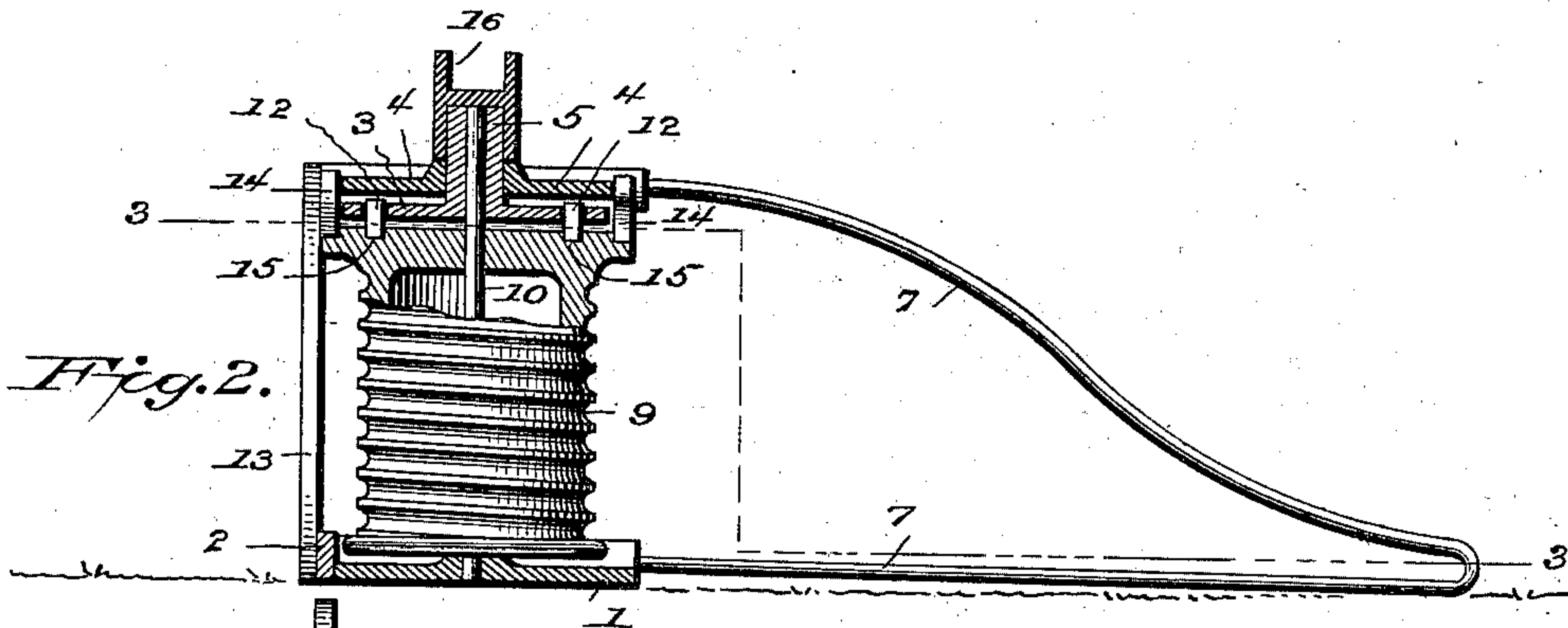
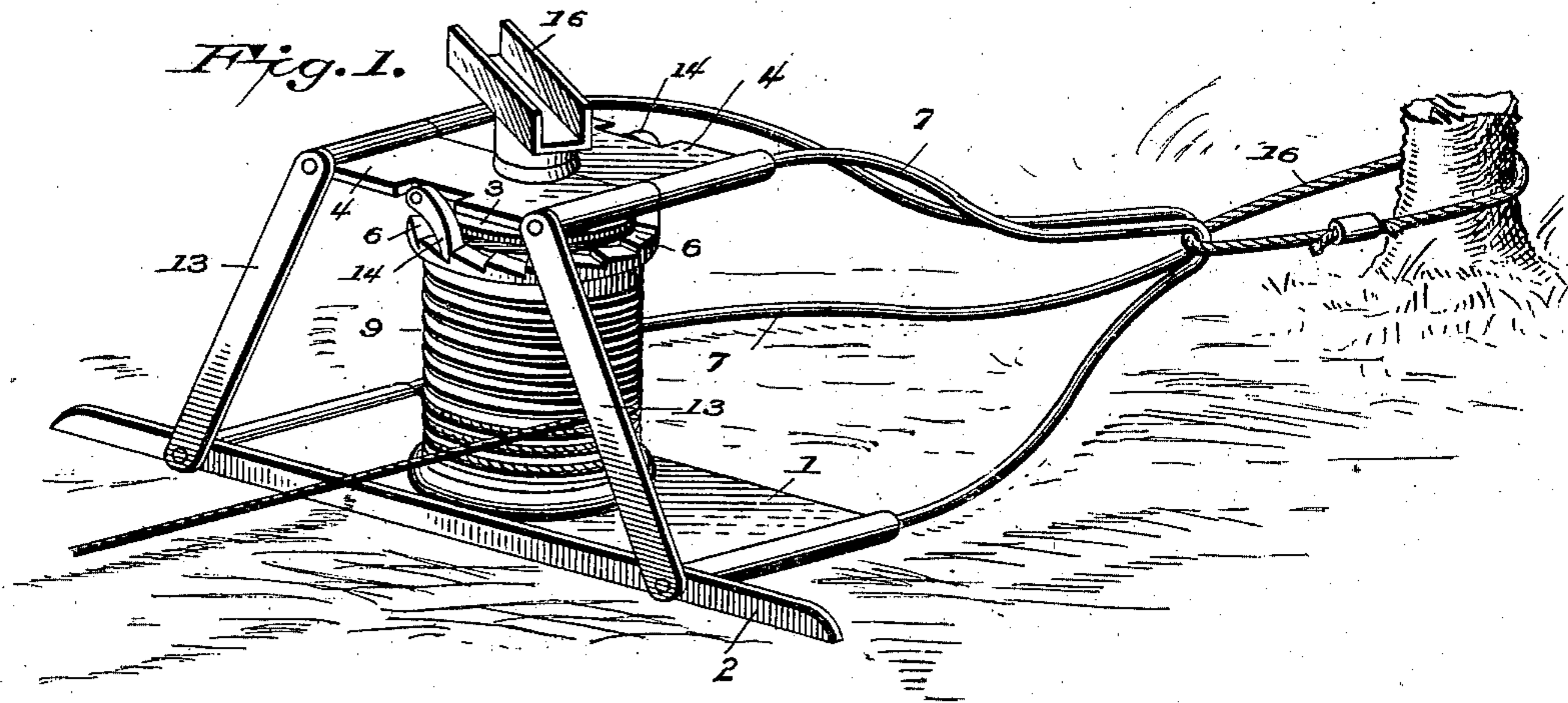
No. 612,662.

Patented Oct. 18, 1898.

E. DETWILER.  
STUMP EXTRACTOR.

(Application filed June 16, 1897.)

(No Model.)



WITNESSES  
*L. S. Elliott.*  
*R. M. Elliott.*

INVENTOR:  
*Edward Detwiler,*  
by *Eugene H. Johnson* -  
Attorney



# UNITED STATES PATENT OFFICE.

EDWARD DETWILER, OF HORTON, KANSAS.

## STUMP-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 612,662, dated October 18, 1898.

Application filed June 16, 1897. Serial No. 641,064. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD DETWILER, a citizen of the United States of America, residing at Horton, in the county of Brown and State of Kansas, have invented certain new and useful Improvements in Stump-Extractors, of which the following is a specification.

The object of this invention is to provide an improved stump extractor or puller which is comparatively simple in construction and effective in operation.

My invention resides in the special construction and arrangement of the parts, as will be hereinafter set forth.

In the accompanying drawings, Figure 1 is a perspective view of a stump-extractor made in accordance with my invention. Fig. 2 is a side elevation, partly in section; and Fig. 3, a horizontal section.

The base 1 is made of a metal plate provided centrally with a shaft step or bearing, in which rests a vertical shaft 10, the upper portion of said shaft being seated in a hollow hub 5, formed integral with a pawl-carrying disk 3, which is mounted on the shaft 10 so as to lie immediately above a drum 9. The drum 9 is provided with the usual grooved face, and one end of the rope, which is attached in any suitable manner to the stump to be extracted, is made fast to the lower portion of the drum. The upper portion of the drum has formed therein ratchet-teeth 6, and within the circumferential ratchet-teeth, which lie in a horizontal plane, are recesses or ratchet-teeth 15 15, with which engage pawls 12, pivoted to the pawl-carrying disk 3.

The upper portion of the frame is made up of two plates or sections 4 4, which are provided with semicircular recesses to form an aperture, through which passes the hub 5 on the disk 3, and the outer edges are recessed for the reception of pawls 14, which engage with the ratchet-teeth 6 of the drum, so as to hold the drum against rotation. The drum is turned in the usual manner by a sweep which is securely attached to the sweep-head 16, the same having a rectangular socket which engages the rectangular upper end of the hub 5 above the portion thereof which has a bearing between the semicircular recesses in the plates 4 4.

The base-plate 1 of the frame is preferably

formed of a single casting and has openings through the enlarged ends thereof, and the two upper plates are similarly constructed or provided with openings for the passage thereof of rods or bails 7 7, which are bent upon themselves so that the looped portion will converge. The lower ends of the rods 7 pass through the apertures or openings in the base-plate and through a horizontal cross-bar 2, as well as through the lower ends of inclined or converging brace-bars 13, so as to hold the parts in rigid engagement with the base-plate. The upper ends of the bars 13 are secured to the upper plate by the other end of the rod 7, which not only serve to attach the brace-bars to the upper plate, but also hold the sections of said upper plate together. The ends of the rods are upset upon the bars, as shown, or they may be screw-threaded and provided with nuts, either being a convenient way of attaching the parts.

In the construction set forth it will be noted that the inclined bars 13 hold the upper plates on one side of the drum in proper position and that the opposite sides of the plates are held in place by the bars or bails 7, and when great strain is brought to bear upon the bars or bails 7 the tendency of said strain will be to bring on one side of the drum the upper plates nearer to the base-plate, so that there will be no liability of the pawls slipping or becoming disengaged from the ratchet-teeth. It will also be noted that the outer or locking pawls 14, which hold the drum against rotation as to strain imparted thereto by the rope, may be raised by hand and that the inner pawls are carried by the sweep-operated disk 3, so as to engage with recesses in the upper end of the drum.

In operation the bars or bails are made fast to a fixed object, as a stump, by a rope 13, which may be provided with a suitable coupling, and anchor-stakes are driven in the ground so as to engage with the projecting ends of the cross-bar 2, so as to hold the drum-supporting frame in place. The rope which engages with the drum is made fast to the stump to be extracted or to a grubbing-hook and the horse is hitched to the sweep. If the sweep is of sufficient length, the horse can walk around the frame and object to which it is anchored, so as to wind the rope



upon the drum; but if the area is limited the horse need only make a half-circle about the frame and then turn back, which will impart an intermittent rotary movement to the drum.

- 5 The pawls on the disk move with the sweep, while the pawls 14 hold the drum against rotation.

With the stump-extractor herein shown and described the usual rope take-up, stump-  
10 hooks, and anchors may be employed, as well as pulley-blocks, when it is desired to use the same.

Having thus described my invention, what I claim as new, and desire to secure by Letters  
15 Patent, is—

1. In a stump-extractor, a drum having two sets of ratchet-teeth in the upper portion as shown, of pawls pivoted to the upper portion of the drum-supporting frame for engagement with the outer series of ratchet-teeth,  
20 and pawls carried by a sweep-operated disk for engagement with the inner ratchet-teeth, substantially as shown.

2. In a stump-extractor, a supporting-frame  
25 for a drum, consisting of a base-plate, a sweep-operated pawl-carrying disk, a pair of plates which engage the hub of said disk, a shaft upon which the drum turns, said shaft having bearings in the base-plate and sweep-op-

erated pawl-carrying disk, a pair of bails the ends engaging the horizontal base and top plates of the frame, a horizontal bar attached to the base so as to project beyond the same, and inclined brace-bars, substantially as shown and for the purpose set forth.

3. In a stump-extractor, the combination with the base and upper plates, rigid bars on one side of the base and upper plates, and on the other side a pair of bails which are looped upon themselves, the bars and bails connecting the base and upper plates together, a sweep-operated ratchet-disk mounted on a vertical shaft and in engagement with the upper plates of the frame, pawls carried by the sweep-operated ratchet-disk for engagement with the drum, pawls pivoted to the upper plates of the frame for engagement with the outer ratchet-teeth of the drum and a drum provided with the ratchet-teeth hereinbefore mentioned, substantially as shown  
50 and for the purpose set forth.

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

EDWARD DETWILER.

Witnesses:

JOHN A. MCCORMACK,  
F. V. BUCHHOLS.