

No. 745,526.

PATENTED DEC. 1, 1903.

T. C. ROGERS.
ROPE CUTTER.

APPLICATION FILED SEPT. 23, 1903.

NO MODEL.

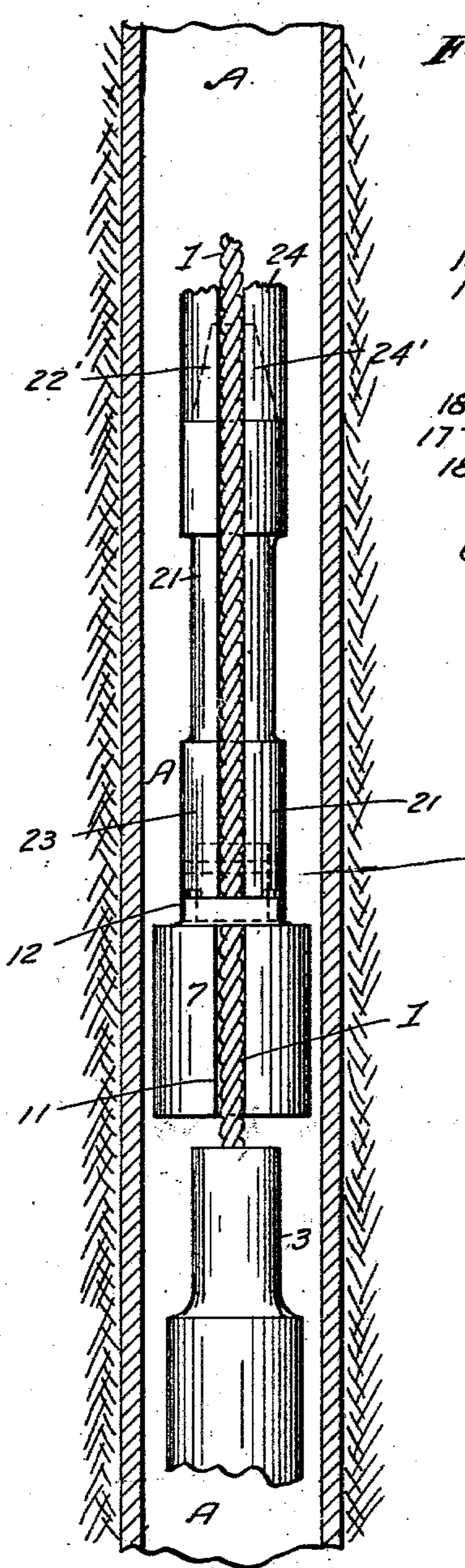


Fig. 1

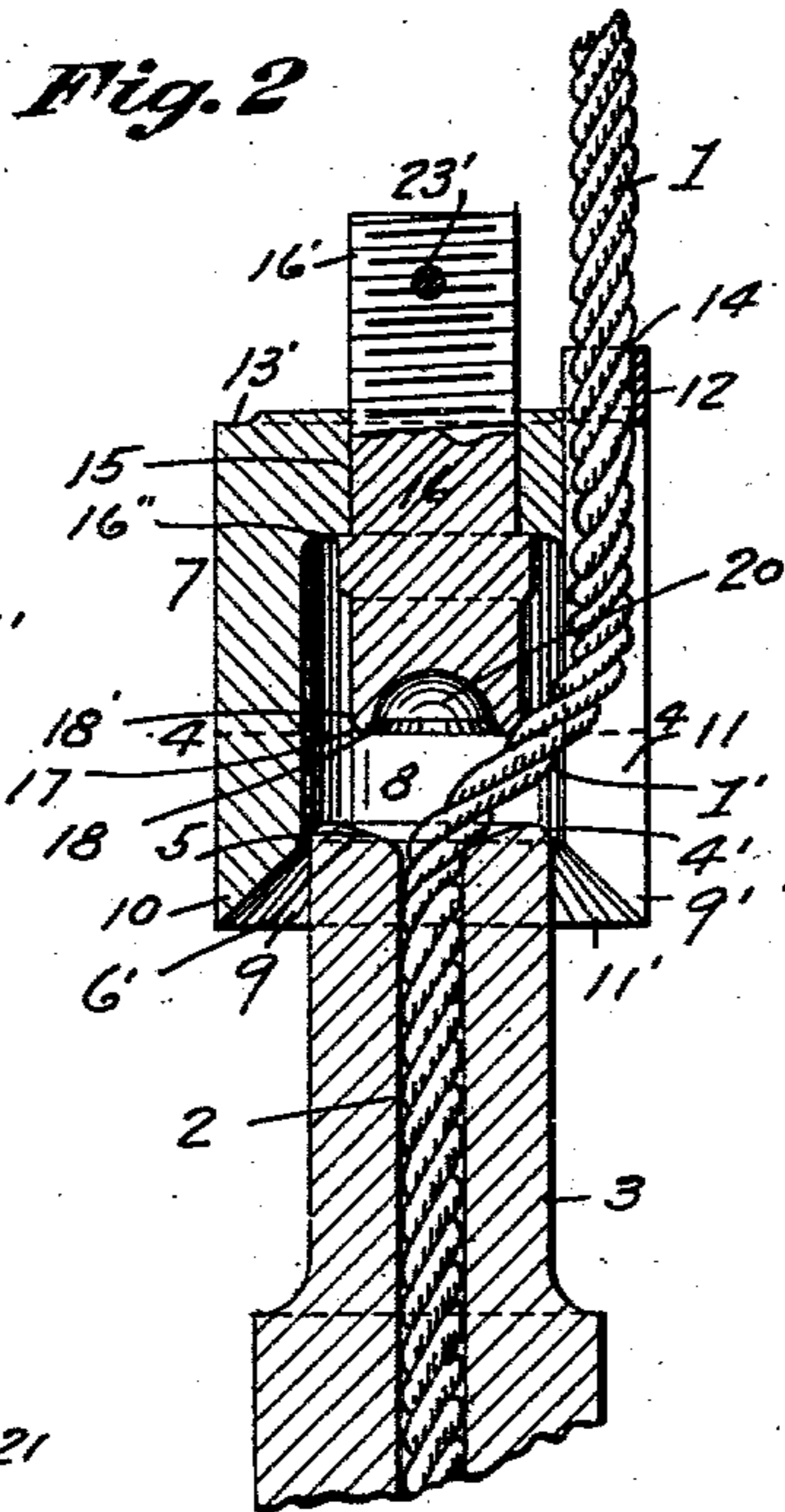


Fig. 2

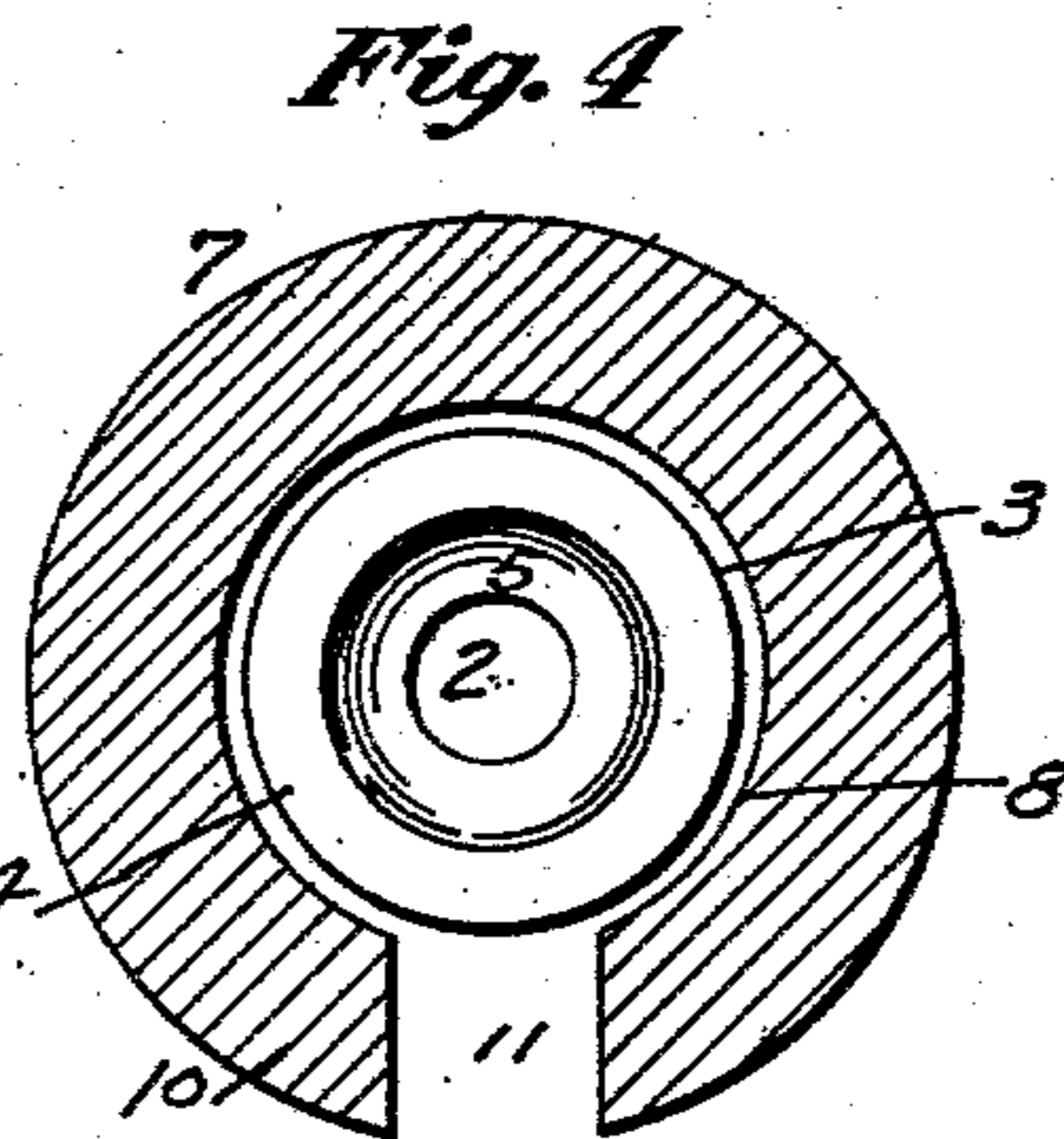


Fig. 4

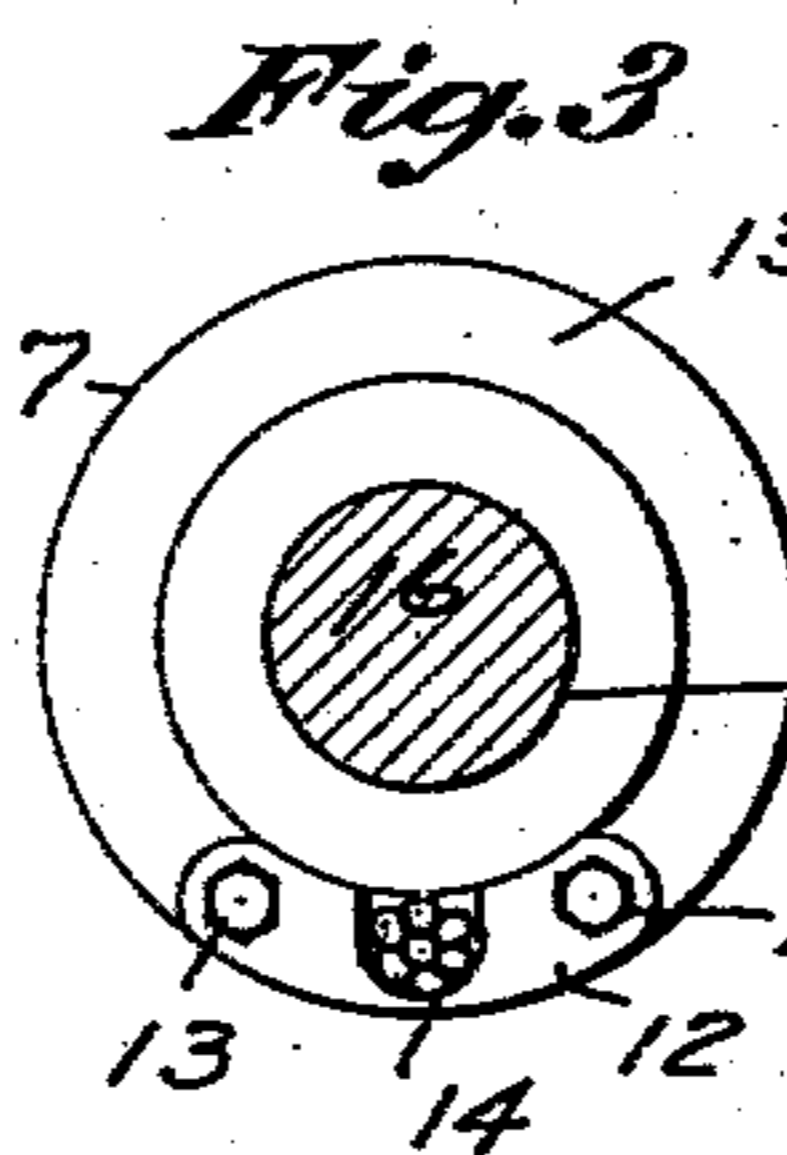


Fig. 3

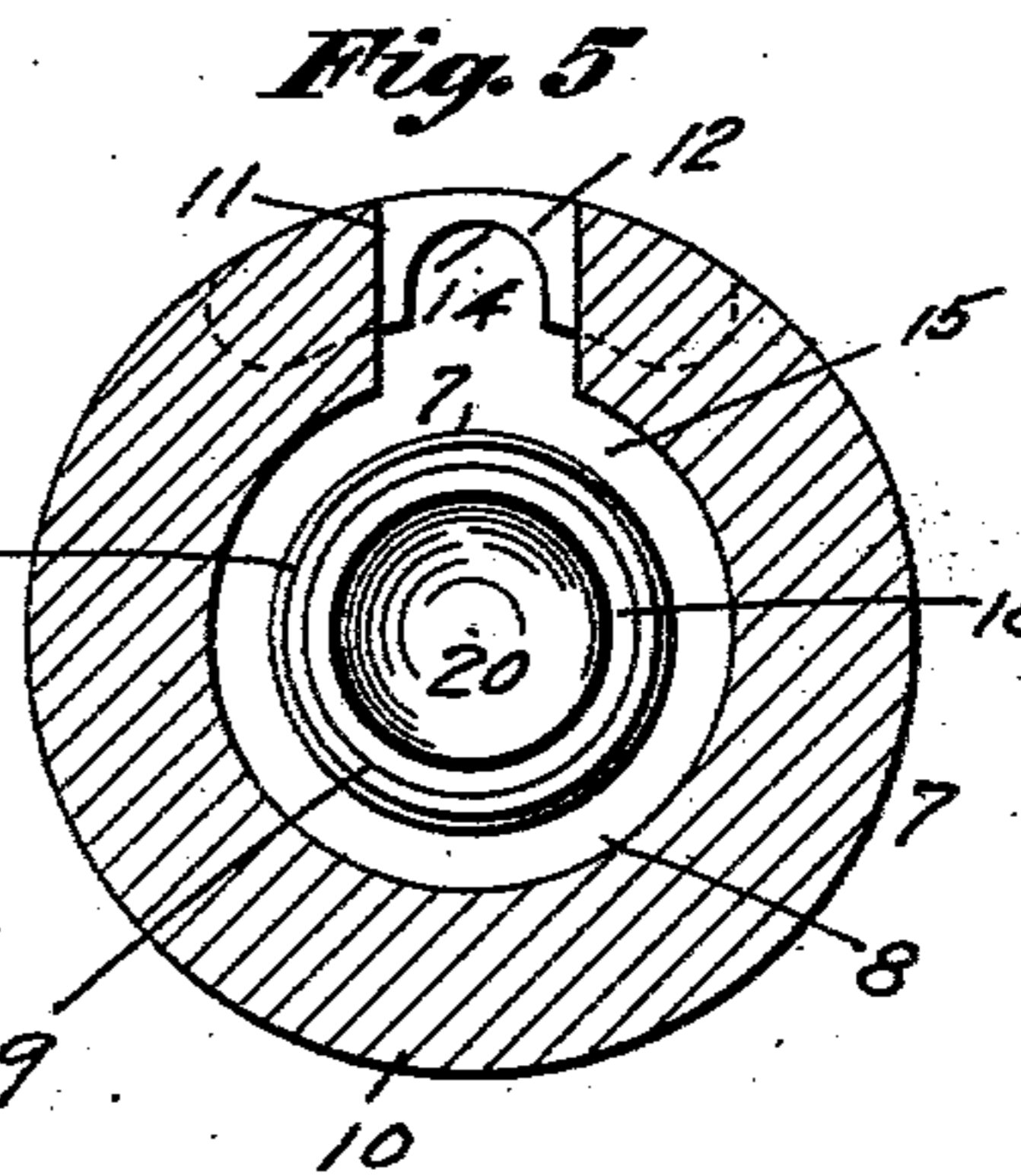


Fig. 5

Witnesses:

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Inventor.

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UNITED STATES PATENT OFFICE.

THOMAS C. ROGERS, OF SISTERSVILLE, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO CARTER OIL COMPANY, OF SISTERSVILLE, WEST VIRGINIA, A CORPORATION OF WEST VIRGINIA.

ROPE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 745,526, dated December 1, 1903.

Application filed September 23, 1903. Serial No. 174,266. (No model.)

To all whom it may concern:

Be it known that I, THOMAS C. ROGERS, a resident of Sistersville, in the county of Tyler and State of West Virginia, have invented a new and useful Improvement in Rope-Cutters; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to rope-cutters, and has special reference to such a device as would be used in connection with the drilling of Artesian wells where a wire rope is used in such drilling.

The object of my invention is to provide a cheap, simple, and effective rope-cutter which will insure the placing of a portion of the wire or other rope in such a position that it will be cut or severed in a rapid and easy manner and at the same time permit the device to be easily and quickly connected around and withdrawn from the rope.

My invention consists, generally stated, in the novel arrangement, construction, and combination of parts, as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved rope-cutter, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a sectional view of an Artesian well, showing the wire rope thereon and my improved cutter around the same. Fig. 2 is an enlarged vertical section of the cutter in position for operating upon the rope. Fig. 3 is a top view of the cutter. Fig. 4 is a cross-section of the same on the line 4 4, Fig. 2; and Fig. 5 is an inverted cross-section on the line 4 4, Fig. 2, showing a face or bottom view of the knife employed.

Like letters or symbols of reference herein indicate like parts in each of the figures of the drawings.

As illustrated in the drawings, A represents the well, and within which is the wire rope 1, which passes through the opening 2 in the rope-socket 3, and such socket is connected at its lower end to the drilling bit or tool. (Not shown.) The upper face 4 of the rope-socket 3 is provided with the curved recess 5 within

the same around the opening 2 therein, and extending around the upper end 6 of the socket 3 is the head 7, which is provided with the hollow portion or chamber 8 therein, having its bottom 9 outwardly flaring through the side wall 10 and at the lower end 9' of said head, as at 11. At one side of head 7 is the slot 11, which extends the full length of the said head and through the side wall 10 thereof for the passage of the wire rope 1 through the same from the rope-socket 3, and such rope being held within said slot 11 by means of the clamp 12, which is secured upon the upper end face 13' of said head 7, over and around the said slot, by the bolts 13 and is provided with the curved seat 14 therein, fitting around said rope 1. The upper end of said head 7 is provided with the inwardly-projecting portion or flange 15 above the chamber 8, through which extends and is secured therein by its screw-threads 16' the cutter-bar 16, which is provided with the outwardly-extending flange 16' thereon for resting against the flange 15, and below which is the knife or cutting face 17. This cutting face 17 is of circular shape and is formed of the angular or inclined inner and outer faces 18 18', respectively, which terminate in the apex or point to form the cutting face 17, and extending into the cutter-bar 16 from the inclined inner face 18 is the curved hollow portion 20.

A tool member 21 is connected at its lower end 23 to the screw-threads 16' on the cutter-bar 16, extending through the head 7, and such member 21 can be more firmly secured and held in place by means of the pin 23' passing through the end 23 and bar 16. The member 21 is connected by the upper end 22' thereof to another tool member 24, and, if desired, other members can be connected in like manner above the member 24.

The use and operation of my improved rope-cutter are as follows: When it is desired to sever or cut the wire rope 1 within the well A for any purpose, the clamp 12 is opened by removing one of the bolts 13 and the rope 1, placed within the slot 11 of the head 7, after which the clamp 12 can be replaced upon said head by screwing down said bolt, which will hold the rope in place in the seat 14 of said

clamp, so that it will pass through the same and through the slot 11 and chamber 8 of said head. After this is accomplished the tool member 21 can be connected to the screw-
 5 threads 16' on the cutter-bar 16 and the member 24 connected to the end 22' of said member 21 by its socket 24', after which the head 7, with the cutter-bar 16 therein and tool members attached thereto, can be dropped into
 10 the well A and lowered therein along the wire rope 1. The momentum acquired by the lowering and dropping of the head 7, bar 16, and members connected thereto, as well as the weight of the same, will cause the rope 1 to
 15 be curved or bent outwardly from the rope-socket 3 as such head approaches in close proximity to said socket 3, and when the lower end 9' of said head comes adjacent to the upper end 6 of said socket the flared end 11 on
 20 said lower end 9' will be drawn over and around said socket 3 by coming in contact with the upper end 6 thereof. As said head 7 thus drops and is drawn around the upper end 6 of said rope-socket 3 said socket will be
 25 centered in the well. The upper end thereof will pass into the chamber 8 of said head, which will cause the wire rope 1 to be bent to a sufficient angle, as at 1', so that the cutting edge 19 on the cutting-face 17 of the bar 16
 30 will engage the bent angular portion 1' of said rope 1 and cut or sever said rope at this point during the further lowering or dropping of said head 7. As the wire rope 1 is thus severed or cut the end of the said rope above the
 35 rope-socket 3 will be contained within the recess 5 on the top face 4 of said socket and the curved hollow portion 20 within the cutter-bar 16, above the cutting-face 17 thereof, during the continued dropping or lowering of
 40 said head 7, and further dropping of said head will be prevented by the containing of end of said rope within the recess 5 and hollow portion 20 or by the cutting edge 19 coming in contact with the upper face 4 of the
 45 rope-socket 3. In case the rope 1 is not cut or severed by the first dropping of the cutter-bar 16 against the bent portion 1' of said rope the head 7 can be raised and dropped again or repeatedly to accomplish the severing or
 50 cutting of the rope, and after said rope is severed the portion of the same within the head 7 and above the portion within the socket 3, together with said head, cutter-bar 16, and attached tool member, can be raised from within
 55 the well.

It will thus be seen that my improved rope-cutter will bend the wire rope used in Artesian wells for drilling purposes to an angular position, so as to enable the cutter-bar to sever
 60 the same when the tools are lost within the well and fishing is required or when otherwise needed, and at the lowest possible point within the well, as well as at the closest point of the rope-socket.

65 The device is strong and durable and contains few parts to get out of order, being so arranged as to enable the cutter-bar to be

removed easily and quickly for the insertion of a new one in case of injury or breakage and for the sharpening of the same when desired. 70

It will be evident that my improved rope-cutter can be used for the severing of well-drilling ropes formed of other materials than wire as well as being adapted for use in places
 75 other than Artesian wells, and that various changes in the construction, design, and arrangement of the various parts of the same may be resorted to without departing from the spirit of the invention or sacrificing any of
 80 its advantages.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a rope-cutter, the combination with the rope, of a socket for said rope, and means
 85 for bending said rope adjacent to said socket and for severing the same at such bent portion.

2. In a rope-cutter, the combination with the rope, of a socket for said rope, a hollow
 90 head extending around said rope and adapted to bend the same adjacent to said socket, and means within said head for severing said rope at such bent portion.

3. In a rope-cutter, the combination with
 95 the rope, of a socket for said rope, a hollow head having a slot at one side thereof for bending said rope adjacent to said socket, and means within said head for severing said rope at such bent portion. 100

4. In a rope-cutter, the combination with the rope, of a socket for said rope, a hollow
 105 head having a slot at one side thereof for bending said rope adjacent to said socket, a clamp on said head having a recess therein for holding said rope in place within the slot of said head, and means within said head for severing said rope at such bent portion.

5. In a rope-cutter, the combination with the rope, of a socket for said rope, a head ex-
 110 tending around said rope and adapted to bend the same adjacent to said socket, said head having a chamber therein, and a cutter-bar within said chamber for severing the rope at such bent portion. 115

6. In a rope-cutter, the combination with the rope, of a socket for said rope, a head ex-
 120 tending around said rope and adapted to bend the same adjacent to said socket, said head having a chamber therein, and a bar on said head having a circular cutting edge thereon and within said chamber for severing said rope at such bent portion.

7. In a rope-cutter, the combination with the rope, of a socket for said rope, a head ex-
 125 tending around said rope and adapted to bend the same adjacent to said socket, said head having a chamber therein, and a bar on said head having a circular cutting edge thereon and within said chamber for severing the
 130 rope at such bent portion, said bar having a recess therein above said cutting edge.

8. In a rope-cutter, the combination with the rope, of a socket for said rope, a head ex-

tending around said rope and adapted to bend the same adjacent to said socket, said head having a chamber therein provided with a flared end, and a cutter-bar for severing said rope at such bent portion.

9. In a rope-cutter, the combination with the rope, of a socket for said rope, a head extending around said rope and adapted to bend the same adjacent to said socket, said head having a chamber therein provided with a flared end, and a bar on said head having a circular cutting edge thereon and within said chamber for severing the rope at such bent portion.

10. In a rope-cutter, the combination with

the rope, of a socket for said rope, a head extending around said rope and adapted to bend the same adjacent to said socket, said head having a chamber therein provided with a flared end, and a bar on said head having a circular cutting edge thereon and within said chamber for severing the rope at such bent portion, said bar having a recess therein above said cutting edge.

In testimony whereof I, the said THOMAS C. ROGERS, have hereunto set my hand.

THOMAS C. ROGERS.

Witnesses:

EDGAR P. SALISBURY,
GEO. MCCAULLEY.