

No. 734,615.

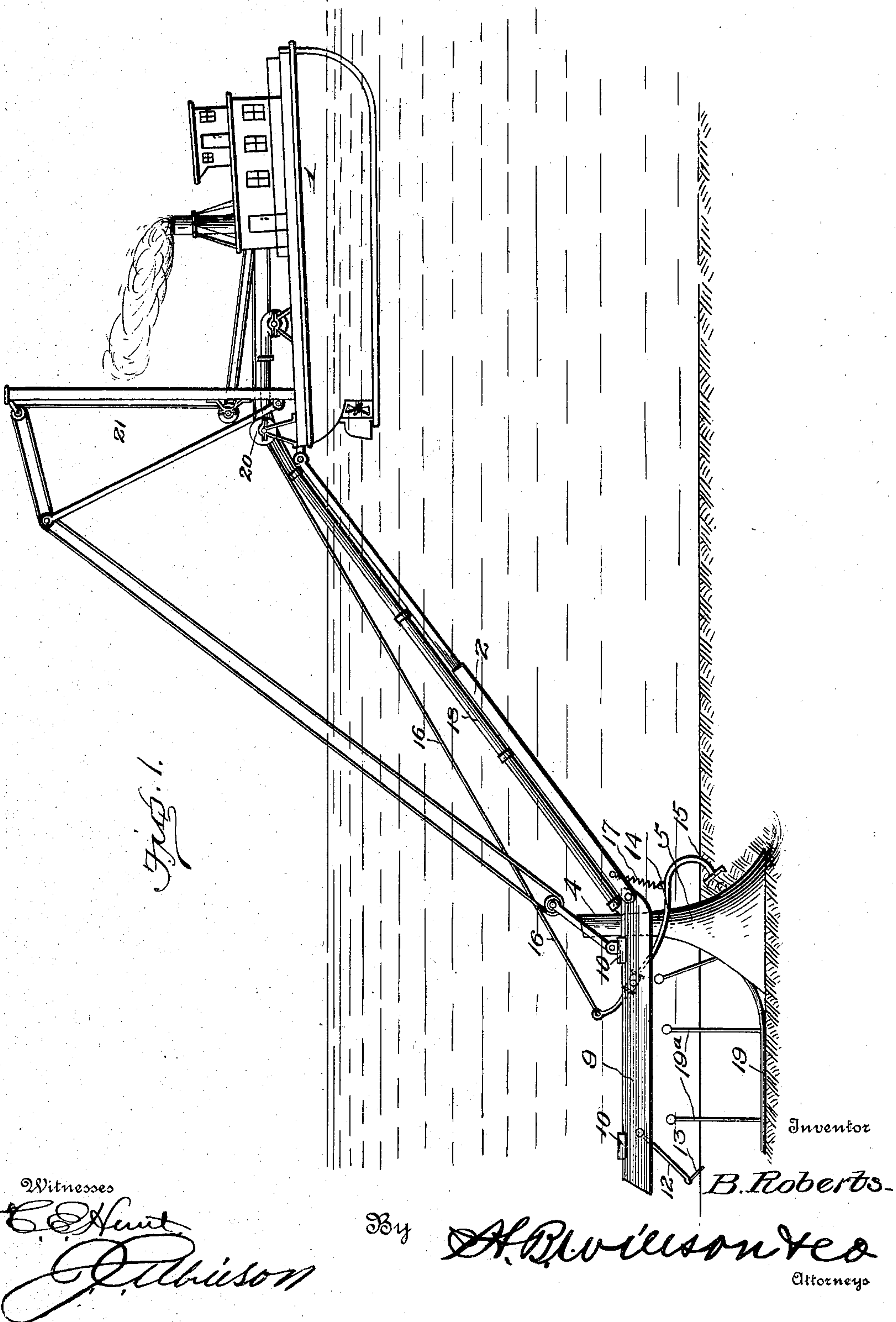
PATENTED JULY 28, 1903.

B. ROBERTS.
SUBMARINE CABLE LAYING DEVICE.

APPLICATION FILED MAY 29, 1902. RENEWED JAN. 26, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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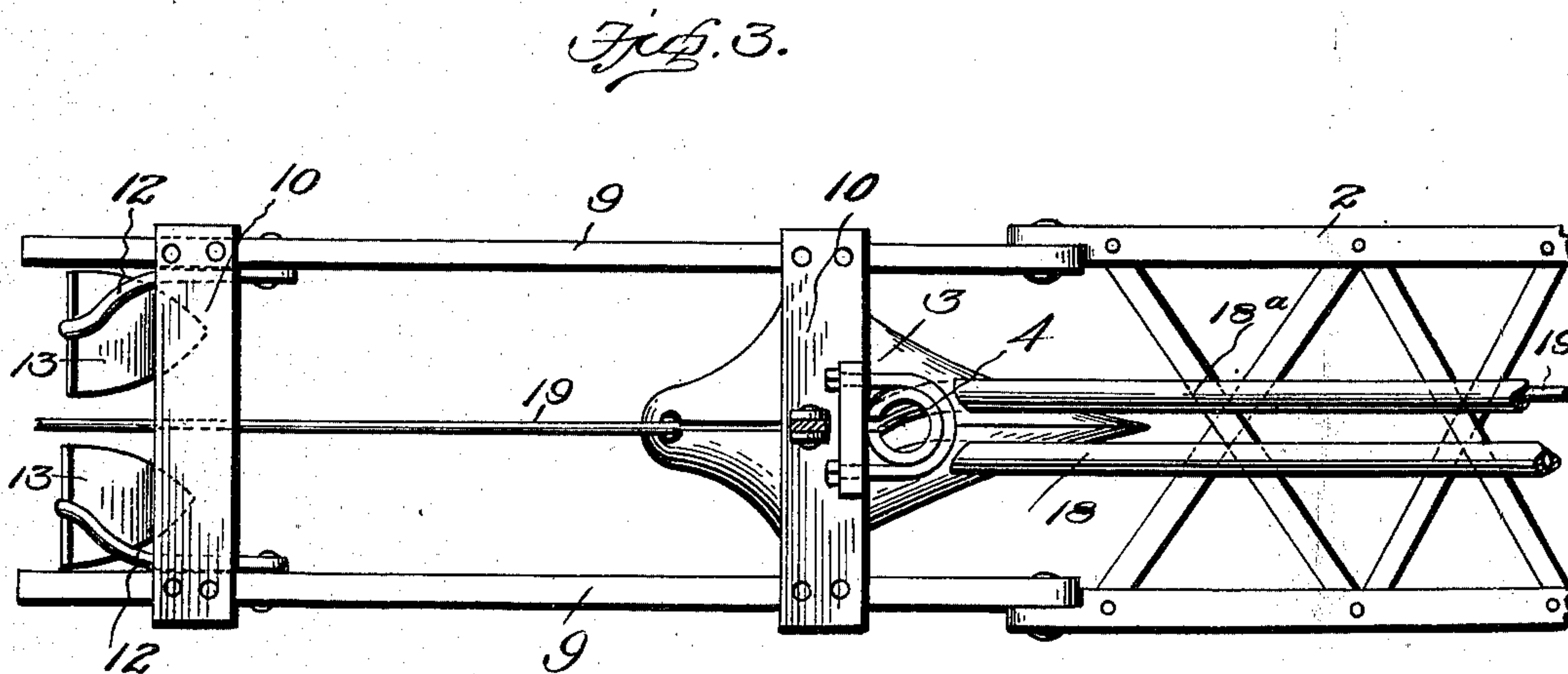
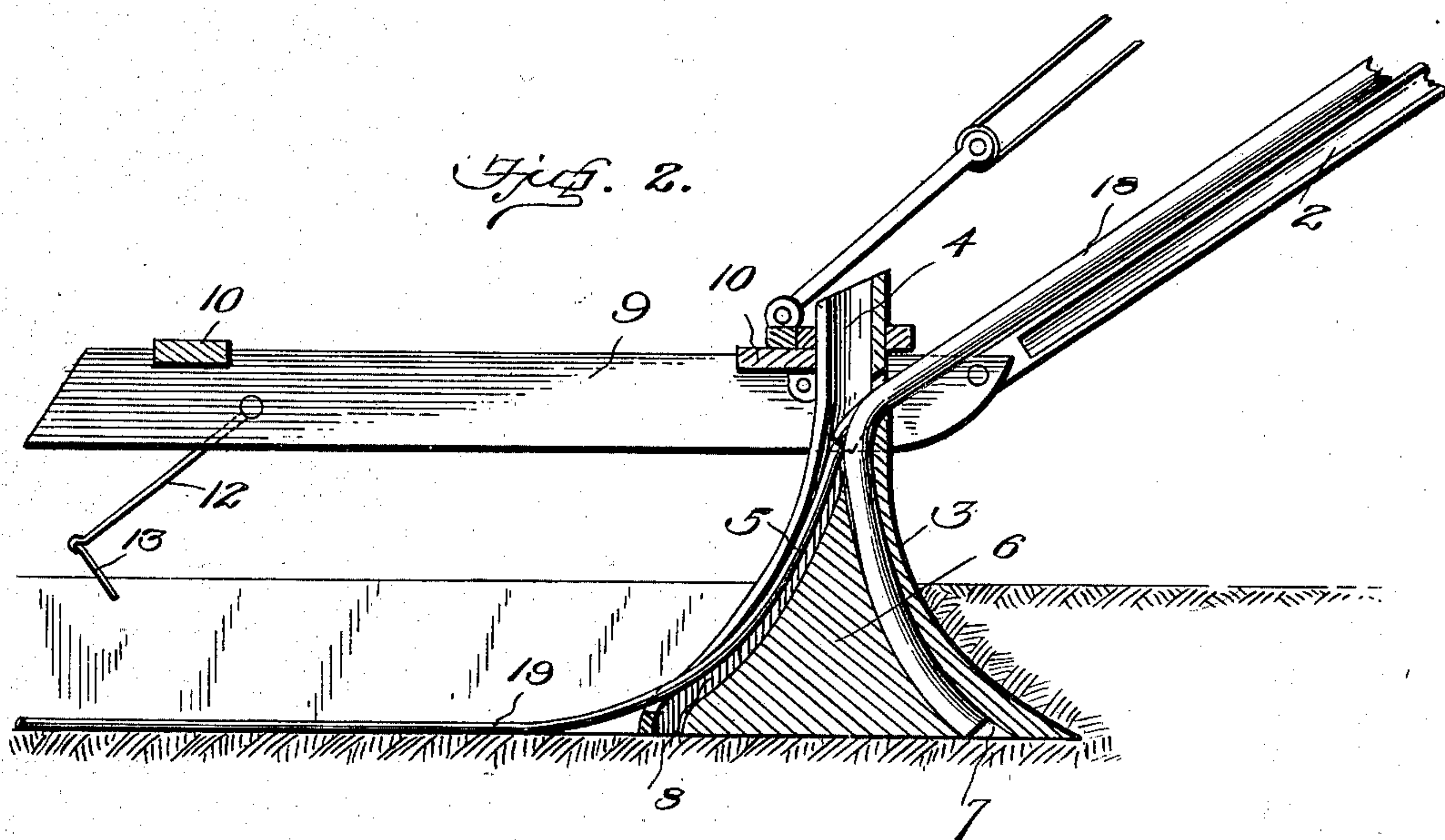
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NO MODEL.

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UNITED STATES PATENT OFFICE.

BEAUREGARD ROBERTS, OF MOBILE, ALABAMA.

SUBMARINE-CABLE-LAYING DEVICE.

SPECIFICATION forming part of Letters Patent No. 734,615, dated July 28, 1903.

Application filed May 29, 1902. Renewed January 26, 1903. Serial No. 140,673. (No model.)

To all whom it may concern:

Be it known that I, BEAUREGARD ROBERTS, a citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented certain new and useful Improvements in Submarine-Cable-Laying Devices; and I do 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 invention relates to devices for laying submarine cables.

The object of the invention is to provide a device of this character by means of which cables can be laid at any depth and which can be easily and readily adjusted from the vessel dragging the same.

The device may also be adapted to find and cut or raise a cable and is also provided with means for covering up a cable after laying the same.

With these and other objects in view the invention consists in the combination and arrangement of the parts, as will be hereinafter more fully described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation showing the device in use. Fig. 2 is a longitudinal vertical section of the plow, and Fig. 3 is a top plan view of the same.

In the drawings, 1 denotes a steamboat or barge for carrying the apparatus hereinafter described and dragging the plows, and 2 denotes an adjustable framework, which is suitably connected to the stern end of the boat, so that an up-and-down swinging movement may be imparted thereto.

3 denotes a plow, consisting of the standard 4 and a hollow body portion or share 5, which is divided by a web 6, forming two channels 7 and 8, extending through the plow, as shown, the channel 7 opening at its lower end beneath the point of the plow, the channel 8 being formed in the rear of the channel 7 and opening at the heel of the plow.

The standard 4 of the plow is suitably fixed between two horizontally-disposed parallel beams 9, connected to the lower end of the framework 2. These beams are spaced apart and connected together by cross-pieces 10.

12 denotes two downwardly and rearwardly inclined arms connected at their upper ends to the rear ends of the beams 9 and carrying at their lower ends covering-blades or hoes 13.

14 denotes a downwardly and forwardly projecting arm pivoted to one of the beams 9 and carrying at its lower end a clamping-jaw 15 for a purpose hereinafter to appear. To the opposite end of the arm 14 is attached a cord or cable 16, running to the boat or barge.

17 denotes a coiled spring, one end of which is connected to the framework and the other to the forward end of the arm 14, the tendency of said spring being to normally hold the arm 14 in a raised position.

18 denotes a flexible pipe supported by the framework 2, forming a conductor for air, steam, or water and extending from a source of such fluid-supply on the boat to the plow and through the channel 7 therein and opening at the end of said channel beneath the plow-point. 18^a denotes a similar pipe or conduit, also supported by the framework and extending from the boat to the plow and communicating with the channel 8. The purpose of this pipe or conduit is to form a conductor for the cable 19 to run through when being laid or taken up. A suitable reel 20 is provided on the boat for the winding or unwinding of the cable. The rear side of the plow and standard may be split or provided with a slot communicating with the channel 7, so that branch cables or torpedo connections 19^a, attached to the main cable 19, may be allowed to pass through the channel 7, as shown in the drawings.

21 denotes a derrick or hoisting apparatus, and 22 the cables for raising and lowering the framework and plow. This apparatus may be of any suitable form and construction, and any suitable power and means may be employed for operating the hoisting and reeling apparatus; but as this forms no part of the present invention I have not deemed it necessary to show the same in the drawings.

In operation the plow is lowered to the bottom of the sea or wherever it is to be used, and as the steamboat is propelled forward the plow will be caused to dig a furrow in the said bottom, and to facilitate the digging operation air, steam, or water may be forced down through the pipe 18 and channel 7, thus loos-

ening and softening the sand or earth and blowing it up away from the plow. As the furrow is being thus formed by the point of the plow the cable is being paid out through the pipe 19 and the channel 8 and laid in the furrow, after which the covering-blades 13 draw the sand or soil over the cable and close up the furrow. When it is desired to find a cable for the purpose of cutting the same, the plow is dragged along crosswise to the direction of the same until the cable is found and raised by the plow-point, and if it is desired to cut the cable the cord 16 is drawn upon to throw the arm 14 downwardly, thereby causing the jaw 15 to clamp the cable against the plowshare and hold it during the operation of cutting the same. To take up a cable, the free end thereof is taken through the pipe 18^a and connected to the reel, and a winding movement imparted thereto will cause the cable to be raised and wound upon the reel, the plow-point passing ahead and loosening the earth over the said cable, allowing it to be easily raised.

From the foregoing description, taken in connection with the accompanying drawings, the construction, mode of operation, and advantages of the invention will be readily understood without requiring an extended explanation.

Various changes in the form, proportion, and details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

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

1. The combination of a hollow submarine plow, beams adapted to support said plow, an adjustable framework for connecting said beams with a boat, a cable-conduit carried by said framework and communicating with a delivery-channel in the rear portion of said hollow plow, a fluid-conducting pipe carried

by said framework and extending from said boat to a fluid-delivery channel in the forward portion of said plow, and means for raising and lowering said framework and plow, substantially as set forth.

2. The combination of a hollow submarine plow, beams adapted to support said plow, an adjustable framework for connecting said beams with a boat, a cable-conduit carried by said framework and communicating with a delivery-channel in the rear portion of said hollow plow, a fluid-conducting pipe carried by said framework and extending from said boat to a fluid-delivery channel in the forward portion of said plow, covering-blades fixed to the lower ends of depending arms carried by said plow-beams in rear of said plow, substantially as set forth.

3. The combination of a hollow submarine plow, beams adapted to support said plow, an adjustable framework for connecting said beams with a boat, a cable-conduit carried by said framework and communicating with a delivery-channel in the rear portion of said hollow plow, a fluid-conducting pipe carried by said framework and extending from said boat to a fluid-delivery channel in the forward portion of said plow, covering-blades fixed to the lower ends of depending arms carried by said plow-beams in rear of said plow, an arm pivoted to one of said plow-beams and carrying at its outer end a clamping-jaw for clamping a cable against said plow, and having connected to its inner end an operating cord or cable running to said boat, and means for normally holding said arm and jaw out of engagement with said plow, substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

BEAUREGARD ROBERTS.

Witnesses:

P. J. SCHEWERMANN,
W. F. SIMON.