No. 809,910. PATENTED JAN. 9, 1906.

C. DE LAY.

PIPE LAYING DEVICE.

APPLICATION FILED JULY 1, 1905.

FIG. 1.

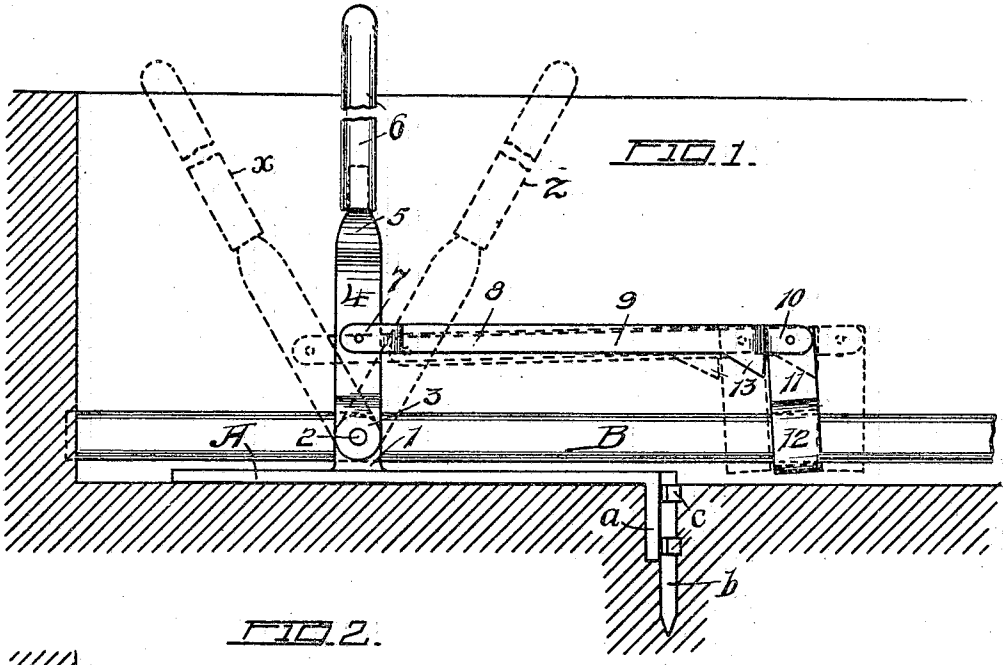


FIG. 2.

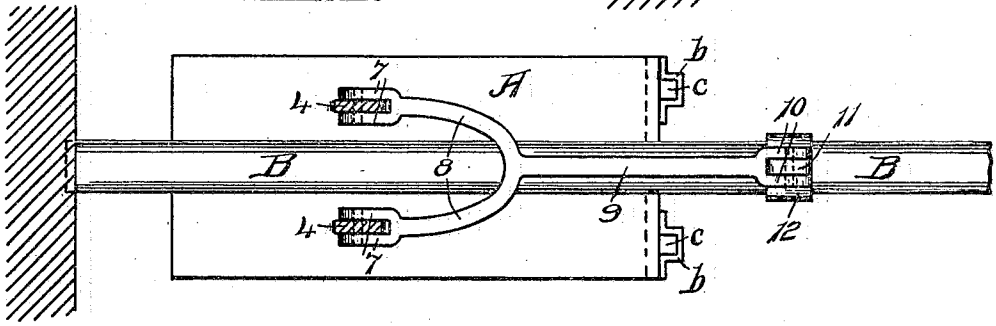
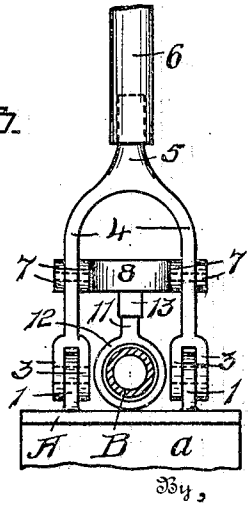


FIG. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES DE LAY, OF OMAHA, NEBRASKA, ASSIGNOR OF ONE-THIRD TO ALONZO B. HUNT AND ONE-THIRD TO CHARLES J. COLLINS, OF OMAHA, NEBRASKA.

PIPE-LAYING DEVICE.

No. 809,910. Specification of Letters Patent. Patented Jan. 9, 1906.

Application filed July 1, 1905. Serial No. 267,903.

To all whom it may concern:

Be it known that I, CHARLES DE LAY, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Pipe-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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a simple and efficient device for laying gas and water pipes and the like, and which object I accomplish in the construction and arrangement of parts as shown in the accompanying drawings and set forth in the following specification.

In the accompanying drawings, Figure 1 shows a side elevation of my pipe-laying device with portions broken away and in an engagement with a gas or water pipe. Fig. 2 is a top view or plan of my pipe-laying device with the operating-lever cut off horizontally, while Fig. 3 shows a front end view of my pipe-laying device.

Referring to the drawings, A designates the anchor-plate, which may be made of any suitable material and which is provided at its rear end with the downwardly-extending portion *a*, which portion is bent at right angles to the anchor-plate A and adapted to be forced into the ground, so as to firmly hold the anchor-plate A in place when in operation.

Secured to the outer side of the bent end portion *a* of the anchor-plate A are the clips *b*, which are adapted to carry stakes *c* to help support and hold the anchor-plate A in a stationary position when the pipe-laying device is being operated.

Extending upward from the top of the anchor-plate A and near one end thereof are the ears 1 1, and secured by means of the pin 2 to these ears 1 1 are the yoke ends 3 3, which extend from the legs of the forked ends 4 of the operating-lever 5. This lever 5 is further provided with a suitable operating-handle 6, which may be of any suitable length and which is clearly shown in Figs. 1 and 3.

Pivotally secured approximately intermediate to the legs of the forked end 4 of the operating-lever 5 are the yoked ends 7, which extend from the legs of the forked end 8 of the connecting-link 9, as clearly shown in Figs. 1 and 2. The opposite or rear end of this link 9 is also provided with the yoked end 10, to which is pivotally secured the neck 11 of the clutch or grip-collar 12, the perforations within said collar being a trifle larger than the pipe B to allow the same to firmly grip the pipe B when the operating-lever is advanced, as shown in dotted lines X, and, further, to allow the same to freely work upon the pipe when the operating-lever is moved from this position, as shown in dotted lines X, to the position shown in dotted lines Z.

It will be observed that the connecting-link 9 is provided with the downwardly-projecting lug or lip 13 near the yoke end 10 of the link 9, so as to prevent the clutch or grip collar 12 from working at an angle to the pipe B when the operating-lever is in its backward movement.

Having now indicated the various elements composing my pipe-laying device and in the manner in which they are connected, the mode of operation is as follows: The pipe B is inserted through the clutch or grip collar 12, as shown in Fig. 1, and through the yoke 4 of the operating-lever 5, and it is then placed in contact with the wall of the hole or bank through which the pipe is to be forced. The operator then advances the operating-lever 5 by means of the handle 6 from the position as shown in full lines in Fig. 1 to that shown in dotted lines X in Fig. 1, thus forcing the pipe into the earth. It will be observed that in the forward movement of the lever 5 the clutch or grip collar 12 works at an angle to the pipe B, so that the forward top edge of the perforations within the clutch 12 and the rear lower edge thereof grip the pipe B and carry the same forward with the forward movement of the operating-lever 5. In the backward movement of the lever 5 the clutch or grip collar 12 is allowed to freely move upon the pipe B, as the same is held at right angles to the pipe B by means of the depending lug or lip 13 of the link 9. As soon as the clutch or collar 12 has traveled to the position, as shown in dotted lines Z in Fig. 1, the operator then advances the lever 5 again and again the clutch or grip collar grips the pipe, and thus forces the same farther into the

earth. This forward-and-backward movement of the lever is maintained until the pipe has been forced forward to a distance where it is impossible for the clutch or grip collar to grip the same again. Then another pipe is inserted through the clutch or grip collar 12 and one end of said pipe secured to the end of said first-mentioned pipe, when the operator again operates the lever 5, as heretofore described.

My invention is more particularly used for laying gas and water pipes from the main in the street to the house. It will thus be noticed that by using the pipe-laying machine of the character described it obviates the digging of a series of holes from the street to the house into which the pipes are to be laid. Further, in using my pipe-laying device for laying pipe from the street to the house or to any other place where it is desired to lay the pipe it is never necessary to dig but one hole and that the length of one section of the pipe to be laid. Heretofore it has been necessary to dig a series of holes with a wall left between each hole and to bore a hole through said walls to allow a passage-way between aforesaid holes through which the pipes were inserted. It will further be observed that by using a device of the class described there is no destruction of lawns and yards where grass and the like is growing, which has heretofore been necessary to do before the pipes could be laid from the main in the street to the house.

It is to be understood that this invention is not limited to the precise form and mode of arranging parts shown in the drawings, but that minor variations may be made therein, provided there is no departure from the main scope and spirit of the invention. It is also to be understood that my pipe-laying device may be made of any suitable size and of any suitable material.

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

1. In a pipe-laying device the combination with the base or anchor plate provided at one end with the downwardly-extending bent end portion which extends crosswise of the length of the anchor-plate, ears extending upwardly from said anchor-plate, yoked legs of the yoked operating-lever pivoted to said ears, a handle secured to said yoked operating-lever, yoked ends of the yoked connecting-link pivotally secured intermediate of the legs of the yoked operating-lever, a gripping-collar having the shank pivoted to the opposite yoked end of said connecting-link and a lip or stop depending from the lower side of said link at the gripping-collar end to prevent the collar from working out at a less angle than a right angle to the pipe gripped and carried by said grip-collar, when the collar is in its backward movement upon the pipe being laid.

2. In a pipe-laying device the combination of a bed or anchor plate, and having one end bent at right angles thereto, there being ears extending upward from the top of said anchor-plate, an operating-lever having a yoked end and pivotally secured to said ears, a connecting-link having a yoked end and pivotally intermediate the legs of said first-mentioned yoke, and clutch or grip collar pivoted to the opposite end of said connecting-link, and there being a lip depending from said last-mentioned end of said link, to prevent the collar from working at an angle less than a right angle to a pipe being laid in its backward movement upon the pipe.

3. As a new article of manufacture, a pipe-laying device, comprising an approximately rectangular plate provided at one end with the downwardly-projecting end portion extending crosswise of the length of the plate, an operating-lever pivoted to said plate, and means for gripping the pipe adapted to be laid, substantially as shown and described.

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

CHARLES DE LAY.

Witnesses:

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JOHN W. BATTIN.