April 5, 1927.

1,623,833

W. A. GEIS

PIPE CUTTING DEVICE

Filed Aug. 20, 1926

2 Sheets-Sheet 1

FIG. 1

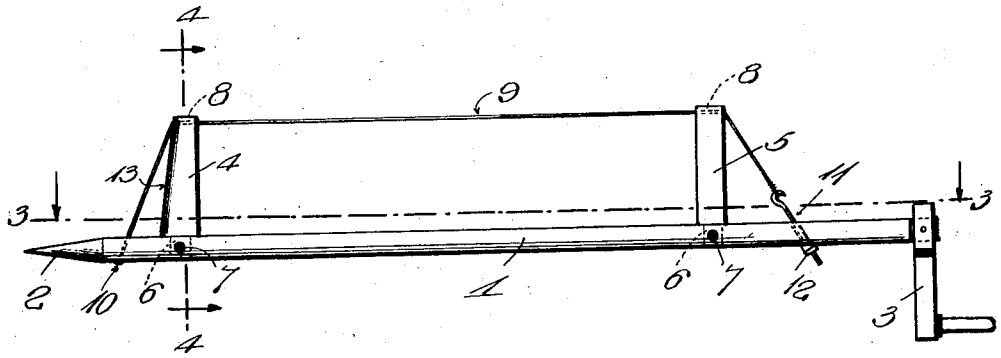


FIG. 2

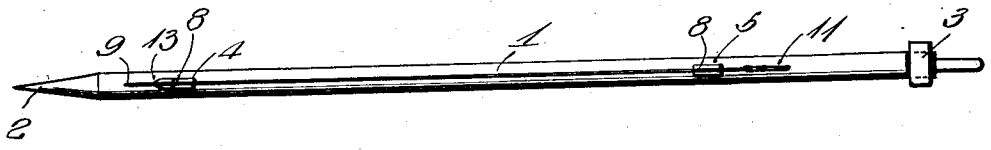


FIG. 3

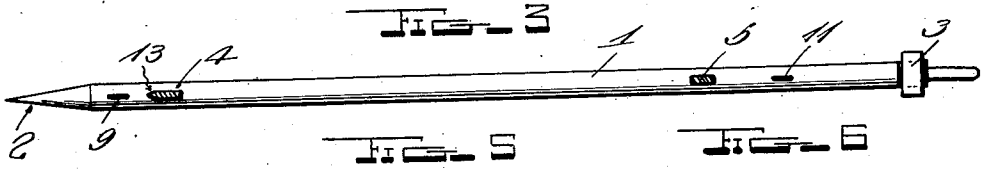


FIG. 4

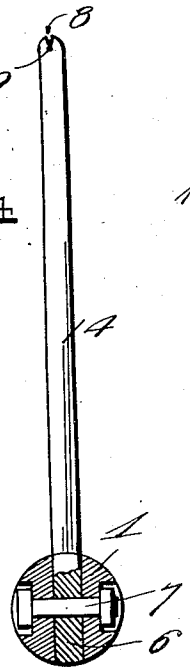


FIG. 5

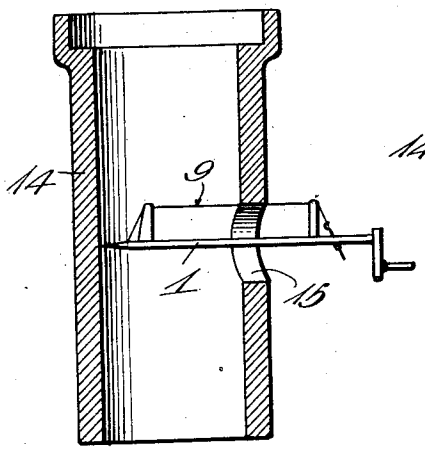
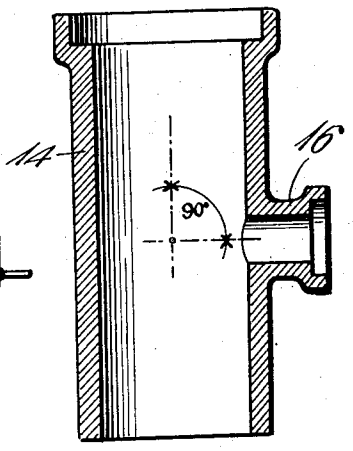


FIG. 6



INVENTOR.

W. A. Geis,

BY James J. Sheehy & Co

ATTORNEYS.

April 5, 1927.

1,623,833

W. A. GEIS

PIPE CUTTING DEVICE

Filed Aug. 20, 1926

2 Sheets-Sheet 2

Fig. 7

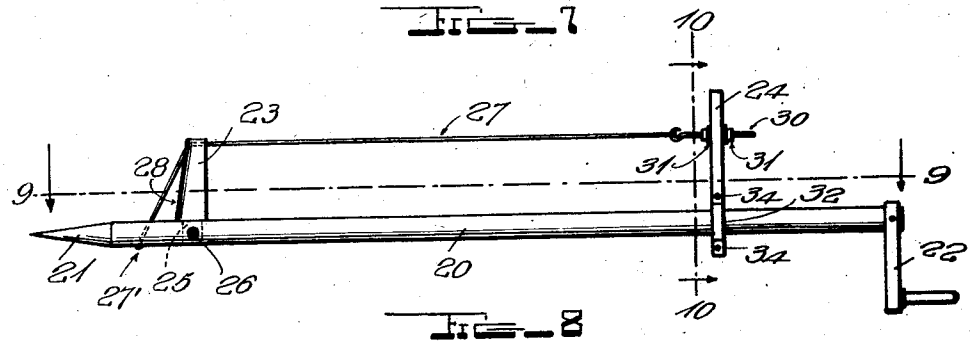


Fig. 8

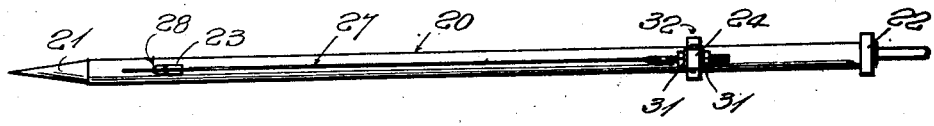


Fig. 9

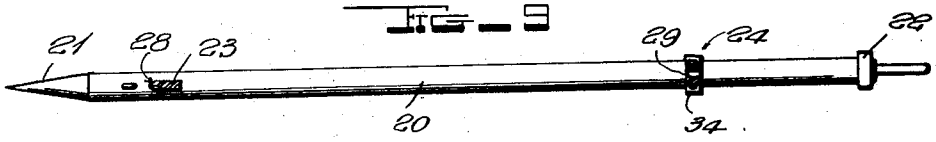


Fig. 10

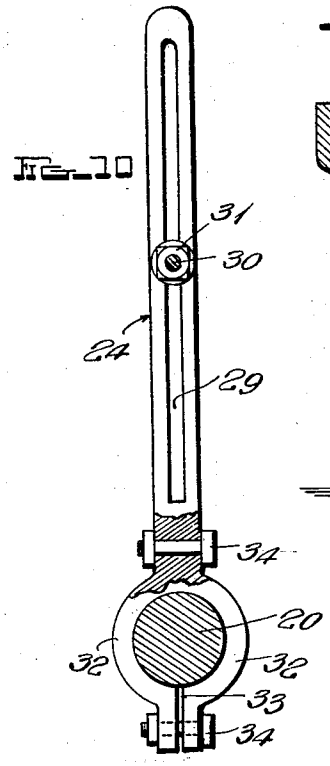


Fig. 11

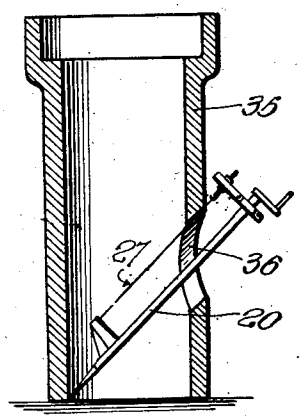
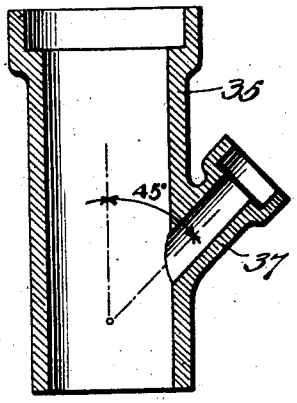


Fig. 12



INVENTOR.

W. A. Geis,

BY

James J. Sheehy & Co.

ATTORNEYS.

Patented Apr. 5, 1927. 1,623,833

UNITED STATES PATENT OFFICE.

WALTER A. GEIS, OF MIDVALE, OHIO.

PIPE-CUTTING DEVICE.

Application filed August 20, 1926. Serial No. 130,537.

My present invention pertains to cutting devices through the medium of which holes made be produced in green sewer pipe or the like whereby T and Y branch pipes or connections may be readily and easily secured into the parent pipe.

Other objects of the invention will be fully understood from the following description and claims when the same are read in connection with the drawings accompanying and forming part of this specification, in which—

Figure 1 is a side elevation of the first form of my device.

Figure 2 is a top plan view thereof.

Figure 3 is a sectional view taken on the line 3—3 of Figure 1 in the direction of the arrows.

Figure 4 is a view partly in section and partly in elevation looking from the front of the device.

Figure 5 is a detail view showing a pipe in section with my device arranged therein.

Figure 6 is a detail view of the finished pipe with the T connection.

Figure 7 is a side elevation of the second form of my device for producing wide connections.

Figure 8 is a top plan view thereof.

Figure 9 is a sectional view on line 9—9 of Figure 7 looking in the direction of the arrows.

Figure 10 is a detail view of the rear standard of the second form of construction.

Figures 11 and 12 disclose the mode of production and the finished product as produced by my novel device.

Reference will first be had to Figures 1 to 6 of the drawings in which views similar numerals designate corresponding parts.

My novel cutting device comprises a shaft 1 that is sharply pointed at 2 for the purpose of piercing a sewer pipe or the like and at 3 I provide a removable handle for turning the shaft 1.

Extending upwardly from the shaft 1 are standards 4 and 5 that are provided with the depending lug 6 that fit into coacting recesses of the standard 1 and are bolted thereto as indicated by 7. Each of the standards 4 and 5 is provided with kerfs 8 that receive preferably piano wire 9 which is anchored at one end in the shaft 1 and at the point 10. This wire is further secured at its opposite end to a tension screw 11 that is provided at a point below the shaft 1 with a tension nut 12. It will be manifest that the standard 4 is provided with the sharp knife edge 13.

In the practical use of this form of my invention the point 2 of the shaft 1 is employed to pierce the pipe 14 and by continual rotation of the handle 3 the wire 9 will cut a circular hole 15 to accommodate the branch or connection 16. Manifestly the cutting edge 13 of the standard 4 will trim away the pipe so as to make piercing of said pipe less difficult.

Reference will now be had to Figures 7 to 12 of the drawings in which similar numerals designate corresponding parts.

The second form of my invention comprises the shaft 20, point 21, handle 22, standard 23, lugs 25, screws 26, wire 27 anchored at 27′ and knife edge 28 all corresponding to similar elements of my first form of construction.

My second form of construction differs from the first in that I provide an upright 24 that has a longitudinal slot 29 and arranged in this slot is a member 30 that engages the free end of the wire 27 and this member 30 is secured in the upright 24 at the position desired by means of the nut 31. The upright 24 at its lower end is provided with a saddle 32 and the slot 33 while passing through the ends of the saddle 32 and adapted to firmly clamp said ends about the shaft 20 is a bolt 34.

This construction of cutter is adapted to provide an angularly arranged hole 36 in the pipe 35 for reception of the connection or outlet 27.

In the practical operation of this device, the point of the shaft is inserted in the outer wall of the pipe 35 at an approximate angle of 25 degrees and the cutting blade 28 will pierce the pipe during the forward movement of the shaft. The opening or hole 36 is then finished by rotation of the shaft and the wiring will cut the hole at the angle desired. Slack of the wire 27 may be taken up by moving the member 30 with respect to the slot 29 of the standard 24.

It will be manifest that the production of the desired holes in a pipe is an extremely simple operation and one that may be accomplished without the employment of skilled labor and that because of its simplicity the cost of production and up-keep of the device is reduced to a minimum as there are

no elements provided therein that are liable to become inoperative after a short time of use.

What I claim is:

1. The combination of a shaft pointed at one end and having a handle at the opposite end, standards mounted on the shaft and secured thereto, a cutting edge formed in one of the standards and a wire anchored in the shaft and adapted to rest in the standards and means for taking up the slack of the wire between the standards.

2. The combination of a shaft pointed at one end thereof, recesses formed in the shaft, standards bolted in the shaft and having kerfs in the upper ends thereof, a cutting edge formed in one of the standards, a wire anchored in the shaft and adapted to rest in the kerfs of the standards, a tension bolt adapted to engage one end of the wire and pass through the shaft for placing the wire under tension.

3. The combination of a shaft pointed at one end and having a removable handle at the opposite end, a slot formed in the shaft, a standard having one face thereof provided with a knife edge, a lug secured to the lower end of the standard, means for bolting the lug in the recess of the shaft, a kerf formed in the upper end of the standard, a second standard having a slot therein and provided on its lower end with a saddle adapted to surround the shaft, means for clamping the saddle to the shaft, a member adapted to rest in the slot, means for fixedly securing the member in the slot, and a wire anchored at one end to the shaft and to pass through the kerf of the first standard and to be engaged by the member that travels in the slot of the second standard.

4. The combination of a shaft having a piercing element produced on one end thereof, standards mounted in the shaft, a wire arranged in the shaft and extending from one to the other of the standard and means for increasing or decreasing tension of the wire between the standards.

In testimony whereof I have hereunto set my hand.

WALTER A. GEIS.