L. S. GOLDING.

PIPE CUTTER.

APPLICATION FILED JULY 27, 1918.

1,322,007.

Patented Nov. 18, 1919.

2 SHEETS—SHEET 1.

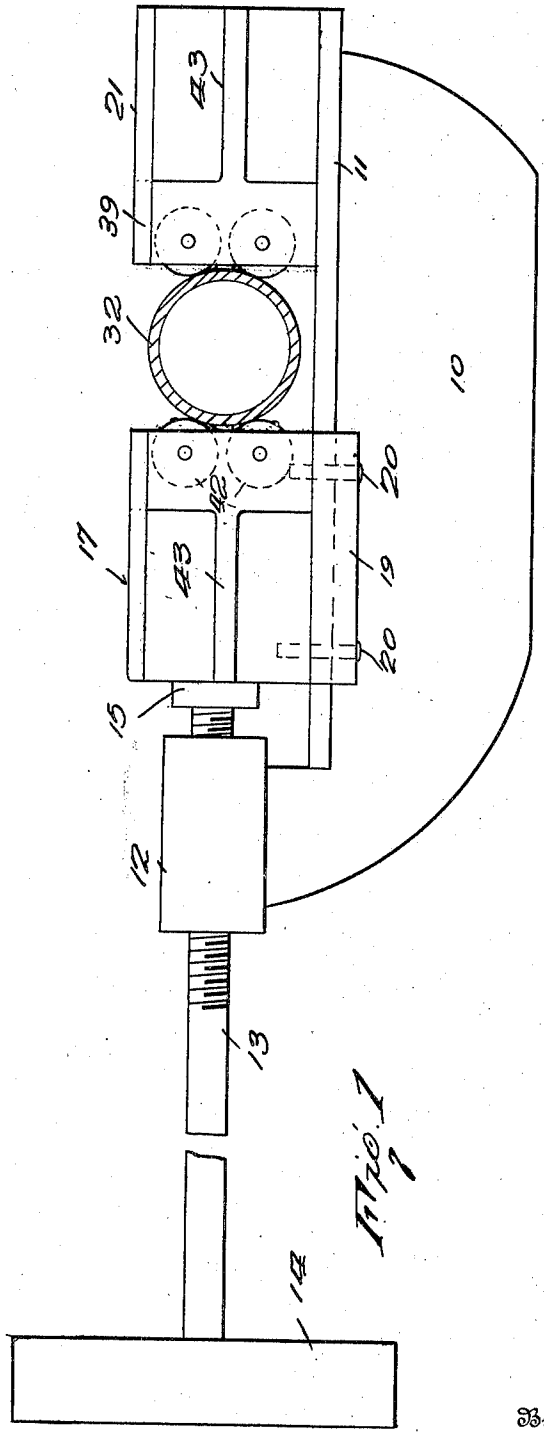


Fig. 1.

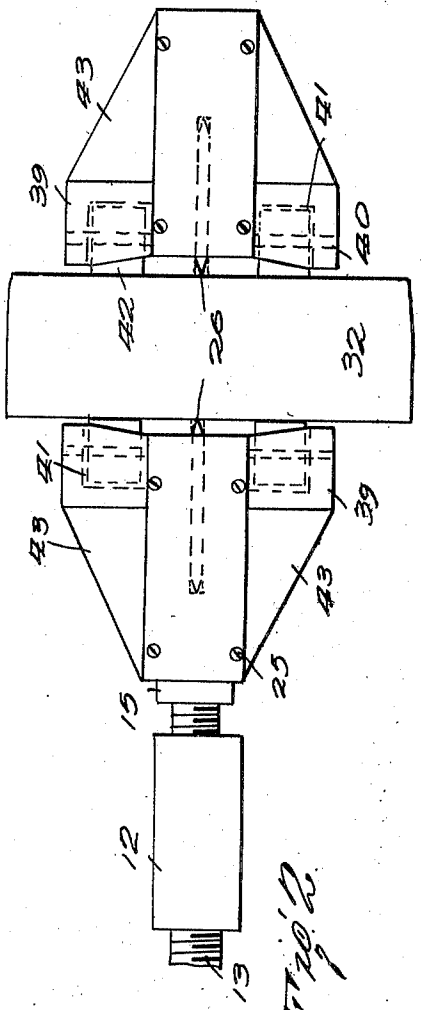


Fig. 2.

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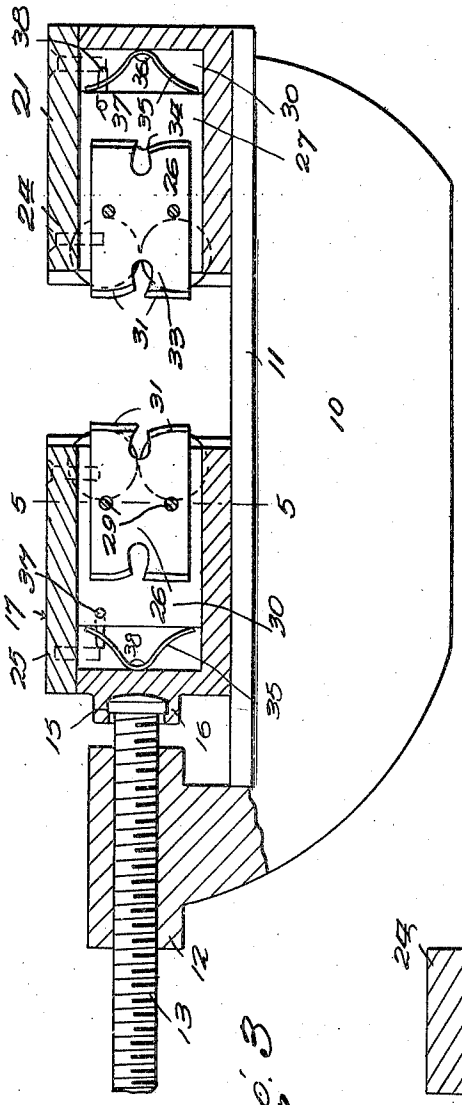


Fig. 3.

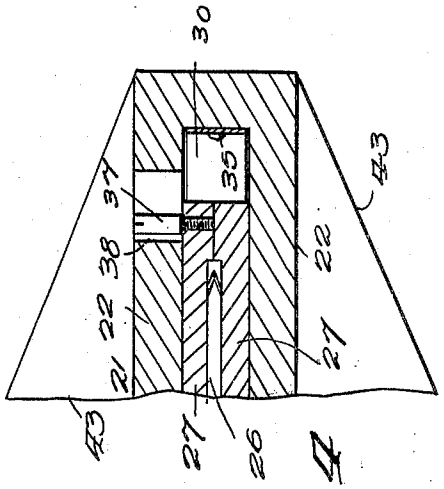


Fig. 4.

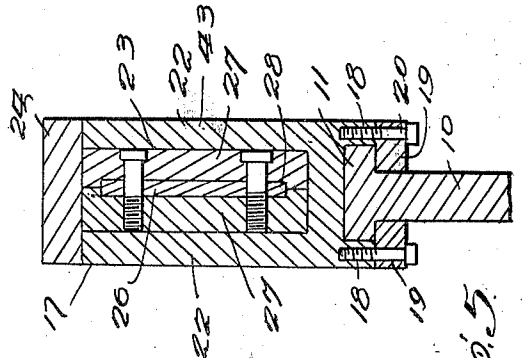


Fig. 5.

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UNITED STATES PATENT OFFICE.

LORIN S. GOLDING, OF SALT LAKE CITY, UTAH.

PIPE-CUTTER.

1,322,007. Specification of Letters Patent. Patented Nov. 18, 1919.

Application filed July 27, 1918. Serial No. 246,985.

To all whom it may concern:

Be it known that I, LORIN S. GOLDING, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented certain new and useful Improvements in Pipe-Cutters, of which the following is a specification.

The invention has reference generally to improvements in that class of inventions known as tools and more particularly relates to an improved pipe cutter.

It is the principal aim and object of this invention to provide a device of the above-mentioned character embodying relatively adjustable jaws of improved construction and designed to operably receive the cutting blade holder in such a manner as to insure of an effective cutting action when the jaws are adjusted toward each other.

With the above and other objects in view, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described herein and set forth with particularity in the claims appended hereto.

Reference is had to the accompanying drawings forming a part of this application, in which like reference characters indicate the corresponding parts through the several views, in which—

Figure 1 is a side elevation of my improved pipe cutter,

Fig. 2 is a plan view thereof,

Fig. 3 is a longitudinal sectional view taken centrally of the cutter,

Fig. 4 is an enlarged fragmentary longitudinal sectional view taken at right angles to Fig. 3, and

Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 3, the parts being enlarged.

Referring to the drawings in detail, my improved pipe cutter is shown as comprising a frame 10 T-shaped in cross section, presenting a top relatively thin and wide so as to give strength and lightness. This frame is thus formed at its inner edge with opposed flanges 11 also running longitudinally and projecting from opposite sides of the frame, while at its inner end, said frame is formed with an inwardly offset and longitudinally extending internally threaded sleeve 12 disposed in spaced parallel relation to the longitudinal axis of the frame and the side flanges 11 which produce a track or guideway, for a purpose to be hereinafter made apparent.

Movably received within the sleeve 12 is an externally threaded shank 13, the same being provided at its outer end with a cross handle 14, preferably of hollow cast metal, also with a view to lightness. The inner end of the shank 13 is provided with an enlargement 15 designed for swiveled connection with a socket 16 formed at the inner end of an inner jaw 17 which is slidably mounted on the guide or track produced by the side flanges 11. For this purpose the jaw 17 is provided with side extensions 18 receiving the flanged portion or guide of the frame therebetween, suitable retaining plates 19 being connected to the extensions 18, preferably in a manner to permit them to be removed, as by means of fastening screws 20 engaged through the plates and into the extensions at the edge portions thereof.

At the outer end of the frame it is provided with a stationary hollow jaw 21, which is otherwise of the same construction as the hollow jaw 17, except for the fact that the handle has no connection therewith. Each jaw is formed with spaced side portions 22 and is hollowed out rectangularly as shown at 23, a rectangular plate 24 being removably secured to the edges of the spaced side portions 22 of each jaw, as shown at 25, to close the hollowed out portion or opening therein and to permit convenient access for removing and replacing the cutters or cutting blades of the device, as will be subsequently explained.

As is clearly shown in Fig. 3 of the drawings, the inner end of the jaw 17 is closed and the outer end thereof open, while the outer end of the jaw 21 is closed and the inner end thereof open, said jaws being designed to clamp the pipe. The blade 26 is held within a container comprising opposed rectangular blocks 27, having recesses 28 in their opposed faces to receive a blade therein, each blade being held in position through the medium of transversely spaced securing means or screws 29 passing through registering openings in the blocks and in the blades, and having threaded engagement with one of the blocks so as to clamp the blocks together. The recesses 28 terminate short of the confined ends of the blocks, end

walls 30 being provided for this purpose, while the opposite ends of the knives or blades 26 project from the open ends of the blocks forming holding and tightening means for the blades, thereby projecting the cutting edges 31 of the latter for action upon the pipe 32, between the jaws. These cutting edges are produced by providing elongated concave recesses 33 in the opposed ends of the blades and beveling the edged portions of the blades so that one projects outwardly of the other at the corner portion 34, thereby presenting a sharp corner edge to exert the cutting action in connection with the main edge portions.

Between the confined end of each block and the end wall of each jaw, there is positioned a flat V-shaped spring 35, which may be anchored to said end wall as shown at 36, while each clamp or blade holder is adapted to have resilient action or movement thereagainst limited by the engagement of a set screw 37 in a slot 38 provided in the side wall of each jaw, the set screws being fixed to the respective holders. This will prevent the jaws from being moved so close together or tightened on the pipe to such a degree as will break the knives or blades. There is also advantage in having the knives sharpened at both ends, inasmuch as they can be reversed, and being made of good cutting steel, a good cutting action is always provided for, simply by reversing the blades.

Arranged at each side of each knife on the respective jaws, is an extension or bearing box 39, said extensions being hollowed out to receive the pintles 40 of rollers 42 journaled thereon and in the boxes or cut-out portions 41 of the extensions, the rollers projecting from the bearing boxes or extensions at their open inner sides, as shown, so that when the knives are normally projected by the springs they will extend beyond the rollers. However, when pressure is applied through the medium of the handle to cause the jaws to clamp the pipe to be cut, the knives will retract against the action of the springs and when the cutter is tightened up, the knife edges will be flush with the peripheries of the rollers, thereby preventing injury to the knives or blades. The rollers are preferably made of steel or other hard metal so as not to be injured by the pipe. Diagonal braces or web portions 43 are provided intermediately between the sides of the jaws to strengthen the roller boxes, as is one of the important features of the invention. In view of the foregoing description, it is believed that the method of the operation of the device will be clearly understood.

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

1. A device of the character described including a frame, box-like jaws on the frame one of which is stationary while the other is slidable relatively thereto, the adjacent ends of the jaws being open, holders slidably mounted in the jaws, blades removably mounted in the holders, resilient means mounted in the jaws for normally holding the holders forwardly, means for limiting the sliding movement of the holders, rollers mounted on the sides of the jaws and having portions projecting forwardly of the front or adjacent edges of the jaws, and means for operating the movable jaw.

2. A device of the character described including a frame, box-like jaws positioned thereon each consisting of a base, spaced side walls rising therefrom and a rear wall rising from the base and joined with the side walls, one of the side walls being formed with a longitudinal slot, the adjacent front ends of the jaws being open, a cover plate removably mounted on the jaws, a sectional holder slidably mounted in each jaw and composed of a pair of plates the adjacent faces of which are recessed, blades positioned in the recesses between the plates forming the holders, means for releasably fastening the blades in the holders, resilient means positioned in the jaws and acting against the holders to normally hold the blades forwardly of the jaws, means arranged through the slots in the side wall and anchored in the holders for limiting the sliding movement of the holders in the jaws, bearing boxes formed on the side walls of the jaws at the forward ends thereof, rollers journaled in the bearing boxes and having portions disposed forwardly of the front open ends of the jaws, and means for adjusting the slidable jaw with relation to the other jaw.

In testimony whereof I affix my signature hereto.

LORIN S. GOLDING.