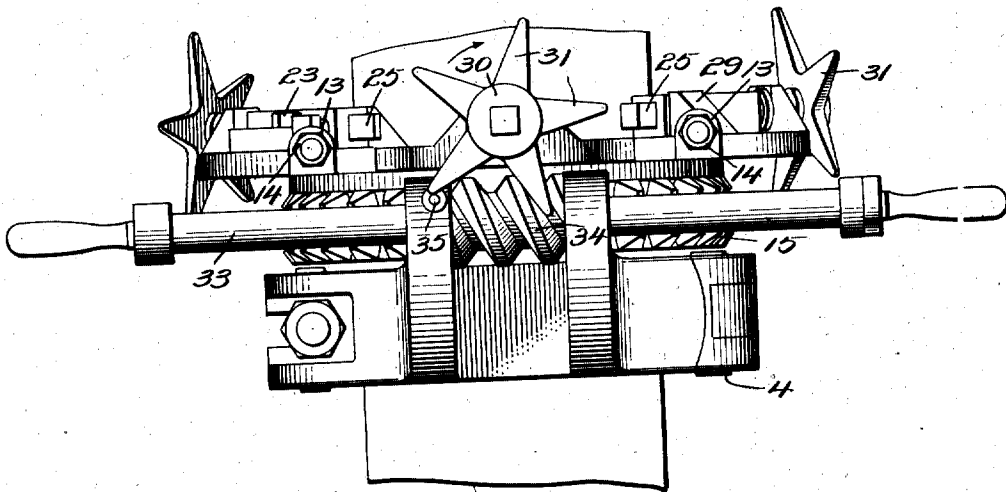
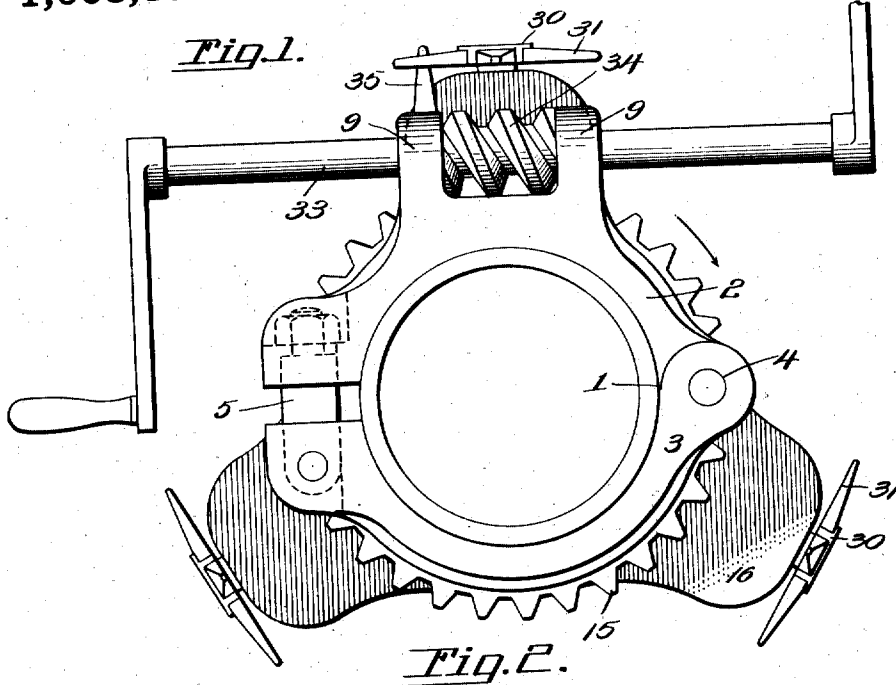


1,008,393.

2 SHEETS—SHEET 1.



Ludolf Toegel. ^{Inventor}

Witnesses

F. B. Gibson.
D. W. Gould.

My Victor J. Evans
Attorney

Attorney

L. TOEGEL.
PIPE CUTTING TOOL.
APPLICATION FILED DEC. 7, 1909.

1,008,393.

Patented Nov. 14, 1911.

2 SHEETS—SHEET 2.

Fig. 3.

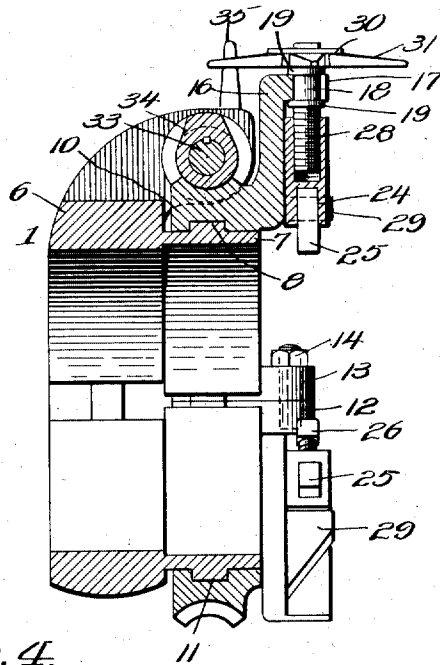


Fig. 4.

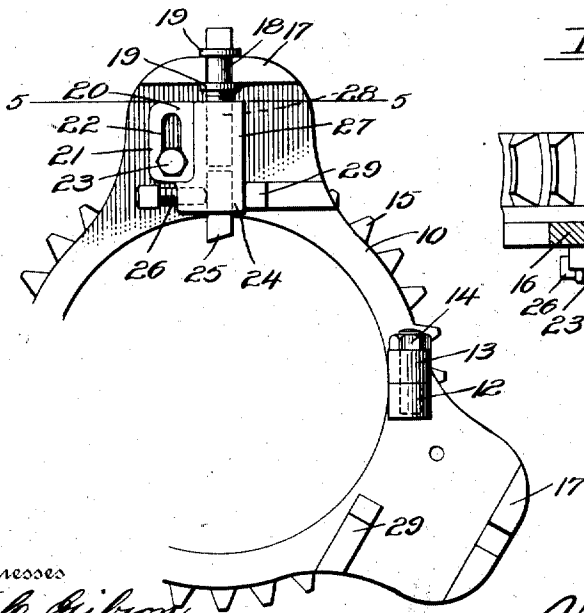
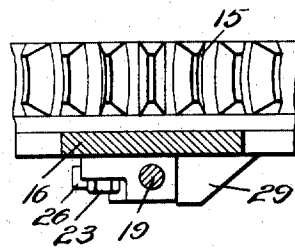


Fig. 5.



Witnesses

F. L. Gibson.
D. W. Gould.

Ludolf Toegel. Inventor

Victor J. Evans Attorney

UNITED STATES PATENT OFFICE.

LUDOLF TOEGEL, OF BUFFALO, NEW YORK.

PIPE-CUTTING TOOL.

1,008,393.

Specification of Letters Patent. Patented Nov. 14, 1911.

Application filed December 7, 1909. Serial No. 531,771.

To all whom it may concern:

Be it known that I, LUDOLF TOEGEL, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful
5 Improvements in Pipe-Cutting Tools, of which the following is a specification.

The invention relates to an improvement in pipe cutters, being particularly directed to a device designed to be secured upon a
10 pipe section and to be operated thereon to cause the cutters to sever the pipe material.

The main object of the present invention is the provision of a pipe cutter designed to
15 be removably clamped in place on a pipe section, said construction including a series of cutting elements which are revolved about the pipe and in which the tools are automatically fed into cutting action with the
20 pipe during movement of the cutters about the pipe.

The invention in its preferred details of construction will be described in the following specification, reference being had particularly to the accompanying drawings,
25 in which:—

Figure 1 is a view in elevation of the improved pipe cutter. Fig. 2 is a top plan of the same. Fig. 3 is an enlarged vertical section, partly in elevation, through the pipe
30 cutter. Fig. 4 is a broken elevation of the tool carrier. Fig. 5 is a broken top plan view of the same.

Referring particularly to the accompanying drawings, my improved pipe cutter includes a clamp 1 comprising a band made up of two sections 2 and 3 which are hingedly connected at 4 and arranged opposite said hinge for adjustable clamping
40 connection, as through the medium of a bolt 5. The clamping ring is made up to present an annular, comparatively thick portion 6 which embraces the pipe, and a projecting thinner portion 7 preferably having
45 an interior diameter slightly exceeding that of the portion 6 and formed on its outer surface with an annular projecting guide lug 8. The portion 6 of the clamping ring is formed at a determinate point with a
50 worm screw support, which support comprises spaced ears 9 which project to and terminally overlie the portion 7 of the clamp, hereinafter termed the guide portion.

55 A carrier is designed for coöperation with the guide portion of the clamp, said carrier

comprising an annular member 10 made up of two sections, the inner surface of which member is formed with an annular channel or groove 11 to fit the guide lug 8 on the clamp member. The sections of the carrier are arranged for connection preferably in the manner illustrated in Fig. 4 wherein one of the sections is provided with a projecting pin 12 designed to pass through a
60 collar or socket 13 on the opposing section, when the sections are assembled, a nut 14 securing the parts together. By this means the sections are assembled into ring form so as to slidably fit on the guide portion 7
70 of the clamping ring. The sections of the carrier are exteriorly formed to present worm gear teeth 15, so that said carrier is in effect a worm gear. The teeth of the carrier directly underlie the terminals of
75 the worm gear supports 9 for a purpose which will presently be made clear. At determinate intervals the carrier is formed with offset plates 16, which plates are arranged wholly beyond that edge of the carrier remote from the portion 6 of the ring
80 and project radially from said edge. Each of the plates 16 is terminally formed with a laterally projecting flange 17 in which is mounted a shaft 18 fixed against longitudinal
85 movement but arranged for free rotation through the medium of collars 19 above and below the flange. On that surface of the plate 16 remote from the carrier is mounted a head 20 comprising a block like
90 structure formed at one side with a flange 21 having an elongated slot 22 to engage a pin 23 fixed in the plate 16, whereby the head is permitted a limited sliding movement radially of the carrier. The lower end
95 of the head is formed with an opening 24 to receive the cutting tool 25, a set screw 26 being carried by the tool to engage and hold the head in adjusted position. In alinement with the tool receiving opening
100 the head is also formed with an interiorly threaded opening 27 designed to receive the threaded end 28 of the shaft 18, whereby in the rotation of the shaft the head is advanced. The plate 16 is also provided at its
105 lower free edge with a stop 29 designed to receive the pressure of the head 20 during the cutting operation of the tool, as will be apparent from Fig. 4 of the drawings. The upper end of the shaft 18 is of angular
110 formation in cross section and the feed wheel 30 is fixed upon said angular portion,

and provided with a series of radiating fingers or spokes 31. An operating shaft 33 is mounted in the supports 9 of the clamp, and on said shaft intermediate said supports is arranged a worm screw 34 of the carrier. 5 One of the supports 9 is provided with a projecting finger 35 arranged in the path of the spokes of the feed wheels, so that one spoke of each wheel is engaged by the finger during one rotation of the carrier. 10

In the operation the shaft 33 is rotated, either by crank handles or in any other appropriate manner. This movement of the shaft, by operation of the worm screw and its connection with the gear, causes the rotation of the carrier and thereby of the heads 20 about the pipe section. As the feed wheel of each head passes the finger 35, said finger operates to engage the appropriate spoke of said wheel and rotate the latter a determinate distance. This movement feeds the head toward the work, thereby advancing the tool. By this means a steady and even action of the tools is 25 assured and a smooth cut attained with the minimum exertion.

By means of the offset plates 16, the flanges 17 thereof, and the sliding heads or holders 27, the cutting tools 25 are supported outwardly of the carrier 10, so that the pipe cuttings will not accumulate between the carrier and the pipe and impede the rotation of the carrier and the adjustment of the tool holders or heads, carried 35 by the carrier. Moreover, this arrangement

provides for the ready inspection of the cutting tools so that the operator can quickly determine whether a particular tool is cutting properly.

Having thus described the invention, what I claim as new, is:— 40

In a pipe cutter, a sectional clamp adapted to embrace a pipe and formed with lateral guide sections, a sectional carrier mounted for rotation on the guide sections 45 of the clamp, said carrier being formed with worm gear teeth, means carried by the clamp to engage the worm gear teeth and rotate the carrier, a series of radial offset plates integral with the carrier and projecting outwardly thereof, each of said plates being 50 formed with outwardly extending terminal flanges and with lugs on their outer surfaces, a series of tool holding heads having lateral slotted portions, screws extending through the lateral slotted portions into the offset plates to slidably hold said heads 55 against the plates and lugs thereof, screws threaded into the heads and swiveled to the flanges of the plates, tools adjustably secured to the inner ends of the heads and projecting inwardly thereof, star wheels mounted on the screws, and a finger fixed to the clamp to engage the star wheels. 60

In testimony whereof I affix my signature 65 in presence of two witnesses.

LUDOLF TOEGEL.

Witnesses:

ERNST J. NORMAN,
CHARLES J. MEYER.