No. 782,226. PATENTED FEB. 14, 1905.

D. L. ELLIS.

PIPE CUTTER.

APPLICATION FILED JUNE 25, 1904.

2 SHEETS—SHEET 1.

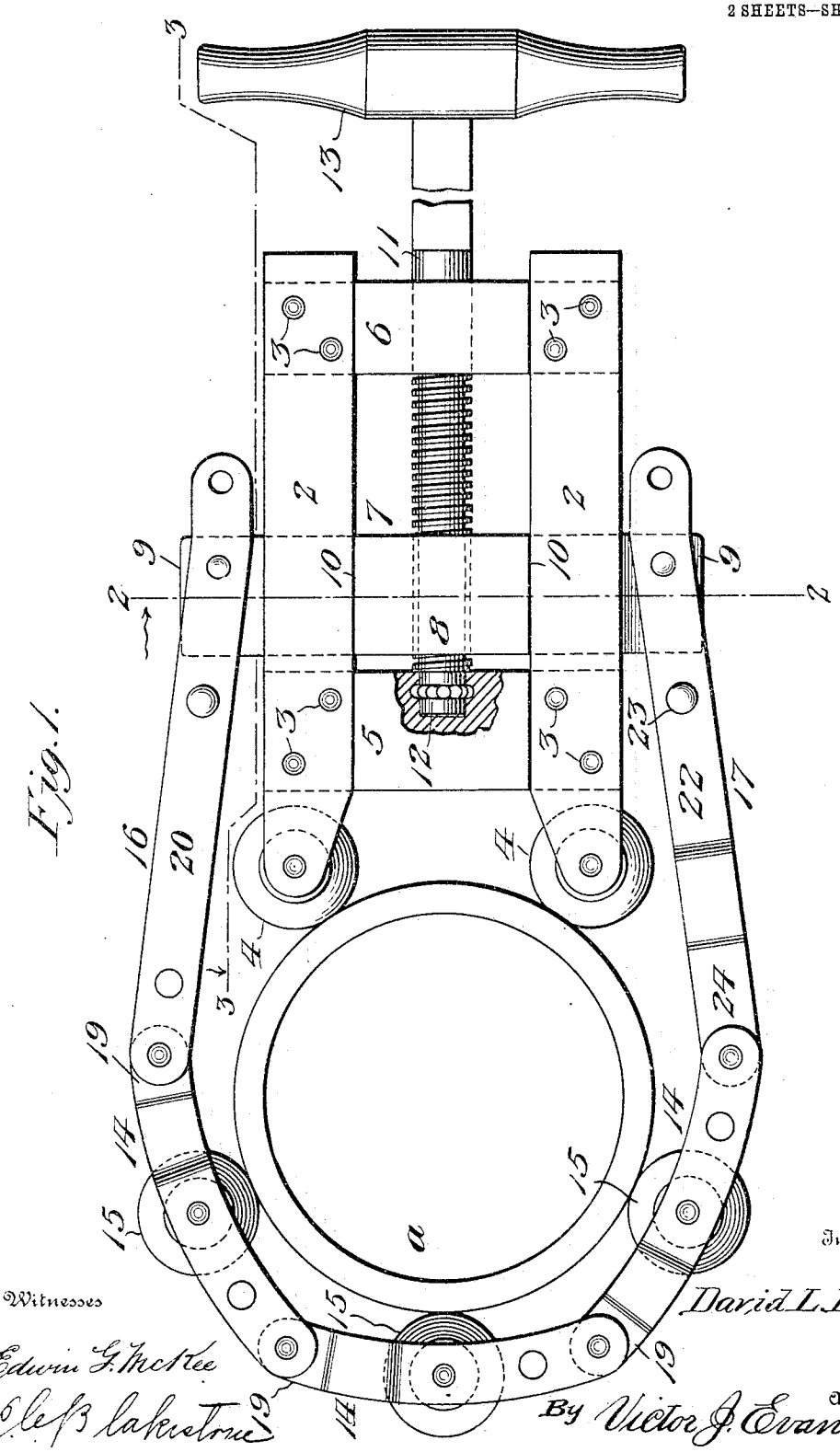


Fig. 1.

Witnesses

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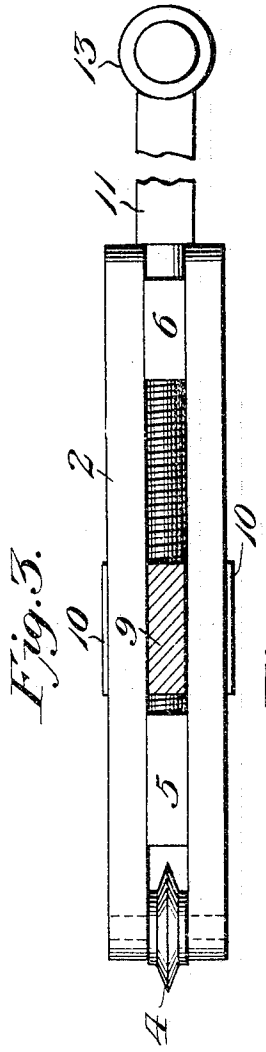


Fig. 3.

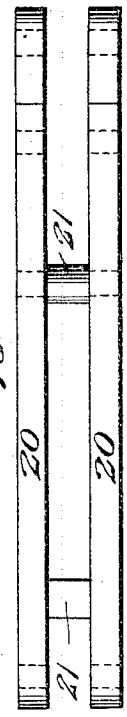


Fig. 4.

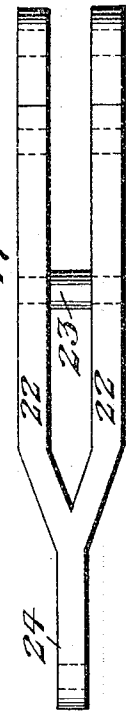


Fig. 5.

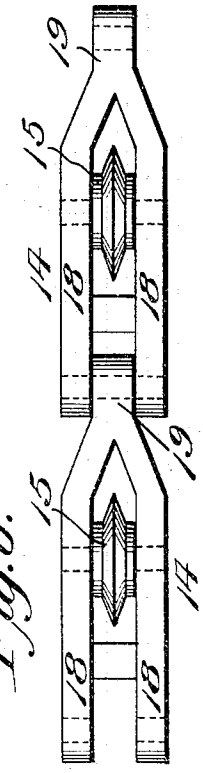


Fig. 6.

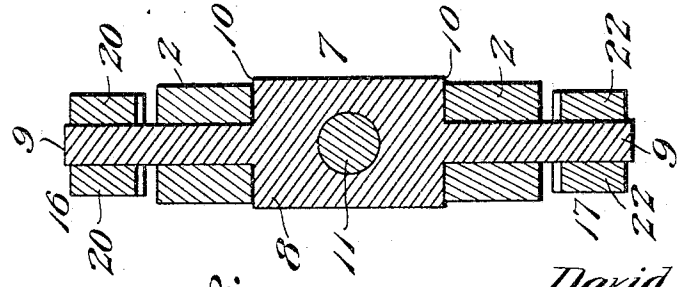


Fig. 2.

Witnesses

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No. 782,226. Patented February 14, 1905.

UNITED STATES PATENT OFFICE.

DAVID L. ELLIS, OF GREATFALLS, MONTANA, ASSIGNOR TO ELLIS-FORD PIPE CUTTER COMPANY, OF GREATFALLS, MONTANA.

PIPE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 782,226, dated February 14, 1905.

Application filed June 25, 1904. Serial No. 214,168.

To all whom it may concern:

Be it known that I, DAVID L. ELLIS, a citizen of the United States, residing at Greatfalls, in the county of Cascade and State of Montana, have invented new and useful Improvements in Pipe-Cutters, of which the following is a specification.

My invention is an improved pipe-cutter adapted for use in cutting pipes of various sizes; and it consists in the construction, combination, and arrangement of devices hereinafter described and claimed.

One object of my invention is to effect improvements in the construction of the frame in which the screw-operated yoke which tightens and adjusts the cutting-chain is guided and held.

A further object is to effect improvements whereby pivotal lost motion of the frame is prevented.

A further object is to effect improvements in the construction of the chain which carries certain of the cutting-disks.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a pipe-cutter embodying my improvements, showing the same in operative position on a pipe. Fig. 2 is a transverse sectional view of the same, taken on the plane indicated by the line 2 2 of Fig. 1. Fig. 3 is a detail elevation, partly in section, in the plane indicated by the line 3 3 of Fig. 1. Fig. 4 is a detail elevation of one of the yoke or end links. Fig. 5 is a similar view of the other yoke or end link. Fig. 6 is a similar view showing two of the intermediate links of the chain which carries the cutting-disks.

The sides of the frame are each formed by a pair of bars 2, spaced apart a suitable distance and secured by rivets 3. Between the inner ends of the said pairs of bars are mounted cutting-disks 4 to engage and assist in the cutting of the pipe, which is indicated at *a* in Fig. 1. The pairs of side bars 2 are connected together by inner and outer cross-bars 5 6, respectively, the ends of which are placed between the said side bars and are secured between and to them by the said rivets 3.

The yoke 7 comprises a widened central portion 8 and arms 9, which project in opposite directions therefrom and are guided by the pairs of side bars of the frame and project outwardly beyond them. The widened central portion of the yoke forms shoulders 10, which bear against the inner edges of the pairs of side bars and prevent endwise movement of the yoke in either direction in the frame.

A screw 11, which engages a threaded opening in the center of the yoke, has a bearing in the outer cross-bar 6 and is stepped at its inner end in the inner cross-bar 5, as at 12. To the outer end of the screw is secured a handle 13 or an extension-piece with long handles, (not shown,) by means of which the screw may be turned to adjust the yoke as may be required to tighten or release the chain which carries certain of the cutting-disks, the screw also serving as a lever for use in imparting the required oscillating motion to the frame and chain when cutting a pipe.

The chain comprises a suitable number of intermediate links 14, each of which has a cutting-disk 15, and a pair of end links 16 17, which serve to connect the intermediate links to the projecting ends of the arms of the yoke. Each intermediate link is forked or bifurcated for a suitable distance from one end to provide a pair of spaced arms 18, between which the disk 15 is mounted at a point substantially midway between the ends of the links. At the point where said arms are united each intermediate link is formed with a projecting end tongue 19, which enters the space between the arms of the next adjacent link and is pivotally and detachably connected thereto by means of a suitable bolt having a thumb-nut or other suitable device.

The end link 16 comprises a pair of bars or side members 20, secured together and suitably spaced by means of shouldered rivets 21, placed at suitable points between the ends thereof. The said link 16 is open at both ends, the tongue 19 of one of the intermediate links being detachably secured between its side members by a bolt or other suitable device, such as hereinbefore described, the opposite

end of said link being detachably and adjustably secured to one arm of the yoke by a similar bolt or device, said link and yoke-arm being provided with suitable openings, as shown, for the reception of said bolt.

The end link 17 is forked, as shown in Fig. 5, and its arms 22 are connected at a point intermediate their ends by a shouldered rivet 23 and are adapted for detachable connection to and adjustment on the other arm of the yoke by a bolt or other suitable device, such as hereinbefore described. The tongue 24, forming one end of said link, is adapted for insertion between the arms of one of the intermediate links and is detachably and pivotally connected thereto by a bolt or other suitable device. By providing a suitable number of the intermediate links to enable the chain to pass around the pipe, as shown, the cutter may be employed for cutting a pipe of any size.

It will be observed by reference to Fig. 1 of the drawings and understood from the foregoing description that by the provision of the plurality of cutting-disks 4 with which the inner end of the frame is provided at its sides the frame is prevented from moving pivotally with respect to either of the said disks, and hence lost motion thereof and of the chain which carries the other cutting-disks is entirely obviated, thus greatly increasing the efficiency of the cutter.

It will be understood that my improved pipe-cutter may be made of any desired size and that the dimensions of its several parts may be proportioned as required by the nature of the work to be performed thereby.

Having thus described the invention, I claim—

1. A pipe-cutter of the class described, comprising a frame, a chain, connected thereto, means to tighten and adjust the chain, cutting-disks carried by the chain, and cutting-disks carried by the frame and adapted to bear against the pipe at several points to prevent pivotal, lost motion of the frame.

2. A pipe-cutter of the class described having a frame composed of two pairs of side bars, inner and outer cross-bars having their ends inserted between the said side bars, spacing them apart and secured thereto, cutting-disks secured between the inner ends of the said pairs of side bars, to bear on the pipe at several points and thereby prevent pivotal lost motion of the frame, a yoke guided between the said pairs of side bars and having a widened, shouldered central portion abutting against the inner edges of the side bars, a screw to adjust the yoke, engaging a threaded opening therein and having its bearings in the inner and outer cross-bars, and a chain having cutting-disks and connected to the ends of the yoke.

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

DAVID L. ELLIS.

Witnesses:
MICHAEL J. O'LEARY,
RICHARD W. RANDALL.