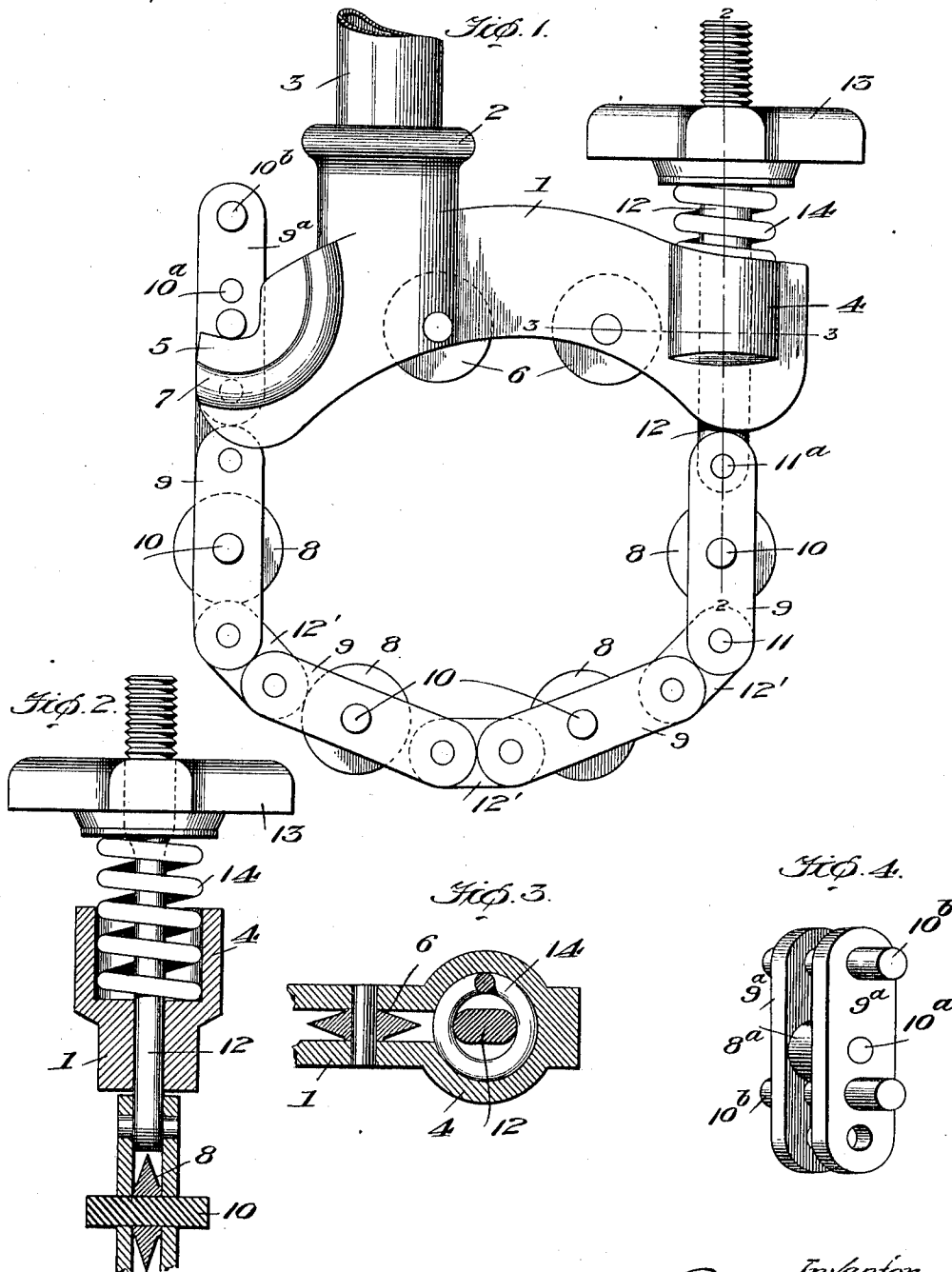


J. R. SMITH.
PIPE CUTTER.
APPLICATION FILED DEC. 24, 1910.

1,020,580.

Patented Mar. 19, 1912.



Witnesses
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M. L. Newcomb.

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UNITED STATES PATENT OFFICE.

JAMES R. SMITH, OF MECHANICSVILLE, NEW YORK.

PIPE-CUTTER.

1,020,580.

Specification of Letters Patent.

Patented Mar. 19, 1912.

Application filed December 24, 1910. Serial No. 599,148.

To all whom it may concern:

Be it known that I, JAMES R. SMITH, a citizen of the United States, residing at Mechanicsville, county of Saratoga, and State of New York, have invented certain new and useful Improvements in Pipe-Cutters, of which the following is a specification.

This invention relates to pipe cutters.

The present invention has for its object the provision of a simple, strong, durable, pipe cutter having a head and cutter-carrying links constructed and arranged in a novel fashion whereby the cutter may be readily adjusted to adapt it to pipes of different sizes; and, further, to provide novel spring tensioning means whereby as the cut becomes deeper, the tension on the cutters may be regulated and by which the tension will always be cushioned to compensate for all unevenness which may be found in tubes of uneven formation so that the cutting or shearing wheels may readily accommodate themselves to all conditions without injury to the pipe or to the tool.

The foregoing objects are accomplished by the provision of a pipe cutter of novel construction, such as set forth hereinafter and recited in the appended claim.

In the accompanying drawings:—Figure 1 is a side elevation, the handle being broken off; Fig. 2, a vertical section with the tensioning device in full lines, taken on line 2—2 of Fig. 1; Fig. 3, a section on line 3—3 of Fig. 1; and Fig. 4, a detail perspective of the last link.

The head 1 is provided with a socket 2 into which a suitable handle 3, tubular or solid, may be screwed, said handle being of sufficient length to give the proper leverage. One end of the head 1 is provided with a cup or socket 4 and the other end is bifurcated and provided with two projecting shouldered parts or ears 5, only one of which is shown. Certain of the cutters 6 are carried by the head 1. To strengthen the ears 5 curved ribs 7 may be provided on said ears. The remaining cutters 8 are carried by double links 9, being located between the members of said links and journaled thereto by the trunnions 10. The members of the respective links are connected by pins 11 at the opposite ends thereof and these in turn are connected to joints or knuckles 12' thereby constituting an

articulated structure. The trunnions 10 of all of the cutters 8, project from opposite sides of the links so that they will be adapted to rest on the shouldered ears 5, the links being of suitable width to pass snugly yet easily in between said ears. The pivots 11 are flush with the sides of the links. The last link 9^a is of the form shown in Fig. 4, said link having no cutter, but in substitution therefor being provided with a spacer 8^a whose ends are shown at 10^a. This link is provided with preferably two sets of projecting studs 10^b which are adapted to rest on the ears 5 just as do the trunnions 10. To the last pivot 11^a there is connected a screw-threaded bolt 12 which is flattened so that it will not turn. This bolt carries a hand nut 13 which bears upon a heavy coil spring 14 surrounding the bolt and seated in the socket 4.

Having initially inserted between the ears 5 such one of the links as will take up the slack and cause the cutters to substantially bear against the pipe or tube to be cut, the trunnions 10 or the studs 10^b, as the case may be, resting on the ears, the hand wheel 13 is then turned to draw the cutters snugly against the pipe or tube. The handle 3 is then reciprocated and the cutters make the initial cut. The hand wheel 13 is then screwed down tighter and the cut is made deeper, and this operation is repeated until the tube or pipe is cut through. If the tube or pipe is irregular or any unevenness presents itself to the cutters, the spring 14 yields and prevents injury to either the tube or pipe or to the tool.

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

In a pipe cutter, the combination with a head and handle, said head having a bifurcated part, of a chain of cutters, the links of which are adapted for reception in the bifurcated part and have projections adapted to be engaged with the head at the bifurcated part thereof, thus permitting quick attachment thereto or detachment therefrom, a screw-threaded bolt connected to the other end of the series of cutters and passing loosely through the head, an adjusting nut or wheel engaged with the screw threads on said bolt, and a coil spring interposed between the nut or wheel and the

head, the bolt permanently connecting the cutters to the head, the series of cutters being adapted to be quickly opened out to surround the pipe and substantially initially adjusted and thereafter brought into firm contact with the pipe by turning the nut or hand wheel.

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

JAMES R. SMITH.

Witnesses:

M. L. WELLING,
STEPHEN LEE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."