A. F. HOWE.

PIPE CUTTER.

APPLICATION FILED OCT. 30, 1911.

1,040,202.

Patented Oct. 1, 1912.

Fig. 1.

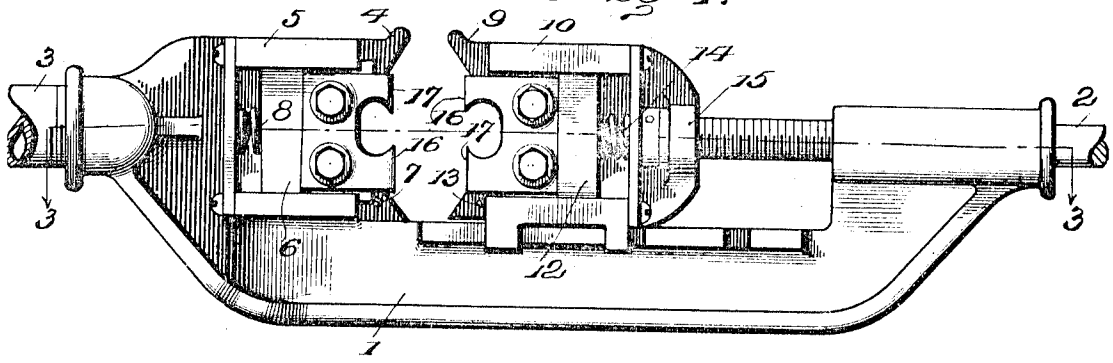


Fig. 2.

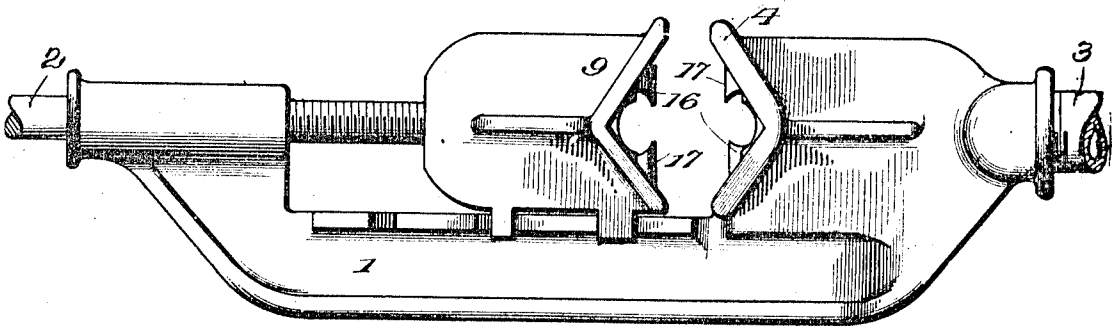


Fig. 3.

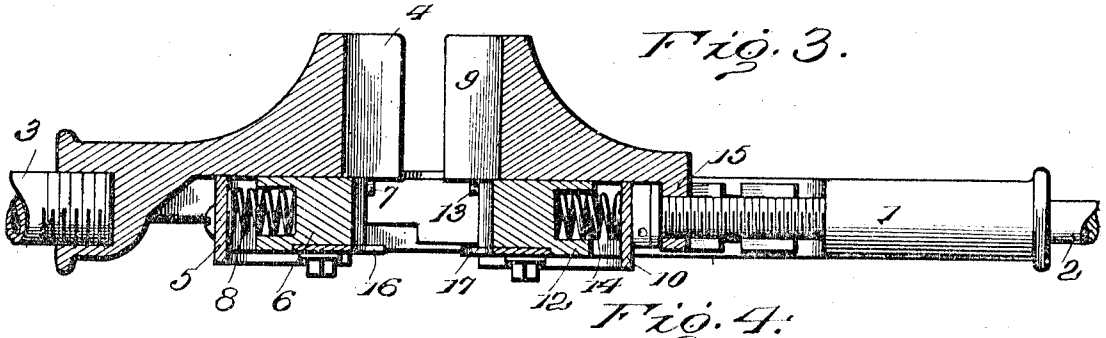
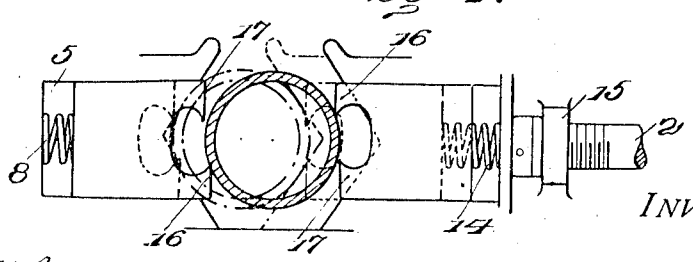


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ALFRED F. HOWE, OF NUTLEY, NEW JERSEY, ASSIGNOR TO THE BORDEN COMPANY, OF WARREN, OHIO, A CORPORATION OF OHIO.

PIPE-CUTTER.

1,040,202. Specification of Letters Patent. Patented Oct. 1, 1912.

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To all whom it may concern:

Be it known that I, ALFRED F. HOWE, of Nutley, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Pipe-Cutters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The primary object of this invention is to provide an extremely simple and inexpensive pipe cutter wherein the knives will be automatically fed and regulated in their work after the centering jaws are moved into pipe-engaging position, and which may be used for cutting pipes of different sizes without the necessity of changing the cutters.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation. Fig. 2 is an opposite side view. Fig. 3 is a longitudinal sectional view on line 3—3, Fig. 1. Fig. 4 is a diagrammatical view showing the positions of the cutters relatively to the centering jaws both before and after the latter engage a pipe.

Referring to the drawings, 1 designates a frame having at its ends internally threaded sockets for manipulating handles 2 and 3, the former extending through its socket and capable of being moved longitudinally of the frame, while the handle 3 remains fixed. The frame has at one side a fixed centering jaw 4 of V-shape, and on the other side, opposite this jaw, and in line with the body of the frame, is a housing 5 for a block 6, which is normally held against a stop 7 by a heavy coil spring 8 located within the housing.

9 is an adjustable jaw of V-shape, slidably mounted on frame 1, and extending laterally therefrom in the plane of the fixed jaw, and at one side this adjustable jaw carries a housing 10 in line with housing 5. Within the former is a block 12 which is normally held against a stop 13 by a heavy coil spring 14. Both the housings are open at their inner opposite ends. In an ear 15 of the adjustable jaw is fitted the inner end of handle 2.

16 designates cutters and 17 regulating guides therefor. I employ two cutters and two guides, and preferably form each cutter and its respective guide from a single plate with a throat or clearance between them, and each guide is depressed with reference to its cutter whose action it limits. The cutter and guide plates are shown as bolted to blocks 6 and 12, and it will be noted that the cutters and guides are equi-distant on opposite sides of the centers of the pipe engaging jaws, so that, regardless of the size of the pipe, the cutters and guides will contact therewith at substantially the same points on opposite sides of a plane passing longitudinally through the axis of the pipe and intersecting the centers of the jaws. As the jaws clamp a pipe the springs are put under tension; that is to say, by the act of adjusting the tool to a pipe the cutters are brought into position ready for cutting, and in consequence no further turning of the adjustable handle or any other part is necessary to effect the desired cut, the cutters being spring-fed. The cutters are moved toward each other as the work progresses, the jaws retaining their relative positions, and the depth of the cut in each rotation of the tool is limited by the guides.

Inasmuch as the cutters and their guides are equi-distant on opposite sides of a plane passing longitudinally through the axis of the pipe to be cut and intersecting the centers of the two jaws, regardless of the size of the pipe, the necessity of substituting different cutters and guides in changing from one size pipe to another, is obviated; and by making each cutter and its guide from a single plate a relative adjustment of their parts is unnecessary, and I thereby avoid the danger of improperly setting the parts.

I claim as my invention:—

1. A pipe cutter comprising a frame having oppositely disposed centering jaws between which there is a relative adjustment, means for effecting such adjustment, opposed cutters slidably mounted on said jaws, springs acting on said cutters and designed to be placed under tension by the engagement of the cutters with a pipe as the jaws are brought into pipe-clamping position, and guides for limiting the action of the cutters.

2. A pipe cutter comprising a frame having oppositely disposed centering jaws be-

tween which there is a relative adjustment, means for effecting such adjustment, opposed cutters slidably mounted on said jaws, springs acting on said cutters and designed to be placed under tension by the engagement of the cutters with a pipe as the jaws are brought into pipe-clamping position, and guides in advance of the cutters for limiting the action of the cutters, the cutters and guides being equi-distant on opposite sides of the centers of the jaws, the pipe-engaging ends of said guides being on a greater radius than the cutters.

3. A pipe cutter comprising a frame having oppositely disposed centering jaws between which there is a relative adjustment, means for effecting such adjustment, oppositely disposed carriers mounted on the jaws, springs acting on the carriers, plates secured to said carriers, each plate having a cutter and a guide with a clearance between them, each guide being in advance of its respective cutter, depressed relatively thereto, and said cutters and guides being equi-distant on opposite sides of the centers of the opposed jaws.

4. A pipe cutter comprising a frame having two jaws extending laterally therefrom in line with each other, one jaw being fixed and the other adjustable, and an adjustable handle carried by said frame and engaging the adjustable jaw, each of said jaws having a housing open at its inner end, carrier blocks fitted in said housings, stops for said blocks, springs within the housings acting on said blocks, and cutters and guides carried by said blocks with a clearance between each cutter and its respective guide, such cutters and guides being equi-distant on opposite sides of the centers of said jaws, the pipe-engaging ends of said guides being on a greater radius than the cutters, and said springs being placed under tension, by the engagement of the cutters with a pipe when the jaws are brought into pipe-engaging position.

5. A pipe cutting tool comprising pipe-clamping jaws between which there is a relative adjustment as the tool is being applied to a pipe, said jaws maintaining a fixed relation to each other during the cutting operation, spring-actuated cutting means coöperating therewith and designed to be placed under tension by engagement with a pipe by bringing the jaws into pipe-clamping position, and guiding means for limiting the action of the cutting means.

6. A pipe cutting tool comprising pipe-clamping jaws between which there is a relative adjustment as the tool is being applied to a pipe, said jaws maintaining a fixed relation to each other during the cutting operation, spring-actuated cutting means movable concurrently with, and relatively to, the jaws as the latter are being adjusted and designed to be placed under tension by engagement with a pipe as the jaws are brought into pipe-clamping position, and guiding means for limiting the action of the cutting means.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

ALFRED F. HOWE.

Witnesses:
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