

No. 660,584.

Patented Oct. 30, 1900.

W. F. NORMAN.
PIPE CUTTER.

(Application filed Nov. 9, 1899.)

(No Model.)

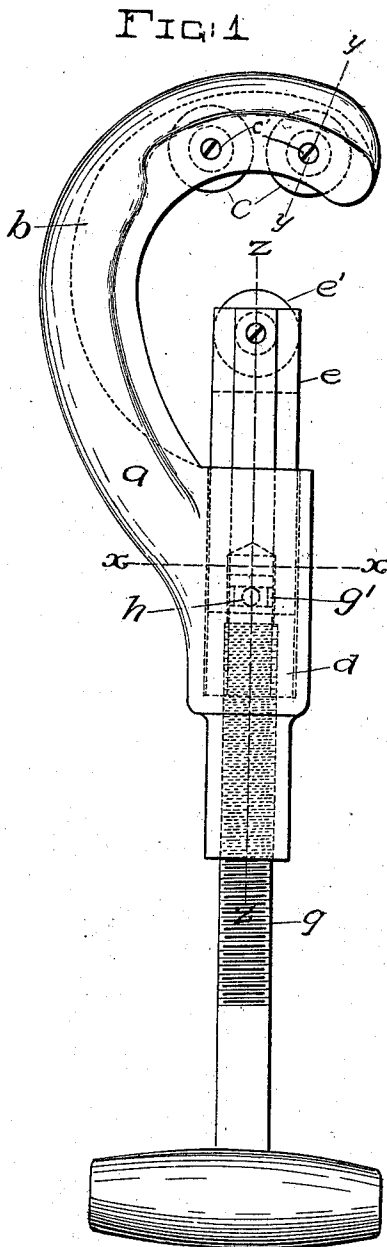


FIG. 2

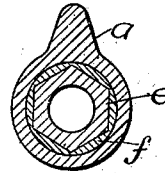


FIG. 3

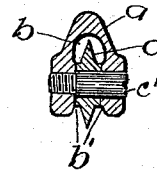
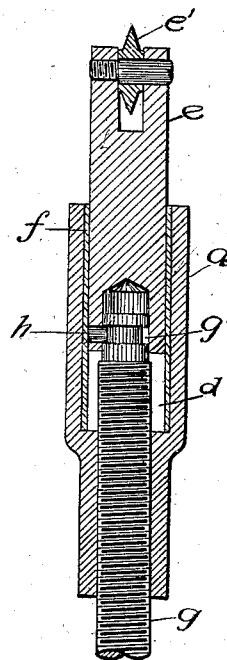


FIG. 4



WITNESSES

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PIPE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 660,584, dated October 30, 1900.

Application filed November 9, 1899. Serial No. 736,355. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. NORMAN, a citizen of the United States of America, residing and having my post-office address at Thompsonville, in the county of Hartford and State of Connecticut, have invented a certain new and useful Improvement in Pipe-Cutters, of which the following is a description, reference being had to the accompanying drawings, wherein—

Figure 1 is a side view of a pipe-cutter embodying said improvement. Fig. 2 is a view in horizontal cross-section on the plane denoted by the dotted line $x x$. Fig. 3 is a view in cross-section on the plane denoted by the dotted line $y y$. Fig. 4 is a view in vertical section on the plane denoted by the dotted line $z z$.

The object of the improvement is the production of a pipe-cutter having features of novelty and advantage.

In the accompanying drawings the letter a denotes what may be termed the "body-piece" of the pipe-cutter. It is of cast metal, practically malleable cast-iron. It has cast in the inner edge of its curved portion or arm a deep longitudinal groove or mortise nearly circular in cross-section, practically C-shaped, as seen in Fig. 3, and adapted to receive and contain the two cutters c . These are stationary cutters, in distinction from the movable cutter soon to be mentioned, and are rotarily hung within the mortise.

The letter b' denotes cheeks or bosses cast on the inside of the mortise b , which naturally leaves these cheeks with rather rough surfaces. These surfaces are preferably finished by introducing between them a piece of steel to serve as a temporary double-faced anvil and then submitting the body-piece at these portions to the concussion or pressure of a drop or the like, after which the piece of steel which has served as an interior anvil is removed, the operation being one that gives these cheeks a smooth surface for operating against the sides of the stationary cutters. The latter, as shown, are highly-tempered steel wheels with flat-ended hubs and sharp cutting edges, and each is journaled on a screw c' , whose cylindrical body passes through one boss and across the mortise, while its tip is reduced and threaded into the other

boss, a construction which avoids projecting ends and affords a smooth bearing for the hub of the cutter between the cheeks.

The letter d denotes a socket cast in the body-piece. It is preferably cylindrical, as shown in Fig. 2, because a socket of that shape is the most easily made.

The letter e denotes a movable cutter-carrier carrying the cutter e' . It is polygonal in cross-section, a matter of form that is referred to hereinafter in the claims by the words "polygonal-surfaced." This polygonal shape is necessary in order to guide the movable cutter in its longitudinal movements in its sheath.

The letter f denotes the sheath of the movable cutter-carrier. It is of soft metal (practically Babbitt metal) cast in place in the socket d and around the movable cutter-carrier, while the cutter-carrier is held in careful alinement with a point between the two stationary cutters.

The letter g denotes the operating-handle. It is screw-threaded, and that thread takes into a corresponding thread in the body-piece. It has a groove g' near the upper end where that end projects longitudinally into the lower end of the movable cutter-carrier, and a pin h , borne by the cutter-carrier, projects into that groove, an arrangement which makes the operating-handle longitudinally fast to the movable cutter-carrier, but enables the handle to rotate independently thereof.

I claim as my improvement—

1. In combination; the cast body-piece having cast therein the mortise for the two stationary cutters and the cylindrical socket for the sheath of the movable cutter-carrier; the two stationary cutters rotarily hung in the mortise therein; the movable polygonal-surfaced cutter-carrier considerably smaller exteriorly than the interior diameter of said socket; the cutter rotarily hung in the movable cutter-carrier; the sheath of soft metal cast within the socket in the body-piece and around the polygonal movable cutter-carrier while that carrier is held in alinement with a point between the two stationary cutters; and the screw-threaded operating-handle taking into a corresponding thread in the body-piece and made longitudinally, but not rotarily, fast to the movable cutter-carrier; all

substantially as described and for the purposes set forth.

2. In combination, the cast body-piece having cast therein the mortise C-shaped in cross-section and the socket for the sheath of the movable cutter-carrier, said mortise being provided with flat cheeks surfaced by concussion or pressure; two wheel cutters with flat-ended hubs journaled in said mortise between the cheeks thereof; the cutter rotarily hung in the movable cutter-carrier; the

sheath of soft metal within the socket and around the movable cutter-carrier; and the screw-threaded operating-handle taking into a corresponding thread in the body-piece and made longitudinally, but not rotarily, fast to the movable cutter-carrier; all substantially as described and for the purposes set forth.

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Witnesses:

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