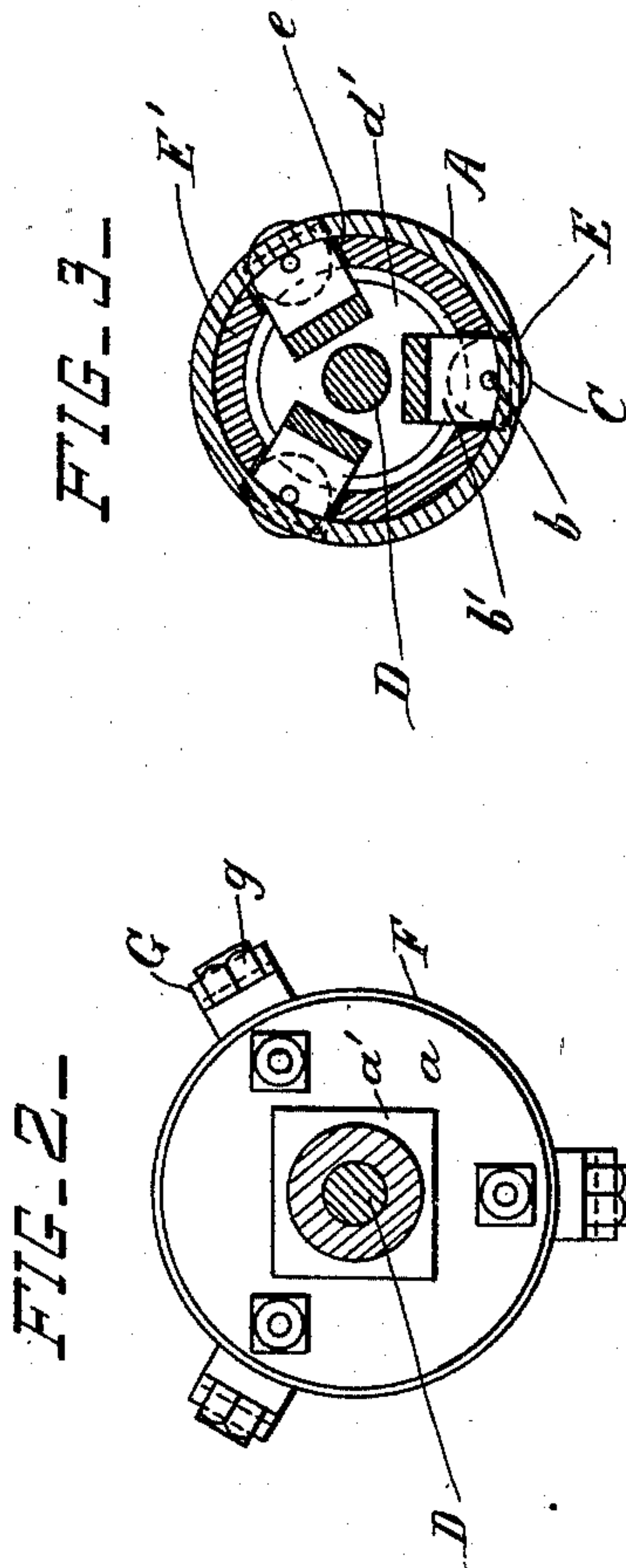
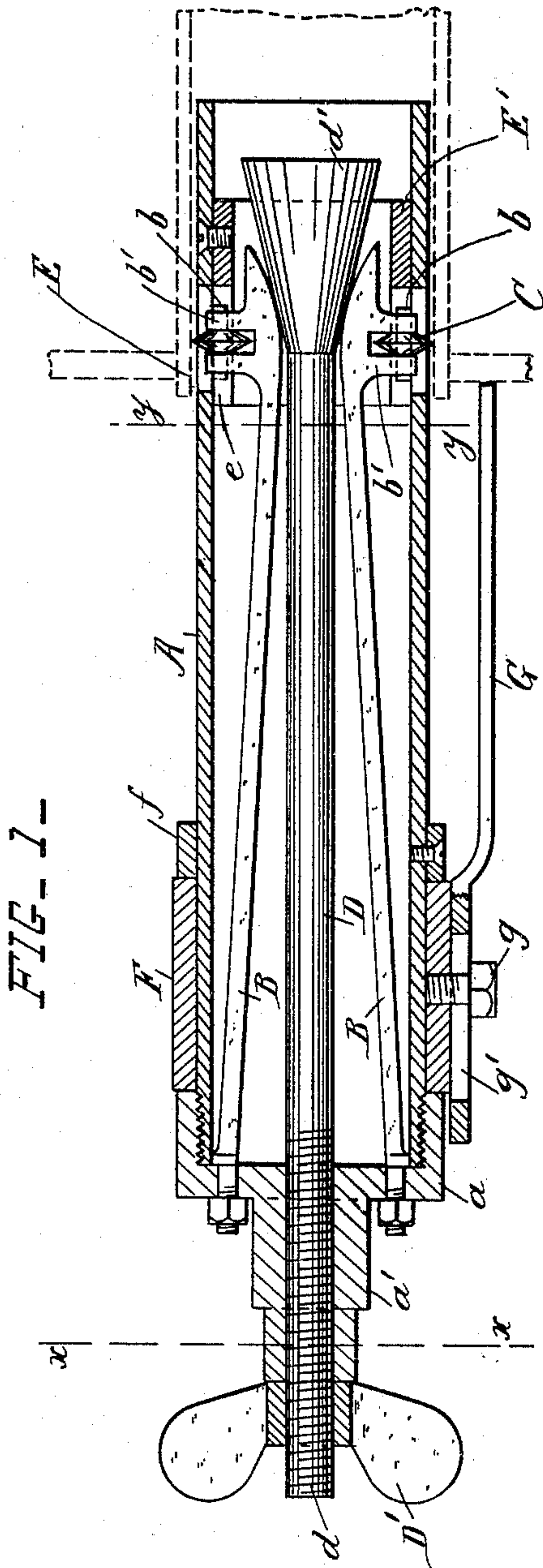


(No Model.)

M. C. COPPAGE.
TUBE CUTTER.

No. 482,496.

Patented Sept. 13, 1892.



Witnesses

Walter Allen
J. L. Myster

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By his Attorney

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UNITED STATES PATENT OFFICE.

MARCELLUS CAIN COPPAGE, OF TERRE HAUTE, INDIANA.

TUBE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 482,496, dated September 13, 1892.

Application filed January 9, 1892. Serial No. 417,467. (No model.)

To all whom it may concern:

Be it known that I, MARCELLUS CAIN COPPAGE, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Tube-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.

This invention relates to tube-cutters; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a longitudinal section through the tube-cutter. Fig. 2 is a cross-section taken on the line xx in Fig. 1. Fig. 3 is a cross-section taken on the line yy in Fig. 1.

A is the barrel of the tube-cutter, adapted to be thrust within the tube, which is indicated by the dotted lines in Fig. 1. A cap a is screwed to or is otherwise rigidly secured to one end of the barrel A, and this cap is provided with a boss a' , by means of which the barrel may be revolved. The boss a' may be of any convenient shape—such as square—so that a wrench, handle, ratchet-lever, or other similar device may be applied to it for the purpose of revolving the barrel. Spring-arms B are secured to the cap a at one end, and each arm is provided with a pivot-pin b and a double eye b' at its other end. Three spring-arms are preferably used; but more than three arms can be used, if desired. Each arm B is provided with a roller C, journaled on the pin b in the fork of the double eye. When the tube-cutter is adapted for tubes of large diameter, each roller may have a sharp cutting-edge, as shown in the drawings; but for small tubes only one roller may be sharp and adapted to cut off the tube, the remaining rollers being adapted to bear against the tube to steady the sharp roller.

D is the feed-spindle, provided with a screw-threaded end d , which projects through the boss a' on the cap and engages with the thumb-nut D' . A cone d' is formed at the other end of the feed-spindle and is arranged between the ends of the spring-arms B.

E are longitudinal slots in the barrel A, through which the rollers C project and bear against the tube.

E' is a guide-ring secured inside the barrel A and provided with slots e , which are arranged opposite the slots E. The ring E' reinforces the barrel A, and the slots E e guide the double eyes b' and prevent the spring-arms from twisting.

F is a ring journaled on the barrel A between the cap a and the collar f , which is secured to the barrel by screws f' .

G are longitudinally-adjustable guides, which are secured to the ring F by the screws g . Each guide is provided with a slot g' for the screw g to pass through. The guides are set by moving them longitudinally and clamping them to the ring F in the position that permits the cutting-rollers to project within the tube for the desired distance when the ends of the guides touch the tube-plate, as shown in Fig. 1. The feed-spindle is then moved by turning the thumb-nut to cause the rollers to bear hard against the inside of the tube. The barrel is then revolved and the feed-screw is moved from time to time to advance the rollers until the tube is cut through. The barrel revolves in the ring F during the cutting operation, and the guides G remain stationary and steady the barrel.

Any convenient number of guides may be used; but three guides, as shown in the drawings, are preferred.

What I claim is—

1. In a tube-cutter, the combination, with the revoluble barrel provided with slots and having a cap at one end of it, of the spring-arms rigidly secured at one end to the said cap and having their free ends working in the said slots, the rollers carried by the free ends of the spring-arms and projecting through the said slots, and a retractible feed-spindle provided with a cone adapted to press against the curved ends of the said arms beyond the said rollers and to press the said rollers outwardly, substantially as set forth.

2. In a tube-cutter, the combination, with the revoluble barrel provided with cutting devices and having a cap at one end, of a collar secured to the barrel, a ring journaled on the barrel between the said collar and cap, the guides provided with longitudinal slots,

and screws passing through the said slots and adapted to clamp the guides to the said ring, substantially as and for the purpose set forth.

3. In a tube-cutter, the combination, with
5 the barrel provided with slots, of a cap secured to one end of the barrel and provided with means for revolving it, the spring-arms secured to the cap and provided with double eyes at their free ends, the slotted guide-ring
10 secured to the barrel for the double eyes to engage with, the rollers carried by the double

eyes, the feed-spindle provided with a cone for pressing the rollers against the tube, and a nut engaging with the end of the said feed-spindle outside the cap, substantially as and 15 for the purpose set forth.

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

MARCELLUS CAIN COPPAGE.

Witnesses:

JOHN NICHOLS,
HENRY HAGEDORN.