(No Model.)

C. M. & C. E. KEMP.

PIPE CUTTER.

No. 439,407. Patented Oct. 28, 1890.

Fig 1.

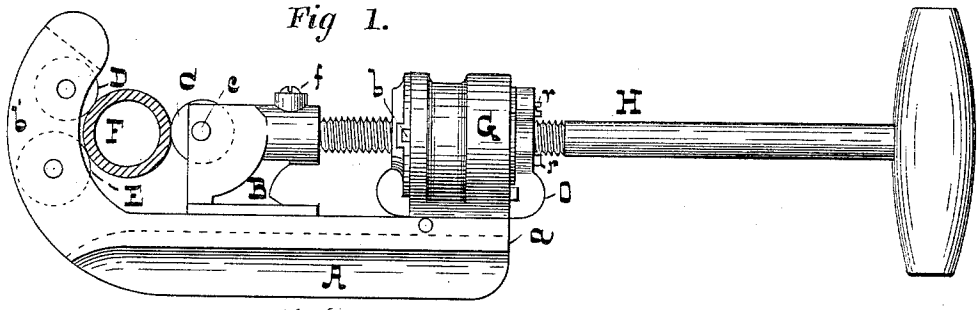


Fig 2.

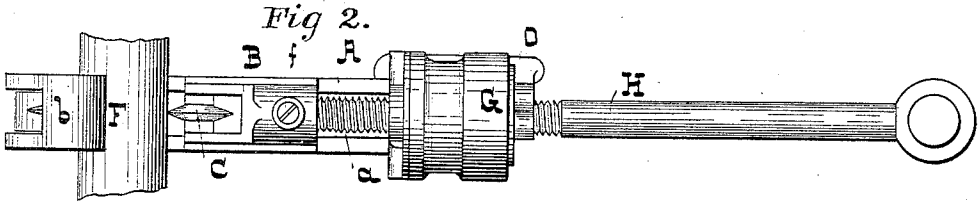


Fig 3.

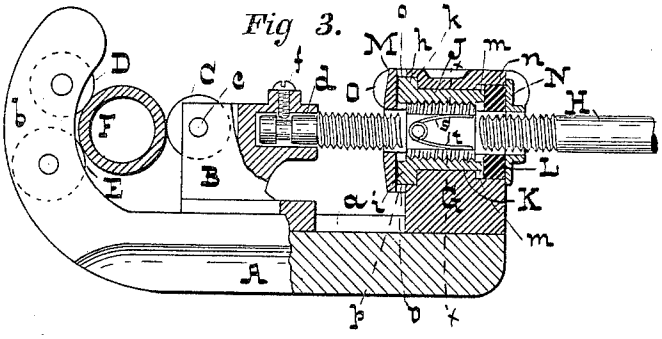


Fig 4.

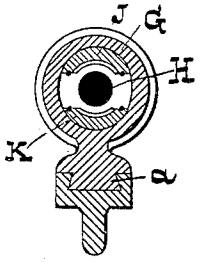


Fig 5.

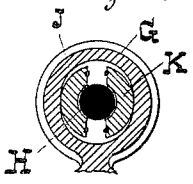


Fig 6.

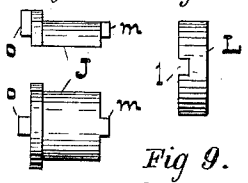


Fig 7.

Fig 8.

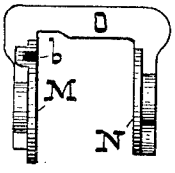
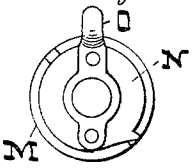


Fig 9.



-WITNESSES-

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UNITED STATES PATENT OFFICE.

CLARENCE M. KEMP AND CHARLES E. KEMP, OF BALTIMORE, MARYLAND.

PIPE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 439,407, dated October 28, 1890.

Application filed April 5, 1890. Serial No. 346,685. (No model.)

To all whom it may concern:

Be it known that we, CLARENCE M. KEMP and CHARLES E. KEMP, of the city of Baltimore, in the State of Maryland, have invented certain Improvements in Pipe-Cutters, of which the following is a specification.

This invention relates to certain improvements in that class of pipe-cutters in which provision is made for moving the adjustable cutter toward the pipe to be cut without turning the threaded stem, which is only turned when force is to be applied in the cutting operation.

In the further description of the said invention which follows reference is made to the accompanying drawings, forming a part hereof, and in which—

Figure 1 is an exterior side view of the pipe-cutter and a piece of pipe, which is shown in the position which it will occupy during the cutting operation. Fig. 2 is a top view of Fig. 1. Fig. 3 is a partly sectional view of Fig. 1; and Fig. 4 a cross-section of Fig. 3, taken on dotted line *x x*. Fig. 5 is a similar cross-section to that shown in Fig. 4, except that certain segmental nuts, hereinafter described, are reversed or changed in position. Fig. 6 illustrates two different views of a segmental nut, and Figs. 7 and 8 are exterior views of other details of the invention. Fig. 9 is a face view of the device shown in Fig. 8.

Referring to the said drawings, A represents the frame or body of the pipe-cutter; and it consists of a bar having a longitudinally-extending dovetailed groove *a* in its upper surface and with its end *b'* branched or bifurcated and turned up.

B is a carrier having a dovetailed base adapted to fit and slide in the groove *a*.

C is a disk-cutter adapted to turn on a spindle *c* in the carrier B, and D is a similar revoluble disk-cutter situated between the two parts or branches of the turned-up end of the body A.

E is a roller with a smooth face to burnish down the burr raised by the disk-cutters in the operation of cutting the pipe. A piece of pipe is shown in Figs. 1, 2, and 3 and represented by F.

G is a head secured to the body A or formed as a part thereof, and H is a threaded stem which passes through the head and enters a hole *d* in the carrier. The stem is grooved near to its end, and a set-screw *f* is inserted through the side of the carrier into the said groove, so as to prevent the withdrawal of the stem from the carrier, but admit of its rotation.

J and K are two segmental nuts seated in an oval cavity in the head G. The size and shape of the cavity is such that when the segmental nuts are in the position shown in Fig. 5 of the drawings the thread of the same is in mesh with the thread of the spindle or stem H; but when the segmental nuts are reversed or changed in position, as shown in Fig. 4, their threads do not engage with the thread of the stem H, and the said stem is free to be moved longitudinally of the device independently of said nuts. The disk-cutter C can then be brought into contact with the pipe F by merely sliding the carrier by means of the stem.

The segmental nuts J and K at one end are provided with the flanges *h* and *i*, which enter in a recess *k* in the head, and at the other end of the nuts are projections *m*, which enter a slot *l*, in a flange or collar L, which rests in a recess *n* in the said head, and M and N are plates connected by a handle O, by means of which the nuts J and K are turned. The connection between the nuts and the plate M is by means of projections *o*, which enter a slot *b* in the said plate, and the other plate N is secured to the collar L by means of screws *r*. The projections *o* and *m* slide freely in the recesses *b* and *l*.

It is evident that the projections *o* and *m* could be on the collar L and the plate M and the nuts recessed at their ends to receive such projections without affecting the operation of the invention.

From the foregoing description it will be seen that when the handle O is in the position shown in Fig. 1 the thread of the segmental nuts engages with that of the stem H, and when it is changed to the position indicated in Fig. 3 the segmental nuts are separated so as to admit of the stem being passed freely through the head. The nuts are influenced to separate by the action of the springs *s* and *t*. By having the movable car-

rier B to slide within a slot in the frame, as described, an accurate and cheap construction is obtained.

In applying the tool to a pipe to be cut the handle O is first placed in the position shown in Fig. 3 and the disk-cutter C brought close to the pipe. The handle O is then changed to the position shown in Figs. 1 and 2, which locks the nuts in gear with the thread of the stem, as before described. Pressure is then placed on the cutters by turning the stem H, and the tool is revolved around the pipe, or vibrated about it if there is not room for a full revolution, until the pipe is cut.

During the cutting operation the smooth-faced roller burnishes down the burr raised by the cutters and leaves the ends of the pipe without any obstruction which will interfere with their entrance to the screw-cutting die.

We claim as our invention—

1. In a pipe-cutter, the frame or body thereof having a longitudinally-extending dovetailed groove and its end turned up and fitted with a disk-cutter and a burnishing-roller, combined with a disk-cutter adapted to slide in the said groove, a threaded stem, and a head having an oval cavity, segmental nuts, and means, substantially as described, to change the position of the said segmental nuts within the said head, substantially as specified.

2. The head G, having an oval opening therein, combined with the segmental nuts J and K, the collar L, plates M and N, handle O, and threaded stem H, combined substantially as specified.

3. In a pipe-cutter, the head G, having the oval opening, combined with the stem H, segmental nuts J and K, the separating-springs *s* and *t*, and means, substantially as described, whereby the said nuts may be turned within the said head, substantially as specified.

4. In a pipe-cutter, the frame or body thereof having a longitudinally-extending groove and provided with cutters or a cutter, combined with a disk-cutter adapted to slide in the said groove, a threaded stem, and a head having an oval cavity, segmental nuts, and means, substantially as described, to change the position of the said segmental nuts within the said head, substantially as specified.

5. In a pipe-cutter, the combination, with the oval recessed head G, of the segmental nuts J and K placed within said head, said nuts having flanges and a collar to enter the recesses in said head and being provided with springs for their separation, and means to give the said nuts partial rotation, whereby they are simultaneously drawn together or separated, substantially as specified.

6. In a pipe-cutter, the combination of the oval recessed head G, segmental nuts J and K, with projections *o* and *m*, plates M and N, connected together, the former plate being provided with recess *b*, and collar L having the slot *l*, for attaching the plate N to the said nuts, substantially as specified.

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Witnesses:
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DANL. FISHER.