

W. H. E. & E. CHARPIER.
PIPE CUTTER.
APPLICATION FILED MAR. 3, 1911.

1,018,695.

Patented Feb. 27, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

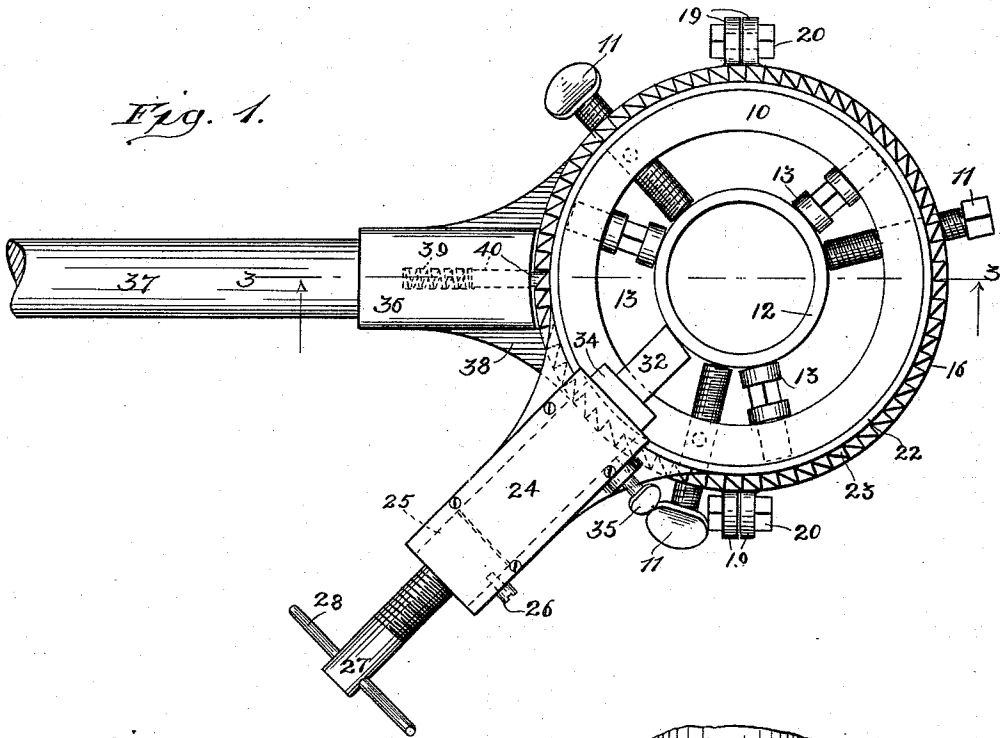
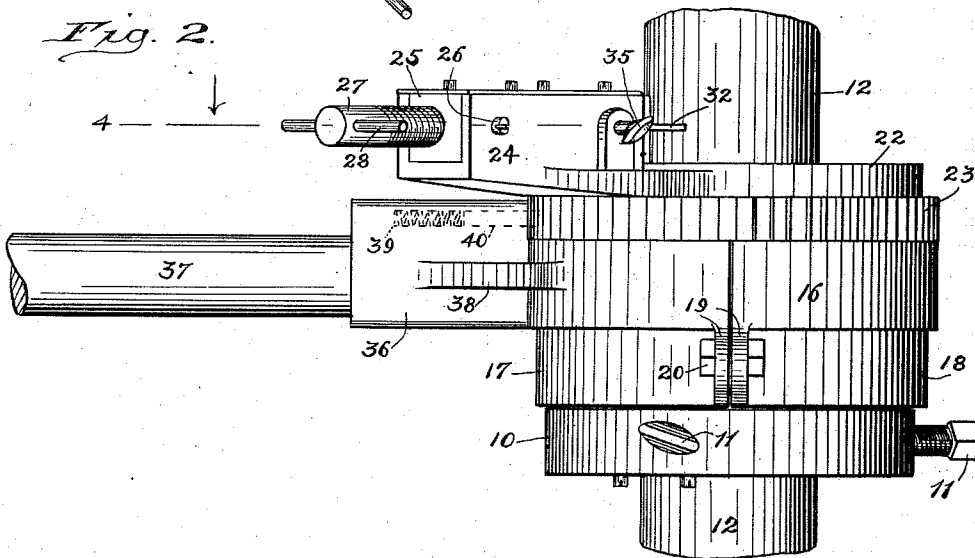


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

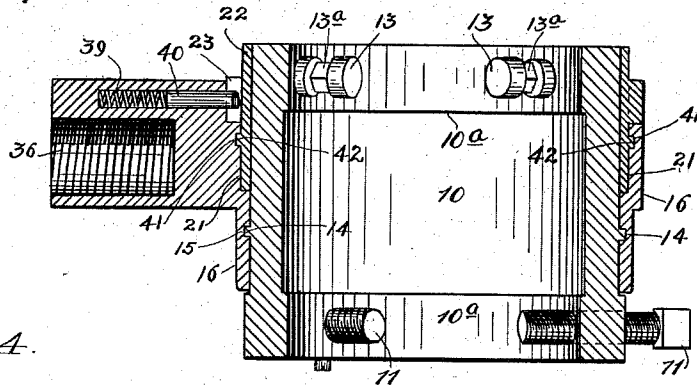


Fig. 4.

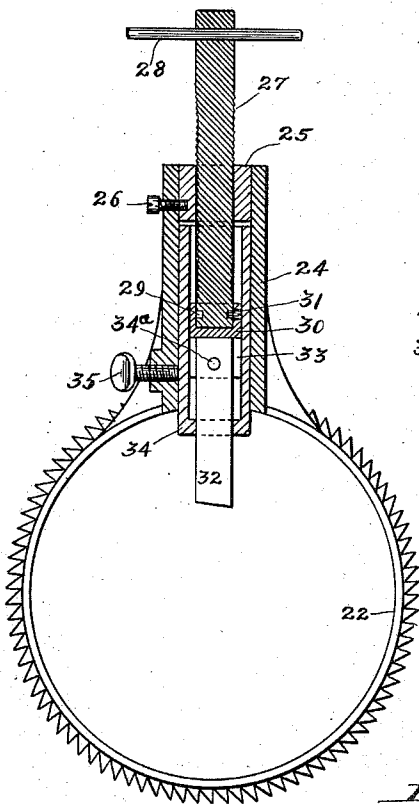


Fig. 5.

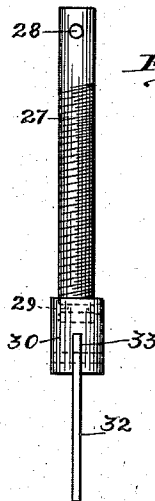


Fig. 8.

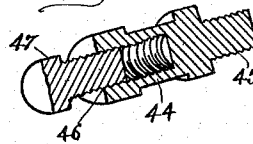


Fig. 7.

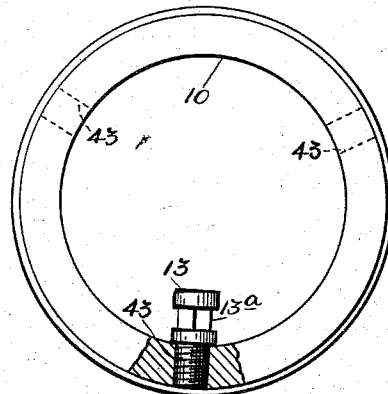
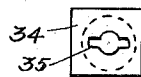


Fig. 6.



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UNITED STATES PATENT OFFICE.

WALTER H. E. CHARPIER AND EDWARD CHARPIER, OF CHICAGO, ILLINOIS.

PIPE-CUTTER.

1,018,695.

Specification of Letters Patent.

Patented Feb. 27, 1912.

Application filed March 3, 1911. Serial No. 612,045.

To all whom it may concern:

Be it known that we, WALTER H. E. CHARPIER and EDWARD CHARPIER, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pipe-Cutters, of which the following is a specification.

This invention relates to improvements in a pipe-cutter of the same general character as that disclosed in Letters-Patent No. 859,432, issued to us on the 9th day of July, 1907, and it consists in certain peculiarities of the construction, novel arrangement and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The principal object of the invention is similar to that set forth in our said Letters-Patent, that is to say, to provide a device to be used for cutting pipes which shall be strong, durable, and efficient in operation, yet simple and inexpensive in construction, and so made as to be adapted for cutting pipes of different sizes.

A further object is to simplify the construction and improve the general efficiency of the present device over that of our said patented pipe cutter, as well as, all other devices of the same class and for a like purpose.

Still another object of the invention is to provide means for feeding or adjusting the bit or knife in the operation of cutting the pipe.

Other objects and advantages of the invention will be disclosed in the following description and explanation.

In the accompanying drawings, which serve to illustrate an embodiment of the invention—Figure 1, is a view in side elevation of a pipe-cutter embodying our invention showing it on a pipe and the parts in position ready for use. Fig. 2, is a bottom plan view thereof. Fig. 3, is a sectional view taken on line 3—3, of Fig. 1, looking in the direction indicated by the arrows, but showing the pipe omitted. Fig. 4, is a view partly in section and partly in elevation taken on line 4, of Fig. 2, looking in the direction indicated by the arrow, illustrating the feeding or adjusting mechanism for the knife or bit and the ratchet toothed collar, or ring. Fig. 5, is a detached view in elevation of the bit or knife feeding rod showing

the knife attached thereto. Fig. 6, is a bottom plan view of an adjustable block through which the knife or bit is extended. Fig. 7, is an end view partly in section and partly in elevation of the pipe holder or sleeve showing one of the adjustable studs for positioning and holding the pipe in place thereon, and Fig. 8, is a sectional perspective view of a modified form of one of said studs.

Like numerals of reference refer to corresponding parts throughout the different views of the drawings.

The pipe holder or sleeve, which is preferably tubular in form is designated by the reference numeral 10, and has located near one of its ends a series of radially disposed screw bolts 11, which are adapted, when screwed up, to engage the pipe 12, so as to center and firmly secure it in the holder 10, for the pipe. Each end of the holder 10, is, by preference, thickened as at 10^a, or in other words, has at each of its ends an inwardly extended annular portion 10^a, to furnish seats for the bolts 11, and for adjusting studs 13, of the construction and for the purpose to be presently explained. Near its middle the holder or sleeve 10, is provided with a circumferentially disposed rib 14, which fits in a correspondingly disposed groove 15, on the inner surface of the handle carrying split collar 16, which consists of two semi-circular members 17 and 18, which have at each of their ends outwardly extended apertured lugs 19, to receive bolts 20, used for securing the members 17 and 18, together. These members are formed on their inner surfaces at their ends adjacent to the front of the holder 10, with a shouldered groove 21, to receive a ratchet ring or collar 22, which surrounds the front portion of the holder 10, and is provided on its outer surface near its front end with ratchet teeth 23, as is clearly shown in Figs. 1, 2, 3, and 4, of the drawings. The ratchet collar 22, is provided on its outer surface at its front end with a radially and outwardly extending casing 24, which is herein shown as being rectangular in cross section and as being closed at its outer end by an apertured plug 25, which may be held in position by means of a set screw 26, located in one side of said casing. The opening in the plug 26, is screw-threaded to engage screw threads on the bit or knife-feeding

rod 27, which is provided on its outer end with a handle 28, used for turning the same. The inner end of the rod 27, is provided with a circumferential groove 29, and has fitted thereon a knife or bit holder 30, which carries a screw 31, extended into the groove 29, on the lower portion of the rod 27, thus uniting said pieces together, so that the rod may be turned without turning the holder 30, for the bit or knife 32, which may be of the ordinary or any well known construction. The inner portion of the holder 30, is provided with a transverse slot 33, in which the upper portion of the bit 32, is secured by means of a pivot 34^a or otherwise.

Movably located in the casing 24, is a hollow block 34, which may be fixed in any desired position by means of a set screw 35, seated in one side of said casing. The inner end of the block 34, is provided with an opening 35, through which the bit 32, is extended. This block is employed as a brace or guide for the bit, and is especially useful when the device is used for cutting small pipes, at which time it is necessary to project the knife 32, or bit, to a considerable distance within the ratchet collar 22, and it is apparent that by employing the hollow block 34, the same can be adjusted so that it will brace the bit near the cutting end thereof.

One of the members of the split collar 16, for example the one designated by the reference numeral 17, is provided with a radially and outwardly projecting handle extension 36, in which is fitted one end of a handle 37, used for operating the cutter. At its inner portion the extension 36, is enlarged as at 38, for the purpose of strengthening the parts, and said extension has in its front portion an inwardly directed opening 39, in which is located a spring pressed pawl 40, which engages the teeth 23, of the ratchet collar 22, as will be clearly understood by reference to Fig. 3 of the drawings. The inner surfaces of the members 17 and 18, of the split collar 16, are each provided with a circumferentially disposed groove 41, to receive a similarly disposed rib 42, on the outer surface of the ratchet collar 22, thus providing means for preventing end-wise displacement of said parts, yet permitting of their independent rotary movement.

Located in radially disposed openings 43, extending from the inner surface at the front end of the pipe holder 10, outwardly, are a series of adjustable studs 13, each of which has an angular portion 13^a, to engage a suitable wrench for turning the same, in order that they may be projected or retracted. These adjustable studs 13, as well as the screw bolts 11, are employed for holding the pipe in the proper position within the pipe holder 10, so that the bit 32, may act thereon in the operation of the cutter.

It is evident that the studs 13, can be adjusted so as to engage pipes of different sizes, and also that as they are detachable from the pipe holder 10, they can be removed and longer or shorter studs to suit the dimensions of the pipe to be cut can be inserted in the openings 43, for said studs. Moreover, by using the adjustable studs 13, at one end of the pipe holder 10, and internally thereof, and the screw bolts at the other end of said holder, it is obvious that the holder will be firmly secured on the pipe in such a manner as to prevent any movement of the latter, thus causing the pipe to be cut accurately. These studs being adjustably secured in the pipe holder will always be in position to be adjusted against the pipe, and are not as liable to being misplaced or lost as are devices such as wedges and the like, which have heretofore been employed.

In Fig. 8, of the drawings, we have shown a modification in the construction of one of the adjustable studs which consists in employing a member 44, which has a reduced and screw-threaded portion 45, to engage the openings 43, in the pipe holder, and is provided in its other end with a screw-threaded socket 46, to receive a screw-threaded bolt 47, which can be adjusted inwardly or outwardly by turning said bolt in the proper direction. In this modified form it is apparent that a double adjustment is afforded, that is, the reduced portion 45, may be adjusted with respect to the pipe holder 10, and the bolt 47, which will rest at its free end against the pipe may be adjusted with respect to the member 44, of each stud.

From the foregoing and by reference to the drawings it will be seen and readily understood that the split collar 16, which carries the operating handle 37, and the ratchet collar or ring 22, will be securely yet movably held in position on the pipe holder 10, by reason of the engagement of the circumferential rib 14, on said holder with the groove 15, in the split collar, and by reason of the engagement of the rib 42, on the ratchet collar with the groove 41, on the split collar. It will also be understood that the ratchet collar and handle carrying collar will have independent movement with respect to each other in one direction, but will be caused to move in unison or in the same direction when the pawl 40, engages the teeth 23, of the ratchet collar.

The operation of the device is as follows:—The pipe 12, to be cut, may be firmly held in a horizontal position by means of a vise (not shown) or otherwise, and the pipe holder 10, may be placed therearound and held in position by means of the screw bolts 11, which should be tightened so as to center the pipe with respect to the pipe holder 10, when by adjusting the studs 13, or 44, when the latter are used, in the proper di-

rection it is evident that the pipe holder will be firmly fixed to the pipe. If a large pipe is to be cut, of course shorter studs 13, or 44, may be employed, and if a small pipe is to be cut longer studs may be used, which in either case, can be adjusted so as to impinge at their inner ends against the outer surface of the pipe. When the device is thus mounted and secured on the pipe, it is apparent that the bit or knife 32, may be adjusted so as to impinge with its cutting end against the outer surface of the pipe by turning the screw rod 37, in the proper direction, when by raising the operating handle 37, the ratchet collar 22, which carries the knife or bit, will be caused to turn around the pipe by reason of the engagement of the pawl 40, on the split collar with the teeth 23, of the ratchet collar, thus causing the knife or bit 32, to make a circular incision in the outer surface of the pipe, which incision may be deepened until the pipe is severed by simply

turning the feeding rod in the proper direction.

Having thus fully described our invention, 25 what we claim as new and desire to secure by Letters-Patent is—

A pipe cutter including in combination a hollow pipe holder having near one of its ends a series of radially disposed screw 30 threaded openings on its inner portion, a member having a screw-threaded socket in one of its ends and its other end screw-threaded and located in each of said openings of the pipe holder, a screw-threaded 35 bolt located in the screw-threaded socket of each of said members, and a series of screw bolts extended radially through the holder near its other end.

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