

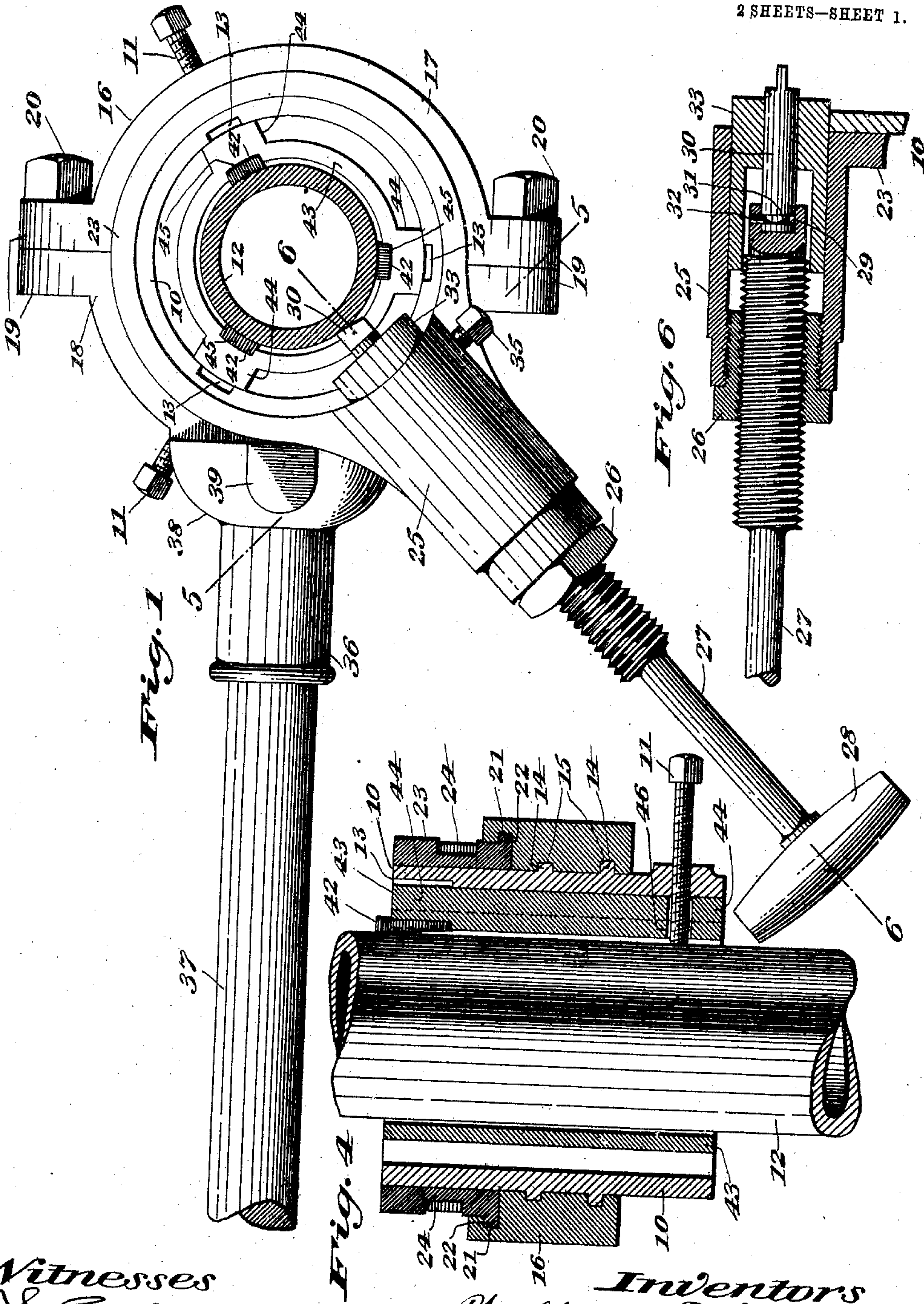
No. 859,432.

PATENTED JULY 9, 1907.

W. H. E. & E. CHARPIER.
PIPE CUTTER.

APPLICATION FILED NOV. 12, 1906.

2 SHEETS—SHEET 1.



Witnesses

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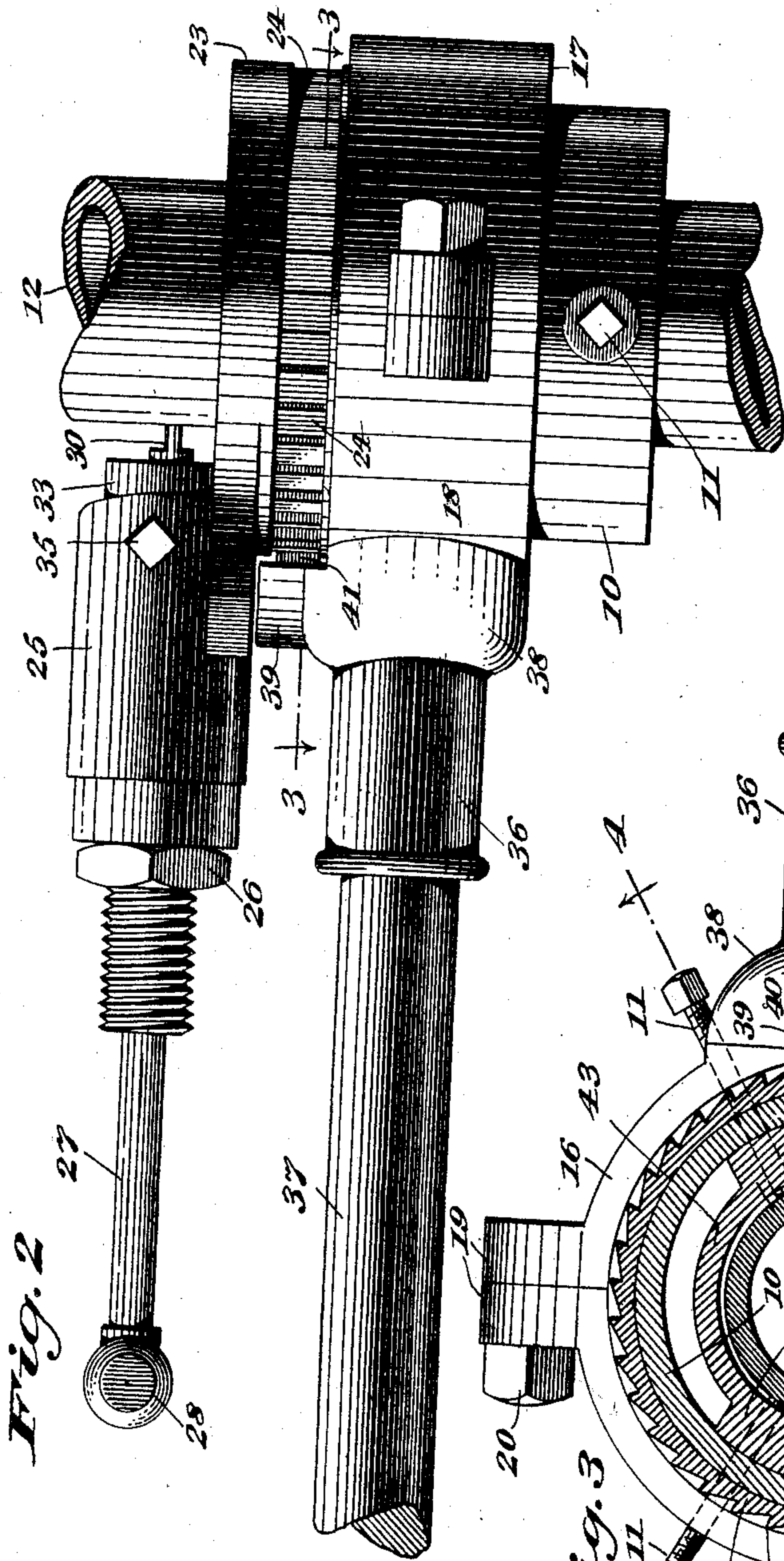


Fig. 2

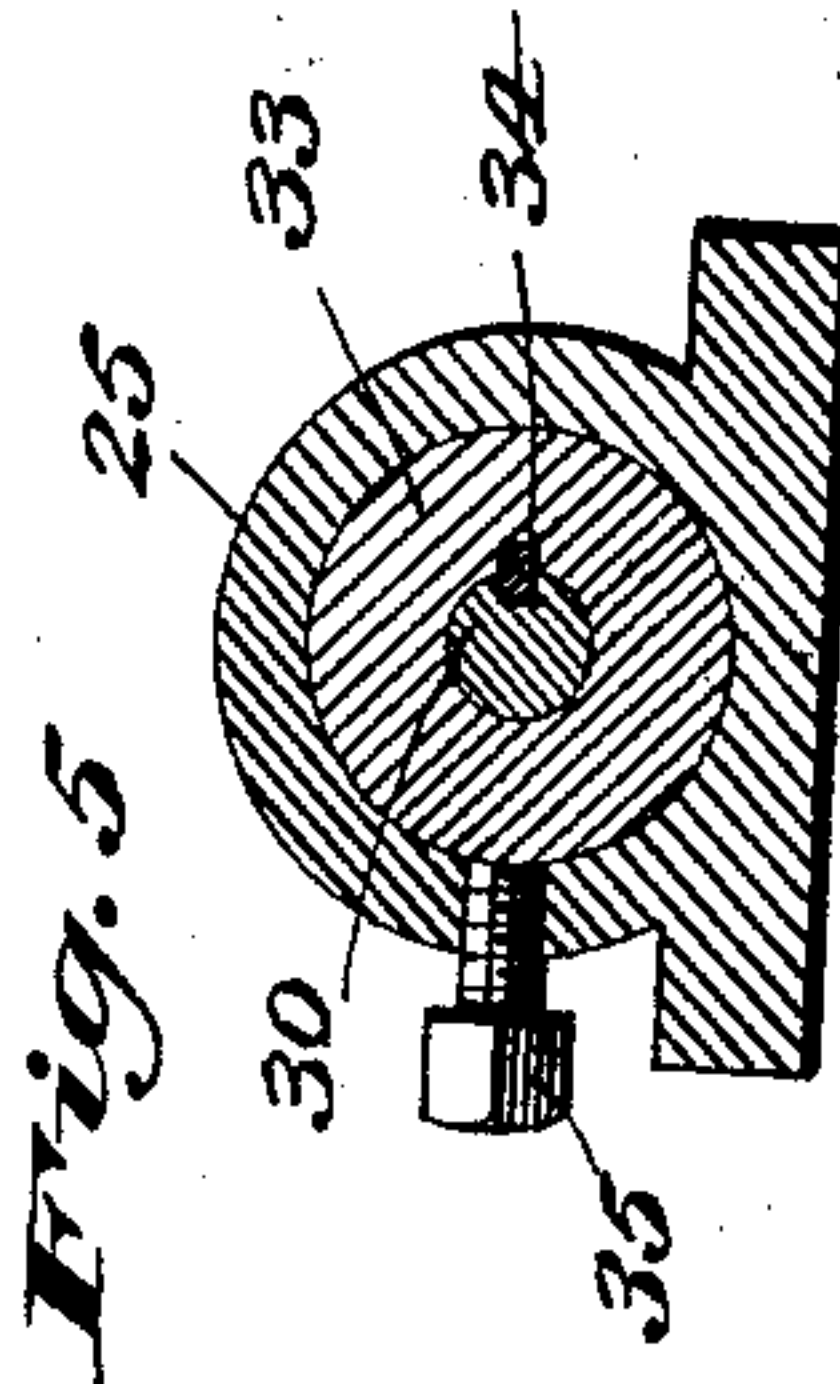


Fig. 5

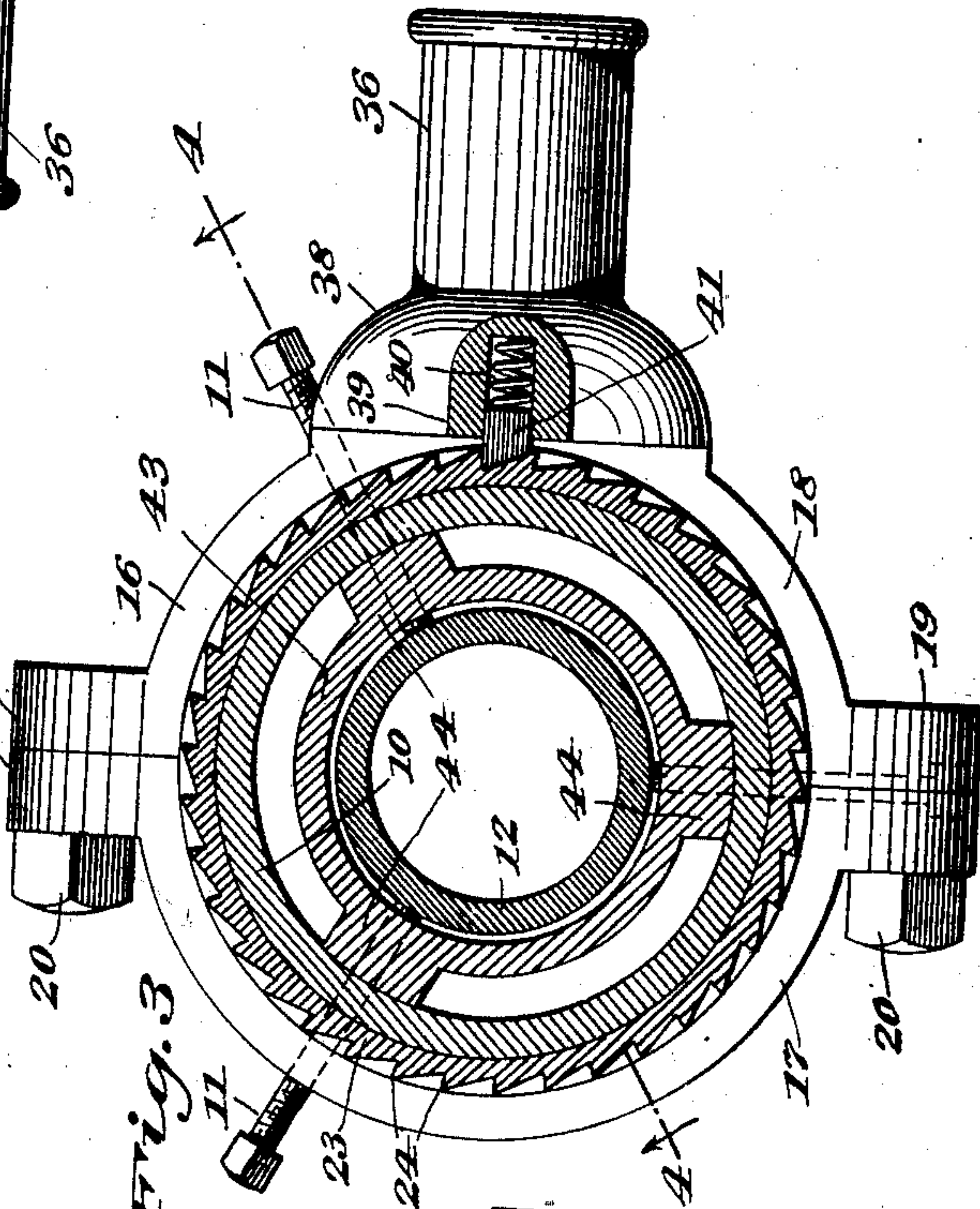


Fig. 3

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PIPE-CUTTER.

No. 859,432.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed November 12, 1906. Serial No. 342,993.

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 a Pipe-Cutter, of which the following is a specification.

This invention relates to improvements in an apparatus to be used for cutting pipes, 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 our invention is to provide a pipe cutter, which shall be simple and inexpensive in construction, strong, durable and effective in operation, and so made as to be adapted for cutting pipes of different sizes.

A further object of the invention is to provide means for feeding or adjusting the bit or knife of the cutter in the operation of cutting the pipe.

Various other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In order to enable others skilled in the art to which our invention pertains, to make and use the same, we will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a side view in elevation of a pipe cutter embodying our invention, showing the parts in position on a section of pipe and ready for use. Fig. 2 is a plan view thereof. Fig. 3 is a sectional view taken on line 3, 3 of Fig. 2 looking in the direction indicated by the arrows. Fig. 4 is a view partly in section and partly in elevation taken on line 4, 4 of Fig. 3 looking in the direction indicated by the arrows. Fig. 5 is a cross-sectional view of a portion of the feeding device for the knife or bit taken on line 5, 5 of Fig. 1;—and—Fig. 6 is a longitudinal sectional view thereof taken on line 6, 6 of Fig. 1.

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

The reference numeral 10 designates the pipe holder or sleeve, which is made of metal and of any suitable size, 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 hold it in the sleeve 10 or pipe holder. That end of the sleeve 10 opposite that in which the bolts 11 are located, and which we will term the front end, is provided on its inner surface with a series of longitudinally extending recesses 13, for the purpose to be presently explained. Near its middle, the sleeve 10 is provided with two spaced apart and circumferentially extending ribs 14, which fit in correspondingly disposed grooves 15 on the inner surface of the handle car-

rying split collar 16, which consists of two semi-circular members 17 and 18, which have at each of their ends outwardly extending apertured lugs or ears 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 end of the sleeve 10 with a shouldered groove 21, to receive and engage an annular flange 22 on the inner end of a ratchet ring or collar 23, which surrounds the front portion of the sleeve 10, and is provided on its outer surface, about midway between its ends, with ratchet teeth 24, as is clearly shown in Figs. 2, 3 and 4 of the drawings. The ratchet collar 23 is provided on its upper portion with a radially and outwardly extending tubular part or casing 25, the outer end of which is internally screw threaded to engage external screw-threads on an apertured plug or nut 26, the aperture of which is screw-threaded to engage threads on the bit or knife-feeding rod 27, which is provided at its outer end with a handle 28 used for turning the same. The inner end of the rod 27 is formed with a cavity 29 to receive the inner end of the knife or bit 30, which may be of the ordinary or any well known construction, but has near its inner end an annular groove 31 to receive the inner end of a screw 32, located in the inner portion of the rod 27 and employed for connecting the rod 27 and bit 30 together in a swiveled manner, or so that said rod may be turned without turning the bit or knife.

As is clearly shown in Figs. 5 and 6, the tubular casing 25 has movably located therein a block 33, through which the bit or knife 30 is extended, and which is prevented turning in the block by means of a key 34, or spline. The inner portion of the block 33 is hollow, as shown in Fig. 6, to receive the inner portion of the feeding rod 27, and said block may be fixed in position by means of a set screw 35 located in the casing 25 and preferably at one side thereof.

One of the members of the split collar 16, for example the one designated by the reference numeral 18, is provided with a radially and outwardly projecting hollow 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 enlarged portion has on its front surface or that surface thereof adjacent to the recessed end of the sleeve 10 a lug 39, which is provided with an opening 40, in which is located a spring-pressed pawl 41, which engages the teeth 24 of the ratchet collar 23, as will be clearly understood by reference to Figs. 2 and 3 of the drawings.

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 23, will be securely yet movably held in position on the sleeve or pipe holder 10 by reason of the engagement of the circumferential ribs 14 on

the sleeve, with the grooves 15 on the inner surface of the collar 16, and by reason of the engagement of the flange 22 on the ratchet collar, with the groove 21 on the inner surface of the spilt or handle carrying collar. It will also be understood that the ratchet collar and handle carrying collar will have independent movement of each other in one direction, but will be caused to move in unison or in the same direction when the pawl 41 engages the teeth 24 of the ratchet collar.

10 The operation of the device is simple and 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 if large enough, to fit closely in the sleeve 10, the latter may be placed thereon and held in position by means of wedges 42 inserted in the recesses 13 in one end of the sleeve 10 and by means of the screw-bolts 11 on its other end, which should be tightened up so as to engage the pipe. If the pipe to be cut is considerably smaller than the sleeve 10, a shim 43 may be placed around the pipe and interposed between the same and the sleeve 10, as is clearly shown in Figs. 1, 3 and 4 of the drawings, in which figures we have shown the shim as being cylindrical and having three equi-distantly disposed longitudinal ribs 44 to rest against the inner surface of the sleeve 10, and with a similar number of recesses 45 on its inner surface to receive the wedges 42, which are interposed between the shim and pipe. As shown in Fig. 4, the ribs 44 of the shim are of the same length as the sleeve 10, and each has an opening 46 for the passage of the screw-bolts 11, which, as before stated, are used to secure the pipe in position. When the device is thus mounted and secured on the pipe to be cut, it is apparent that the bit or knife 30 may be adjusted so as to impinge with its cutting end against the outer surface of the pipe by turning the screw-rod 27 in

the proper direction, when by raising the operating handle 37 the ratchet collar 23, which carries the knife or bit, will be caused to turn around the pipe by reason of the engagement of the pawl 41 on the split collar with the teeth 24 of the ratchet collar, thus causing the knife or bit 30 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 27 in the proper direction.

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

In a pipe cutter, the combination with a sleeve adapted to surround the pipe to be cut and having in one of its ends a series of longitudinally extending recesses and on its outer periphery a circumferential rib, of means interposed between the pipe and sleeve, a series of radially disposed screw-bolts located in the sleeve near one of its ends, a handle-carrying-collar rotatably mounted on the sleeve and consisting of two semi-circular members secured together at their ends, each of said members having in its inner periphery a groove to receive a portion of the circumferential rib on the sleeve and said members having near one of their ends a shouldered groove, a ratchet-collar rotatably mounted on the sleeve and having at one of its ends an annular flange to engage the shouldered groove of the first-named collar, a radially extending casing located on the ratchet-collar, an apertured block movably located in one end of said casing, a feeding rod in screw engagement with the outer end thereof, a knife or bit located in the aperture of said block and swiveled at its inner end within the casing to the feeding rod, and a spring-pressed pawl mounted on the handle-carrying-collar to engage the teeth of the ratchet-collar, substantially as described.

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