

(No Model.)

E. F. BARNES.
PIPE CUTTER.

No. 287,899.

Patented Nov. 6, 1883.

Fig. 1.

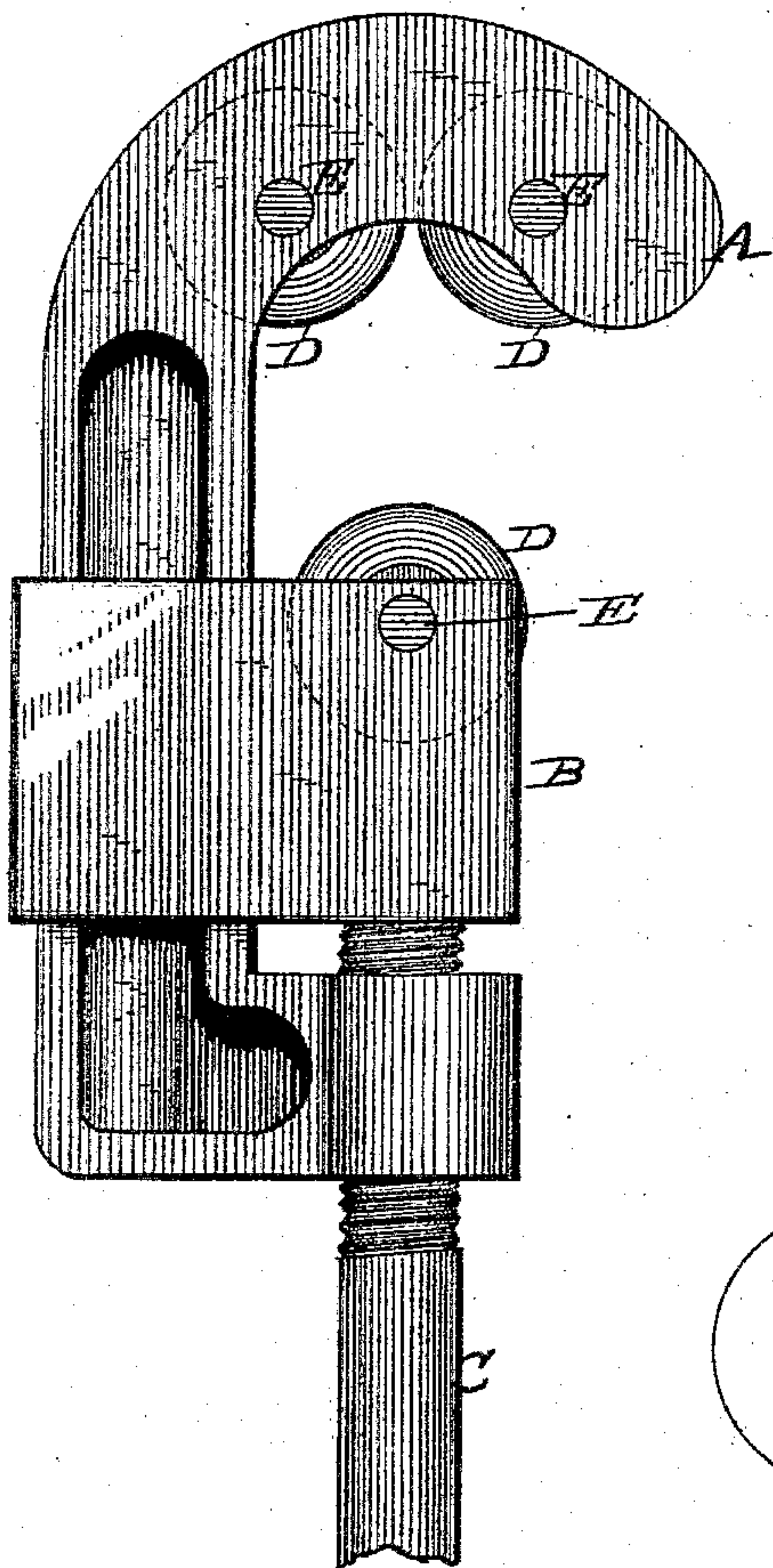


Fig. 2.

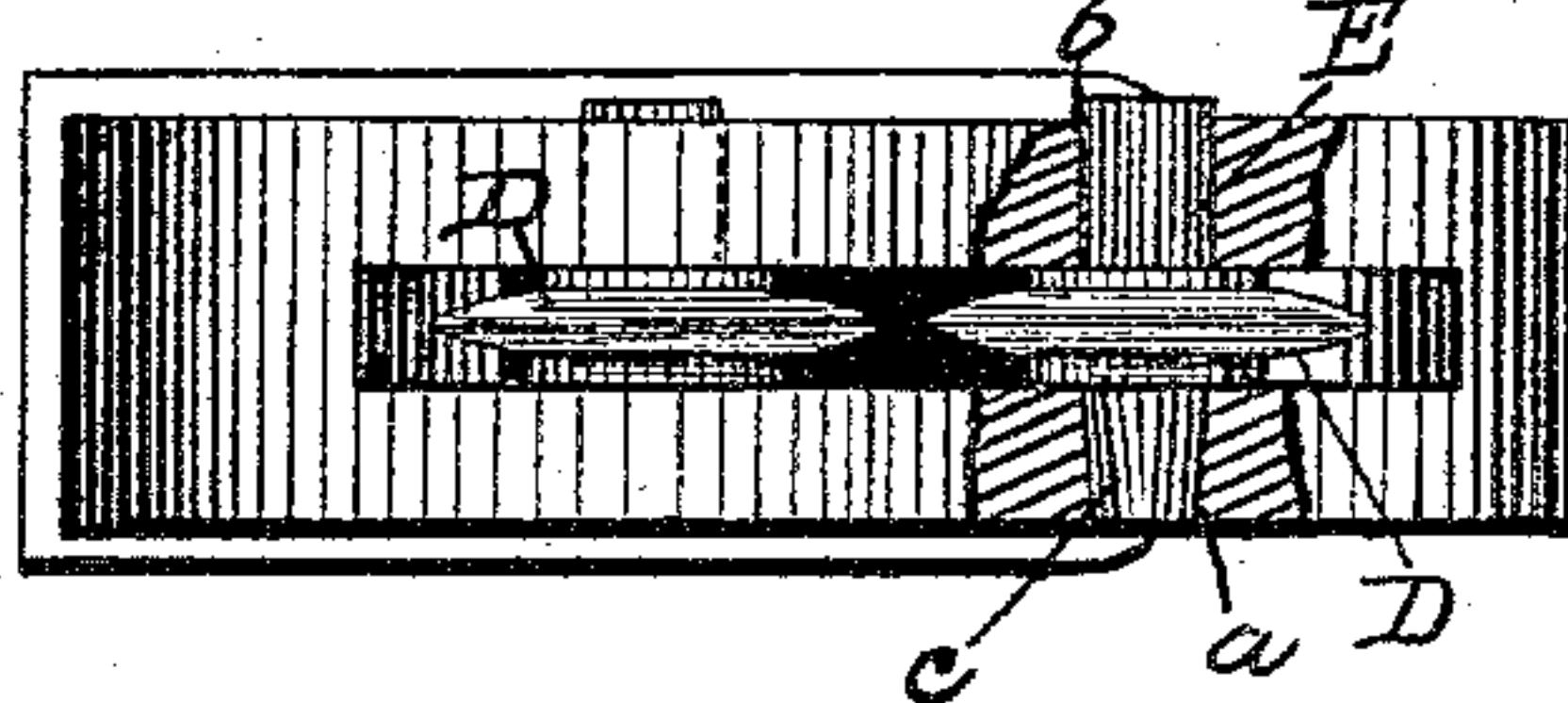


Fig. 3.

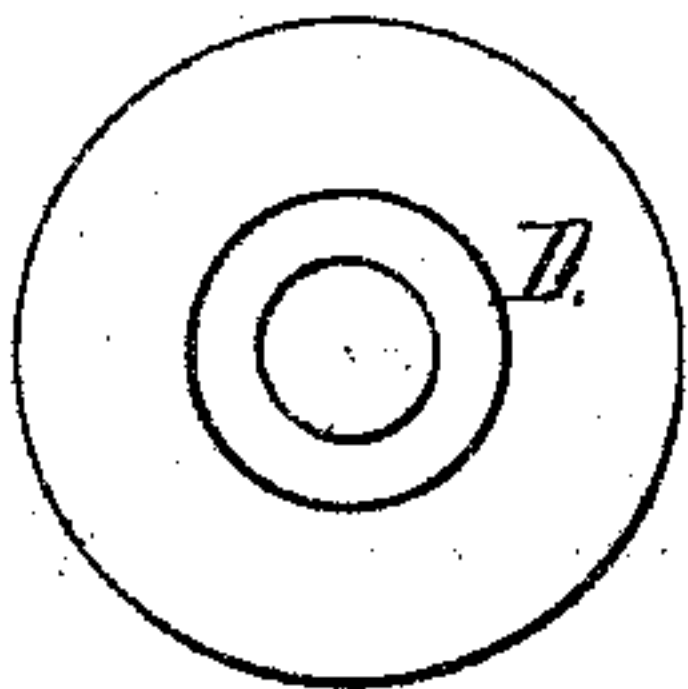


Fig. 4.

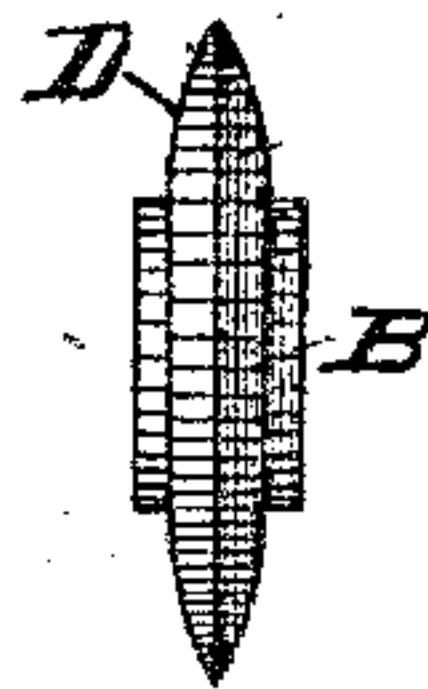


Fig. 5.



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UNITED STATES PATENT OFFICE.

ELBRIDGE F. BARNES, OF NEW HAVEN, CONNECTICUT.

PIPE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 287,899, dated November 6, 1883.

Application filed March 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, ELBRIDGE F. BARNES, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Pipe-Cutters, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention consists in certain improvements, as hereinafter described and claimed, in pipe-cutters and similar articles.

In the drawings, Figure 1 represents a side elevation of a pipe or rod cutter constructed according to my present improvements, a part of the construction therein shown being the subject of another application for patent filed on the 30th January, 1883, Serial No. 83,502, and patented to me under date of the 31st July, 1883. Fig. 2 represents a top plan view thereof, partly in section. Fig. 3 represents a side elevation, and Fig. 4 an edge elevation of a cutting wheel or disk constructed according to my invention. Fig. 5 represents a side elevation of a pivot-pin constructed according to my invention.

A represents the upper jaw or head of the pipe-cutter, B the sliding or lower jaw thereof, and C the screw-threaded handle connected with said lower jaw, and by means of which the said lower jaw is raised or lowered and the tool rotated, these several parts being represented as of similar construction to those shown in my aforesaid patent; but I do not, in the present connection, confine myself to such construction, as the wheels or cutters and their bearing-pins herein described are equally well adapted for use with other forms of jaws. Each jaw has for each pivot or bearing pin two bearings—one, *a*, cylindrical, and the other, *b*, frusto-conical.

45 D represents the wheel or disk, which is constructed of gradually-tapering convex form on each side from the center outward to the edge. By this form of construction all liability of the edge of the cutter breaking or bending or turning in use is avoided, as such a wheel-cutter is rendered very strong by reason of its shape. Moreover, a cutter thus con-

50 structed is not liable to crumble or snag, all of which objections are present in cutters not constructed of gradually-tapering convex form from the hub outward, as shown herein.

B represents the hub of the wheel or disk A.

E represents the pivot or bearing pin constructed according to my invention. This pin is formed with a frusto-conical end, *c*, which fits in the frusto-conical bearing *a* with a driving fit, its other end being cylindrical to adapt it to fit the cylindrical bearing *b*.

60 It has been customary, when securing cutting disks or wheels within the respective tools, to rivet the pivot-pin at one or both ends within the framing of the tool. This method is objectionable, as thereby the pivot or bearing pin and disk or cutter-wheel cannot be very quickly or easily removed when it is desired to regrind the cutter or to substitute another for that already in position; and, again, the disks cannot in such an arrangement be quickly or easily placed in position, as where riveting or other similar means of connection are employed special tools have to be used; but by my improvements the pivot-pin can be readily passed through the frame and disk and simply tapped into position, and when it is desired to remove the disk for any purpose a slight blow upon the tapering or frusto-conical end of the pin will loosen the same and permit of its being readily drawn out and the cutter removed.

75 In use the pivot-pins of cutting wheels and disks soon wear away on that side on which the friction of the wheel is. The cutters are thereby caused to run irregularly and loosely. When such occurs the pivot-pin E can be readily removed and turned around, so as to present an unworn portion for the cutter to bear against, and this action can be followed several times, thereby allowing of a pivot-pin constructed according to my improvements being used a much longer time than would be possible where such pins have to be riveted in position, and where a new pin has to be provided each time it becomes so worn as to 95 impair the efficiency of the cutter.

Having thus described my invention, what I claim is—

In a pipe or rod cutter, the combination, with the jaw having two bearings, one cylindrical and the other frusto-conical, with the cylindrical bearing-pin having a frusto-conical end fitting in the latter bearing with a driving-fit, and the cutter-wheel rotating on said pin, substantially as and for the purpose set forth.

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

ELBRIDGE F. BARNES.

Witnesses:

LUCIUS P. DEMING,
C. A. OAKS.