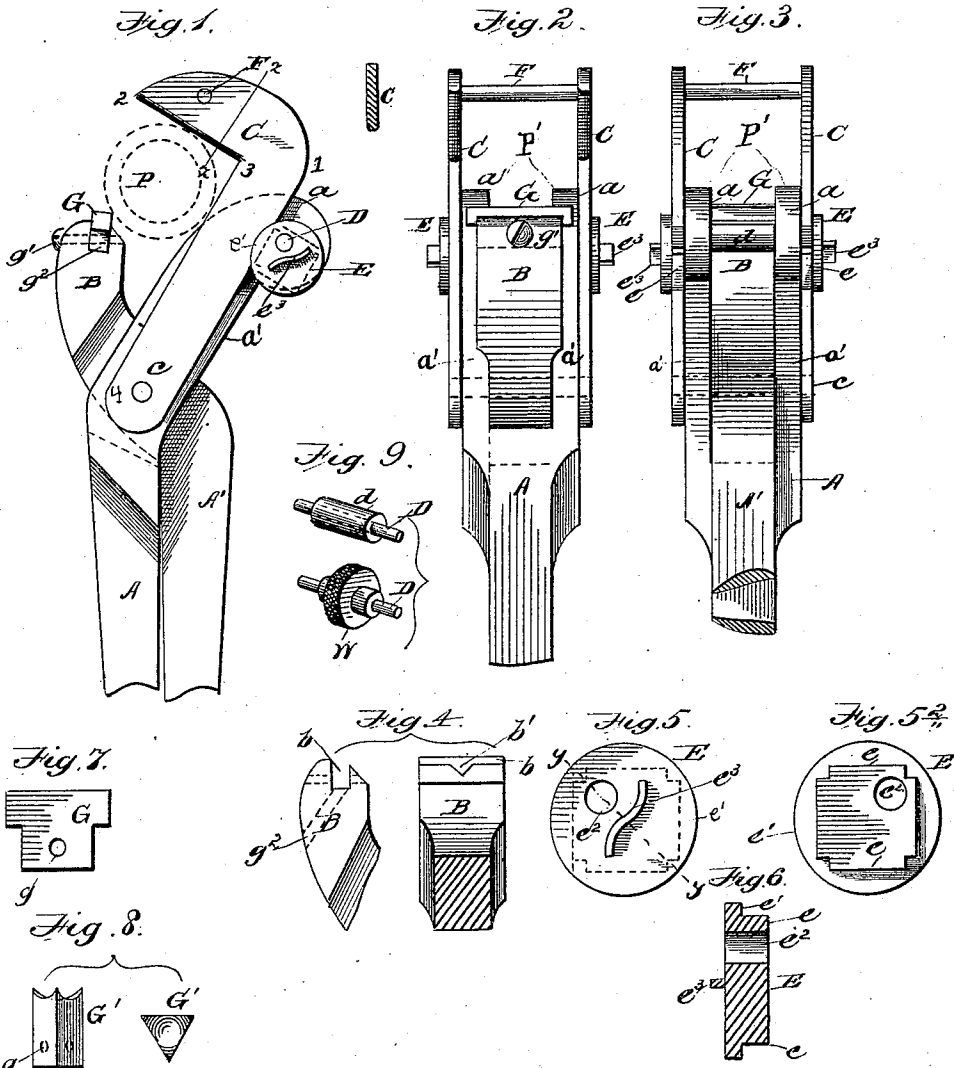


(No Model.)

H. HERBERT.
PIPE TONGS AND CUTTER.

No. 287,378.

Patented Oct. 23, 1883.



Attest.

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UNITED STATES PATENT OFFICE.

HENRY HERBERT, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO JOHN D. ABRAHAM, OF SAME PLACE.

PIPE TONGS AND CUTTER.

SPECIFICATION forming part of Letters Patent No. 287,378, dated October 23, 1883.

Application filed February 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY HERBERT, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Pipe Tongs and Cutters, of which the following is a specification.

My invention relates to pipe tongs and cutters; and it consists in the provision of means whereby the tongs-jaws, whether used for gripping or cutting purposes, are adjustable for use on pipes of various sizes; and my invention further consists in a novel form of cutting-bit, by which the pipe is cut sharply and smoothly on a given line without forming any burr or any reduction of the pipe-bore where divided; and my invention further consists in the combination of the several parts, all as hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, in which similar letters of reference indicate like parts on each figure, Figure 1 is a side view of my improved tongs, showing the pivoted jaw swung back its full extent against the eccentrically-pivoted stop-disk. Fig. 2 is a front view of the same. Fig. 3 is a rear view thereof. Fig. 4 is a detail view of the bit-stock end with the bits removed. Figs. 5 and 5½ are front and rear views of the eccentric disk-stop. Fig. 6 is a sectional view thereof on the line *yy*. Fig. 7 is a detail view of the gripping-bit. Fig. 8 is a detail view of the cutting-bit. Fig. 9 represents the rotating eccentric disk-shaft, with means for operating the same.

A A' are the tongs-handles; B, the bit-stock, provided with recesses *bb'*, for reception of the gripping-bit G and cutting-bit G'.

C is a swinging jaw pivoted to the handle A. Said handle is made solid at its lower end, and has an upper bifurcated part, P', having rearwardly-inclined extensions *aa*, pierced for reception of the shaft D. The shaft D is provided with a sleeve, *d*, which serves the purpose of keeping apart the bifurcated part P' of the handle A. The ends of the shaft D are adapted to extend through and take within an orifice formed upon the eccentric disk E, and

form a pivot therefor away from its center, as plainly shown in the drawings.

E is a stop-disk having two or more squared edges, *e*, and an upper face or plate forming flanges *e'*, which flanges in practice partly overlap the plates C C of the swinging jaw and prevent lateral displacement. In other words, said jaw-plates are kept by means of said flange *e'* snugly confined between the under surface of said flanges and the outer surface of the bifurcated part P' of the handle A.

The stop-disk E is provided with an orifice, *e''*, near one of the edges *e* thereof, said orifice adapted to receive the shaft D, which forms a pivot therefor, said orifice being located away from the center, thus providing an eccentrically-pivoted stop-disk for obvious purposes. The rotation of the shaft D and its attached disk can be secured by any suitable actuating device. In Figs. 1, 2, 5, I show a bent thumb-piece, *e''*, as adaptable for this purpose. In Fig. 9, I show a milled wheel, W. Said wheel may surround the sleeve *d* or be integral therewith, and be used in lieu of the thumb-piece *e''*; but any suitable mechanical device may be employed to rotate the eccentric stop-disk E and be within the scope of my invention.

The swinging jaw is composed of two side plates, C C, having at their outward edges, preferably, the configuration shown in the drawings from the line between the numerals 1 2, forming the rounded upper edge for the top or head thereof, as shown. The lower edge of said head, being the part between the numerals 2 3, is formed in a right line, and between the numerals 3 4 the inner edges of said side plates practically conform to the outer configurative lines thereof, thus presenting at or near the part shown by the indicating-numeral 3 an angular opening, the object being to grasp the pipe securely and firmly with a minimum surface area, and this I consider an essential part of my invention. It will be readily understood that my tongs grip the pipe only on the surface edges of the two plates C C; and to further effect this end I form said side edges beveled or rounded, (see section, Fig. 1,) so that in practice said edges will not cut into or indent the pipe. The sides of said

jaw, besides being pivoted, as before described, are firmly held together near their upper rounded edge by a bolt, F, leaving an open intermediate space, through which, when the cutting-bit is in use, the chips of the pipe fall away.

In Fig. 1, I show the swinging jaw swung backward to the full extent allowed by the stop-disk E. When, however, said disk is rotated, and other of its faces *e* are brought to bear against the coincident edge of the swinging jaw, said jaw will be thrown, as the case may be, nearer to or farther off from the bit-stock B upon the handle A', and thereby be enabled to grasp pipe of divers sizes.

It is my intention to indent or otherwise place upon the outer surface of the stop-disk E indicating gage-marks that will show the several sizes of pipe my tongs are adapted to operate as the disk E is rotated. Said disk is shown as having four straight side edges, *e*, and indented or notched corners; but I do not desire to be understood as limiting myself to any form thereof. Any eccentrically-pivoted stop that has polygonal sides will be within the scope of my invention.

A' is the handle that carries the bit-stock B. It is placed within the bifurcated part P' of the handle A before the shaft D is inserted therein and the two handles are pivoted together. The bit-stock B is made integral with the handle A'. It has a rectangular opening or recess, *b*, for reception of the grip-bit G, and said opening or recess has a triangular or V-shaped cut-away extension, *b'*, for the cutting-bit G'. On the side surfaces of each of said bits are depressions *g*, into which take the ends of retaining-screws *g'*. The openings *b b'* extend downward within said bit-stock a sufficient distance to form firm seats for the respective bits, and from thence extends downwardly and outwardly a hole, *g²*, for receiving a punch to drive out said bits if too firmly embedded in their seats.

The operation of my invention is manifest. The tongs are adjusted and passed round the pipe, (said pipe being shown at P, Fig. 1.) The eccentric nut E is then turned until the swinging jaw grasps said pipe. If the bit G is in place, the pipe will be gripped. If it is desired to cut the pipe, the bit G' is inserted in the stock B, and the swinging jaw being adjusted as before described, the tongs are turned, and the point of the cutting-bit gradually works a channel in the pipe in a straight line without the slightest lateral or spiral diversion, cutting the pipe smoothly without forming any internal burr. At the same time the chips fall away between the side plates, C C, of the swinging jaw and the intermediate opening formed by the bifurcated head of the handle A.

My gripping-bit G is adapted to be reversed, so that as one edge wears away the opposite

one can be used. My improved cutting-bit G' can be made with several cutting-points. I illustrate in the drawings a three-sided stem having three points, all being made integrally of one piece of metal, preferably steel. The upper surface of this bit is countersunk, as shown in Fig. 8, by which means I secure great strength, and the necessary shape of said cutting-points form a hollow countersunk head, into which the chips or shavings of the metal turn and fall away.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a pipe-tongs, the combination of the handle A, having bifurcated upper portion, P', provided with eccentrically-pivoted disk E, whereby to adjust the swinging plates C C, with the handle A', pivoted thereto, said handle A' provided at its upper end with bit-stock B, having recesses *b b'*, and supplied with gripping-bit G or cutting-bit G', substantially as described.

2. In a pipe-tongs, the disk E, eccentrically pivoted to the extensions *a a* of the bifurcated upper portion, P', and the handle A, said handle being provided with swinging jaw-plates C C and means for rotating said disk E, in combination with an opposite handle, A', pivotally connected to said handle A, as and for the purposes set forth, substantially as described.

3. In a pipe-tongs, the combination of the handle A, having upper bifurcated part, P', supplied with disk E, eccentrically pivoted thereto, and swinging plates C C, with the handle A', having bit-stock B, supplied with gripping-bit G or cutting-bit G', said handles A and A' being pivoted together, as and for the purpose intended, substantially as described.

4. In a pipe-tongs, the combination of the handle A', having bit-stock B, provided with rectangular opening *b* and V-shaped opening *b'*, with gripping-bit G and cutting-bit G', as and for the purpose intended, substantially as described.

5. In a pipe-tongs, the combination of the handle A, provided with swinging jaw C and eccentrically pivoted disk E, with the arm A', provided at its upper end with bit-stock B, having openings *b b'* for reception of gripping and cutting bits G G', and further provided with apertures *g²*, whereby to remove said bits, substantially as described.

6. In a pipe-tongs, a cutting-bit, G', having three or more sides, and countersunk upon its upper surface, whereby the corner edges project upwardly and form cutting-points, substantially as described.

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Witnesses:

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