

UNITED STATES PATENT OFFICE.

CHARLES S. HAMLIN, OF LOS ANGELES, CALIFORNIA.

PIPE-TRUING LATHE.

SPECIFICATION forming part of Letters Patent No. 585,865, dated July 6, 1897.

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To all whom it may concern:

Be it known that I, CHARLES S. HAMLIN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Pipe-Truing Lathes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improved form of cutter and lathes for truing the ends of sheet-metal pipes; and my invention consists in certain features of novelty hereinafter described and claimed.

Figure I represents a side elevation of my improved device. Fig. II is a transverse section taken on line II II, Fig. I. Fig. III represents an end elevation of the pipe-cradle. Fig. IV is an end view of my improved cutter. Fig. V is a section of the cutter, taken on line V V, Fig. IV.

Referring to the drawings, 1 represents a frame or bed of a lathe on which the pipe-cradle 2 travels.

3 represents the lower section of the cradle, which rests firmly on the frame 1, there being notches 4 in the base of the cradle, which rest upon parallel ribs 5 on the upper side of the frame, the cradle thus being held in proper alinement.

6 represents the upper section of the cradle, said section being hinged at 7 to the lower section 3 by means of two bolts 7^a, extending through the sections, having their heads pivoted together and their ends secured to the sections by nuts 7^b. The sections of the cradle are cut out in their center to form a circular aperture 8, in which the pipe 9 rests. In placing the pipe in position the upper section of the cradle is thrown backward, as shown in dotted lines in Fig. III, the pipe then being placed in the cradle, after which the section 6 is thrown over the top of the pipe, as shown in full lines in Fig. III, and securely held in position by means of a clamp 10. The clamp 10 is made in the form of an open link having its lower ends pivoted to the upper part of a bolt 11, said bolt being secured to the section 3 of the cradle by a nut 11^a. After the clamp 10 has been thrown into a vertical position, as shown in full lines in Fig. III,

and passing over the outer end of the section 6 of the cradle it is securely held there by means of a cam-lever 12, the cam-lever 12 being pivoted at 13 to the top of the link 10, there being a bearing-plate 14 on the top of the section 6 of the cradle, against which the cam bears in locking the two parts of the cradle together, thus securely clamping the pipe, the clamp being firmly set by merely throwing the cam-lever over in a horizontal position, as shown in full lines in Fig. III.

15 represents a rack on the under side of the upper part of the frame 1, with which meshes a gear-wheel 16, the shaft of the gear-wheel 16 being journaled in an apron 17, depending from the lower side or base of the cradle. On the opposite end of the shaft from the gear-wheel is placed a crank 18 for operating the gear-wheel and moving the carriage back and forth.

19 represents a chuck mounted upon a shaft 20, said shaft being journaled in a frame 21, said frame 21 resting upon the main frame 1. The chuck is provided with annular series of cutters of peculiar construction.

My improved cutter consists of a vertical disk 22, having a circumferential groove 23 near its outer end, and a cutting-face 24.

25 represents a circular aperture through the center of the cutting-disk, and 26 a circular recess near the outer face of the cutting-disk, said recess being of greater diameter than the aperture 25.

27 represents a bolt for securing the cutting-disk to the chuck, said bolt having a spindle 28 thereon of somewhat larger diameter than the body of the bolt 27 and having a circular head 29 thereon, which is again larger than the spindle 28. The width of the head 29 is slightly less than the depth of the aperture 26, so as to permit the cutting-face 24 to extend a short distance beyond the end of the head 29.

30 represents an annular series of holes in the chuck 19, into which the bolt 27 is placed for securing the cutting-disk. The holes 30 are arranged in a series of concentric circles, so as to allow for any diameter of pipe it is desired to operate upon.

31 represents a radial pin extending a short distance from the edge of the bolt 27, and 32 represents a series of radial slots extending

from the sides of the holes 30. When the bolt 27 is placed in position, the pin 31 will enter said slots and hold the same from turning while the nut 34 is being screwed into position. The cutting-disk 22 provides a continuous circular cutting-face which revolves as the edge of the pipe is being trimmed into true, thus presenting a long cutting-face which gives when too great an obstruction is thrown upon the same, and thus materially prolongs the life of the cutter. The spindle 28 being a very small fraction longer than the aperture 25 in the cutting-disk allows the cutting-disk to revolve freely when the bolt 27 has been screwed up tightly in the chuck.

In the use of my device I reduce the friction to a minimum and dispense with the heating, as in the ordinary fixed cutters.

I claim as my invention—

1. A cutter comprising a bolt formed with a spindle of greater diameter than the body and with a head of greater diameter than the spindle, a radial pin secured to the body, adjacent to the spindle, a disk formed with a circular recess receiving the head, with a circular opening of less diameter receiving the spindle,

with a cutting-face, and with a circumferential groove in rear of the cutting-face, and nut threaded onto the body of the bolt; substantially as described.

2. A chuck comprising a series of concentric circles of circular holes having radial slots and cutters each having a body adapted to fit in the circular holes and provided with radial pins adapted to engage in the radial slots; substantially as described.

3. A cradle comprising a base, lower sections, upper sections, bolts extending through the ends of the lower sections whereby they are secured to the base, the bolts extending through the inner ends of the upper sections and pivoted to the bolts of the inner ends of the lower sections, the links pivoted to the bolts of the outer ends of the lower section and embracing the outer ends of the upper sections and the cam-levers pivoted to the links; substantially as described.

CHARLES S. HAMLIN.

Witnesses:

J. W. KEMP,
J. E. KNIGHT.