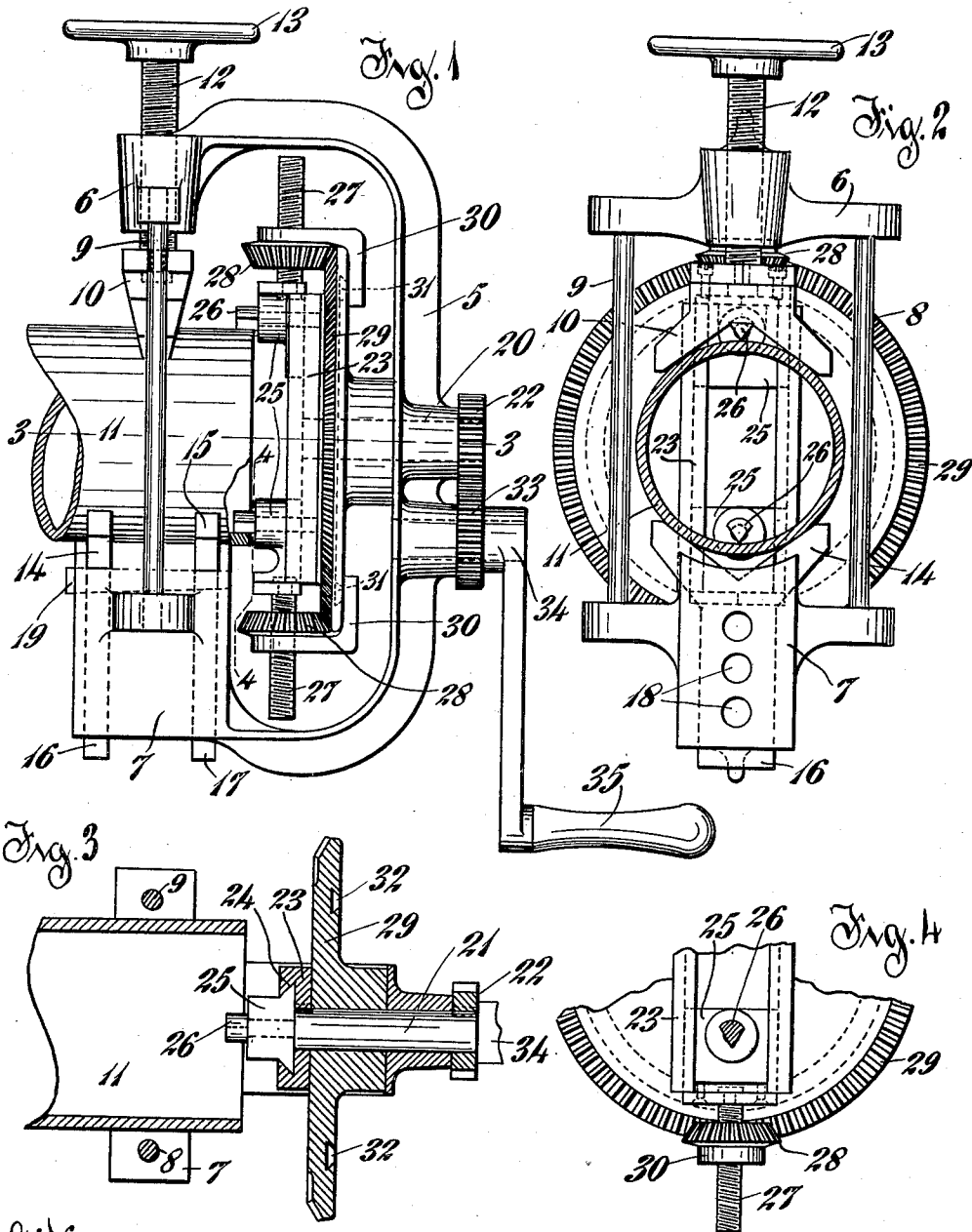


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MACHINE FOR REMOVING BURS FROM METAL PIPES.
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Patented June 18, 1912.



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UNITED STATES PATENT OFFICE.

GEORGE BERGHAUSEN, OF CINCINNATI, OHIO.

MACHINE FOR REMOVING BURS FROM METAL PIPES.

1,029,584.

Specification of Letters Patent.

Patented June 18, 1912.

Application filed April 9, 1909. Serial No. 488,960.

To all whom it may concern:

Be it known that I, GEORGE BERGHAUSEN, a citizen of the United States, residing in the city of Cincinnati, county of Hamilton, and State of Ohio, have invented certain new and useful Improvements in Machines for Removing Burs from Metal Pipes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

The object of my invention is to provide a convenient and readily adjustable tool for removing the burs or rough edges both outside and in, which usually result when metal pipes are cut into sections, and the device consists of that certain novel construction and arrangement of parts, whereby the tool may be readily secured upon the end of the pipe and the rough edges smoothed down on both outside and inside simultaneously by rotating cutters which are simultaneously brought to bear on the exterior and interior of the pipe.

In the drawings Figure 1 is a side elevation of my improved machine. Fig. 2 is a front view of same. Fig. 3 is a horizontal section taken on the lines 3, 3 of Fig. 1. Fig. 4 is a detailed cross section of a portion of the device taken on the lines 4, 4 of Fig. 1.

5 is a frame for holding the operating parts which is extended forward at top and bottom to form the cross heads 6, 7, which heads are suitably braced together by the rods 8, 9. Mounted on the upper cross head 6 between the tie rods 8 and 9 is the adjustable jaw 10 bifurcated and formed with a roughened or serrated contacting surface to grasp the pipe 11. This jaw is adjusted by the screw 12 provided with the hand wheel 13. Mounted in the cross head 7 are a pair of holding jaws 14, 15. The stems of these jaws are flat plates 16, 17 which are provided with a series of holes and the cross head is also provided with a series of holes 18, and the jaws are held in place by a pin 19 passing through the holes in the jaws, and in the head. The lower jaws are, therefore, adjusted for the approximate diameter of the pipe to be treated, and the upper jaw 10 is then screwed down tight so that the machine is securely and rigidly attached to the pipe. Loosely mounted in a journal bearing 20 in the middle of the frame 5, is the spindle 21 on which the pinion 22 is

keyed, and this spindle on its inner end carries the plate 23 fixed thereon. This plate 23 is provided with a longitudinal dovetailed groove 24, within which are mounted slidable tool holding blocks 25, one at either end of the plate 23. These blocks 25 are recessed to hold the cutting tools 26, 26 provided with the triangular cutting edge as shown, and the cutting tools secured in the blocks in any suitable way. Each of the tool holding blocks carries a screw-threaded stem 27, 27 which stems are loosely secured to the blocks, so that the screws can rotate, and each screw has screw-threaded engagement with a beveled pinion 28, 28, and these pinions mesh with the beveled gear 29, which is loosely mounted on the spindle 21 between the frame 5 and the plate 23. The beveled pinions and gear are normally prevented from turning with reference to each other, by the angle plates 30, 30, the horizontal side of each plate having a loose engagement with its respective screw 27, and the vertical side of each plate being provided with a beveled tongue 31, 31 which engages in an annular beveled groove 32, in the rear face of the beveled gear 29.

For rotating the plate 23 which carries the cutting tools, I provide the pinion 33 mounted on the crank pin 34 journaled in the frame, which crank pin is provided with the crank handle 35.

With this construction, the angle plates 30 serve as bearing plates for the screws 27, and with the rotation of the plate 23 by the crank handle, when the machine is in use, there is no tendency of the pinions 28 to rotate, and the gear 29 remains in fixed relation with the pinions, and the parts rotate together. In order, however, to adjust the tool holding blocks 25, 25, to bring the tools to bear quickly on the inside and the outside of the pipe, the screws 27 being threaded in opposite directions, the operator simply rotates by hand the gear 29 which is loose on the spindle 21. This movement causes the pinions 28, 28, to rotate in opposite directions and the screws 27 to advance the blocks 25 in the same direction to bring the blocks and cutters into operative position.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is:

1. In a device of the character specified, the combination with the frame, of a plate

mounted to rotate therein, means to rotate the same, a clamp on the frame, one member of which has fixed relation with the axis of rotation of the plate, and the other member
5 adjustable to clamp and hold the pipe to be treated, with the axis of the pipe and the axis of rotation of the plate coincident, and a pair of tool holders mounted to move radially on said plate, and means to adjust
10 simultaneously the tool holders in the same direction to bring them into operative position.

2. In a device of the character specified, the combination with the frame, of a plate
15 mounted to rotate therein, means to rotate the same, a clamp on the frame, one member of which has fixed relation with the axis of rotation of the plate, and the other member adjustable to clamp and hold the pipe to be
20 treated, with the axis of the pipe and the axis of rotation of the plate coincident, and a pair of tool holders mounted to move radially on said plate, a pair of pinions, one for each tool holder, with gearing connecting
25 said pinions whereby the actuation of said gearing will simultaneously adjust said tool holders to bring the same into operative

position, and means for locking the gear and pinions together.

3. In a device of the character specified, 30 the combination with the frame, of a plate mounted to rotate therein, means to rotate the same, a clamp on the frame, one member of which has fixed relation with the axis of rotation of the plate, and the other member 35 adjustable to clamp and hold the pipe to be treated, with the axis of the pipe and the axis of rotation of the plate coincident, and a pair of tool holders mounted to move radially on said plate, said tool holders having 40 screws loosely secured thereto, with beveled pinions in screw-threaded engagement, one for each screw, and a beveled gear in mesh with said pinions whereby the rotation of the beveled gear will adjust said tool holders 45 simultaneously in the same direction to bring the tool holders into operative position, and angle plates to lock said pinions and gear together.

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