

(No Model.)

W. A. PETTINGILL.
AXLE CUTTER.

No. 473,340.

Patented Apr. 19, 1892.

Fig. 1.

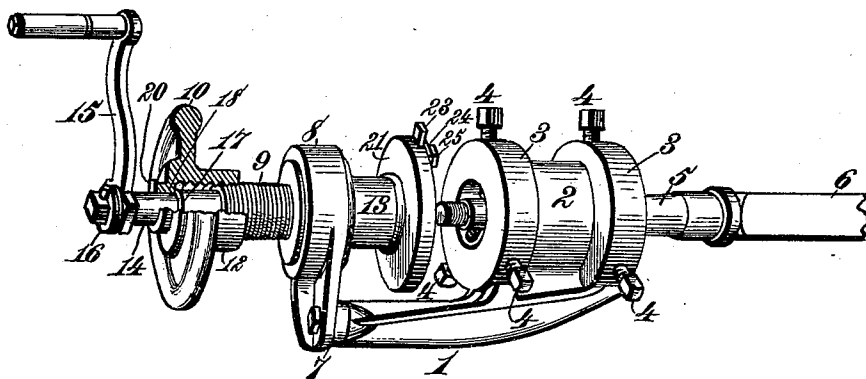


Fig. 2.

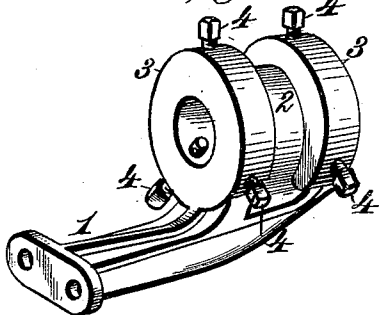


Fig. 3.

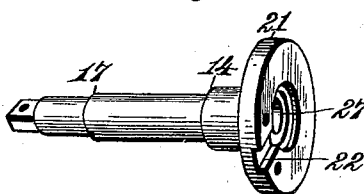


Fig. 4.

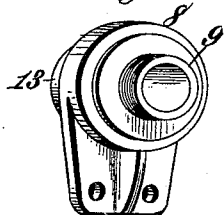


Fig. 5.

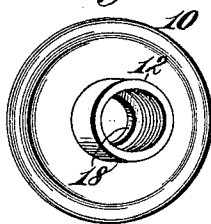
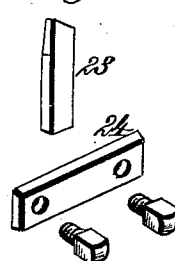


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM A. PETTINGILL, OF KNOWLESVILLE, NEW YORK.

AXLE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 473,340, dated April 19, 1892.

Application filed August 7, 1890. Serial No. 361,264. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. PETTINGILL, a citizen of the United States, residing at Knowlesville, in the county of Orleans and State of New York, have invented new and useful Improvements in Axle-Cutters, of which the following is a specification.

This invention relates to that type of apparatus having rotary knives or cutters which are employed to sever or cut the ends of wheel-axes, and also to cut the shoulders farther back in such manner that the nut can be run farther on, and thus prevent longitudinal movement of the wheel-hub on the spindle of the axle.

The objects of my invention are to provide a novel, efficient, and economical axle-cutter of the type mentioned; to provide novel means whereby the knife can be manually advanced or fed to its work at the will of the operator, as the requirements or conditions demand; to provide novel means whereby the speed of the knife can be governed, and to provide novel means for supporting the cutting apparatus on the axle and exactly centering the spindle to be operated upon.

To accomplish all these objects my invention involves the features of construction, the combination or arrangement of devices, and the principles of operation hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved axle-cutter. Fig. 2 is a detail perspective view of the sleeve in which the spindle of the axle is centered. Fig. 3 is a detail perspective view of the rotary shaft which carries the knife or cutter. Fig. 4 is a detail perspective view of the box through which the knife or cutter shaft extends. Fig. 5 is a detail perspective view of the hand-wheel by which the knife or cutter shaft is advanced or fed at the will of the operator. Fig. 6 is a detail view of the knife or cutter and the device by which it is clamped to the face-plate of the knife or cutter shaft.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates the frame or base-plate, which serves to carry and support the

parts comprising the axle-cutter, such frame or base-plate being formed integral or otherwise provided at one end with a sleeve 2, having end collars 3, provided with set-screws 4, which are tapped through the collars and project into the interior of the sleeve for the purpose of abutting against and centering the spindle 5 of the wheel-axle 6, which is to be operated upon for the purpose of severing or cutting off a portion of such spindle or for cutting the shoulder of the spindle farther up in such manner that the usual nut can be run farther on for preventing longitudinal movement of the wheel-hub on the spindle. The end of the frame or base-plate which is opposite the sleeve 2 is detachably bolted, as at 7, to the lower end portion of a box 8, which is hollow and comprises a laterally-projecting tube 9, formed with an external screw-thread along its length, with which engages a hand-wheel 10, having a hub 12, the interior of which is formed with a screw-thread engaging and adapted to travel on the screw-thread of the tube 9, forming a part of the box 8. The box is also provided with a tubular extension 13 at the side opposite the screw-threaded tube 9, and through the box, its tube 9, and the tubular extension 13 extends a knife or cutter shaft 14, adapted to be revolved through the medium of the crank-handle 15, detachably secured to the outer end of the shaft, as at 16. The knife or cutter shaft is formed near its outer portion with an annular collar or shoulder 17, against which abuts the inwardly-projecting annular lip or flange 18 on the outer portion of the hand-wheel 10, while such lip or flange bears at its outside against a stud or pin 20, fixed to the knife or cutter shaft, as shown in Fig. 1, in such manner that when the hand-wheel is rotated manually to cause it to traverse the screw-threaded tube 9 of the box 8 the knife or cutter shaft 14 will be moved rectilinearly in a direction toward or from the sleeve 2, in which the spindle of the wheel-axle is centered by the set-screws 4. The inner end of the cutter or knife shaft is formed or otherwise provided with a disk or face plate 21, having a radial slot 22 to receive the radially-sliding knife or cutter 23, which is secured stationary in the position to which adjusted through the medium of a clamping-plate 24, secured to the disk or face

plate by means of set-bolts 25 and 26. By loosening the set-bolts 25 and 26, and thereby relieving the pressure of the clamping-plate 24 upon the cutter or knife 23, the latter can be adjusted toward or from the axis of the orifice 27, formed in the disk or face plate 21 for the purpose of receiving the screw-threaded extremity of the spindle on the wheel-axle.

The cutter or knife can be adjusted to suit the conditions required for axles of different diameter or size, while the cutter or knife when unduly worn can be conveniently renewed by substituting a new one therefor.

When it is desired to cut the axle or to cut the shoulder of the spindle farther up in order to permit the usual nut to be set farther up for preventing longitudinal movement of the wheel-hub, the spindle of the axle is introduced through the sleeve of the cutting apparatus, and the set-screws 4 are properly adjusted in order to clamp the cutting apparatus on the spindle and accurately center the latter relatively to the revolving knife or cutter shaft. The knife or cutter shaft is then properly adjusted by means of the hand-wheel and revolved by the crank-handle, and as the cutting progresses the hand-wheel is rotated manually from time to time, as may be required to advance the knife or cutter shaft, and thereby cause the knife to traverse the spindle which is being operated upon.

It will be obvious that by the manual operation of the crank-handle the speed of the knife or cutter shaft can be governed at will, and likewise the advancing or feeding movement of the knife or cutter toward the sleeve which sustains the spindle being effected manually, the desired adjustment is produced at such times as the conditions or requirements demand. In these respects my invention differs from an axle-cutter wherein the

knives are automatically fed to the work by the revolution of the cutter-shaft.

To accomplish the purpose of my invention, the hand-wheel rotates independent of the cutter or knife shaft, and consequently the cutter or knife shaft can be continuously revolved while the end wheel stands stationary, and then from time to time the hand-wheel is turned to advance the knife or cutter shaft for feeding the knife or cutter to its work.

Having thus described my invention, what I claim is—

In an axle-cutter, the combination of a base-plate 1, provided at one end with a sleeve 2, carrying at its front and rear ends a series of set-screws 4 to impinge against the front and rear portions of the axle for accurately centering the same, with a box 8 detachably bolted to the other end of the base-plate, the externally-threaded tube 9 and tubular extension 13, formed integral with and extending in opposite directions from said box, a cutter-shaft 14, extending through the said threaded tube 9 and tubular extension 13 and provided with the annular shoulder 17 and projecting stud or pin 20 near its outer end, the cutter-disk 21 at the inner end of the cutter-shaft 14, the radially-adjustable cutter 23, the clamping-bar 24, and the internally-threaded hand-wheel 10, engaging the threaded tube 9, turning loosely on the cutter-shaft 14 and provided with a lip or flange 18, located between the shoulder 17 and projecting stud or pin 20, substantially as and for the purpose described.

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

WILLIAM A. PETTINGILL.

Witnesses:

THEO. E. DEMING,
EDW. M. VINING.