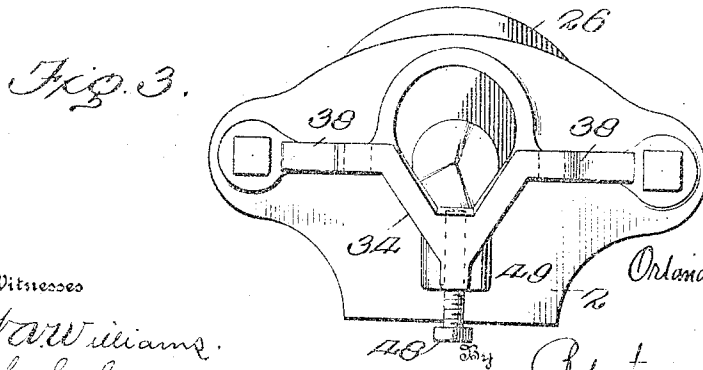
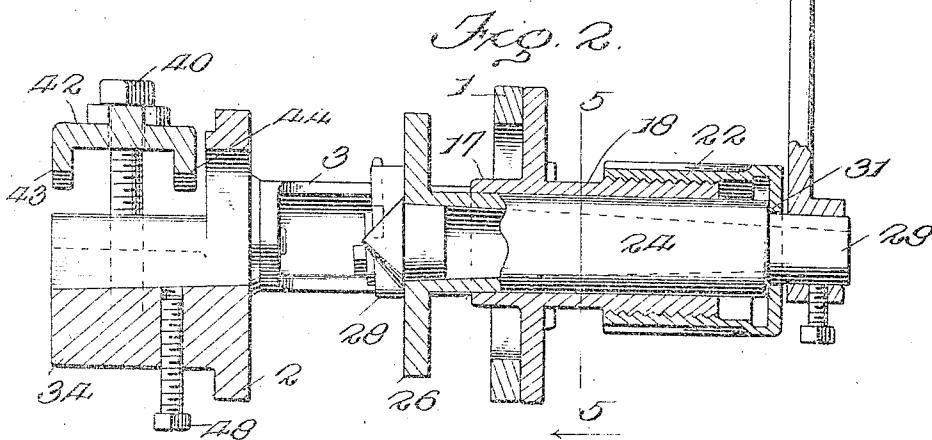
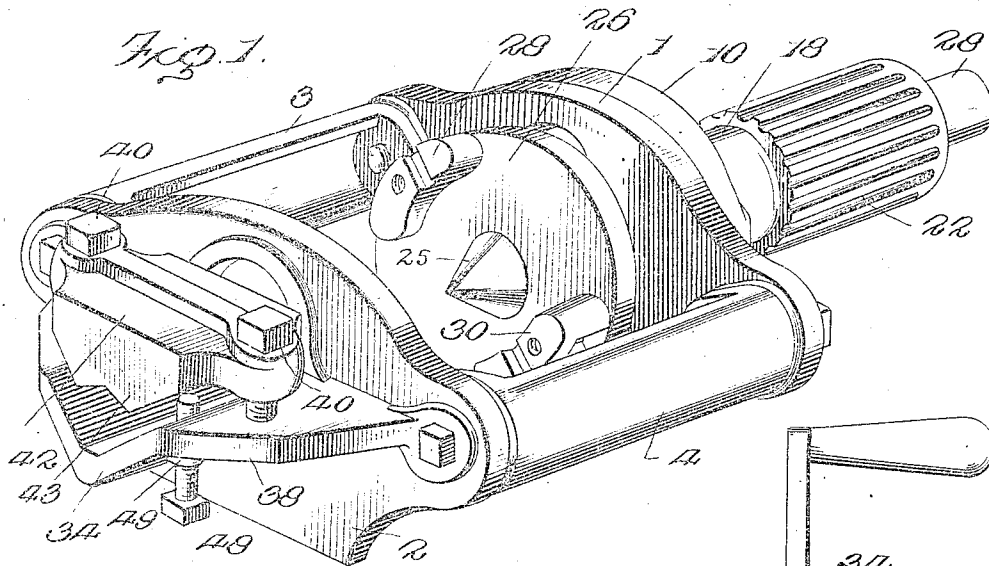


O. J. L. BYERS.
ADJUSTABLE AXLE CUTTER.
APPLICATION FILED JUNE 18, 1909.

931,729.

Patented Aug. 24, 1909.
2 SHEETS—SHEET 1.



Witnesses

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H. S. Irvine.

Inventor

Orlando J. L. Byers

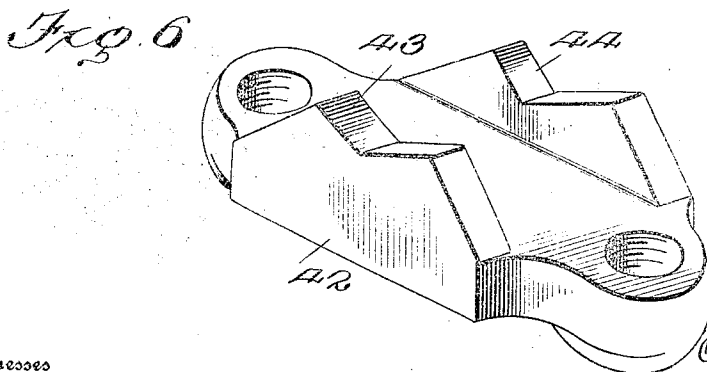
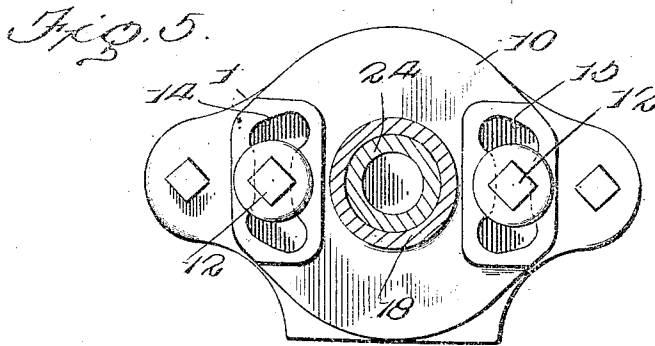
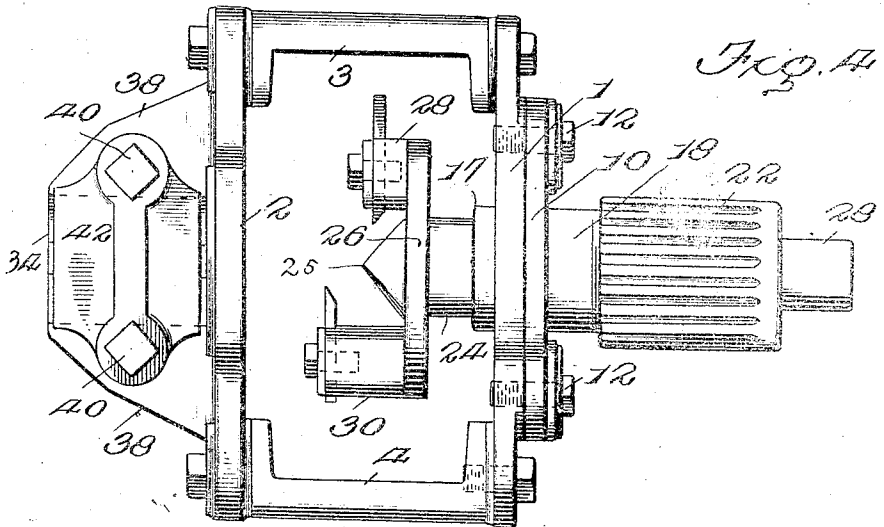
Wharton & Johnson

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UNITED STATES PATENT OFFICE.

ORLANDO J. L. BYERS, OF SANTA ROSA, CALIFORNIA.

ADJUSTABLE AXLE-CUTTER.

931,729.

Specification of Letters Patent.

Patented Aug. 24, 1909.

Application filed June 18, 1909. Serial No. 502,998.

To all whom it may concern:

Be it known that I, ORLANDO J. L. BYERS, a citizen of the United States, and a resident of Santa Rosa, in the county of Sonoma and State of California, have invented certain new and useful Improvements in Adjustable Axle-Cutters, of which the following is a specification.

This invention relates to certain new and useful improvements in that class of adjustable axle cutters in which a clamp is employed to hold the axle in position while a rotary tool head is rotated in order that its knives may cut off the ends of the axle; and the object of the invention is to provide a cutter in which an axle, even though made with quite a taper, may be easily clamped in a horizontal position notwithstanding its taper, and also to provide a centering device which may be adjusted to readily center the cutting members horizontally as well as vertically.

With this object in view my invention consists in the adjustable axle cutter as shown in the accompanying drawings and as will now be hereinafter described and claimed.

In the drawings accompanying and forming part hereof—Figure 1 is a perspective view of an axle cutter constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section. Fig. 3 is an end view. Fig. 4 is a top plan view. Fig. 5 is a detail of the centering device. Fig. 6 is a detail of part of the axle clamping and leveling device.

Referring now to the details of the drawings by numerals: 1 designates a front plate of the main frame and 2 the rear plate which are connected together preferably by means of two webs 3 and 4 which are cast, preferably, of semicircular construction in order to provide greater rigidity. The front plate 1 is intended to support the cutting mechanism while the rear plate 2 is intended to support the devices for clamping and holding the axle in position. The first mechanism, that for supporting the cutting device, comprises the following construction. A plate 10 is adjustably bolted to the front plate 1 by means of bolts 12 which work through slots 14 and 15 on opposite sides of the plate 10; these slots being of the peculiar construction shown in Fig. 5, for a purpose to be hereinafter explained. This plate 10 has an annular flange 17 which passes into

an opening in the front plate 1 as shown in Fig. 2 and is also provided on the side opposite to the annular flange 17 with a sleeve 18. The sleeve 18 is adapted to receive an interiorly threaded adjusting sleeve 22 which on its exterior is provided with a series of longitudinal ribs forming an excellent gripping surface for the hand of the operator. The sleeve 18 and the annular flange 17 form a long bearing for the tool shaft 24 which is provided at one end with a head 26, projecting from which are the usual tool supports 28 and 30. The other end of the tool shaft 24 has a reduced end 29 with which coacts an annular shoulder 31 formed on the end of the hand sleeve 22 so that as the hand sleeve 22 is adjusted this shoulder 31 coacts with the shouldered end of the tool shaft 24 and thus feeds it in a manner readily understood. A suitable crank handle 34 is also secured to the reduced end 28 of the tool shaft 24, by means of which rotary motion may be imparted to the tool shaft when it is desired to operate the device.

It frequently becomes necessary to center the total shaft horizontally as well as vertically and for this reason the slots 14 and 15 are formed of the shape shown in Fig. 5 in order that by loosening the bolts 12 the plate 10 which carries the tool shaft 24 may be adjusted horizontally, or vertically, or both, as may be found necessary.

In order to securely hold the axle in position I make use of a clamp of novel construction shown in the drawings. Cast on the rear plate 2 is the bottom member 34, of the axle clamp and which, as seen in Fig. 3 is formed V-shape on its interior in order that the axle may be more readily secured. The bottom member 34 is also provided with two horizontal members 38 for the purpose of receiving bolts 40 projecting from the upper member 42 of the clamp. This upper member has two depending lugs 43 and 44 and the openings in the member 42 for the passage of the bolts 40 are somewhat larger in size than said bolts in order that there may be sufficient play to permit the upper member 42 of the clamp to accommodate itself to a tapering axle, as illustrated in Fig. 2. The lower member 34 of the clamp is further provided with a set screw 48 which enters through a threaded boss 49; this set screw being for the purpose of forming a bottom support for the inner end of the axle when a tapering axle is being operated upon. As will be

readily seen from the drawings this bolt 48 provides a ready means for leveling a tapering axle and holding it in an absolutely horizontal position in order that the tools may cut the end of the axle off perfectly. I regard this adjustable bolt 48 and the loosely held upper member 42 of the clamp as important since it facilitates the cutting of axles of tapering form. The adjustable bolt 48 and the loosely held upper member 42 of the clamp will also be found useful when it is necessary to securely hold an axle which, though possibly not tapering, is either bent out of shape or has become worn in use. They will also be extremely effective when it is necessary to clamp a tapering axle box. I also provide the tool shaft head 26 with a centering cone or point 25 which will be of assistance in rapidly centering the device. It is believed the operation of my adjustable axle cutter will be obvious to those familiar with these devices and no further description will therefore be necessary.

What I claim as new is:

1. In an axle cutting device, the combination of a frame comprising front and rear plates, a clamp carried by the rear plate, a sleeved plate secured to the front plate, a tool shaft carried by said sleeved plate and having a tool carrying head, and a feeding sleeve co-acting with said tool shaft and said sleeved plate; the said sleeved plate being adjustably secured to the front plate, one of said plates having a slot of irregular contour providing both horizontal and vertical adjustments, substantially as described.

2. In an axle cutting device, the combination of a frame comprising front and rear plates, a clamp carried by the rear plate, a sleeved plate secured to the front plate, a tool shaft carried by said sleeved plate and having a tool head and centering point, and a feeding sleeve co-acting with said tool shaft and said sleeved plate; the said sleeved

plate being adjustably secured to the front plate, one of said plates having a slot of irregular contour providing both horizontal and vertical adjustments, substantially as described.

3. In an axle cutting device, the combination of a frame comprising front and rear plates, a clamp carried by the rear plate comprising one member having a limited movement whereby it may conform to a tapering axle and another member having an adjustable screw adapted to contact with the side of a tapering axle opposite to that which is engaged by the said loose member, a sleeved plate secured to the front plate, a tool shaft carried by said sleeved plate and having a tool carrying head and a feeding sleeve co-acting with said tool shaft and said sleeved plate, substantially as described.

4. In an axle cutting device, the combination of a frame comprising front and rear plates, a clamp carried by the rear plate comprising one member having a limited movement whereby it may conform to a tapering axle and another member having an adjustable screw adapted to contact with the side of a tapering axle opposite to that which is engaged by the said loose member, a sleeved plate secured to the front plate, a tool shaft carried by said sleeved plate and having a tool carrying head and a feeding sleeve co-acting with said tool shaft and said sleeved plate; the said sleeve plate being adjustably secured to the front plate, one of said plates having a slot of irregular contour providing both horizontal and vertical adjustments, substantially as described.

Signed by me at Wilmington, Del., this 15th day of June, 1909.

ORLANDO J. L. BYERS.

Witnesses:

GEO. M. DOUGHERTY

ALEX. HECHMAN.