

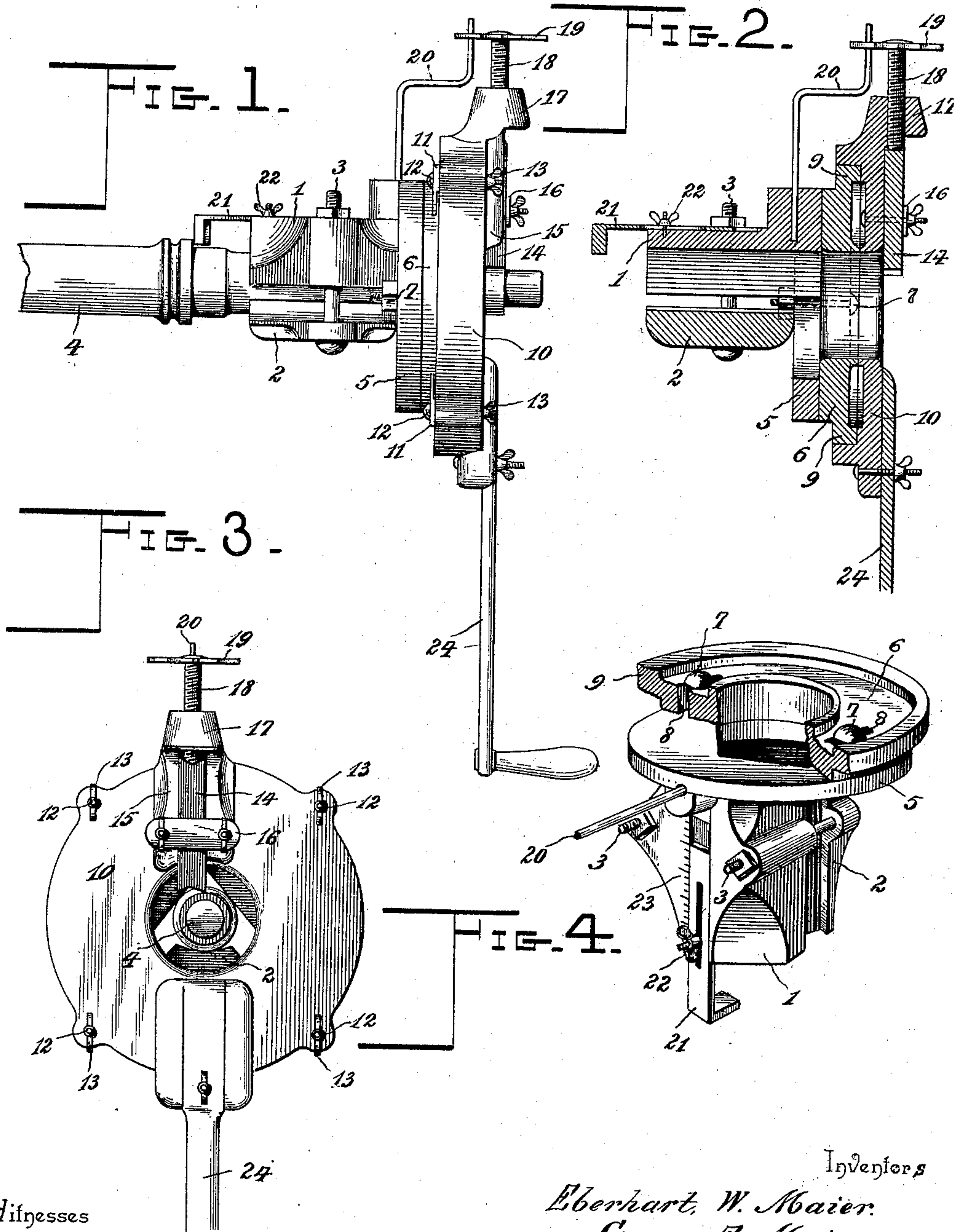
No. 612,743.

E. W. & G. E. MAIER.
AXLE CUTTER.

Patented Oct. 18, 1898.

(Application filed Dec. 10, 1897.)

(No Model.)



Witnesses
John F. Snuffer
V. B. Hillyard.

By Their Attorneys,

Inventors
Eberhart W. Maier.
George E. Maier.

Cashnow & Co.

UNITED STATES PATENT OFFICE.

EBERHART W. MAIER AND GEORGE E. MAIER, OF TROY, OHIO.

AXLE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 612,743, dated October 18, 1898.

Application filed December 10, 1897. Serial No. 661,449. (No model.)

To all whom it may concern:

Be it known that we, EBERHART W. MAIER and GEORGE E. MAIER, citizens of the United States, residing at Troy, in the county of Miami and State of Ohio, have invented a new and useful Axle-Cutter, of which the following is a specification.

The object of the present invention is the provision of a machine or tool for dressing or reducing the points of axles when they have become too long by reason of the wearing away of the ends of the axle-box, thereby obviating the employment of a number of washers, which is objectionable because of the increased friction, wear, and consequent increase of draft.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a side elevation of an axle-cutter constructed in accordance with this invention, showing it in operative relation. Fig. 2 is a transverse section thereof. Fig. 3 is a front view. Fig. 4 is a perspective view of the clamp, the plate formed with a part thereof, and the centering-disk, the latter having a portion broken away.

Corresponding and like parts are referred to in the following description and indicated in the several views of the drawings by the same reference characters.

The clamp by means of which the tool is secured upon an axle is composed of blocks 1 and 2, held together by means of bolts 3. The block 1 has a V-shaped depression in its inner face to receive the axle 4, and the block 2 is provided in its inner face with a concave depression, the two blocks being relatively adjustable and held in an adjusted position by the securing-bolts 3. A plate 5 is formed with or applied to the block 1 and supports a disk 6 of annular form, said disk being adjustably connected with the plate 5 by bolts 7, passing through straight parallel slots 8 in the disk 6 and corresponding openings in the

plate 5, whereby the disk has a transverse adjustment across the face of the plate. The purpose of the disk 6 is to center the head 55 carrying the cutting-tool, whereby the latter will operate equally upon all portions of the axle being dressed or cut.

When the device is applied to axles of different diameters, they would not be centered 60 with respect to the head 10, carrying the cutting-tool 14, and therefore we have provided the centering-disk 6, carrying the revoluble head and having a transverse adjustment at right angles to the axle, so as to center the 65 head about the end of the axle.

The centering-disk 6 has an annular off-standing portion 9, which enters a depression in the inner face or side of a head 10, said head being held in place by plates or washers 11, engaging with the shoulder formed at the base of the annular offstanding portion 9. These plates or washers 11 are secured to the head 10 by bolts 12 and thumb-nuts 13. The head 10 is rotatably mounted upon the centering-disk and is centrally apertured for the 75 reception of the end of the axle to be dressed or cut down. A cutting-tool or bit 14 is slidably mounted in ways 15, formed on the outer face of the head 10, and is held in place by a 80 cap-plate 16, which has adjustable connection with the ways 15 by bolts operating or passing through openings therein. An internally-threaded socket 17 is in line with the ways 15 and forms a part of the head 10 and 85 receives a feed-screw 18, which engages at its inner end with the cutting-tool or bit 14, so as to advance the latter to its work when the tool is in operation. A star or pointed wheel 19 is applied to the outer end of the feed-screw 18, and one of its points or spurs is engaged by an arm 20 at each complete revolution of the head, so as to turn the feed-screw 90 automatically and advance the bit or cutting-tool without any especial care on the part of the operator. This arm 20 is applied to the plate 5 and block 1 and may be turned out of the path of the points of the star-wheel 19 should it be required from any cause not to feed the bit automatically. 100

A gage 21 has adjustable connection with the clamp and consists of a plate having its outer end bent at right angles and its shank portion longitudinally slotted, and a clamp-

screw 22 operates in the slotted portion of the gage and secures it in an adjusted position. A scale 23 is provided upon the block 1 and at one side of the gage 21 and serves to assist
 5 in properly positioning the gage when fitting the tool to the axle to be cut or dressed. The bent end of the gage 21 is designed to engage with the shoulder of the axle and limit the inward movement of the tool when fitted upon
 10 the axle. The block 1 is channeled or grooved to form a seat for the shank of the gage 21, whereby the latter is prevented from turning upon the clamp-bolt 22. The head 10, bearing the cutting-tool or bit, is rotated upon the
 15 axle by means of a handle 24, which is fitted thereto.

When it is required to cut, dress, or reduce the outer end of an axle, the tool is placed thereon and the complementary parts of the
 20 clamp properly adjusted, so as to secure the tool firmly in the required position. The gage is set so that its bent end will come against the shoulder of the axle, and thereby limit the inward movement of the tool. The
 25 centering-disk is adjusted with reference to the plate 5, so as to position the head 10 and cause the bit or cutting-tool 14 to engage with all parts of the axle equally, so that the cutting may be uniform. After the parts have
 30 been properly adjusted the head 10, bearing the bit, is rotated by means of the crank-handle 24, and at each complete revolution the feed-screw is actuated by a point or spur of the star-wheel 19 engaging with the arm 20,
 35 thereby causing an automatic feed of the bit, and this operation is continued until the axle has been cut or reduced to the requisite amount, after which the tool is removed to be again used for a like purpose.

40 Having thus described the invention, what is claimed as new is—

1. In a cutting-tool for axles, the combination of a clamp composed of relatively adjustable parts, a plate applied to one of the
 45 parts of the clamp, a disk having adjustable connection with the plate, and a head bearing a cutting-tool or bit and rotatably mounted with respect to the disk, substantially as set forth.

50 2. In a cutting-tool for axles, the combination of a plate to be fitted upon an axle, a

gage having adjustable connection with the plate to limit its movement when placed upon an axle, and a head bearing a cutting-tool and rotatably mounted with respect to the
 55 plate, substantially as set forth.

3. In a cutting-tool for axles, the combination of a clamp, a plate applied to a member of the clamp, a gage having adjustable connection with the said member to which the
 60 plate is applied, a disk having adjustable connection with the plate, and a head bearing a cutting-tool and rotatably fitted to the said disk, substantially as set forth.

4. In a cutting-tool for axles, the combination of an adjustable clamp, a plate carried by the clamp, a disk fitted to the plate and having a limited transverse adjustment across the face thereof, and a head bearing a tool or
 70 bit and rotatably mounted upon the disk, substantially as set forth.

5. In a cutting-tool for axles, the combination of a clamp composed of relatively adjustable parts, and a plate provided upon one of the parts of the clamp, and a disk having adjustable connection with the plate and
 75 provided with a circumferential flange, and a head bearing a cutting-tool or bit, and having ears or washers engaging the rear face of the flange provided upon the disk, whereby
 80 the head is rotatably mounted thereon, substantially as shown and described.

6. In a cutting-tool for axles, the combination of a clamp composed of relatively adjustable parts, and a plate provided upon one
 85 of the parts, with a head bearing a cutting-tool or bit and rotatably mounted with respect to the said plate, and a gage comprising a shank having a slot therein, and a shoulder or stop at one end, a slot or groove
 90 formed in one of the parts of the clamp and receiving the shank of the gage, and means for locking the gage therein, substantially as shown and described.

In testimony that we claim the foregoing as
 95 our own we have hereto affixed our signatures in the presence of two witnesses.

EBERHART W. MAIER.
 GEORGE E. MAIER.

Witnesses:

J. M. FRIEDLICH,
 JEROME E. MILLER.