(No Model.)

C. E. ROBERTS.

DEVICE FOR BORING HUBS.

No. 567,795. Patented Sept. 15, 1896.

FIG. 1.

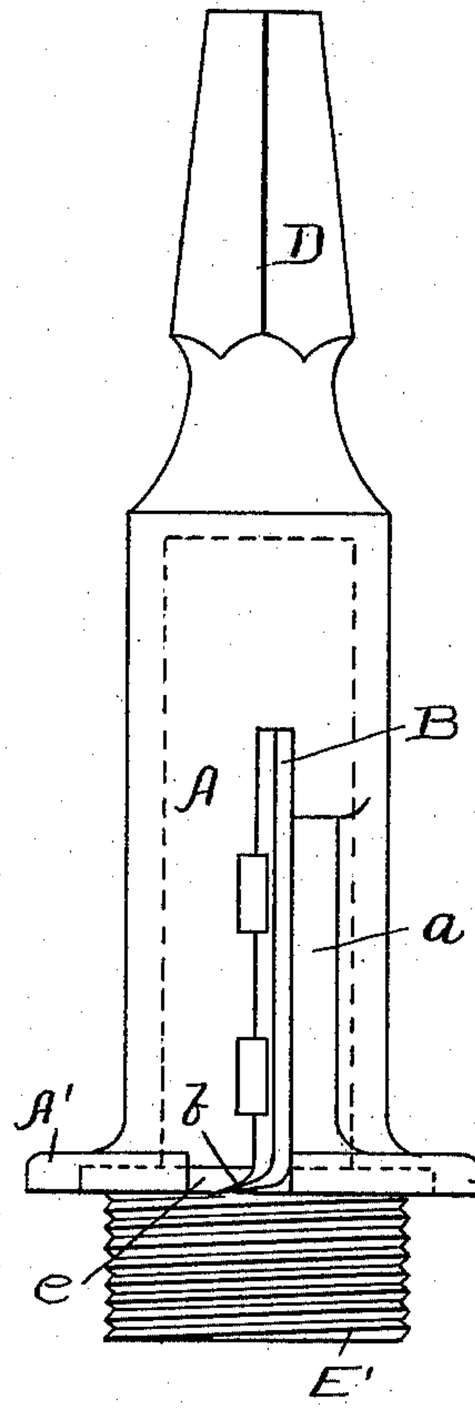


FIG. 2.

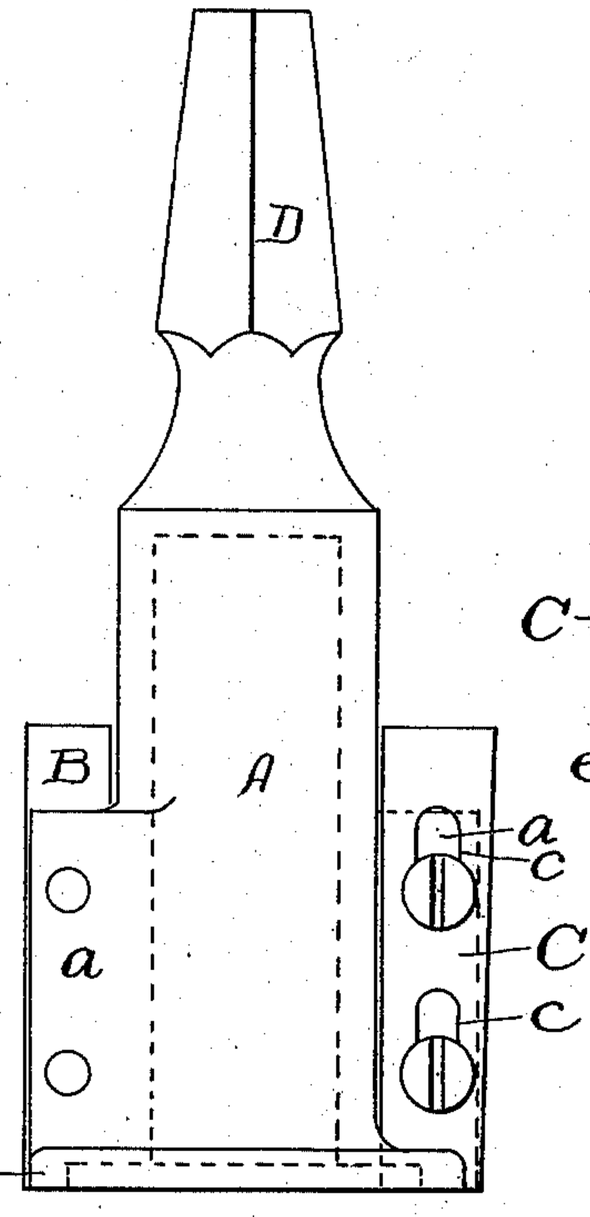
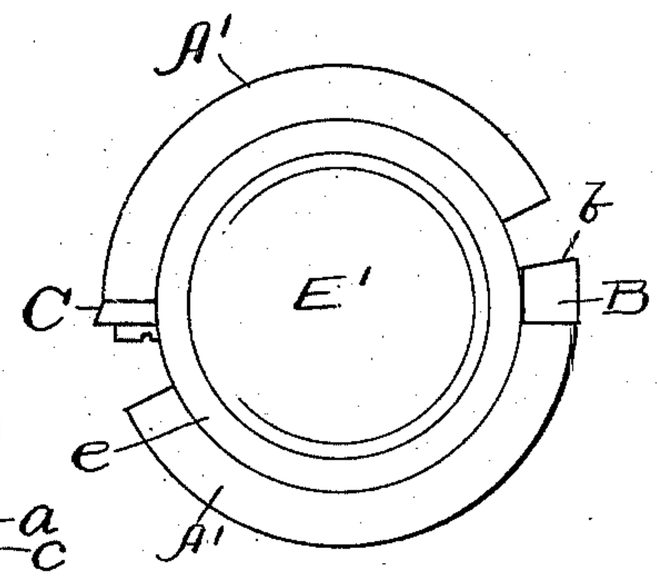
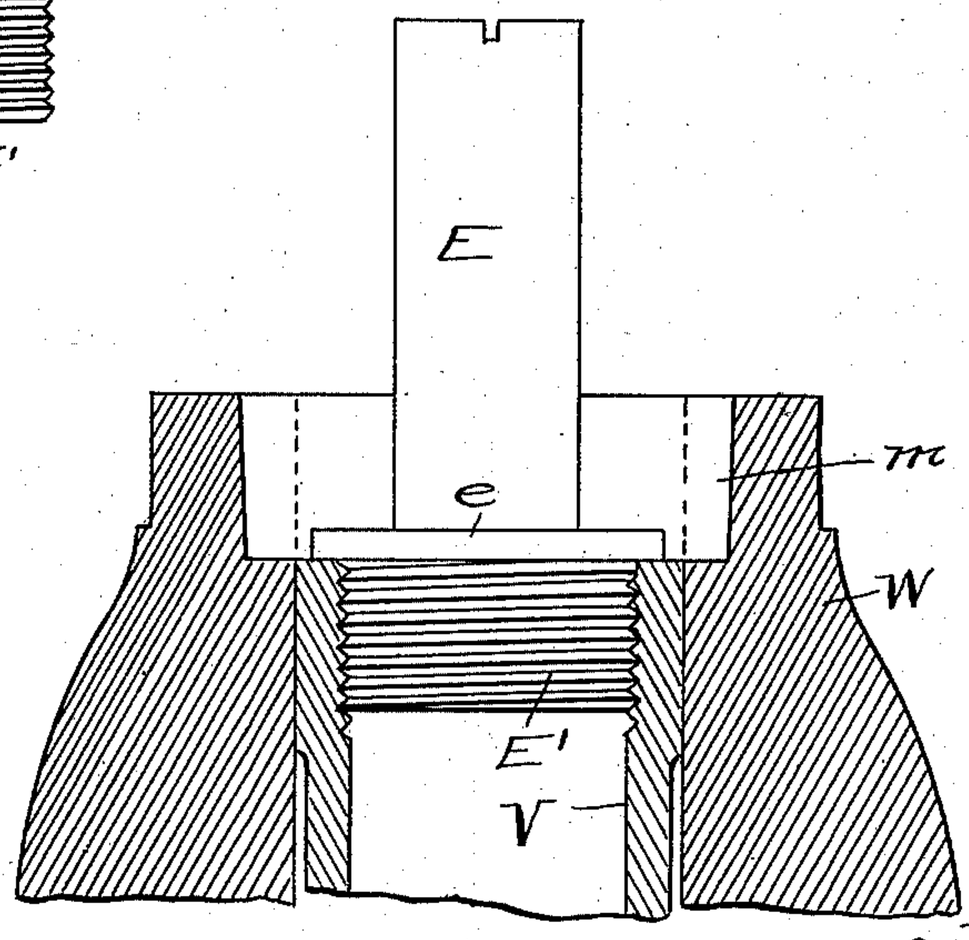


FIG. 3.





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UNITED STATES PATENT OFFICE.

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DEVICE FOR BORING HUBS.

SPECIFICATION forming part of Letters Patent No. 567,795, dated September 15, 1896.

Application filed March 18, 1896. Serial No. 583,841. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. ROBERTS, a citizen of the United States, residing in Oak Park, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Devices for Boring Hubs, of which the following is a specification.

This invention relates to the construction of boring-tools for boring the large diameter of the box-openings in the ends of vehicle-wheel hubs to prepare the hubs for ball-bearings.

It consists of a hollow bit in combination with a center pin fitting the interior of the bit and adapted to be positioned for the boring by the engagement of a threaded projection thereon with the thread of the box.

It further consists in the combination, with the hollow, bit of a center pin having a threaded projection adapted to engage the threaded portion of the box and also having a shoulder acting as a stop to limit the depth to which the boring shall be carried.

These and other features of the invention will be understood from the accompanying drawings, in which—

Figure 1 is a side elevation of my improved boring-tool or bit Fig. 2 is a similar view showing the center pin detached from the bit and in position in the hub-box, the hub and box being shown in section. Fig. 3 is a bottom plan of the combined tool.

In said drawings, A represents the bit or boring-tool proper. It is hollow and adapted to receive the center pin, hereinafter described. It is provided with wings *a*, one of which carries a cutter B, having a forwardly-projecting sharp foot *b*, adapted to cut into the hub W in horizontal planes, and the other of which carries the cutter C, sharpened along its outside vertical edge, so as to adapt it to cut into the hub in vertical planes and impart the taper to the wall of the boring. Both tools are adjustable vertically by means of the elongated openings *c* for their attaching-screws, in order to permit them to be reset after sharpening, so they will do the same work as before, and also to take up the wear.

In the case of the cutter C the vertical adjustment, which is downward, will shift the cutting edge outward by reason of the inclined position of that cutter, and its lower end may be ground off, if necessary, to permit the required amount of vertical movement.

The end D of the bit is squared to adapt it to enter the socket in the ordinary bit-stock. The two segmental flanges A′ upon the bit regulate the speed of the cut of the foot *b*.

The bit or boring-tool proper, above described, is used in connection with a center pin E, which fits the interior of the bit and is provided with a shoulder *e*, with which the base of the bit will come in contact when the boring has proceeded to the proper depth, and thus act as a stop to limit the boring, and with a threaded inner end E, adapted to be screwed into the mouth of the metal box V of the hub and be supported by such box.

The method of use of my invention is as follows: The hub is first bored through for the insertion of the box V. After the box has been put in place the center pin E is screwed into it, and the bit is then slipped over the pin and brought against the wood. By now operating it the hub-opening outside the box will be enlarged from the diameter of the box-opening to the diameter desired, as shown at *m*, and of course the work thus done by the bit will be necessarily concentric with the box and the previously-bored opening in which the box is inserted, by reason of the guidance of the center pin. The boring is absolutely stopped also when it has reached the plane at the end of the box (or at any other desired point) by the contact of the base of the bit with the shoulder of the center pin.

The opening formed by the bit is accurately sized as to diameter by the side cutter, and obviously said cutter may be changed so as to cut a straight opening instead of a tapered one. In the operation of the device the cutter B acts as a roughing-bit and the finish is imparted by the cutter C.

I claim—

1. The combination of a center pin threaded at its end so as to permit it to be stationarily secured in the hub-box, of a boring-bit made hollow so as to enable it to slip over the center pin and to move down the same as the boring proceeds and provided with cutters adapted to cut in both horizontal and vertical planes, substantially as specified.

2. The combination with a hollow bit hav-

ing adjustable cutters B and C, of the center pin having no attachment to the bit and threaded at its end and adapted to be supported in the end of the hub-box, substantially as specified.

3. The combination with a hollow bit having cutters B and C, of the center pin independent of the bit and threaded at its end and adapted to be supported in the end of the hub-box, and also provided with a stop to limit the depth of the boring, substantially as specified.

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Witnesses:
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