

**No. 652,250.**

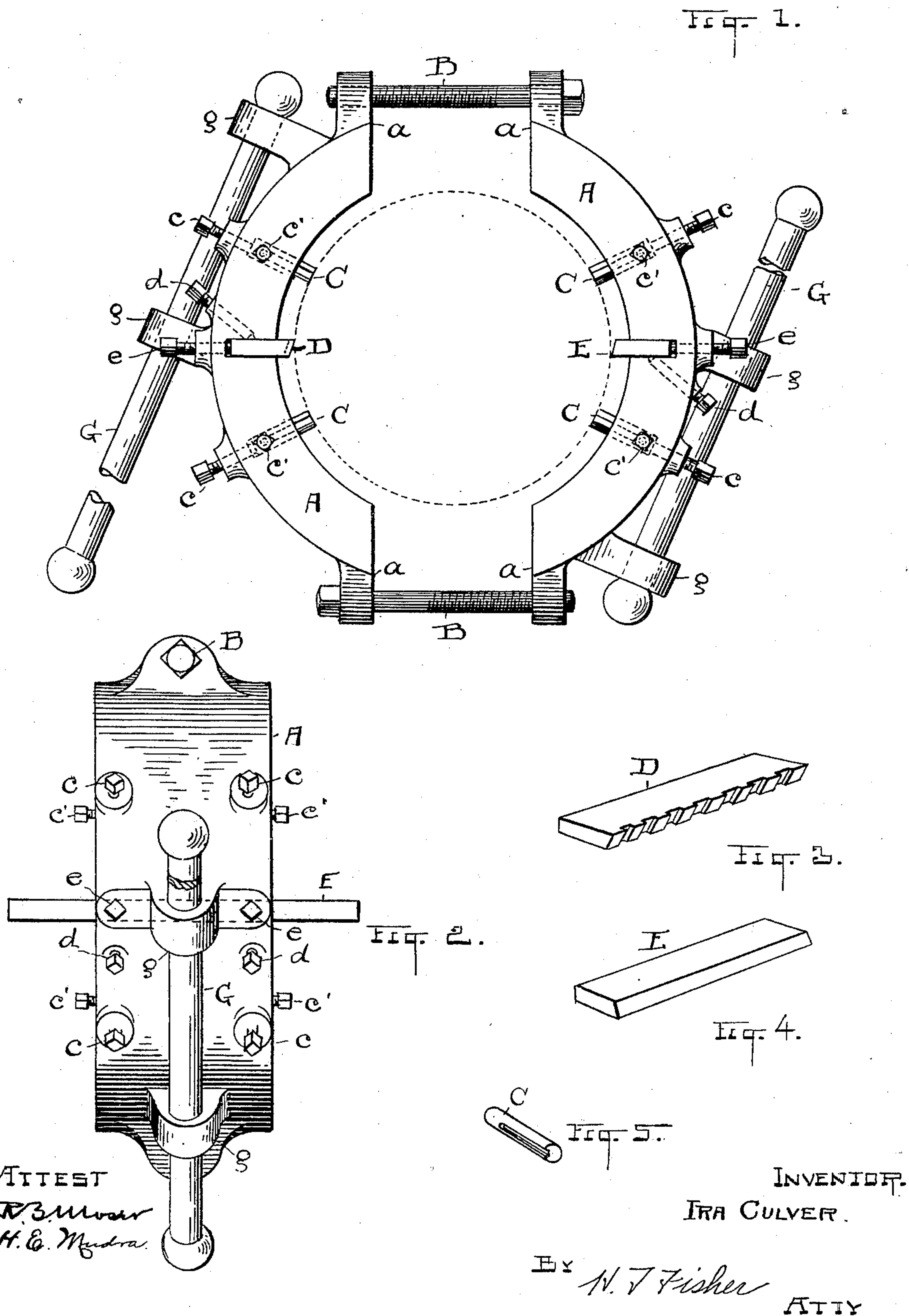
**Patented June 26, 1900.**

## I. CULVER.

**DEVICE FOR TRUING UP CRANK PINS.**

(Application filed Feb. 9, 1899.)

(No Model.)





# UNITED STATES PATENT OFFICE.

IRA CULVER, OF CLEVELAND, OHIO.

## DEVICE FOR TRUING UP CRANK-PINS.

SPECIFICATION forming part of Letters Patent No. 652,250, dated June 26, 1900.

Application filed February 9, 1899. Serial No. 705,015. (No model.)

*To all whom it may concern:*

Be it known that I, IRA CULVER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Devices for Truing Up Crank-Pins; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a device for truing up crank-pins; and the invention consists in the device substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is an end elevation of the device, and Fig. 2 a side elevation. Fig. 3 is a perspective view of the roughing-cutter, and Fig. 4 is a perspective view of the finishing tool or cutter. Fig. 5 is a perspective view of one of the jaws, showing a slot longitudinally therein.

Hitherto, so far as I am acquainted with this art, the methods and means for truing up the crank-pins of locomotives as they stand in the roundhouses or repair-shops, excepting the primitive method of filing them up by hand, have been cumbersome, slow, and expensive and at best very unsatisfactory. Usually it is an expensive machine, having difficult and tedious adjustments and slow cutting capacity, so that an entire working day is frequently consumed in truing up a single pin.

My invention therefore has for its object to provide means which can be quickly and easily adapted and which will perfectly true up pins as they are found in not exceeding two or three hours for each, and this with a machine which is comparatively inexpensive and light enough to be easily handled.

I have mentioned the crank-pins of locomotives especially, and for these the machine is well adapted because of its facility for being applied in otherwise difficult and comparatively-inaccessible places; but it may also be used with advantage on the crank-pins of steamships and other large floating craft and in shops and factories where a device of this kind may be needed or found available.

Referring now specifically to the construc-

tion shown, A represents two equal segmental parts constituting the body of the machine and designed to adjustably be spaced apart at their extremities, so as to be adaptable to crank-pins of varying diameters—say from three to six inches across. The ends *a* are therefore made parallel and project outward to pass through the connecting-screws B. For an ordinary size the width of the parts A usually is about three inches; but different sizes are desirable, according to the different needs. Each part or section A has what I term “setting-jaws” C, set in pairs of two in each section relatively opposite each other and two sets in each section. These so-called “jaws” are short bolts occupying sockets open from the inside, while behind them are smaller threaded passages for the adjusting-screws *c*, entering from the outside and adapted to crowd the jaws into the closest practicable working engagement. Intermediate of the pairs of jaws on each side are the two cutters D and E. One of these is a roughing-cutter and the other a finishing-cutter, and they may occupy either of the sections A. In a three-inch body, as we may presume this one to be, and assuming that a six-inch pin is to be dressed, the cutters would both extend an inch and a half beyond each edge, as seen in Fig. 2; but cutters that are shorter than the width of the body may also be used, and they are inserted in suitable channels extending transversely of the body and are held in place by the diagonal screws *d*. Adjusting-screws *e* govern the depth of cut and may be tightened up as needed.

To operate the device, I employ two handles G, which may be of gas-pipe or the like of suitable length and engaged in the lugs *g*, two on each section, at an inclination to the axis rather than radial thereto, in order to prevent possible chattering of the machine and a steady shearing cut. This arrangement of the handles I have found to be of the first importance, and by having them slidably supported they are adapted to work in positions which would be impossible with a rigid handle.

In operation the machine is slipped onto the crank-pin and the jaws tightened up as evenly as may be found practicable without too much nicety of care. Then set the cutters to work-



ing position, making the adjustments of each as shall be found advisable and suitable to the work then in hand and rotating the machine by means of the levers G. The depth of cut to begin with, as well as during the progress of the work, will readily be learned in the use of the tool, and one comparatively unskilled can soon learn to use the tool successfully.

10 By placing the jaws C in pairs and arranging the cutters between the pairs of jaws in each section a definite basis of adjustment is obtained for each cutter.

15 The roughing-tool has a serrated edge, so as to cut at intervals, leaving the intervening land undisturbed and to be removed by the full-edged finishing-cutter.

Each of the jaws C has a longitudinal slot, Fig. 5, and a small screw or pin  $c'$ , set into the body or casing A opposite thereto, enters the slot and confines the jaw in working position.

What I claim is—

1. A truing device for crank-pins consisting of two segmental sections constructed with parallel ends to be adjustably connected and clamped on a crank-pin, threaded spacing-rods connecting the said sections through said ends, a pair of adjustable jaws in each section of said device for each cutter to fix the depth of cut, and an adjustable cutter seated between each pair of jaws transversely of

its supporting-section, substantially as described.

2. The truing device substantially as described, consisting of two parts adjustably connected and adapted to be secured on a crank-pin, two sets of adjustable jaws in each section and a cutter between said sets of jaws in each section and an adjustable lever on each section to rotate the device, substantially as described.

3. The two-part body of the device constructed to receive a cutter in either side and screws connecting the ends of the said parts, adjustable jaws in each part of the body on each side of its cutters and lugs on the outside of the said body and slidable levers therein to rotate the body, substantially as described.

4. The two-part body of the device and adjustable connections between the ends of said parts, two sets of adjustable jaws in each part, adjustable cutters between said sets of jaws, and a pair of opposite free sliding handles on said body set at an inclination to the axis of the device, substantially as described.

Witness my hand to the foregoing specification this 6th day of February, 1898.

IRA CULVER.

Witnesses:

H. T. FISHER,  
R. B. MOSER.