S. S. & D. CHENEY.

LATHE FOR TURNING LOCOMOTIVE CRANK PINS.

No. 39,465. Patented Aug. 11, 1863.

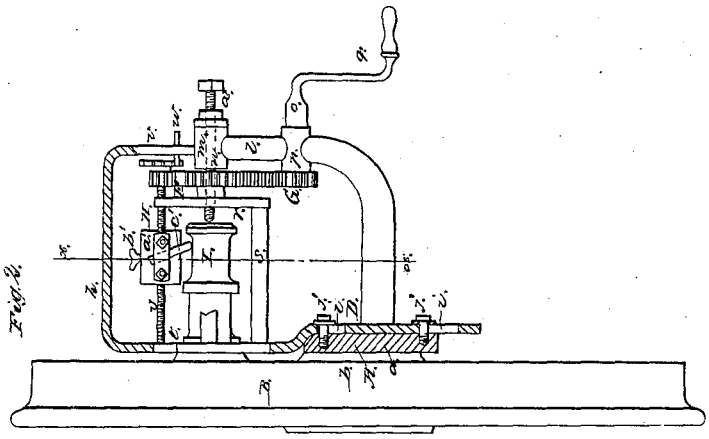

Fig. 1.

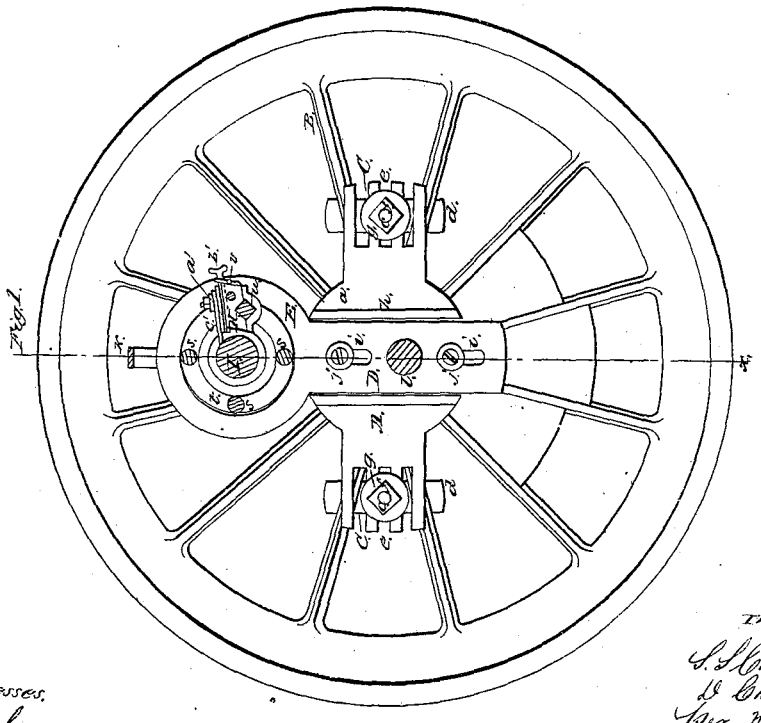

Fig. 2.

Witnesses.

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SOCRATES S. CHENEY AND DANFORTH CHENEY, OF GALESBURG, ILL.

IMPROVED LATHE FOR TURNING LOCOMOTIVE CRANK-PINS.

Specification forming part of Letters Patent No. **39,465**, dated August 11, 1863.

To all whom it may concern:

Be it known that we, SOCRATES S. CHENEY and DANFORTH CHENEY, of Galesburg, in the county of Knox and State of Illinois, have invented a new and useful Implement or Device for Turning or Truing the Crank-Pins of Locomotive Driving-Wheels; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a section of our invention applied to the driving-wheel of a locomotive, *x x*, Fig. 2, indicating the plane of section; Fig. 2, a section of the same, taken in the line *x' x'*, Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

The object of this invention is to obtain a simple and portable device so constructed and arranged that it may be readily applied to the driving-wheels of locomotives, and in such relation with their crank-pins as to admit of the latter being turned and made true without detaching the pins from the wheels or removing the wheels from the locomotive. At present, when the crank-pins of locomotive driving-wheels become worn out of round by use, they are detached from the wheels and replaced by new ones. By our improvement the worn pins may be readily made true and rendered equally as servicable as new ones.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A represents a metal plate, the central portion, *a*, of which is circular and of such dimensions that it may be fitted over the hub *b* of the driving-wheel B. This plate is secured in this position to the drive-wheel by means of two clamps, C C, which are formed each of a screw-rod, *c*, and a plate, *d*, the plates bearing against the spokes at the inner side of the wheel, and the screw-rods *c* being fitted in slots *e*, made longitudinally in the ends of the plate A, the nuts *f* of the rods bearing upon washers *g*, which are fitted on the rods *c* and bear against the plate A. By screwing up the nuts *f* the plate A will be firmly secured to the driving-wheel.

D is a plate, the edges of which are fitted in grooves between guides *h h* at the central portion *a* of the plate A. This plate D has two oblong slots, *i i*, made in it, through which set-screws *j j* pass into the plate A. One end of the plate D has a ring, E, attached, the outer end of which is connected by a bar, *k*, with an arm, *l*, which is attached to the plate D. At the end of the arm *l* there is a bearing, *m*, at right angles to the arm and in line with the center of the ring E, and in said bearing a short shaft, *n*, is fitted and allowed to turn freely, said shaft having a toothed wheel, F, upon it, which gears into a pinion, G, the shaft *o* of the latter having its bearing *p* in the arm *l*, a crank, *g*, being on the outer end of shaft *o*. On the shaft *n* of the wheel F there is secured a circular disk, *r*, which is concentric with the wheel F, and has three rods, *s*, attached to it at right angles. These rods are connected at their opposite ends to a ring, *t*, which is fitted within the ring E and allowed to turn freely within it. Between the ring *t* and disk *r* there is secured a square bar, *u*, which is parallel with the rods *s*, and has a sliding head, H, fitted upon it, through which a screw, *v*, passes, said screw being parallel with the bar *u*, and having one end fitted in the ring *t*, the other end passing through the disk *r* and wheel F, and having a star-wheel, *v'*, upon it. The screw *v* is allowed to turn freely in its bearings, and the star-wheel *v'* at each revolution of the disk *r* comes in contact with a pin, *w*, which is fitted in the bar *k* just beyond the bearing *m* of the shaft *n*. The head has a tool-stock, *a'*, attached to it and so arranged as to be adjusted by a screw, *b'*. The tool *c'* is attached to the stock *a'* by a clamp, *d'*. Through the shaft *u* a screw, $a^{\times}$, passes, the use of which will presently be seen.

The operation is as follows: The plate A is secured to the driving-wheel B by the clamps C C, the device being so adjusted by means of the adjustable plate D that the crank-pin I will pass through the ring *t* and be parallel with the rods *s*, the screw $a^{\times}$ being adjusted so that its inner end will fit into the end of the crank-pin I. The tool *c'* is then adjusted in proper position with the crank-pin at one end of it, and the crank *g* is turned, which causes the tool or cutter *c'* to rotate around the crank-pin, the tool *c'* being fed along the pin by means of the screw *v*, which is turned at every revolution of the wheel F, in consequence of the star-wheel *v'* coming in contact with the pin *w*. Thus it will be seen that by

this simple arrangement crank-pins may be turned or made true with the greatest facility, and without detaching them from the driving-wheels or removing the driving-wheels from the locomotive.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The plates A D, in connection with the revolving tool or cutter frame composed of the ring *t*, disk *r*, and rods *s*, and provided with a sliding head, H, having a tool-stock, *a'*, attached to it and operated through the medium of the screw *v*, star-wheel *v'*, and pin *w*, all arranged to operate substantially as and for the purpose herein set forth.

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Witnesses:
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