(No Model.) 2 Sheets—Sheet 1.

J. ELDER.

MEANS FOR TRUING LOCOMOTIVE WHEELS.

No. 449,350. Patented Mar. 31, 1891.

Fig. 1.

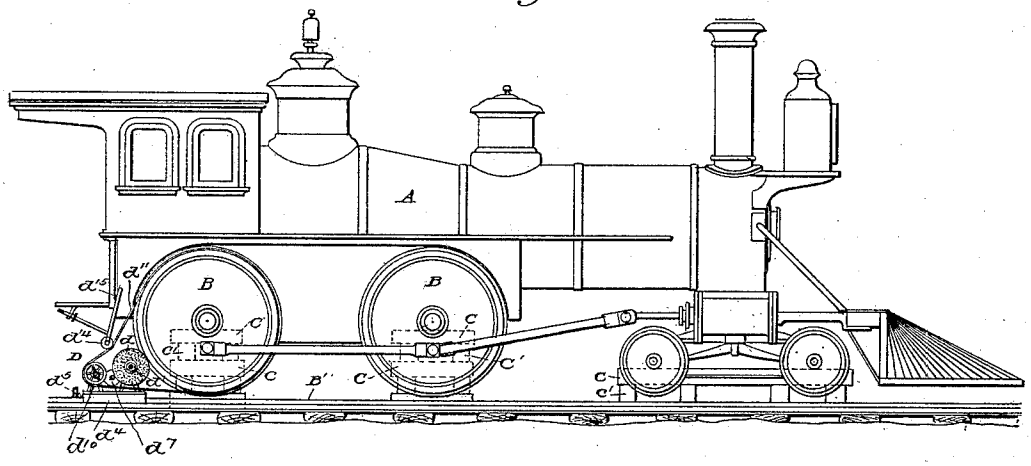
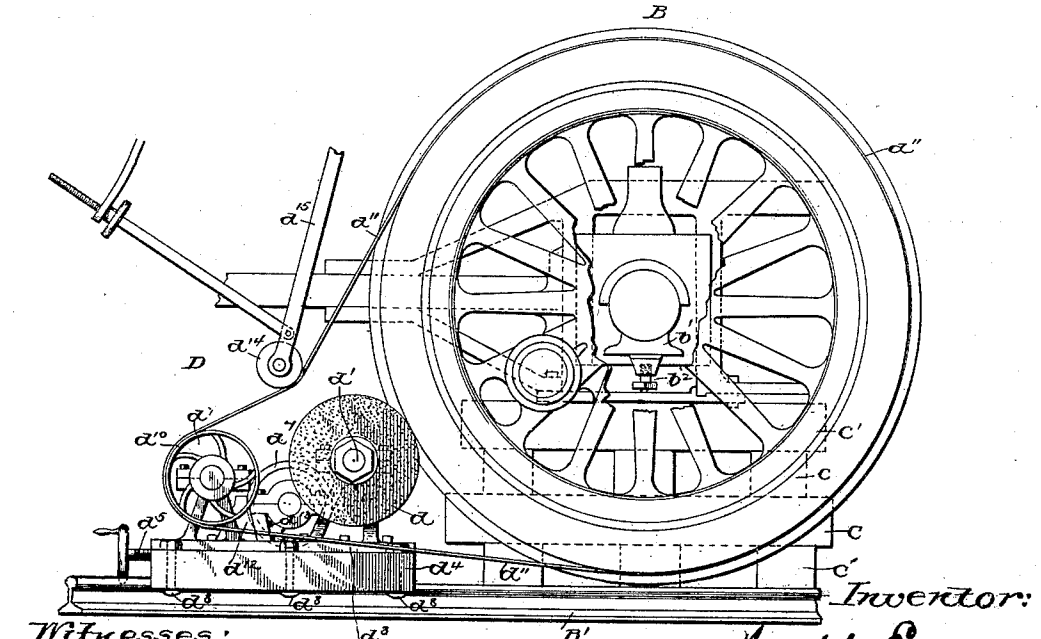


Fig. 2.



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H. R. Kennedy.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

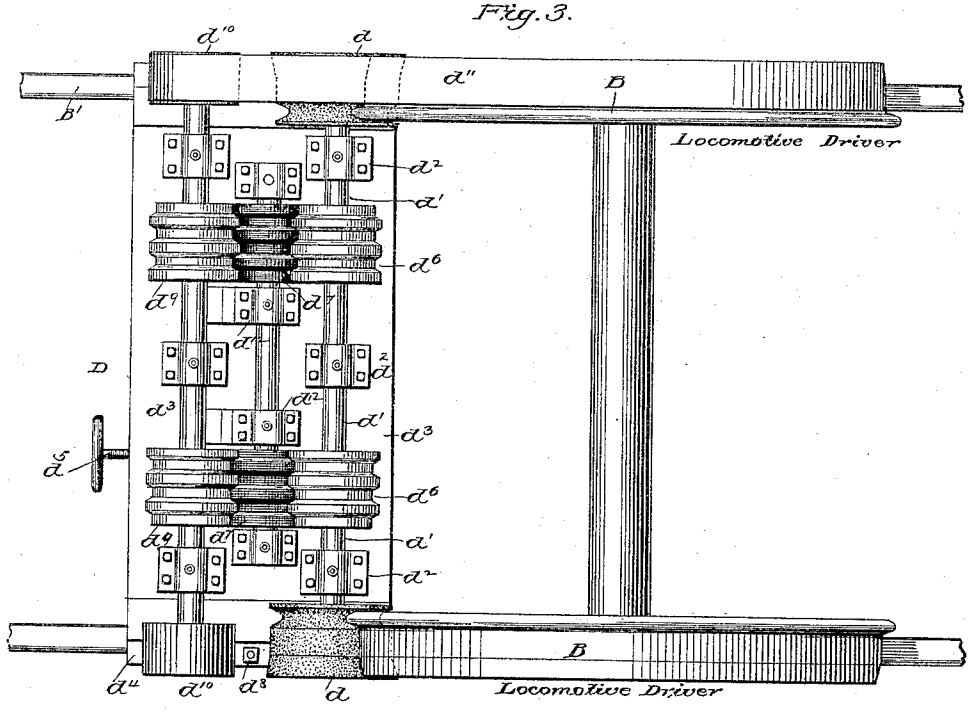
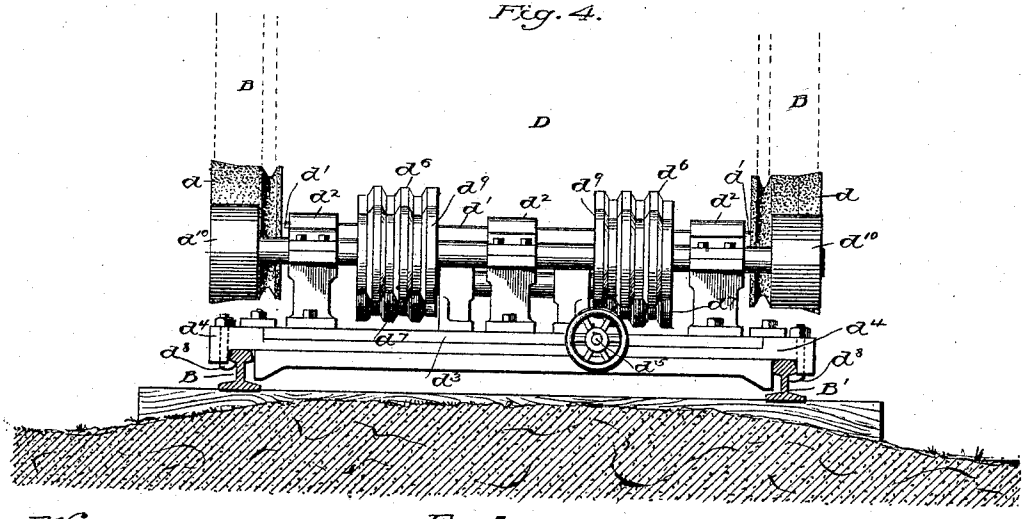
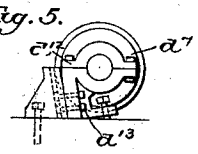


Fig. 4.



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Fig. 5.



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UNITED STATES PATENT OFFICE.

JOSEPH ELDER, OF PEORIA, ILLINOIS.

MEANS FOR TRUING LOCOMOTIVE-WHEELS.

SPECIFICATION forming part of Letters Patent No. 449,350, dated March 31, 1891.

Application filed February 14, 1890. Serial No. 340,463. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ELDER, of Peoria, in the county of Peoria and State of Illinois, have invented certain Improvements in Methods of and Means for Truing Locomotive-Wheels, of which the following is a specification.

In the use of locomotive-engines it is found that their driving-wheels become channeled and irregular on the periphery. As this condition is attended by an unsatisfactory action of the engine and by danger of the wheels leaving the track in crossing-frogs and switch-points, it is necessary to restore the original form of the surface from time to time. Hitherto it has been the practice to do this by running the engine to a repair-shop and there removing the wheels and mounting them in a turning-lathe, by which they were brought back to the required shape. This operation involves the use of heavy and expensive machinery, frequently requires the engine to be carried long distances from the place where it is used, withdraws the engine from use for a considerable period of time, and is attended with great expense.

The aim of my invention is to provide a simple mode of and means for truing the wheels while they are in place on the engine and without carrying the engine to the shop. To this end I raise and support the engine so that the driving-wheels are clear of the track and may be rotated by their driving devices, as usual, while the engine remains stationary. I then mount on an adjustable support adjacent to the driving-wheel an emery-wheel or like rotary grinder or cutter and connect the same by a belt either directly or through intermediate speeding-gear with the driving-wheel, so that when the latter is turned it will turn the grinder, which will cut away the periphery of the driver to the required form. Of course the grinder may be operated by hand or othewise, but it is preferred to utilize the engine for the purpose. Two or more of the driving-wheels may be trued at one time by separate grinders, and the details of the grinder and the shape of the wheels thereon may be varied.

In the accompanying drawings, Figure 1 is a side elevation of an engine with a grinder arranged to act on one of its wheels in accordance with my invention. Fig. 2 is a side elevation of the grinder and attendant parts on a larger scale. Fig. 3 is a top plan view of the same. Fig. 4 is an end view of the same. Fig. 5 is an elevation of the idler-pulley and its shaft-support.

Referring to the drawings, A represents a locomotive-engine having driving-wheels B B and in all respects of ordinary construction.

B′ is the railway-track.

C C′ are a series of supports—such as blocks, jacks, or the like—by which the engine is temporarily sustained with its driving-wheels clear of the rails.

D is a rotary grinder containing an emery-wheel d on one end of a horizontal shaft d', mounted in bearings d^2 in a plate d^3, movable horizontally on a bed-plate d^4, subject to the control of an adjusting-screw d^5. The bed-plate is adapted to rest upon the track-rails, and is provided with clip-bolts d^8, by which it may be secured rigidly in position adjacent to the driver to be trued, after which the adjustment of the screw d^5 will present the grinder against the wheel in suitable manner to act thereon. The grinder-shaft d' is provided with a grooved friction-pulley d^6, by which it receives motion through an idler d^7 from a driving-pulley d^9. The idler and driving-pulley are mounted on shafts in bearings on the plate d^3, and the shaft of the driving-pulley is provided with a band-pulley d^{10}, driven by a belt d^{11}, passing around the driving-wheel of the engine, so that when the latter is rotated it drives the grinder in contact with its surface. The idler-shaft is mounted in vertically-sliding bearings d^{12}, sustained by adjusting-screws d^{13}, to produce the required degree of friction between the pulley-surfaces. A belt-tightener d^{14}, mounted on lever d^{15}, or otherwise sustained, may be used, if required.

In order to give firm support to the axles of the driver, I commonly remove the oil-boxes from under them and introduce thereunder temporary bearings b', sustained by jacks or blocks b^2, seated in the engine-frame. When the bearings of the drivers are of such character that they will properly sustain the axles when the frame is elevated, these temporary bearings and their supports will be unnecessary.

By means of my contrivance the wheels may

be quickly and easily trued without sending to the shop or taking them out of service. Its use results not only in a great saving of time and money, but renders it practicable to grind wheels frequently and thus keep them in good condition instead of allowing them, as usual, to run until they are badly worn.

Having thus described my invention, what I claim is—

1. In combination with a locomotive-engine, means for sustaining the same with its driving-wheels clear of the track and free to be turned by the usual piston connections, a rotary grinder with a driving-pulley, means for securing the same in position to actuate one of the locomotive driving-wheels, and connections for imparting motion from the locomotive to the pulley of the grinder.

2. In combination with a locomotive-engine, supports sustaining its frame and also sustaining the driving-axles within the frame, that the devices may be turned by the usual piston connections, in combination with a rotary grinder having a driving-pulley, means for securing the grinder in position, and a driving-belt from the grinder to the driving-wheel, whereby the action of the engine is caused to effect the truing of its driver.

3. In combination with a locomotive-engine, supports sustaining its frame and sustaining its driving-axles within the frame with their wheels clear of the track, in combination with a rotary grinder in position to act on the locomotive-driver, a driving-pulley in rear of the grinding-wheel, and a belt connecting the driving-wheel and the pulley and inclosing the grinding-wheel, as shown, whereby the grinder is driven from the surface on which it acts.

4. In a grinder for truing locomotive-wheels, a base-plate provided with clips for securing it in place, in combination with a grinding-wheel, a driving-pulley, and intermediate speeding-gear, all mounted thereon.

5. The grinder for locomotive-wheels, consisting, essentially, of a base-frame provided with clips for securing the same to the track-rails, a rotary grinding-wheel and suitable driving-gear therefor, a support for said wheel and gear mounted to slide on the base, and means for adjusting said sliding support.

6. The base-plate provided with clips, in combination with the sliding plate and its adjusting device, the driving-pulley, its shaft and grooved pulley, the grooved idler and its adjustable support, and the grinding-wheel, its shaft, and the grooved pulley thereon.

In testimony whereof I hereunto set my hand, this 9th day of December, 1889, in the presence of two attesting witnesses.

JOSEPH ELDER.

Witnesses:
ISAAC C. EDWARDS,
JOSEPH WEIL.