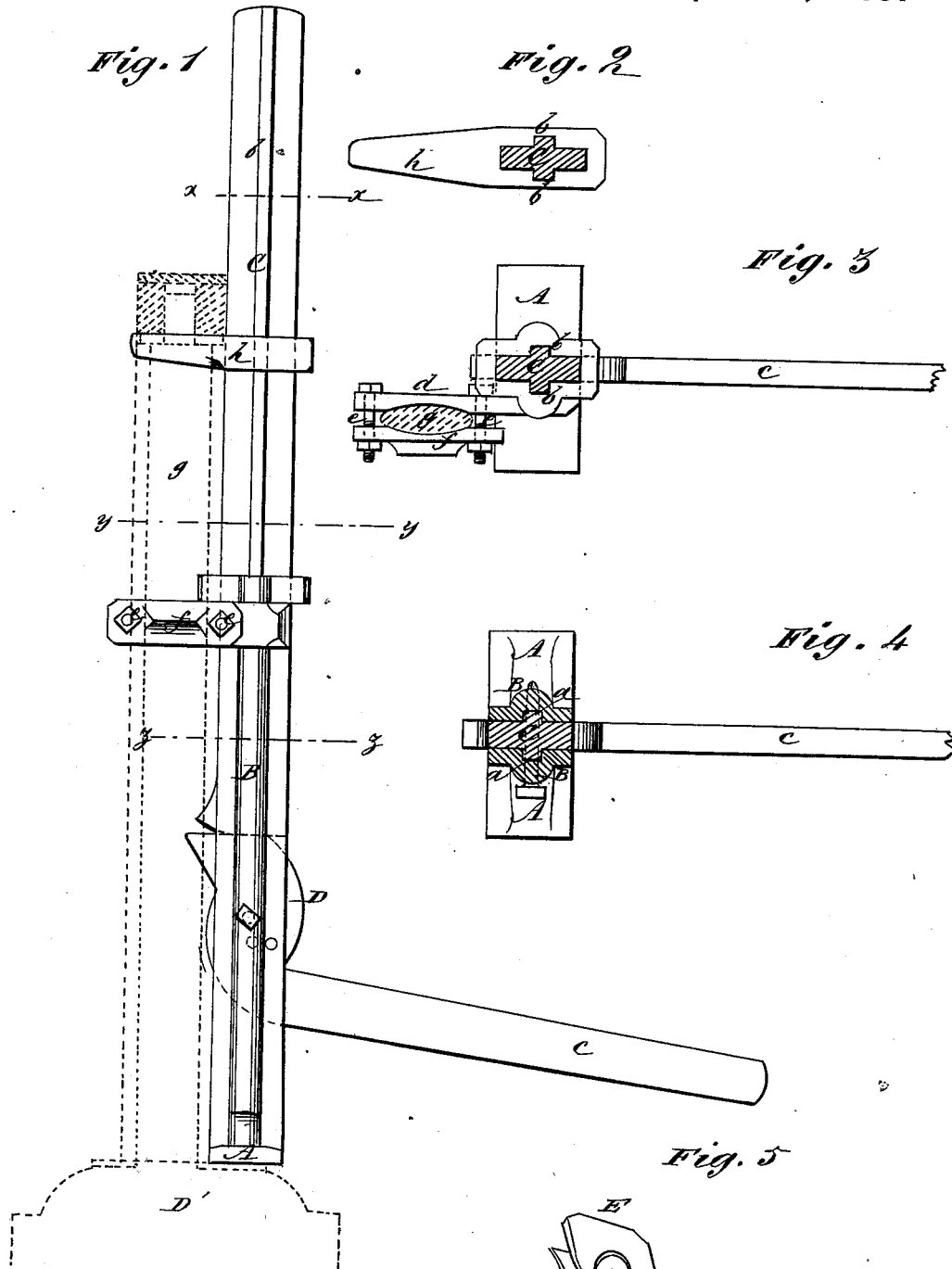


J. D. RUSSELL.  
Tire-Tightener.

No. 214,957.

Patented April 29, 1879.



WITNESSES:

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# UNITED STATES PATENT OFFICE

JAY D. RUSSELL, OF LEBANON, MISSOURI.

## IMPROVEMENT IN TIRE-TIGHTENERS.

Specification forming part of Letters Patent No. **214,957**, dated April 29, 1879; application filed February 24, 1879.

*To all whom it may concern:*

Be it known that I, JAY DEAN RUSSELL, of Lebanon, in the county of Laclede and State of Missouri, have invented a new and Improved Tire-Tightener, of which the following is a specification.

The object of this invention is to provide a simply-constructed but powerful and easily-operated device for tightening the tires of wagons, carriages, and other vehicles.

It consists of vertical guides rising from a base, in which is placed a lifting-bar, resting on a lever-cam pivoted in the guides. From the front of the guides projects a spoke-clamp, which holds the spoke, while from the lifting-bar projects an arm, which is placed under the felly. By means of the cam the lifting-bar is raised up, causing the arm to lift the felly from the shoulder of the spoke, giving space for the insertion of a leather washer for holding the felly more closely in contact with the tire.

In the accompanying drawings, Figure 1 is a side elevation of the improvement applied to a wheel, and showing the manner of operating it. Fig. 2 is a section of the lifting-bar on line *x x*. Fig. 3 is a section on line *y y*. Fig. 4 is a section on line *z z*, and Fig. 5 shows the leather washer.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the base of the tightener, from which rise two uprights, B B, forming guides, with longitudinal grooves *a a*. In these guides is placed the lifting-bar C, having on its sides tongues *b b*, which enter the grooves *a a* and run freely up and down in them. The lifting-bar rests on a cam, D, pivoted in the lower part of the guides, and provided with an operating-lever, *c*. By means of this cam the bar C is raised. From one of the guides B projects an arm, *d*, a short distance above the cam. Through this

are passed bolts *e e*, which, in turn, are passed through a block, *f*, and secured therein by nuts, as shown. This arrangement forms the spoke-clamp. The block *f* is screwed down tightly against the spoke *g*, which is held between this bar and the arm *d*. To lifting-bar C is fixed an arm, *h*, which is placed under the felly when the device is used.

The device is operated as follows: In Fig. 1 it is shown applied to a wheel. The base A is placed upon the hub D', with the guides upright. The spoke is then secured tightly in the clamp, and the arm *h* being under the felly, the lifting-bar is raised by means of the cam. This causes the arm *h* to raise the felly from the shoulder of the spoke, the clamp holding the spoke so that it will not be drawn from the hub, and while the felly is thus raised I place the lap-cut washer E between the shoulder and the felly. A sufficient number of these washers can be placed over one spoke to tighten the tire on the wheel, if desired; but the preferable way is to tighten them a little all around.

By putting this leather washer (which, by its construction, is easily applied to the spoke-tenon) to each spoke, the cutting of the felly by the hard wood of the spoke is prevented.

The device can be used as a wagon-jack.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A tire-tightener consisting of a slotted base-piece, A B, and a slide, C, tongued and grooved together, a cam-lever, D *c*, pivoted in the slot of said base-piece below the slide, the spoke-clamp *d e f*, attached to base-piece A B, and the felly-piece *h*, attached to the slide, as shown and described.

JAY DEAN RUSSELL.

Witnesses:

W. P. BUTCHER,  
WM. V. FARRIS.