

T. A. FRAKES & J. CEASE.
Tire-Tighteners.

No. 149,213.

Patented March 31, 1874.

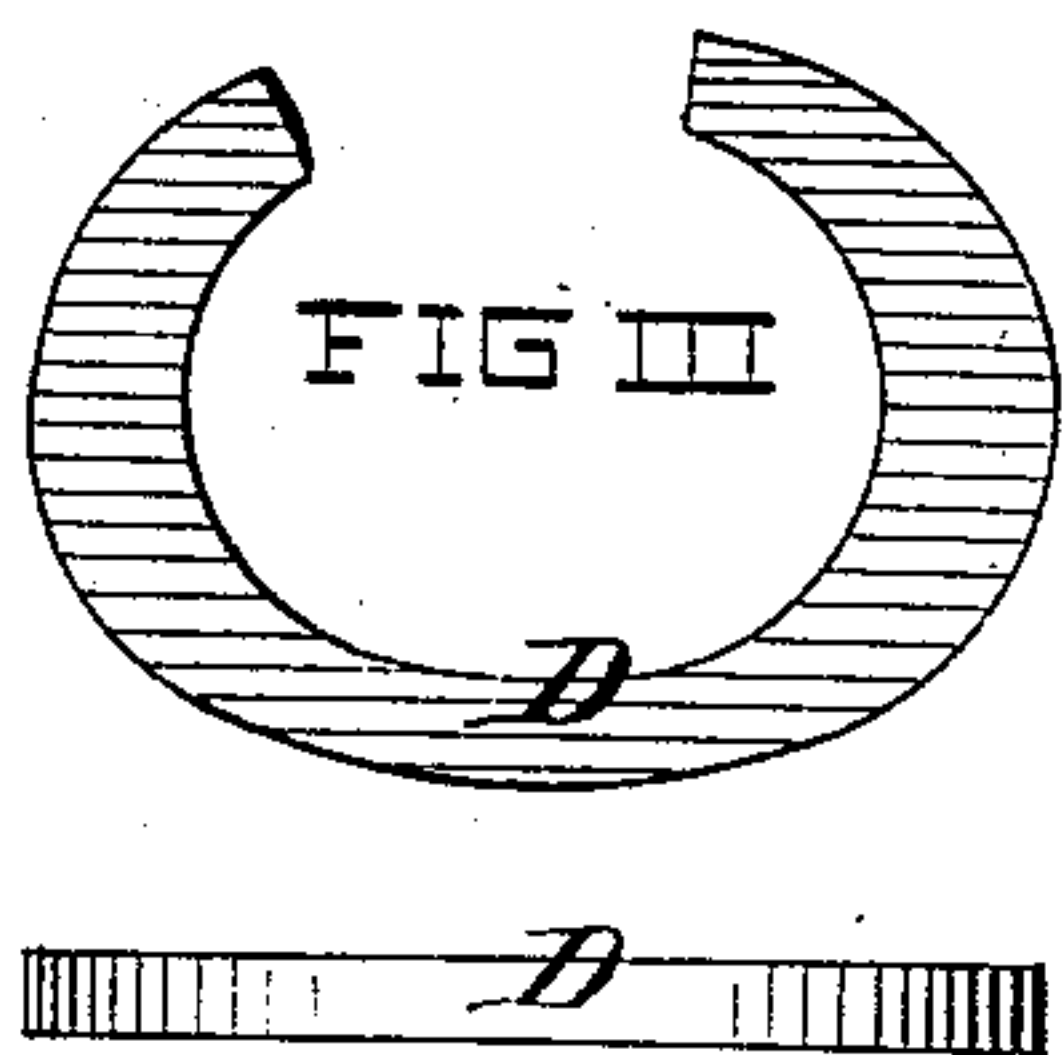
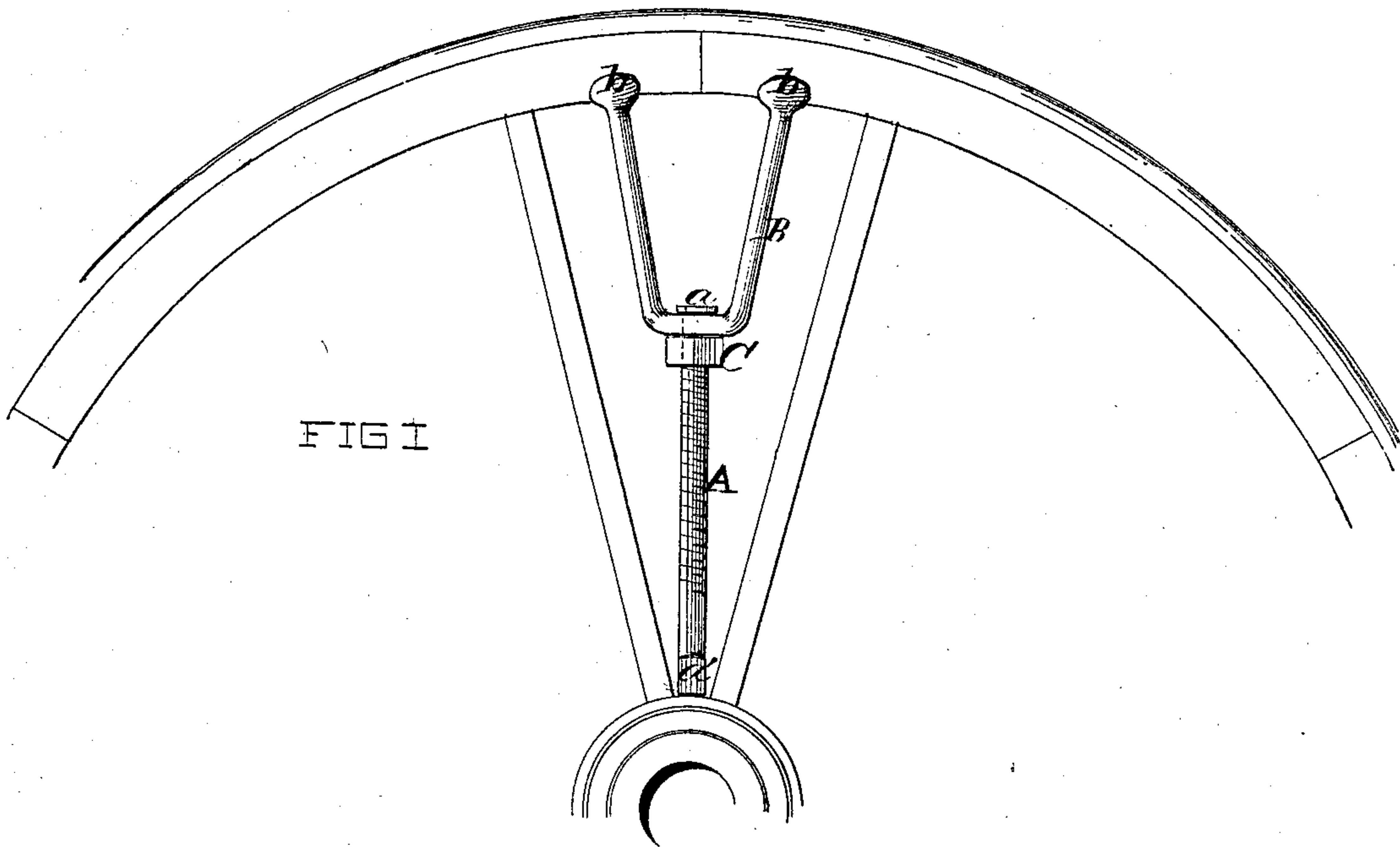


FIG II

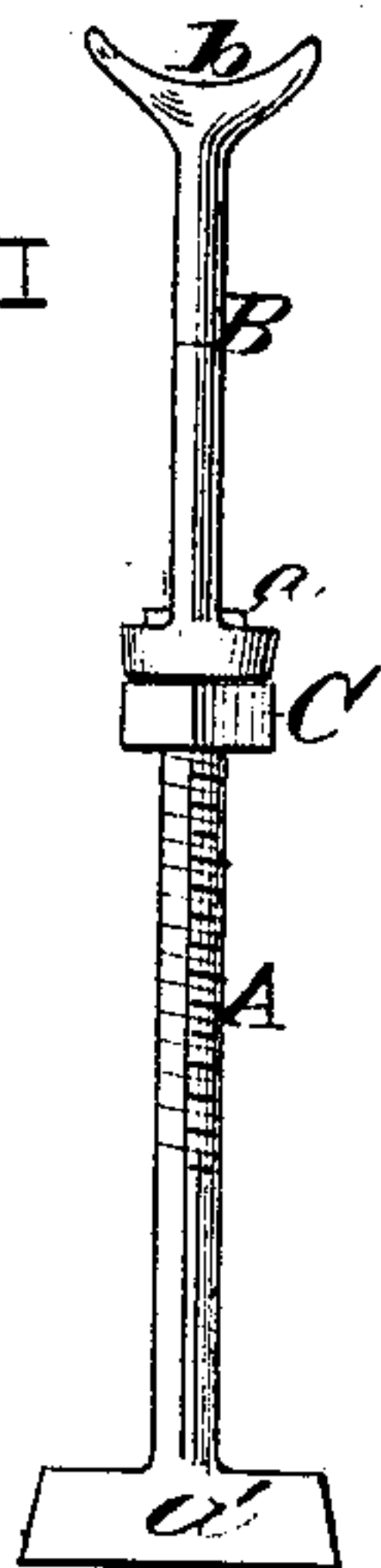
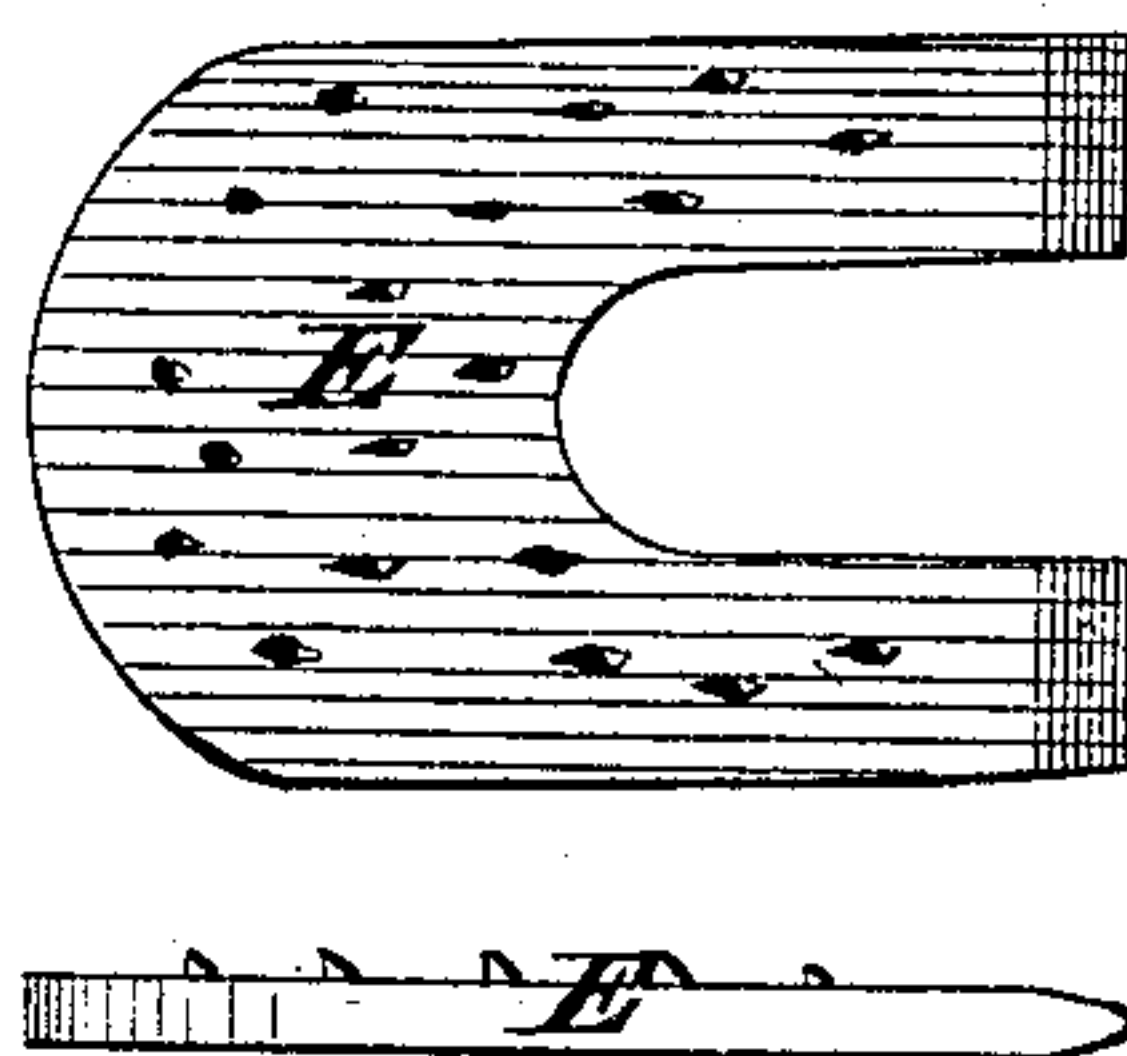


FIG IV



WITNESSES

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UNITED STATES PATENT OFFICE

THOMAS A. FRAKES AND JOSEPH CEASE, OF MASON CITY, ILLINOIS.

IMPROVEMENT IN TIRE-TIGHTENERS.

Specification forming part of Letters Patent No. **149,213**, dated March 31, 1874; application filed January 8, 1874.

To all whom it may concern:

Be it known that we, THOMAS A. FRAKES and JOSEPH CEASE, of Mason City, in the county of Mason and State of Illinois, have invented a certain new and useful Improvement in Tire-Tighteners, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, in which—

Figure 1 is a side elevation of our tightener, as applied to a wheel. Fig. 2 is a view of the same in elevation, looking at it edgewise. Fig. 3 is a plan and a side view of the spoke-tightening wedge, and Fig. 4 corresponding views of the felly-tightening wedge.

Corresponding parts in the several figures are designated by like letters.

The invention relates to a certain improvement in tire-tighteners; and it consists of a threaded bar or screw, having a bifurcated lifter and a nut, by which, with the assistance of a winch, the said lifter is brought to bear against the fellyes, and thereby separate the fellyes from each other and from the spokes where they have shrunk, the spaces thus created being filled with wedges, substantially as hereinafter more fully set forth.

To enable others skilled in the art to which our invention appertains to make and use the same, we will proceed to describe it.

In the accompanying drawing, A designates a screw, having swaged upon its upper end an octagonal or other suitably-shaped head, *a*, and its lower end formed with a foot or base, *a'*, to assist in steadying it in its upright position. B is a bifurcated lifter, having its horizontal portion or disk supplied with a hole to receive, and by means of which it is attached to the screw A, and its arms or tines supplied with transverse or right-angular pieces *b b*, curved upward to receive and press against the fellyes of the wheel. By means of the forked or bifurcated lifter or clamp B the fellyes of two spokes are lifted simultaneously from the latter, as well as separated at their point of conjunction, by which the time and labor consumed in tightening the tire are lessened, and consequently the work thus undertaken facilitated. A nut, C, fitted to the screw A and operated by a winch not shown, enables pressure to be brought to bear upon

the lifter B, by which pressure is transmitted to the fellyes, and the latter thus separated from each other and from the spokes where they have shrunk. When the tightener is adjusted to the wheel its foot *a'* rests upon the hub, and its lifter is adjusted against the fellyes, as seen in Fig. 1. D is a wedge or ring-shaped device, which is introduced into the space between a spoke and felly, and thus acts to lengthen or tighten the spoke. E is a second wedge, which is roughened or supplied with a series of teeth, as shown in Fig. 4, and which is used to fill the space between the adjacent or contiguous ends of two fellyes, and thus compensate for the shrinkage between the same, by which they will be tightened. The teeth in the said wedge are to prevent it from leaving its place. This wedge is also slotted, to prevent its interfering with the tenon uniting the fellyes when inserted in place.

Owing to the peculiar construction of this latter wedge, it can be adapted to fit in between and tighten any two contiguous or abutting fellyes, and not interfere with their tenons; and, further, when in place it cannot work loose or come out, by reason of its teeth or roughened surface acting on the wood or fellyes as clamps.

We are aware that the tires of wheels have been tightened, by means of a screw or a standard having a screw thread, upon which is adjusted a vertically-movable clamp; but

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

1. In combination with the forked lifter B the screw A and nut C, substantially as and for the purpose set forth.

2. The roughened U-shaped wedge E in combination with the fellyes and tire of the wheel, substantially as and for the purpose set forth.

In testimony whereof we have hereunto signed our names this 24th day of December, 1873, in presence of two subscribing witnesses.

THOMAS A. FRAKES.
JOSEPH CEASE.

Witnesses:

M. T. PHELPS,
PHILIP CEASE.