C. Z. LINDLEY.
Tire-Tightener.

No. 197,224. Patented Nov. 20, 1877.

Fig. 2.

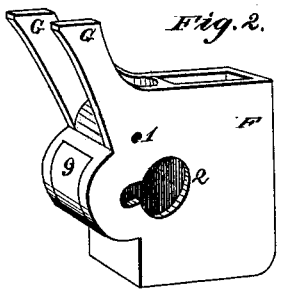



Fig. 1

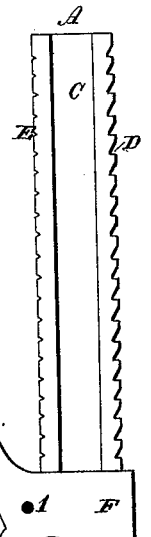



Fig. 3

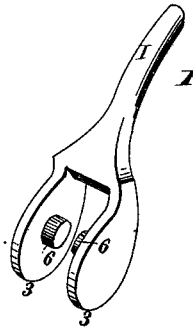



Fig. 4.

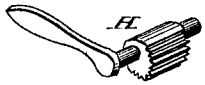



Fig. 5.

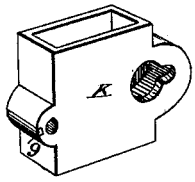



Fig. 6

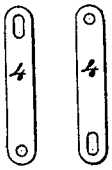



Fig. 7

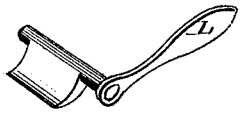
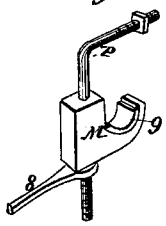



Fig. 8.




Witnesses;
J. B. Vernon
L. L. Trimble

Inventor
Chambers Z. Lindley

# UNITED STATES PATENT OFFICE.

CHAMBERS Z. LINDLEY, OF MOUNT PLEASANT, IOWA, ASSIGNOR OF ONE-HALF HIS RIGHT TO ALLEN T. BROOKS, OF SAME PLACE.

## IMPROVEMENT IN TIRE-TIGHTENERS.

Specification forming part of Letters Patent No. **197,224**, dated November 20, 1877; application filed June 21, 1877.

*To all whom it may concern:*

Be it known that I, CHAMBERS Z. LINDLEY, of Mount Pleasant, in the county of Henry and State of Iowa, have invented a new and useful Improvement in Tire-Tighteners; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the construction and arrangement of a tire-tightener, as hereinafter more fully set forth.

In the annexed drawing, Figure 1 represents a side view of my invention; and Figs. 2, 3, 4, 5, 6, 7, and 8 are detail views thereof.

A is a staff or standard. B is a base, upon which it rests. C is a groove, with a corresponding one on the opposite side. D are ratchets; E, a series of notches running the entire length of the staff A. F is a shoe or header, with an opening through the center to correspond with the size of staff, one edge notched or roughed, so as to assist in clamping the staff A, and an enlargement on the other side to receive the eccentric-pawl H. G G are arms or shoulders attached to F. 1 is a hole passing through an enlargement in F. 2 is a hole or slot to receive the eccentric-pawl H. I is a lever with double ecceentric or cams 3 attached, with hubs or centers 6 6 on the inside to fit in groove C. K is a follower or support, with an opening through the center the same as F, and an opening in the side to receive pawl-dog L. 5 is a hole passing through a small enlargement to receive the spoke-tightener M. 4 4 are bars or rods so arranged as to allow of the motion of the lever I, and to cause the follower or support K to follow up after F has been pressed up by the eccentrics 3 3 and caught by pawl H. M is a shoe or clamp for tightening the spoke by turning nut 8. 9 9 are bits of leather or other suitable material so arranged as to pad the part where the spoke will be pressed.

In operating my device, the base B of the staff A is first placed upon the hub of the wheel, so as to have it rest against one of its spokes. The follower K is then secured in position upon the staff by the pawl L, so that the arms G of the shoe or header F will rest against the inside of the rim of the wheel on each side of the spoke. The spoke is then secured to the follower K by means of the clamp M and nut 8. Power is then applied to the eccentrics by means of lever I, thereby forcing the arms G of the header F against the inside of the rim, the two arms bearing on both sides of the spoke of the wheel, raising the rim from its seat upon the shoulder of the spoke. The shoe F is then secured in position by means of the pawl H until the gibs or tightening devices are properly inserted between the spoke and rim, after which the machine is removed from the spoke operated upon and secured to another, and so on until the desired work shall have been finished.

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

1. The staff A, provided with base B, grooves C, ratchets D, and notches E, substantially as shown and described.

2. The header F, provided with arms or shoulders G and eccentric-pawl H, substantially as specified.

3. The lever I, provided with double eccentrics 3 3 and hubs 6 6, in combination with staff A, header F, and pawl H, substantially as specified.

4. The lever I, as herein described, in combination with staff A, header F, follower K, and pawl L, as and for the purpose specified.

5. The staff A, in combination with the follower K, pawl L, shoe or clamp M, and devices for securing the same to a spoke, as shown and described.

6. In a machine for tightening tires, the staff A, follower K, lever I, header F, pawls H and L, and clamp M, connecting-rods 4 4, and pads 9 9, all constructed, combined, arranged, and operating in the manner and for the purpose specified.

CHAMBERS Z. LINDLEY.

Attest:
J. B. VERNON,
S. T. TRIMBLE.