

J. & C. M. LESHER.

Tire-Tightener.

No. 161,692.

Patented April 6, 1875.

Fig. 1.

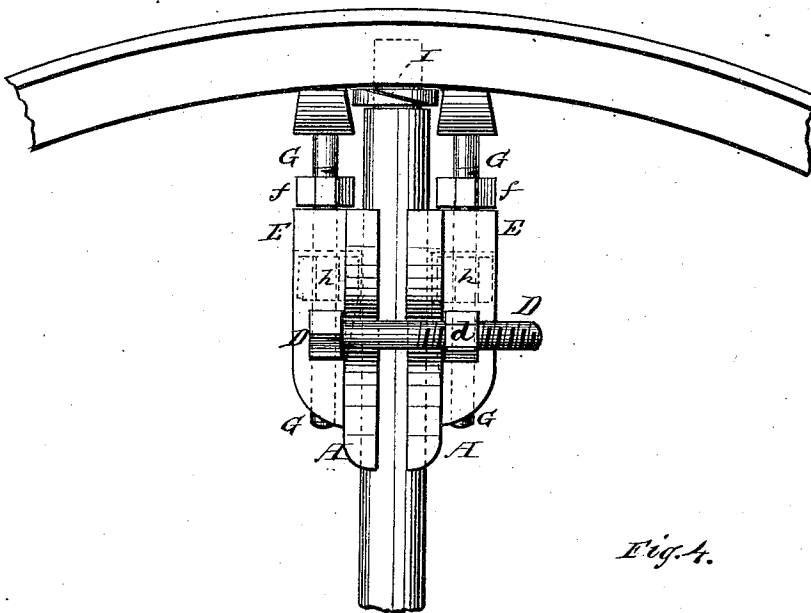


Fig. 4.

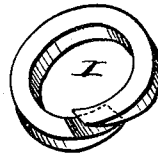


Fig. 2.

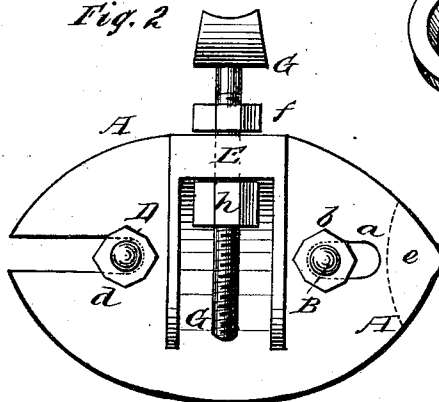
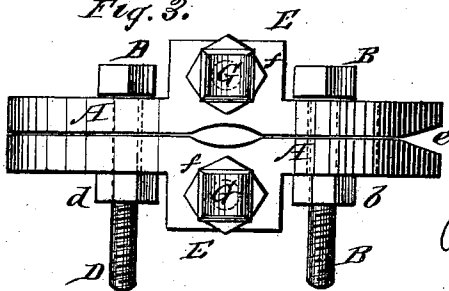


Fig. 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN LESHER AND CHARLES M. LESHER, OF NORTHUMBERLAND, PA.

## IMPROVEMENT IN TIRE-TIGHTENERS.

Specification forming part of Letters Patent No. 161,692, dated April 6, 1875; application filed March 11, 1875.

*To all whom it may concern:*

Be it known that we, JOHN LESHER and CHARLES M. LESHER, of Northumberland, in the county of Northumberland and State of Pennsylvania, have invented certain new and useful Improvements in Tire-Tighteners; and we 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 pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature of our invention consists in the construction and arrangement of a device for tightening tires by raising the felly from off the shoulder of the spoke against the tire, and placing one or more split washers between the shoulder on the spoke and the felly, all as hereinafter more fully set forth.

In the annexed drawing, Figure 1 is an end elevation (showing the device in place as used) of the device placed on a spoke. Fig. 2 is a side view. Fig. 3 is a top view of the same, and Fig. 4 is a view of the washer used.

A A represent two clamps of suitable construction to fit around and be fastened to a spoke when placed together. At one end of each clamp is an elongated slot, *a*, and through these slots passes a bolt, B, with nut *b*. The extreme ends of the clamps A A are beveled on the inner sides beyond the slots *a a*, as shown at *e e*. The other ends of the clamps are forked or slotted clear through the ends, and a bolt, D, passed in the same, with a nut, *d*, screwed up on the bolt. On the outer side of each clamp A is a projection, E, through which is passed from the top a screw, G, with a nut, *f*, above the projection E, and another nut, *h*, below the same.

The operation of this machine is as follows: The nut *d* is loosened and the bolt D taken out. The nut *b* is then loosened, and the bolt B acts as a hinge to open the clamps on account of the slots *a* and beveled ends *e* of the

clamp. The operator now passes the clamps from the outside of the wagon-wheel between two spokes, and brings it back toward him with one clamp on each side of a spoke. The bolt D is then replaced, after which the machine is moved up on the spoke until the heads of the bolts G G rest against the under side of the felly—one on each side of the spoke. The bolt D is then tightened firmly. By means of a wrench the nuts *f* and *h* are now turned, so that they will raise the bolts G G, and raise the felly from the shoulder of the spoke and tight against the tire. A split washer, I, of leather or other suitable material, is then placed under the felly and on the shoulder of the spoke. The machine is then removed from the spoke, and a few more spokes are operated upon in a similar manner, and the tire is as tight as if cut by a smith.

We are aware that a clamp or staple has been used to hold the two parts together; but we lay no claim to such device, as it does not embrace any part of our invention; but,

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

1. The clamps A A, forked at one end, and provided with slots *a a* at the other end, said ends being beveled on the inner sides at *e*, and the clamps fastened by means of bolts B D and nut *b d*, substantially as and for the purposes set forth.

2. The combination of the clamps A A, provided with projections E E, the fastening-bolts B D, with nuts *b d*, and the raising-bolts G G, with nuts *f f* and *h h*, all substantially as and for the purposes set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

JOHN LESHER.  
CHAS. M. LESHER.

Witnesses:

JAMES DIEFFENBACHER,  
FARNSWORTH REED.