

E. S. GIBBS.
Tire-Tightener.

No. 199,700.

Patented Jan. 29, 1878.

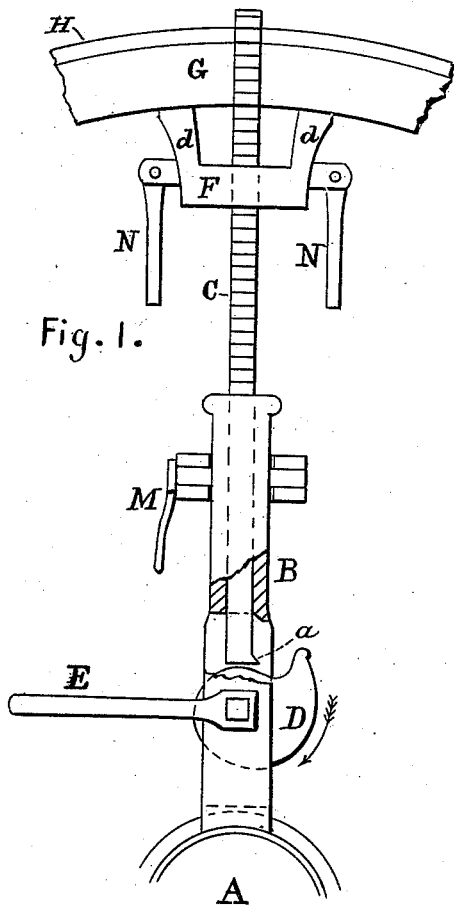


Fig. 1.

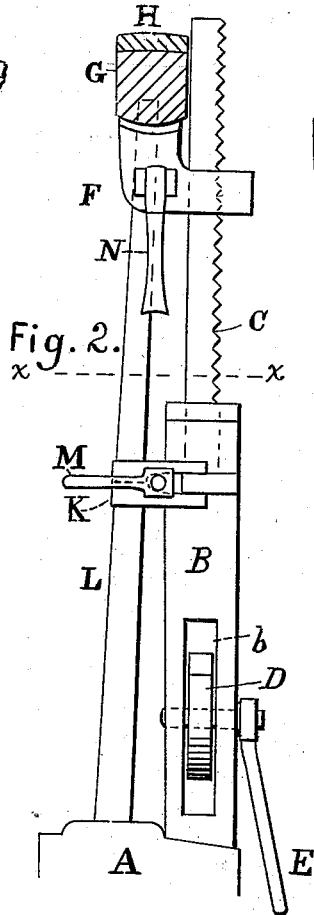


Fig. 2.

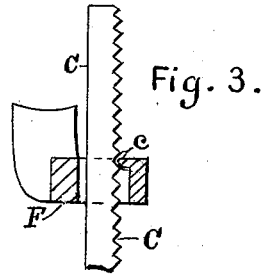


Fig. 3.

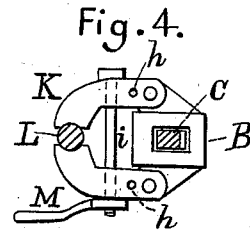


Fig. 4.

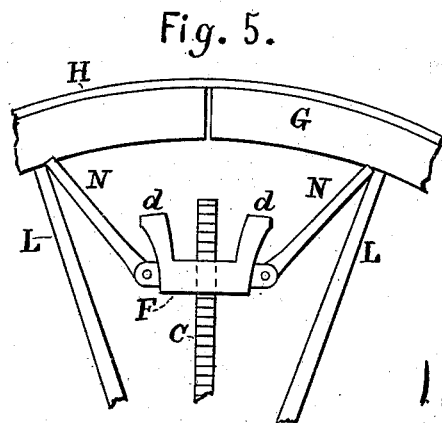


Fig. 5.

Witnesses:
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UNITED STATES PATENT OFFICE.

EUGENE S. GIBBS, OF LYONS, IOWA.

IMPROVEMENT IN TIRE-TIGHTENERS.

Specification forming part of Letters Patent No. 199,700, dated January 29, 1878; application filed November 17, 1877.

To all whom it may concern:

Be it known that I, EUGENE S. GIBBS, of Lyons, in the county of Clinton and State of Iowa, have invented certain new and useful Improvements in Tire-Tighteners and Wagon-Jacks; and I do hereby declare that the following is a full, clear, and exact description of my invention, 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, which form a part of this specification.

Figure 1 is a side elevation, with part of the side of the standard broken off to show the lug on the lower end of the rack-bar. Fig. 2 is an edge view. Fig. 3 is a sectional view of the movable head, showing the rack-bar and the lug on the head. Fig. 4 is a transverse section on line *x x* of Fig. 2, showing a top view of the clamp. Fig. 5 shows the pivoted arms in position for spreading apart the fellies.

My invention relates to that class of tire-tighteners which may be used also as wagon-jacks, constructed and operated as hereinafter described.

In the drawings, A represents the hub of a wheel. B is a hollow standard, the lower end of which is beveled and concaved to fit the surface of the hub. C is a rack-bar adjusted to slide vertically in the standard, and is provided with a lug, *a*, on the lower end, to prevent the bar from sliding out of the standard. D is a cam adjusted in the slot *b* on a shaft having its bearings in the standard, and is operated by a crank, E, fitting on one end of the shaft. F is a movable head having a mortise to receive the rack-bar, and adjusted to slide up and down on the bar, and is provided with a lug, *c*, to catch in the rack on the edge of the bar, and with arms *d d*, the upper surfaces of which are made to fit the rounded surface of the felly G. H represents the tire of the wheel. K is a clamp hinged or pivoted to the standard, the jaws of which clamp are formed to fit the curved surface of the spokes L, and are provided with several holes, *h*, for adjusting the length of the clamp to suit different wheels.

The clamp is operated by means of a screw-bolt, *i*, and a lever-nut, M. This bolt may be

provided with left and right screw-threads, working in proper nuts, to facilitate the opening and closing of the clamp.

N N represent arms pivoted to the head F, the upper ends of which arms are concaved to fit the rounded surface of the fellies, for opening the joints of the fellies.

To tighten the tire by raising the fellies from the spokes, place the foot of the standard on the hub and adjust the clamp on one of the spokes; then raise the head F till the arms *d d* bear against the felly, and turn the cam in the direction indicated by the arrow, raising the bar and pressing the felly upward from the spoke, allowing a washer to be inserted on the shoulder of the spoke, and thus tightening the tire. If the felly is split, as is often the case, the split may be closed by suitable rivets through the felly after it is raised from the shoulder of the spoke.

To tighten the tire by spreading apart the fellies, the pivoted arms N are turned up and placed under the fellies against the spokes, as shown in Fig. 5 of the drawings, and the cam is turned, as before described, which presses apart the fellies, opening the joint, allowing a wedge or thin plate to be inserted in the joint, thus tightening the tire.

To use the implement as a wagon or carriage jack, place the foot of the standard on the floor or ground, and adjust the movable head under the axle-tree, and turn the cam, as before described.

I claim as new and desire to secure by Letters Patent—

1. The movable head F, adjustable vertically on the rack-bar C, and provided with the arms *d d*, in combination with the standard B and cam D, substantially as and for the purposes described.

2. The spoke-clamp K, hinged or pivoted to the standard B, and having jaws hollowed to fit the surface of the spoke, and adjustable in length to suit different-sized wheels, substantially as described.

In testimony that I claim the foregoing as my own invention I affix my signature hereto in presence of two witnesses.

EUGENE SHEPARD GIBBS.

Witnesses:

FRANK P. LEFFINGWELL,
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