F. T. STONE.

TIRE-TIGHTENER.

No. 190,166. Patented May 1, 1877.

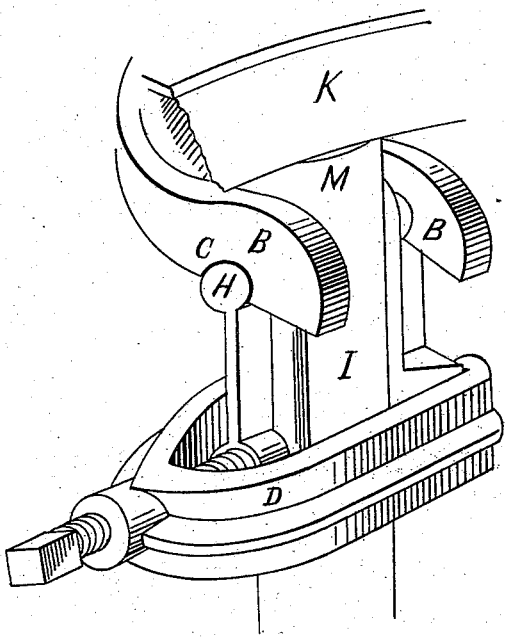

Fig. 1

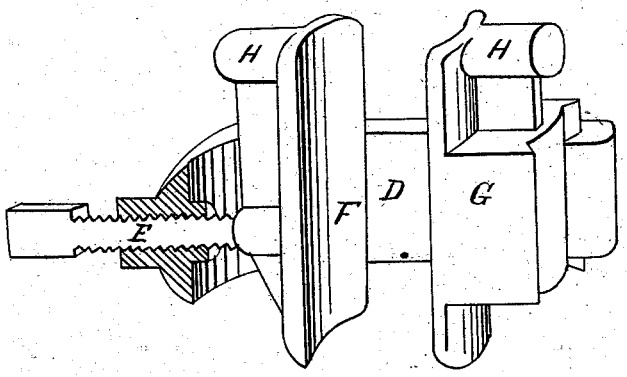

Fig. 2.

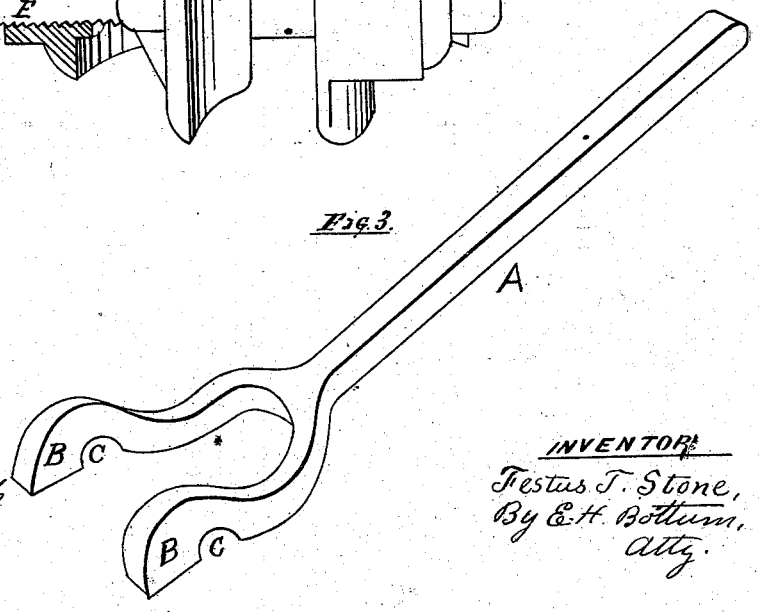

Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

FESTUS T. STONE, OF GREENFIELD, WISCONSIN.

IMPROVEMENT IN TIRE-TIGHTENERS.

Specification forming part of Letters Patent No. **190,166**, dated May 1, 1877; application filed March 16, 1877.

To all whom it may concern:

Be it known that I, FESTUS T. STONE, of Greenfield, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements 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 pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of tools used to tighten the tires of wagon-wheels without the removal of the tire from the felly; and consists in a novel form, arrangement, and construction of the lever, griping-jaws, and clamp used therein.

Figure 1 is my improved tire-tightener applied to the spoke of a wagon-wheel, I. Fig. 2 is a semi-section of the clamp D and jaws F and G, and Fig. 3 is a representation of the lever A.

Lever A is constructed of malleable iron or other suitable material, bifurcated at the end, having a space between the two arms of about two and one-half inches, as shown in Fig. 3. The ends B B are eccentric to the semicircular in section-bearings C C. The bearings C C are designed to fit projections H H, Fig. 2, which form the fulcrum for the lever. D is a U-shaped clamp, formed as shown in the drawing. It is provided near its open end with hooked lugs, that engage in grooves near the edge of jaw G, as shown in Fig. 2, and with the screw E at its closed end. Jaws F and G are concaved in cross-section, so as to fit the spoke of the wheel. F is provided with a projection, forming a bearing for E.

My improved tire-tightener operates as follows: The jaws F G are placed on opposite sides of the spoke to be operated upon, as shown in Fig. 1, and clamp D is adjusted thereto, as shown in Fig. 1. The lever A is placed with the bearing C C upon H H, as shown in Fig. 1, with eccentrics B B touching the under surface of the felly. The clamp should be tightly fastened by means of screw E, and if there is danger of injuring the spoke a piece of leather or paper can be placed between the spoke and the jaws. By depressing the outward end of the lever the eccentrics are caused to raise the felly from the outer end of the spoke, and a leather washer, cut in part on one side, can be placed around the tenon of the spoke, thus enlarging the wheel and tightening the tire thereby. The whole implement is compact, light, and strong, and capable of speedy adjustment.

I am aware that jaws and clamps have been used for the same ends as sought by me. I do not claim the same, broadly; but

I claim—

1. The lever A, provided with the bifurcation shown, and the eccentrics B B and bearings C C, substantially as specified.

2. The combination of lever A, jaws F and G, constructed with round pivotal projections H H, and clamp D, constructed as described, and provided with screw E, as and for the purposes specified.

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

FESTUS T. STONE.

Witnesses:

GEO. SCHMITT,

CHAS. F. WOOD.