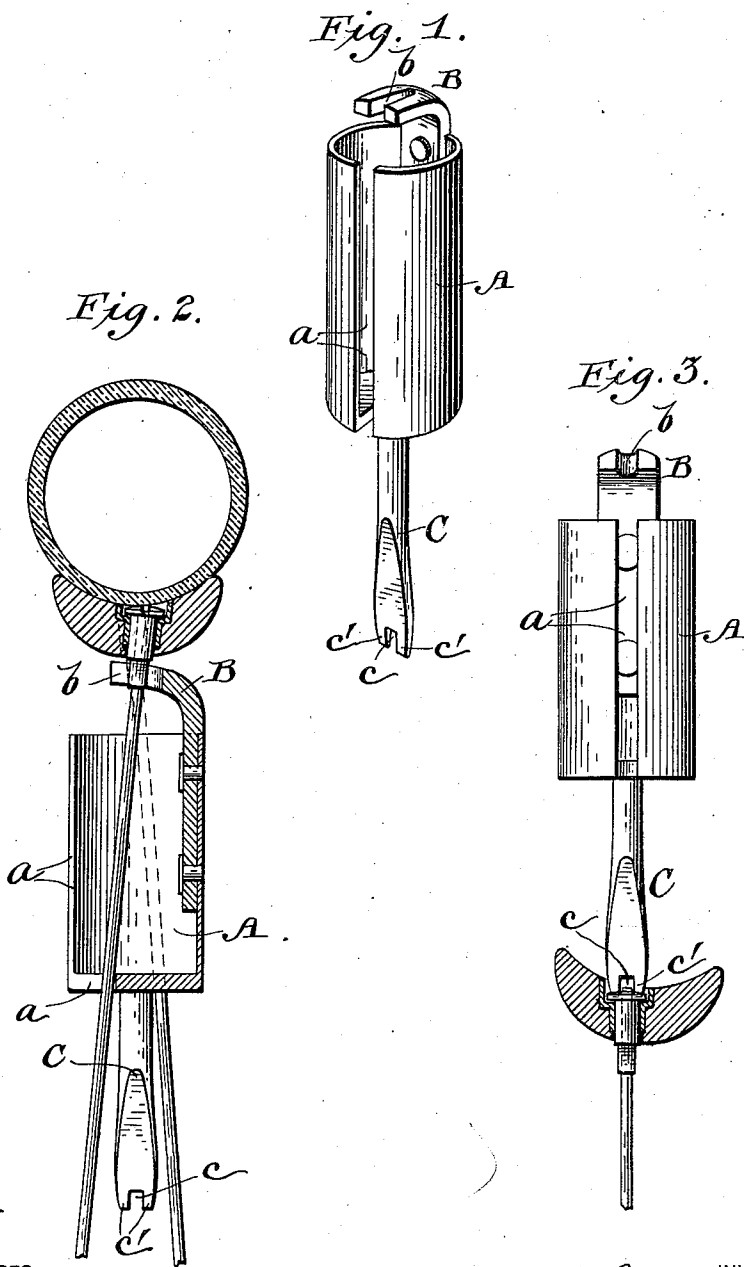


(No Model.)

J. JACOBY.
TOOL FOR TIGHTENING SPOKES.

No. 564,151.

Patented July 14, 1896.



WITNESSES

Reverence,
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INVENTOR

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JOSIAH JACOBY, OF LODI, OHIO, ASSIGNOR OF ONE-HALF TO JOSHUA W. MORSE, OF SAME PLACE.

TOOL FOR TIGHTENING SPOKES.

SPECIFICATION forming part of Letters Patent No. 564,151, dated July 14, 1896.

Application filed March 21, 1896. Serial No. 584,292. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH JACOBY, a citizen of the United States, residing at Lodi, in the county of Medina and State of Ohio, have invented certain new and useful Improvements in Tools for Tightening Spokes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to bicycle-tools; and it consists of a preferably cylindrical body portion provided with a vertical passage open at top and bottom, said body portion being constructed at its lower end with a graduated wrench or gripping-claw, the tool being adapted to receive a spoke within its body portion through the vertical passage, and the nipple of a spoke to be grasped by the graduated claw or wrench and tightened or loosened to the extent desired without removing the tool from the spoke, and it also consists, in combination with a tool constructed as above described, of a screw-driver or tightening device having a notched end whereby the screw-driver can be applied to a nipple at the end of a spoke and the nipple screwed down and the end of the spoke allowed to pass up into the notch in the screw-driver, and it also consists in certain other details of construction, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of an improved bicycle-tool. Fig. 2 is a vertical sectional view of a portion of a wheel, showing the tool applied to a nipple at a point outside the rim; and Fig. 3 is a sectional view of a portion of a wheel, showing the tool applied to a nipple at a point on the inside of the rim.

A in the drawings represents the body portion of my improved tool, which is made preferably cylindrical in form and hollow for the purpose of cheapness and lightness, and as a convenient shape to be grasped by the hand of the operator and to be carried in a tool-bag or in the pocket. The cylindrical body portion is provided with a vertical slot *a*, which is cut through the wall and through the bottom of the body portion and extends nearly

to the center of the same and the entire length of the body portion. The body portion is also open at its upper end. The purpose of this construction is to receive the spoke of the bicycle and permit the same to pass into the body portion, so that the operating-tools which project from either end of the body portion can be brought in contact with a nipple on a spoke to tighten or loosen the spoke.

A curved claw B projects outwardly and inwardly from the upper end of the body portion and is provided with a gradually-tapering deep slot *b*, said slot being widest at the outer end of the claw and narrowest at its inner end. The walls of the slot are made flat, so as to grasp the nipple squarely, and thereby prevent the corners of a squared nipple being rounded off. This slot in the claw-shaped jaw coincides with the vertical passage in the body portion of the tool, so that the tool can be conveniently slipped onto a spoke and the nipple firmly gripped by the jaw and turned to any extent desired without removing the tool from the spoke, and without requiring the hold on the nipple to be changed. The lower end of the body portion of the tool is provided with a centrally-arranged, downwardly-extending nipple-tightening device C. This device consists of a shank, which is provided on its lower end edge with a recess *c* for a purpose to be presently stated. This nipple-tightening device is intended to be applied at the outer end of the spoke where the nipple projects through the rim. When this tightening device is applied to the nipple at this point, the lips *c' c'*, formed by the recess *c*, are entered into recesses formed in the outer end of the nipple, and by revolving the tool in the end the nipple is screwed down until the spoke projects slightly through the nipple. This projecting end of the spoke is received by the recess *c* in the tightening device, so that the operation of tightening the spoke is not interfered with. This tightening device C will be found most convenient in "building up" a wheel, as, after the wheel is constructed, the spokes can usually be sufficiently tightened by screwing up the nipples from the outside of the rim. My improved bicycle-tool will be found very convenient in the shop as well as by riders

of bicycles, and, being very simple, cheap, practical, and light, will be found to be a very desirable accessory to a bicycle.

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

1. The improved article of manufacture consisting of a tool for tightening spokes, said tool comprising in its construction a hollow tubular body portion adapted to be grasped around its periphery with the hand and thus serve as the operating-handle, and which is open at the top and closed at the bottom and has a vertical spoke - entrance passage along its wall which extends through the bottom, a claw-shaped jaw at the open end of the body portion provided with a tapering passage registering with the passage in the wall and bottom portion, said jaw being applied on the inner surface of said body portion and secured to the body portion, substantially as described.

2. The improved article of manufacture consisting of a tool for tightening spokes, said tool comprising in its construction a hollow tubular body portion adapted to be grasped around its periphery with the hand and thus serve as the operating-handle, and which is open at the top and closed at the bottom and has a vertical spoke - entrance passage along its wall which extends through the bottom, a claw-shaped jaw at the open end of the body portion provided with a tapering passage registering with the passage in the wall and bottom portion and adapted for having another tool fitted in its other end, substantially as and for the purpose described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JOSIAH JACOBY.

Witnesses:

S. L. DYER,

W. J. SHULENBERGER.