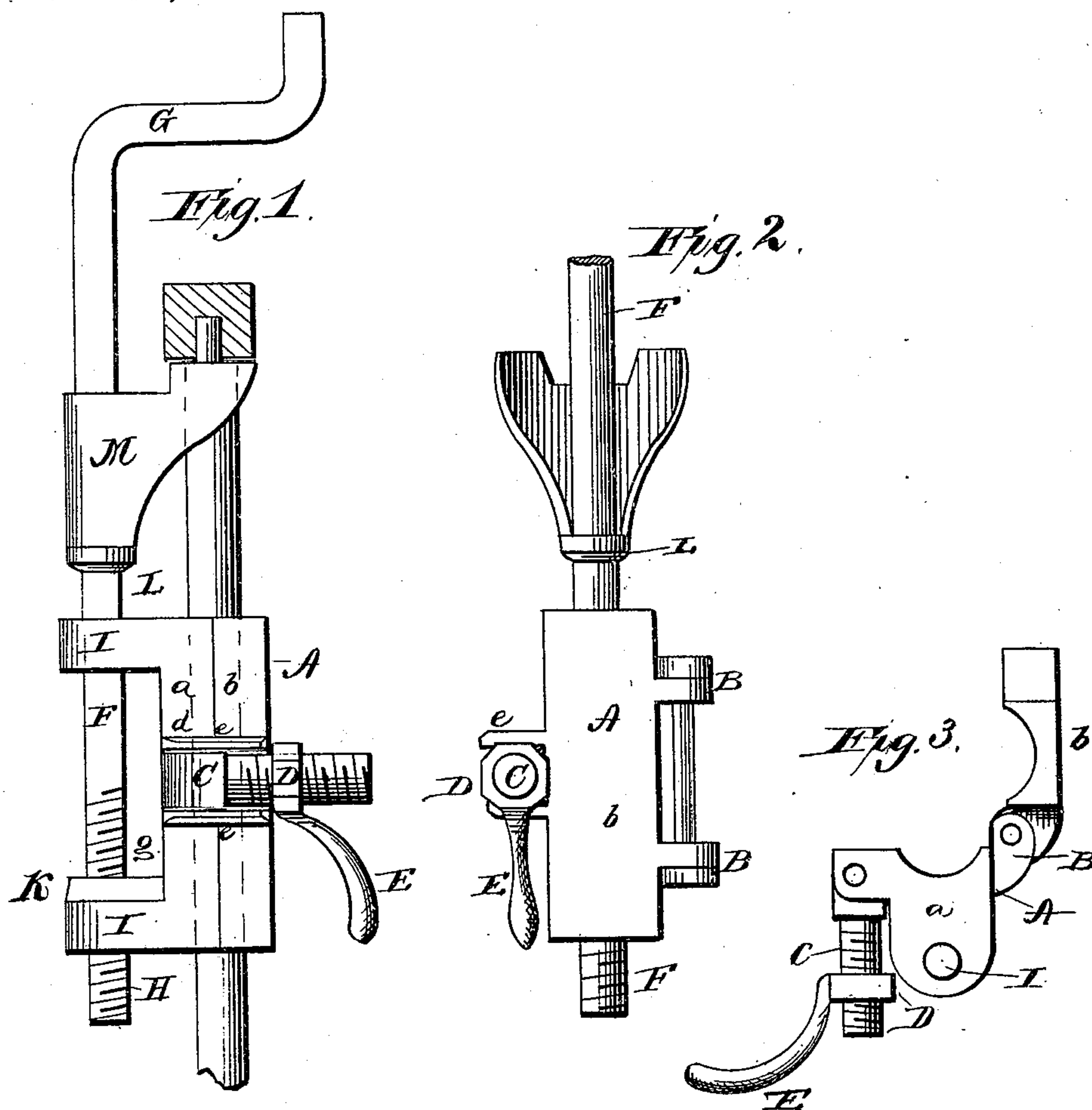


(No Model.)

E. P. ROSS.
Tire Tightener.

No. 231,102.

Patented Aug. 10, 1880.



Witnesses,
F. L. Ouraud
C. H. Bradford

Inventor,
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att'y.

UNITED STATES PATENT OFFICE.

EZRA P. ROSS, OF LEBANON, PENNSYLVANIA, ASSIGNOR OF ONE-HALF OF
HIS RIGHT TO J. FRANK BEHNEY, OF SAME PLACE.

TIRE-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 231,102, dated August 10, 1880.

Application filed June 7, 1880. (No model.)

To all whom it may concern:

Be it known that I, EZRA P. ROSS, a citizen of the United States, residing at Lebanon, in the county of Lebanon and State of Pennsylvania, have invented certain new and useful Improvements in Tire-Tighteners; 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
10 which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

15 This invention relates to certain improvements in that class of devices for adjusting the felly of a wheel upon the spokes of the same, consisting of a clamp by which it may be secured to the spokes and a screw-threaded
20 shaft provided with a fixed collar operating a movable dog bearing against the inside of the felly to distend the same.

The object of the present invention is to provide an improved means of operating the screw-threaded shaft and for securing the clamp to the spokes, whereby all detached parts are dispensed with and a compact and convenient device is made in which the parts are all connected permanently together in position ready
25 for immediate use. These objects I accomplish by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of my improved device; Fig. 2, a front elevation thereof, and Fig. 3 a detached view of the
35 clamp.

The letter A indicates a clamp formed in two parts, *a b*, hinged together at B on one side. The said clamp on the opposite side is provided with two lugs, *d e*, on each part, and between the lugs *d* is pivoted the square head of a screw-threaded pin, C, the threaded end of which is provided with a clamping-nut, D, having a handle, E, by which it may be operated.
40 The said pin is adapted to swing upon its pivots, by means of which it can be thrown into position between the lugs *e*, and the parts *a b* firmly and securely clamped to the spoke by the screw-nut D.

50 The letter F indicates a vertical shaft pro-

vided with a permanent crank, G, at one end, and screw-threaded, as shown at H, at the other end. The said shaft is journaled in bearings I on the part *a* of the clamp, and between the two bearings, and fitted to the screw-threaded portion of the shaft, is located a
55 screw-nut, K, one edge of which abuts against the face *g* of the part *a* to prevent turning and cause the shaft to travel back or forth as the shaft is rotated. 60

The letter L indicates a fixed collar on the shaft F, and M a loosely-fitted forked or bifurcated dog mounted upon said shaft above the collar, the upper ends of which straddle the spoke and are adapted to set under the in-
65 ner side of the felly.

The operation of my improved device is as follows: The clamp is opened on its hinge and placed upon one of the spokes, when the parts are brought together and clamped by means
70 of the pivoted pin and clamping-screw. The bifurcated parts of the dog are placed against the inner edge of the felly, and upon rotating the screw-shaft in the proper direction by means of the crank it will be elevated, the
75 collar thereon elevating the bifurcated dog and lifting the felly away from the end of the spoke a sufficient distance to admit of the insertion of a split washer of leather or other similar material, by means of which the felly may be tight-
80 ened upon the wheel readily and conveniently.

It will be seen that as constructed the parts of the device are all permanently connected together and are not liable to be lost, and that the device is always in a condition ready for
85 immediate use.

I am aware that clamps constructed in two parts and adapted to forcibly grasp and hold a spoke by means of securing bolts, nuts, and the like, have been employed heretofore in con-
90 nection with a stock and a threaded shaft, and having a dog for a similar purpose; but in all such devices known to me the clamping-bolts were passed through holes made in flanges upon the spoke-clamp, and a wrench or other
95 separate tool was necessary for successful operation of the device.

In my device there is an entirety and no separate or disconnected pieces. It may be operated in the dark as well as in the light, as 100

there are no holes through which bolts must pass, and hence register therewith.

I attach great importance to the hinged spoke-clamp A, in contradistinction to a clamp made
5 in sections and held by bolts and nuts, and also to the pivoted threaded bolt C, adapted to operate within the jaws *c*, as shown, and to the lever-nut D E, used in connection therewith.

What I claim as new is—

10 The tire-tightener herein described, composed of the threaded bolt C, pivoted between the lugs *d* and operating between the lugs *e* of

the hinged clamp A B I, the lever-nut D E, screw-nut K, shaft F, having fixed crank G and collar L, and the bifurcated loose dog M, 15 all constructed, arranged, and combined to operate as and for the purposes herein set forth.

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

E. P. ROSS.

Witnesses:

JOS. REINHARD,
MORRIS B. FLICKINGER.