(No Model.)

E. F. BURTIS.

CARRIAGE JACK.

No. 404,167. Patented May 28, 1889.

Fig. 1.

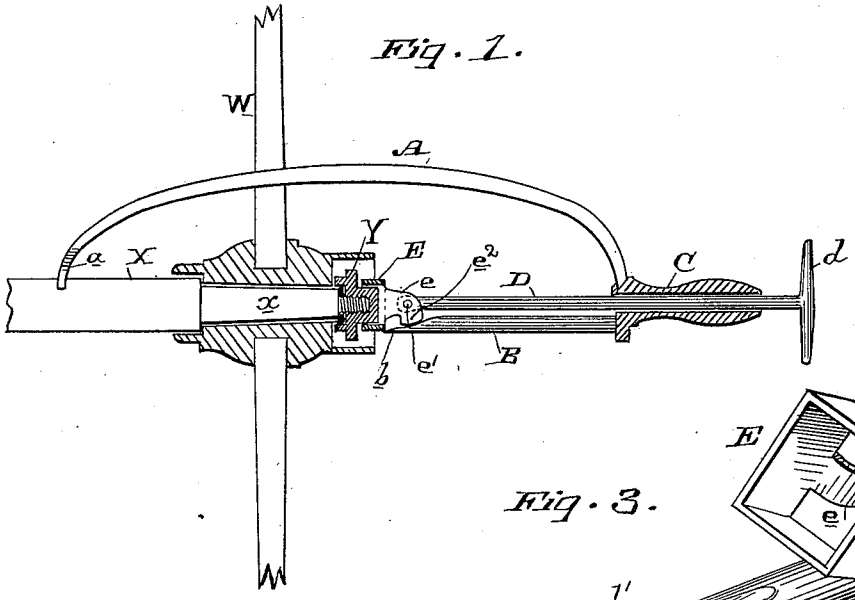


Fig. 3.

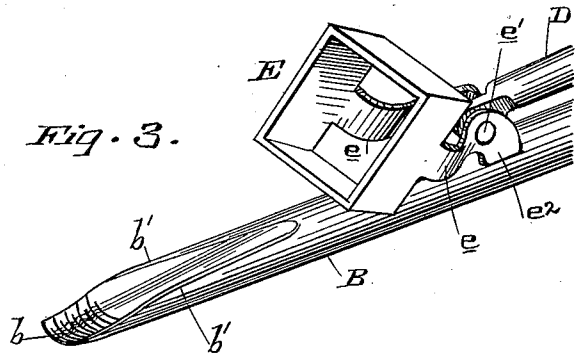
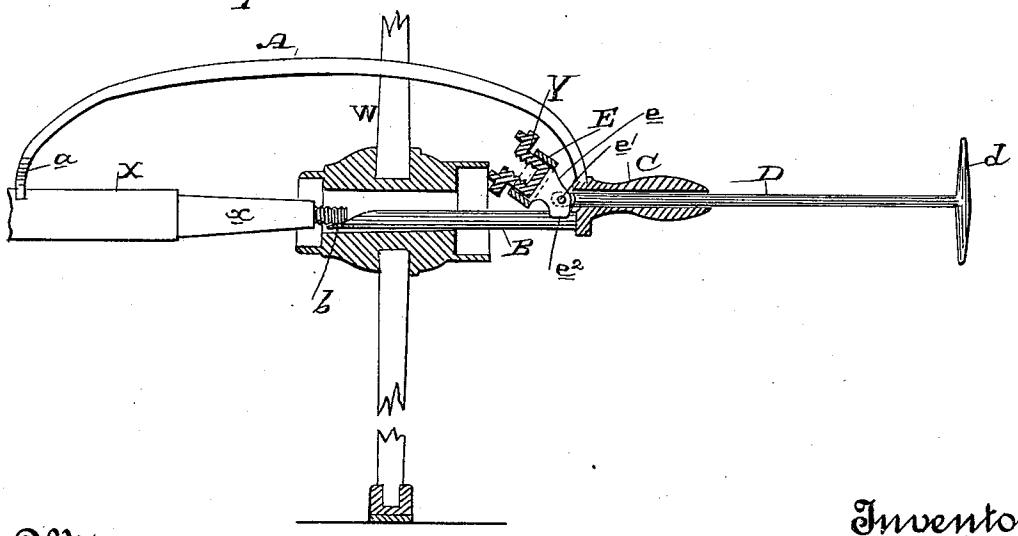


Fig. 2.



Witnesses,
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UNITED STATES PATENT OFFICE.

EDWARD F. BURTIS, OF SACRAMENTO, CALIFORNIA.

CARRIAGE-JACK.

SPECIFICATION forming part of Letters Patent No. 404,167, dated May 28, 1889.

Application filed December 4, 1888. Serial No. 292,664. (No model.)

To all whom it may concern:

Be it known that I, EDWARD F. BURTIS, of Sacramento, Sacramento county, State of California, have invented an Improvement in Carriage-Jacks; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the general class of lifting-jacks, and especially to those designed for use with wagons, carriages, and other vehicles, and in which is employed a bowed arm having a bearing at one end on top of the axle, and having in its other end a rod or bar forming an inserted continuation of the spindle of the vehicle-axle; and my invention consists, in connection with a carriage-jack of this description, of a novel nut-remover, hereinafter described.

The object of my invention is to provide, in connection with the bowed arm and inserted continuation of the axle-spindle of jacks of this description, a simple and effective device for readily removing the nut from the end of the axle-spindle, whereby the wheel may be moved off of the spindle onto the continuation-bar of the jack.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is an elevation of my jack showing the first engagement of the nut-remover. Fig. 2 is a view showing the nut removed and the wheel drawn off the axle-spindle. Fig. 3 is a perspective detail.

A is the bowed arm of the jack, which passes through between the spokes of the wheel W of the vehicle, and has at its inner end a forked bearing, *a*, which rests on top of the vehicle-axle X. Securely fixed in the outer end of the bowed arm and extending inwardly is a rod or bar, B, which forms the continuation of the axle-spindle *x*. This rod or bar has a beveled concaved end, *b*, provided internally with threads which correspond to the threads of the axle-spindle, and when said end is fitted under the axle-spindle the threads mesh and thus form a temporary joint, the spindle being supported upon the end of the rod or bar B.

C is a handle, which in this case is made tubular, and through this tubular handle is passed the stem D of the nut-remover, said stem having on its outer end the handle *d*, by which it is rotated. With the inner end of the stem D is connected the wrench E. This consists of an ordinary four-sided piece adapted to fit over the nut Y of the axle-spindle, and is provided on its back with arms *e*, which embrace the end of the stem, and are pivoted thereto by a pin, *e'*, so that said wrench may have a movement up and down about said pin as a center. These arms are carried down below the pivotal center and form bearings e^2.

The beveled end *b* of the axle rod or bar B is provided on each side with inclined planes or tracks *b'*, which form cams against which the bearing ends e^2 of the arms *e* of the wrench are adapted to come in contact, and on which they travel for the purpose of throwing the wrench and the nut which it contains upwardly when the wrench is drawn back, so that the nut will not drop out of the wrench. The back edges of the wrench are slightly rounded or beveled, so that they will not interfere with the end of the rod or spindle B.

The operation of the jack is as follows: The bowed arm A is passed through between the spokes of the wheel, and its forked inner end bears upon the top of the axle. The stem D is then moved longitudinally until the wrench on its end fits over the nut of the axle-spindle. Said stem is now rotated so that the wrench unscrews the nut, whereupon the stem is retracted longitudinally, and the bearing ends e^2 of the wrench, coming in contact with the inclined planes or cams *b'* on each side of the axle-rod B, turn the wrench with its nut to a slightly-upward position, so that the nut is prevented from falling out of the wrench. The beveled threaded end *b* of the axle-rod B is now fitted under the threaded end of the axle from which the nut is removed, and the wheel is then drawn off onto said rod and serves to support the whole device, as with jacks of this kind. When the spindle is properly oiled and greased, the wheel is pushed back onto it, the axle-rod B is withdrawn, and the stem D is moved inwardly to put the nut onto the spindle end, so that by turning the stem the nut is replaced.

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

1. In a carriage-jack, and in combination

with the bowed arm A and the axle rod or bar B thereof, a longitudinally-movable and rotary stem seated in the bowed arm and having a wrench upon its end adapted to fit the nut of the axle-spindle, substantially as herein described.

2. In a carriage-jack, and in combination with the bowed arm A and the axle rod or bar B thereof, the tubular handle C, the rotary and longitudinally-movable stem D, mounted in said handle, and the wrench E at the inner end of the stem, adapted to engage and remove the nut of the axle-spindle, substantially as herein described.

3. In a carriage-jack, the bowed arm A and the axle rod or bar B thereof, in combination with the longitudinally-movable and rotary stem D, seated in the bowed arm parallel with the axle rod or bar, and the wrench pivoted to the inner end of the stem and adapted to engage the nut of the axle-spindle, said wrench having arms adapted to come in contact with cams on the axle rod or bar to turn it upwardly and hold the nut safely when removed, substantially as herein described.

4. In a carriage-jack, the bowed arm A and the axle rod or bar B, having a beveled end, b, with inclined planes or cams b' on each side, in combination with the longitudinally-movable and rotary stem D, seated in the bowed arm, and the wrench E, having the arms e pivoted to the inner end of the stem, and projecting bearing ends e^2, adapted to come in contact with the inclined planes or cams b' of the axle rod or bar, whereby the wrench is turned upwardly when retracted and holds the nut safely, substantially as herein described.

5. A carriage-jack comprising the bowed arm A, having the bearing a at its inner end for resting on the axle, the rod or bar B, secured to its outer end and having a beveled end, b, adapted to bear under the axle-spindle and provided with inclined planes or cams b' on its sides, the tubular handle C, the stem D, mounted in said handle and adapted to be moved longitudinally and rotated and having the handle d on its outer end, and the wrench E, having the arms e pivoted to the end of the stem D, with projecting bearing ends e^2, adapted to come in contact with the inclined planes or cams b of the rod or bar B, substantially as herein described.

In witness whereof I have hereunto set my hand.

EDWARD F. BURTIS.

Witnesses:
S. H. NOURSE,
H. C. LEE.