

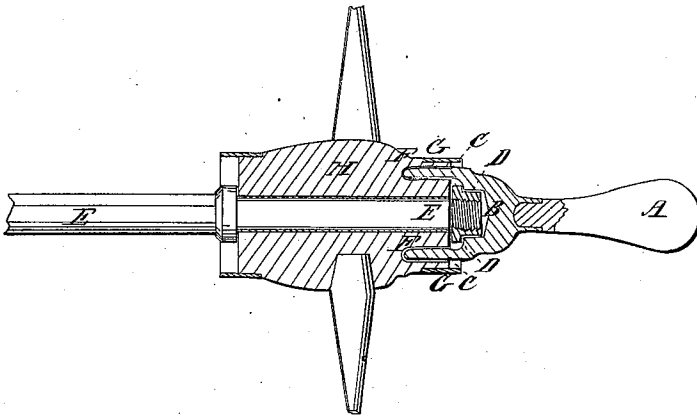
*L. B. Fisk,*

*Wrench.*

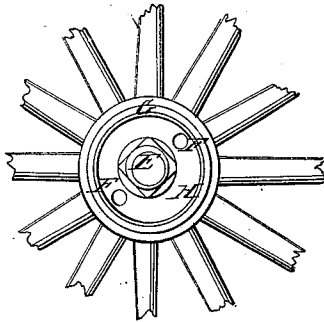
*N<sup>o</sup> 76,900.*

*Patented Apr. 21, 1868.*

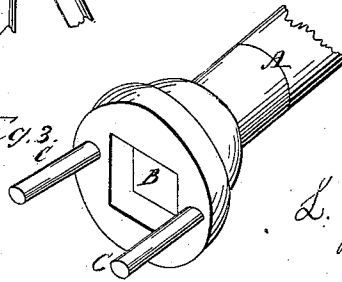
*Fig. 1*



*Fig. 2*



*Fig. 3*



*Witnesses*

*J. D. Vale*

*Geo. W. Miatt.*

*Inventor*

*L. B. Fisk,*  
*By J. Fraser & Co*  
*attys*

# United States Patent Office.

LEVI B. FISK, OF LOCKPORT, NEW YORK.

*Letters Patent No. 76,900, dated April 21, 1868.*

## IMPROVED WRENCH FOR CARRIAGE-WHEELS.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, LEVI B. FISK, of Lockport, in the county of Niagara, and State of New York, have invented a certain new and useful Improvement in Wrenches for Carriage-Wheels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section, showing my wrench as applied to the hub of a wheel.

Figure 2 is a front view of a wheel-hub, showing the holes in the rim necessary for the use of my wrench.

Figure 3 is a perspective view of the wrench.

Like letters of reference designate corresponding parts in all the figures.

My invention consists of a wrench combining two protruding prongs or forks for setting into corresponding holes in the wheel-hub, and a socket for receiving the nut on the end of the axle, the whole being formed so as to firmly hold the head of the nut and turn it by the action of the wheel, as hereinafter described.

In the drawings, A represents the wrench. B is a socket cast in the face of the wrench, made to conform to the shape of nuts commonly used to hold axles in the hubs of wheels. C C are two straight forks of the wrench, which are cast on the face, and opposite to each other, and protruding as shown. D is the ordinary nut screwed on the axle, the head resting in the socket B of the wrench. E is the iron axle, with its end screwed into the nut D. F F are two holes in the wheel-hub, into which the forks C C set. H is the hub, and G the outer rim or band of the hub.

The operation of my invention is as follows: When it is desired to remove the wheel, an ordinary jack is placed under the axle, and the wheel raised above the ground. The wrench is then taken by the handle, and the prongs or forks C C inserted in the holes F F inside the rim of the hub. This action causes the head of the nut D to set completely in the socket B, which now closely encompasses it. The operator, with his hand, now turns the wheel on its axis, which furnishes all the power required; and the nut at once begins to unscrew with the wheel. When the nut is entirely unscrewed, the wrench, still holding the nut, is withdrawn from the hub, and the wheel is thus easily taken from the axle. It is put on by simply reversing the action.

The object of my invention is to furnish a cheap and compact hand-wrench, simple in construction, and which can be used quickly and handily in taking off wheels of all sizes.

To remove the nut, all the power required is that used in turning the wheel.

My invention does away with the disadvantages of the old styles of wrench, which require considerable strength to apply, especially where a nut is very tightly screwed on to the axle, or has become set by the hardening of the wheel-grease, as is often the case, and invariably greasing one's hand and clothes. My device removes a nut without the hands coming in contact with it, and an axle can be greased, and the wheel and nut put in place, without soiling the hands in the least.

It is not as unsightly in shape and appearance, nor need it be so heavy, as the old style of wrench. It needs no adjusting, being cast in one piece; and all that is absolutely necessary to its use, is to have the holes bored into the wheel-hub, which, being inside the rim, do not show except on close examination, and are not in the least unsightly or objectionable.

No wheel, however nicely varnished, or hub that is finely plated, need ever be injured or defaced by the use of my wrench.

I am aware of a wrench patented by Chareles N. Morgan, August 7, 1866, No. 56,980, which is for removing nuts automatically from carriage-axles; but his device is essentially different from mine, being quite complicated, having jaws, screws, socket-plate, &c., and being also very expensive. His, composed of many parts, is objectionable, as being liable to get out of order, or the parts to get lost; also, especially the jaws or clamps, setting tightly on the painted or plated rim of the hub, are apt to scratch or deface it, if it is necessary to apply great power, as where the nut gets set or stuck in place. As no part of my wrench touches the rim, no difficulty of this kind can be experienced.

As the size of nuts used for buggies and wagons varies, by making three or four sizes of my wrench, I can obviate all difficulty in that respect.

What I claim as my invention, and desire to secure by Letters Patent, as a new article of manufacture, is—  
A hand-wrench combining the forks C C and socket B in a single device, when employed in connection with the hub-holes F F, the whole arranged and operating in the manner and for the purpose herein described.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

L. B. FISK.

Witnesses:

WILBUR FISK,  
C. P. T. LA ROCHE.