

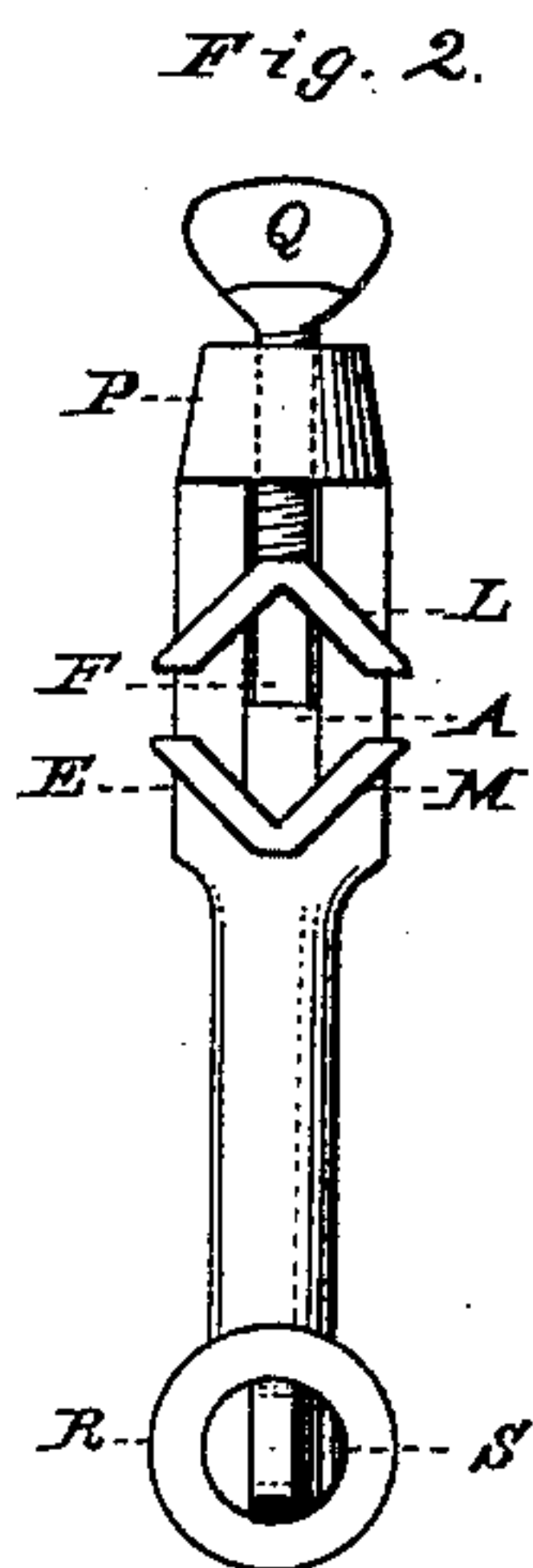
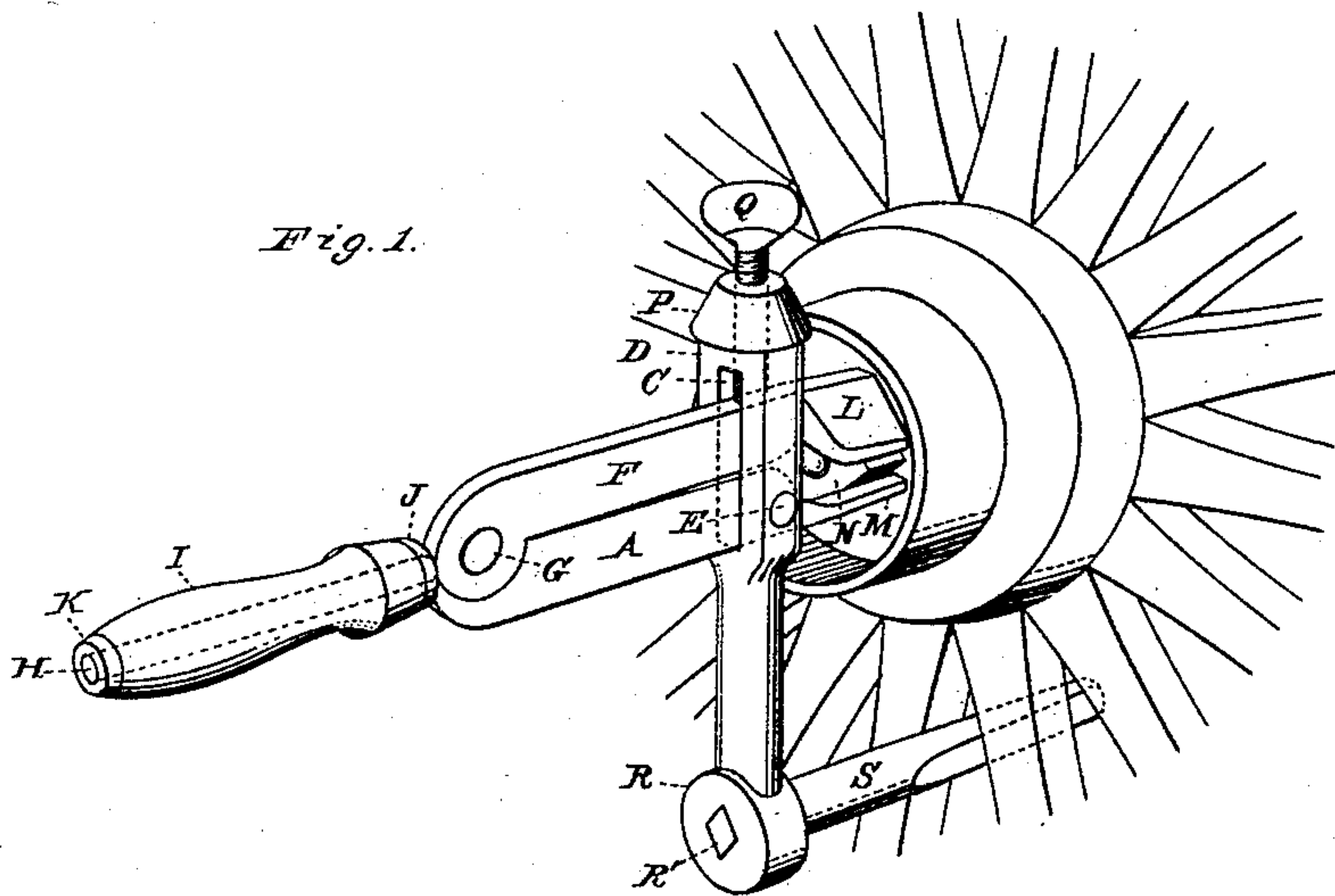
(No Model.)

W. L. RUSSELL.

WRENCH.

No. 358,886.

Patented Mar. 8, 1887.



WITNESSES

Villette Anderson.
Philip Massi.

INVENTOR

Wm L. Russell
by Anderson Smith
his ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM LUTHER RUSSELL, OF CAMBRIDGE, NEW YORK, ASSIGNOR OF
ONE-HALF TO BENJAMIN F. KETCHUM, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 358,886, dated March 8, 1887.

Application filed July 19, 1886. Serial No. 208,453. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LUTHER RUSSELL, a citizen of the United States, residing at Cambridge, in the county of Washington and State of New York, have invented certain new and useful Improvements in Wrenches; and I do 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 ap-
10 pertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation
15 of this invention, and is a perspective view. Fig. 2 is a front view.

My invention relates to wagon-wrenches designed to remove and replace the nuts on the journals of wagon-axles; and it consists in the
20 construction and novel combination of parts, as hereinafter described, and pointed out in the claims.

Referring by letter to the accompanying drawings, A designates the rigid arm of the
25 wrench, said arm being securely fixed just in the rear of the jaw B in the slot C in the cross-arm D of the wrench by a rivet, E, passed laterally through the slotted cross-arm D, and through the arm A of the fixed jaw.

30 The movable arm F of the wrench is pivoted at one end in an integral bearing, G, near the tang H of said rigid arm A, and a handle, I, is secured on said tang H by collars J K at the end of said handle. The rigid arm A and the
35 movable arm F are each provided with a jaw, (marked L and M,) said jaws L and M being triangular in form in cross-section and the mouths of said jaws being opposed to each other, so that they may be closed upon the
40 angular-shaped (in outline) nut N, that secures the wheel upon the journal of the axle.

In the end P of the cross-arm D a set-screw, Q, is seated, and the point of this screw Q bears against the outer edge of the movable arm F of the wrench, and serves to move said
45 arm F toward the rigid arm A when said screw is turned, which movement causes the jaws L and M to clamp the nut firmly between them.

The end R of the cross-arm D is provided
50 with an eye, R', in which eye R' the larger end of a tapering arm, S, is secured, and is designed to bear against a spoke of the wheel when the wrench is being used to turn the nut on or off from the journal, so that the wheel itself will
55 be turned when the nut is turned.

By turning the wheel backward when the wrench is in place the nut will be turned off, and by turning the wheel forward when the
60 wrench is in place the nut will be turned on.

The jaws of the wrench fit two corners of the nut, and are adapted to fit nuts of all sizes commonly used on the journals of wagons, buggies, carriages, road-carts, and the like.

Having described this invention, what I
65 claim, and desire to secure by Letters Patent, is—

The combination, with the slotted cross-arm provided with the tapering arm at one end and the set-screw in the other end, of the fixed
70 arm secured in the slotted cross-arm by a rivet, and provided with the triangular-shaped jaw at one end and the handle at the other end, and the movable arm pivoted to the fixed arm, and provided with the triangular-shaped jaw
75 at its outer end, substantially as specified.

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

WILLIAM LUTHER RUSSELL.

Witnesses:

W. E. HAWKINS,
GEORGE CLOSSON.