(No Model.)

F. A. WEGNER.

CARRIAGE WRENCH.

No. 390,731. Patented Oct. 9, 1888.

Fig. 1.

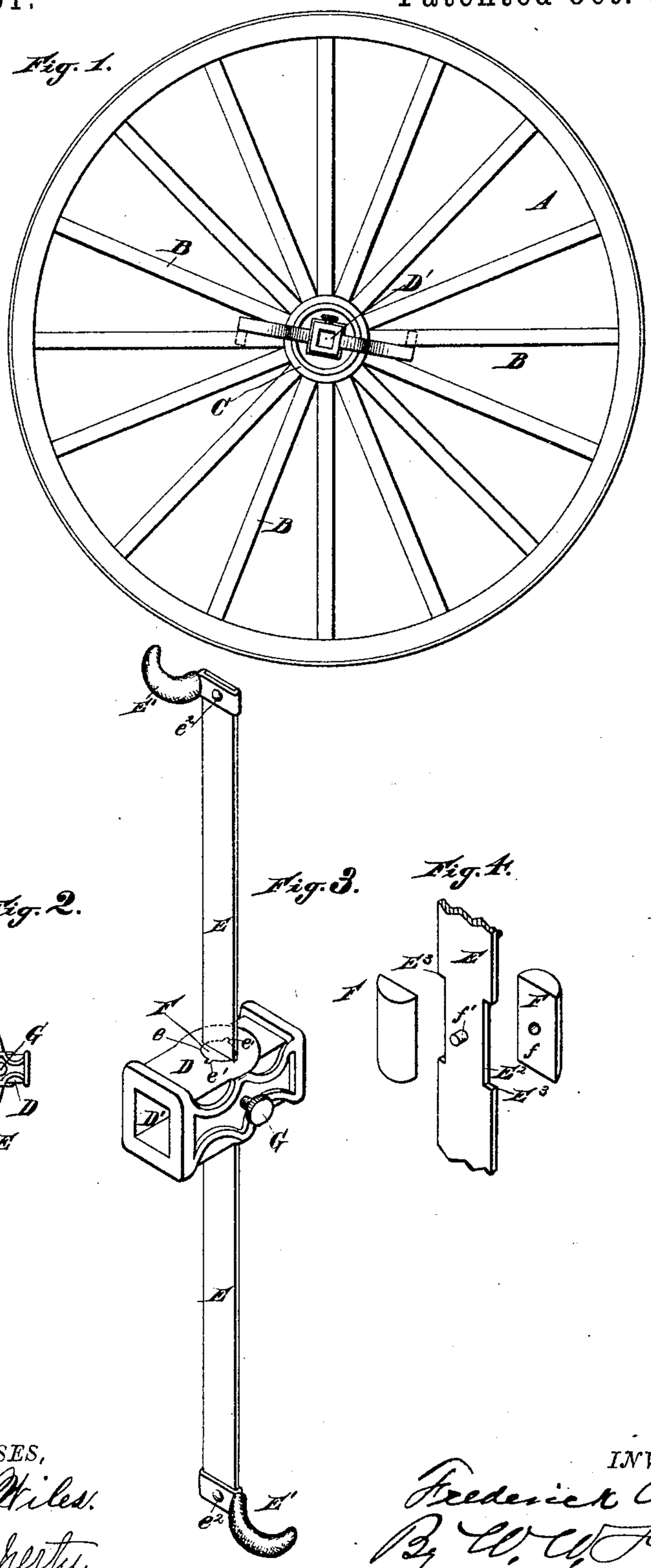

Fig. 2.

Fig. 3.

Fig. 4.

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CARRIAGE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 390,731, dated October 9, 1888.

Application filed September 20, 1887. Serial No. 250,240. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK A. WEGNER, a citizen of the United States, residing at Three Rivers, county of St. Joseph, State of Michigan, have invented a certain new and useful Improvement in Carriage-Wrenches; and I 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, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in carriage-wrenches, and has for its object the provision of an improved wrench of novel construction, such that the wrench may be readily attached to the carriage or wagon wheel to be removed in such a manner as to engage the nut within the hub of the wheel, said wrench adapted to retain the nut and washer in position within the hub while the wheel is detached from the spindle, the wrench to be turned for running the nut off and on by turning the wheel.

In carrying out my invention, Figure 1 is a side elevation of a wheel with my improved wrench attached thereto; Fig. 2, an edge elevation of the same; Fig. 3, a perspective view of my improved wrench, and Fig. 4, a detail view of parts.

A represents an ordinary wagon or carriage wheel; B, its spokes, and C its hub.

D represents the head of my improved wrench; and D′, the sockets therein for engaging the nut.

E represents a spring passed through an opening, *e*, in the wrench-head, and provided with hooks E′ at its outer ends, adapted to engage the spokes B of the wheel. The opening *e* is made, preferably, of a cylindrical form and with grooves *e′ e′* upon its opposite sides.

E^2 represents recesses cut in the sides of the spring.

F represents semi-cylindrical blocks, adapted to fit within the opening *e* along the sides of the spring E.

G represents a set-screw. The diameter of the cylindrical opening *e* is preferably a little less than the width of the spring E; but the grooves *e′* are of sufficient depth to increase the diameter of the opening so as to permit the admission of the spring therein.

Blocks F are preferably provided with orifices *f*, and the spring E with pins *f′* for engaging the same. One end of the spring is inserted within the opening *e* with its edges within the grooves *e′*, and the blocks F adjusted in place upon the spring, when said spring may be pushed through the opening as far as the recesses E^2, when it may be rotated so as to engage the shoulders E^3 upon the sides of the wrench-head. Set screw G is then turned so as to hold the spring E firmly in place. Hooks E′ may now be attached to the ends of the spring in any suitable manner, as by rivets e^2. These hooks are preferably covered with rubber or cloth to prevent them from scratching or marring the paint upon the spokes of the wheel. The wrench-head is preferably constructed with two sizes of sockets at its ends to fit different-sized nuts, and in use the set-screw G may be loosened and the spring rotated, so as to bring the hooks into the proper position for using either the larger or the smaller end of the wrench-head, when the screw may be tightened so as to retain the parts in position.

The operation of my device is as follows: The operator inserts the end of the wrench-head within the rim of the hub, so as to engage the nut. The ends of spring E are then bent down and hooks E′ engaged under the spokes, as shown in the drawings. The wheel may then be turned in the proper direction, carrying the wrench with it, and thus unscrewing the nut, when the wheel may be removed, and with it the wrench, and the nut and washer in place within the hub. The lubricant may now be applied either within the hub or upon the spindle, as desired, and the wheel replaced and rotated in the opposite direction, thus securing the nut in place upon the spindle, when the hooks E may be disengaged and the wrench removed. In the use of wrenches as ordinarily constructed the operator is compelled, first, to take off the nut separately and then the wheel, almost invariably dropping off either the nut or the washer to the ground in doing so. This is a source of much annoyance to the operator, as it necessitates the replacing of the nut or washer by hand, a very disagreeable operation, as they are always more or less covered with grease, and such replacement occasions the

soiling of the hands and often the clothing of the operator. The nut or washer is also liable to become covered with sand or dust, and when replaced within the wheel this sand works out along the spindle and destroys the bearings thereon. Another objection to the use of ordinary styles of wrenches is that the removal of the nut and the wheel and their replacement separately consumes a considerable amount of time and is necessarily a tedious operation. With my improvement, however, all these objections are effectually overcome, as it is only necessary to attach the wrench to the wheel, and then to spin the wheel around to disengage the nut, when the wheel, wrench, nut, and washer all come off together. The tension of the spring retains the nut and washer firmly in place within the hub, thus preventing the nut and washer from being dropped by the operator and the consequent admission of sand and dirt to the bearing surfaces. The operation of oiling a wagon or carriage may thus be much more quickly accomplished and without the liability of soiling the hands and clothing of the operator.

Having thus described my invention, what I claim is—

1. In a carriage-wrench, a wrench-head having sockets of different diameters and a spring passed through said wrench-head, substantially as described.

2. In a carriage-wrench, the combination, with the wrench-head D, of a spring, E, having hooks E′ and recesses E², filling-blocks F, and set-screw G, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

FREDERICK A. WEGNER.

Witnesses:
O. F. BEAN,
FRED. WEGNER, Sr.