

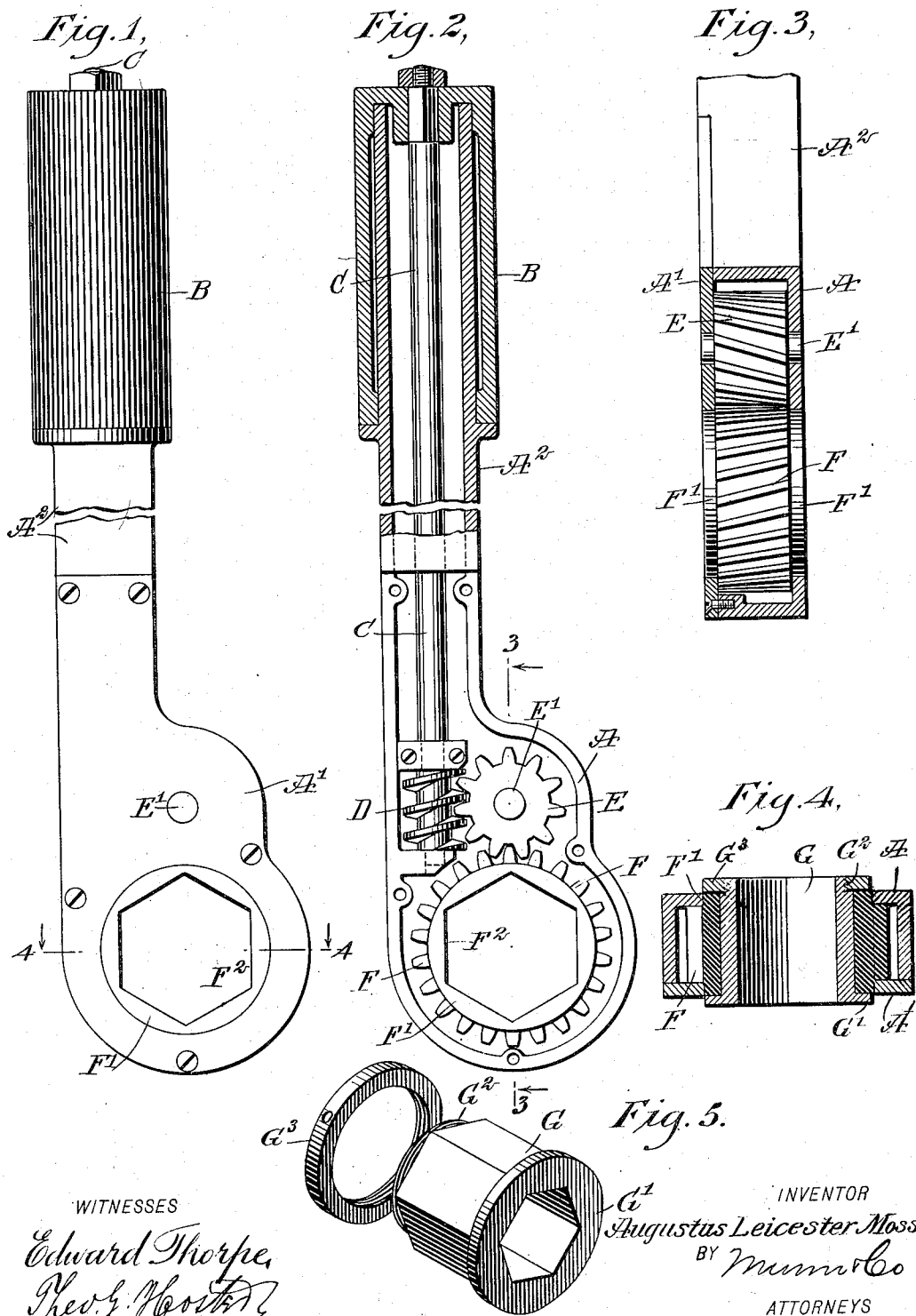
No. 858,892.

PATENTED JULY 2, 1907.

A. L. MOSS.

WRENCH.

APPLICATION FILED NOV. 1, 1906.



WITNESSES

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AUGUSTUS LEICESTER MOSS, OF SANDUSKY, OHIO.

WRENCH.

No. 858,892.

Specification of Letters Patent.

Patented July 2, 1907.

Application filed November 1, 1906. Serial No. 341,557.

To all whom it may concern:

Be it known that I, AUGUSTUS LEICESTER MOSS, a citizen of the United States, and a resident of Sandusky, in the county of Erie and State of Ohio, have invented a new and Improved Wrench, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved wrench, more especially designed for turning bolts, nuts and other articles and devices, notably, however, such as are located in inconvenient places not readily accessible by an ordinary wrench.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement; Fig. 2 is a sectional side elevation of the same; Fig. 3 is a transverse section of the same on the line 3—3 of Fig. 2; Fig. 4 is a sectional plan view of the same on the line 4—4 of Fig. 1, and Fig. 5 is a perspective view of one of the interchangeable heads.

The casing A of the wrench is provided with a cover A' and a handle A² on which is mounted to turn a hand sleeve B secured to the shaft C extending within the hollow handle A² and the casing A, and journaled in suitable bearings therein. On the inner end of the shaft C is secured a worm or spiral gear wheel D in mesh with a spiral gear wheel E having its shaft E' journaled in the back and cover A' of the casing A. The gear wheel F is in mesh with a gear wheel F' having its hub F' journaled in the back and cover A' of the casing A, and the said gear wheel is provided with a polygonal opening F² so as to form a wrench head adapted to engage the nut, bolt or other article or device to be turned.

Now in order to use the wrench it is only necessary to engage the opening F² with the bolt, nut or other article or device and then turn the hand sleeve B in the proper direction, so as to rotate the shaft C and consequently turn the gearing, of which a member carries a wrench head, so that the bolt or nut, article or other device is turned in the desired direction with a view to screw the same up or to unscrew it according to the direction in which the hand sleeve F is turned.

Now in order to permit the use of the wrench for bolts, nuts and the like of smaller size, use is made of supplementary wrench heads G having openings of corresponding size and such, for instance, as shown in Figs. 4 and 5. In this case it is only necessary to insert the wrench head G into the opening F², the wrench head G having a polygonal body, the outside of which fits the walls of the opening F², so that the supplement-

tary wrench head turns with the gear wheel F. The wrench head G has a polygonal opening for engaging a bolt, nut or the like. One end of the body of the wrench head G is provided with a flange G' and the other end has a threaded portion G² on which screws a nut G³, to securely hold the wrench head G against lateral motion, as will be readily understood by reference to Fig. 4. As shown in this view the flange G' and the nut G² engage the outer faces of the gear wheel F, so that the auxiliary wrench head G is held against lateral movement but turns with the gear wheel F when the latter is rotated by the operator turning the hand sleeve B in either a forward or a backward direction.

Other suitable devices may be employed for fastening the interchangeable wrench head G to the gear wheel F, and hence I do not limit myself to the particular construction shown and above described.

By the use of the intermediate gear E a powerful rotation of the wrench head can be had, so as to readily loosen tight nuts, bolts and the like, and to permit of firmly screwing up bolts, nuts and the like whenever it is desired to do so.

The wrench shown and described is very simple and durable in construction, and as no swinging movement of the handle is required it is evident that the wrench can be used to great advantage for turning bolts, nuts and the like located in places not readily accessible to an ordinary wrench. The wrench may, however, be used as an ordinary wrench.

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

1. A wrench comprising a casing, a wrench head mounted to turn in the said casing and adapted to engage the article to be turned, a gearing for turning the said head, and a hand sleeve mounted to turn on the casing for actuating the said gearing and means for reducing the size of the wrench head, said means comprising supplementary wrench heads of a diameter to enter the said wrench head, said supplementary heads being provided with a flange upon one end thereof and having the other end threaded, and a nut for engaging the threaded end whereby to secure the wrench head in place.

2. A wrench comprising a casing having a handle, a hand sleeve mounted to turn on the outer end of the said handle, a shaft attached to the said hand sleeve and journaled in the casing and its handle, a gearing connected with the said shaft, and a wrench head on a member of the said gearing and extending on opposite faces of the said casing and means for reducing the size of the wrench head, said means comprising supplementary wrench heads of a diameter to enter the said wrench head, said supplementary heads being provided with a flange upon one end thereof and having the other end threaded, and a nut for engaging the threaded end whereby to secure the wrench head in place.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AUGUSTUS LEICESTER MOSS.

Witnesses:

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