

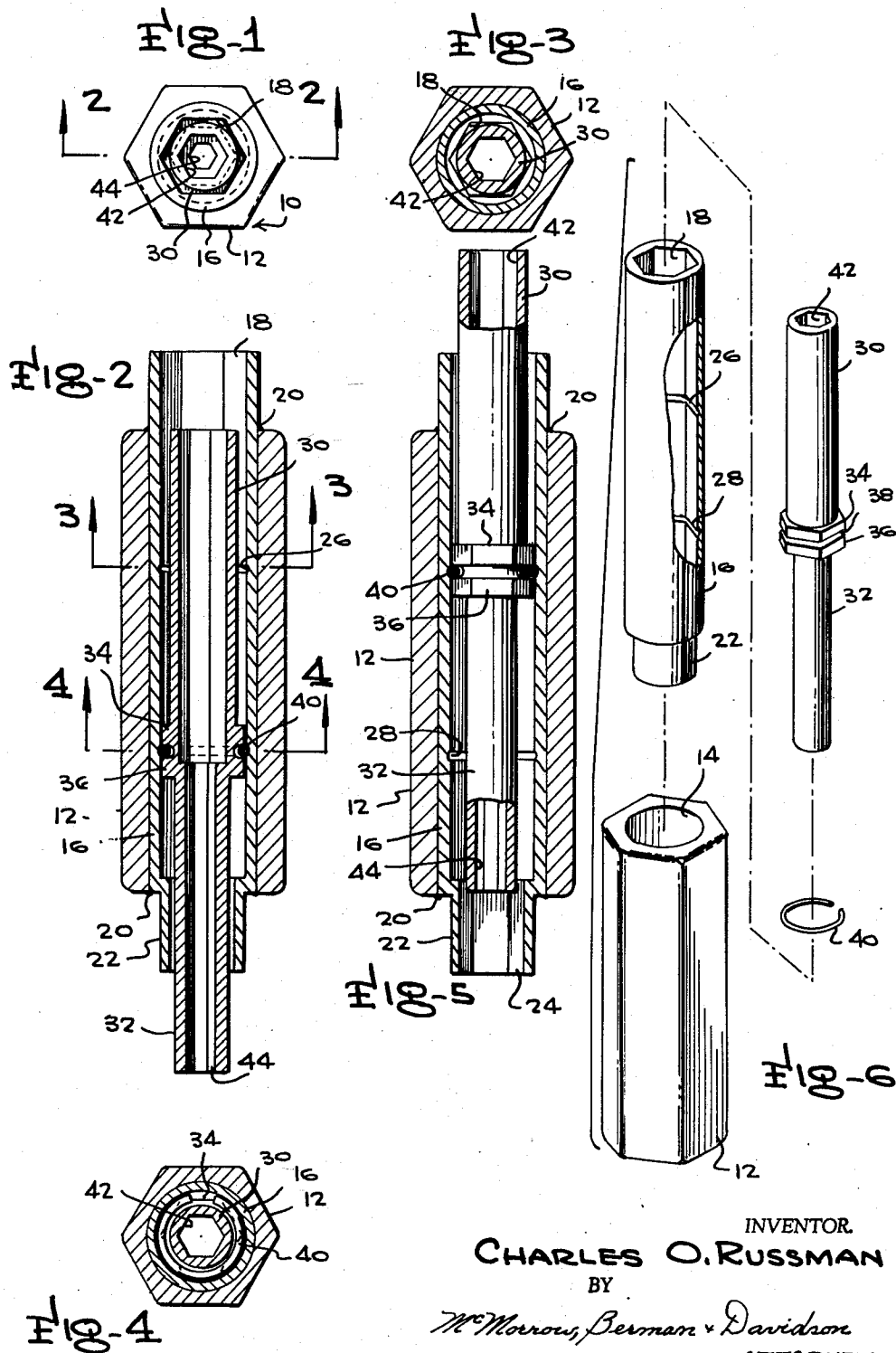
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C. O. RUSSMAN

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TELESCOPIC MULTIPLE WRENCH

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INVENTOR
CHARLES O. RUSSMAN
BY

McMorrow, Berman & Davidson
ATTORNEYS

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TELESCOPIC MULTIPLE WRENCH
Charles O. Russman, 1839 Warwick Ave.,
Lincoln Park, Mich.

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2 Claims. (Cl. 81-185)

This invention relates to the general field of manually-operable tools and, more specifically, the invention pertains to a multiple socket wrench.

One of the primary objects of this invention is to provide a plurality of united interfitting telescopically-arranged elements so constructed as to enable socket-containing ends of the elements to be projected or retracted selectively into and out of active positions.

Another object of this invention is to provide a multiple socket wrench constructed of interfitting telescopic members wherein manually-operated means are provided which are accessible from the exterior of the wrench and by which the socket ends of the members may be selectively projected or retracted to assume active or inactive operating positions.

It is a further object of this invention to provide a multiple socket wrench comprised of interfitting telescoping members which are adapted to receive the heads of screws or bolts, and the nuts therefor.

A further object of this invention is to provide an adjustable socket wrench which is adapted for use with nuts of various sizes and without the necessity of making adjustments with respect to other tools, thus materially reducing the cost of manufacture and reducing time costs in adapting a plurality of wrenches to nuts of various sizes.

This invention contemplates, as a still further object thereof, the provision of a telescopic multiple wrench of the type briefly described above wherein the wrench is non-complex in construction and assembly, inexpensive to manufacture, and which is durable in use.

Other and further objects and advantages of the instant invention will become more manifest from a consideration of the following specification when read in conjunction with the annexed drawing, in which:

FIGURE 1 is a top plan view of a telescopic multiple wrench constructed in accordance with this invention;

FIGURE 2 is a medial longitudinal cross-sectional view, FIGURE 2 being taken substantially on the vertical plane of line 2-2 of FIGURE 1, looking in the direction of the arrows;

FIGURE 3 is a detail cross-sectional view, FIGURE 3 being taken substantially on the horizontal plane of line 3-3 of FIGURE 2, looking in the direction of the arrows;

FIGURE 4 is a detail cross-sectional view, FIGURE 4 being taken on the horizontal plane of line 4-4 of FIGURE 2, looking in the direction of the arrows;

FIGURE 5 is a cross-sectional view corresponding to FIGURE 2, FIGURE 5 showing a telescoped member moved to a second position; and

FIGURE 6 is an exploded perspective view of the telescopic multiple wrench.

Reference numeral 10 designates, in general, a telescopic multiple wrench constructed in accordance with the teachings of this invention. The wrench 10 is seen to comprise an external elongated substantially hexagonal exterior housing 12 having a longitudinally-extending cylindrical bore 14. Disposed within the bore 14 is an elongated substantially cylindrical first wrench 16 having a longitudinally-extending hexagonal central passage 18 extending therethrough. As is seen in the several figures of the drawings, the first wrench 16 is fixedly secured as by welding 20 to the exterior housing 12. The

first wrench 16, as viewed in FIGURE 2, is reduced or necked-down at 22 to form an end projecting from the exterior housing 12 while still preserving the hexagonal interior configuration as is indicated at 24 (see FIGURE 5). The first wrench 16 is provided with a plurality of longitudinally-spaced circumferential slots 26, 28 to serve a function to be described below.

The second wrench 30 is provided with a necked-down portion 32 extending axially thereof, and substantially at the point of intersection of the wrench 30 with the necked-down portion 32 there is integrally formed a pair of longitudinally-spaced hexagonal guides 34, 36. The spacing between the hexagonal guides 34, 36 provides a substantially cylindrical opening 38 to receive the spring ring 40. As is seen in the drawing, the hexagonal guides 34, 36 are telescopically received within the first wrench 16 for reciprocation therein, and the spring ring 40 is adapted for engagement and disengagement within the circumferential slots 26, 28, selectively. The second wrench 30 has an internal hexagonal configuration 42 at the upper end thereof and the necked-down portion 32 is also provided with a similar configuration.

The arrangement is such that the exterior housing forms a manually-operable handle whereby the wrench 10, as viewed in FIGURE 2, may engage a relatively large nut (not shown) at the upper end of the first wrench 16 in the hexagonal configuration designated at 18 or, optionally, a much smaller nut (not shown) in the hexagonal configuration 44 of the necked-down portion 32 of the second wrench 30.

The second wrench 30 may be displaced outwardly of the first wrench 16 by applying a force to the lower end of the necked-down portion 32 of the second wrench 30 whereby the second wrench 30 moves from its innermost position shown in FIGURE 2 to its outermost position as shown in FIGURE 5. This permits the wrench 10 to present the necked-down portion with its internal hexagonal configuration 24 for application to a nut having a diameter greater than the diameter of the hexagonal central passage 18 and greater than the diameter of the hexagonal passage 42 formed in the second wrench 30. At the same time, as the second wrench 30 moves from its position shown in FIGURE 2 to the position shown in FIGURE 5, the internal hexagonal passage 42 is presented for engagement with a nut having a lesser diameter than the diameter of the necked-down portion 32 and passage 24 to provide still another nut-engaging wrench.

It will be understood, of course, that as the second wrench 30 is shifted from its position shown in FIGURE 2, wherein the spring ring 40 is engaged within the circumferential slot 28 to the position shown in FIGURE 5, the spring ring 40 will engage within the slot 26. The arrangement of the several component elements of the wrench is such that the spring ring 40 will hold the second wrench 30 in either extended position relative to the ends of the housing 12.

Having described and illustrated one embodiment of this invention in detail, it will be understood that the same is offered merely by way of example, and that this invention is to be limited only by the scope of the appended claims.

What is claimed is:

1. A multiple socket wrench comprising an elongated housing having an axially-extending cylindrical bore extending from end-to-end therethrough, a first elongated substantially cylindrical wrench telescoped within said bore, means fixedly securing said first wrench to said housing, said first wrench having an internal polygonal configuration differing in size at its respective opposed ends, said first wrench having a plurality of axially-

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spaced internal circumferential grooves formed therein, a second wrench having a substantially cylindrical external configuration slidably mounted within said first wrench, said second wrench having a pair of polygonal guide members on the external side thereof conforming in configuration to the polygonal configuration of said first wrench, said guide members being disposed in axially-spaced relationship relative to said second wrench, said second wrench having a spring element disposed between said guide members, said spring element being selectively engageable within one of said grooves formed in said first wrench whereby said opposed ends of said second wrench may be selectively exposed beyond opposed ends of said first wrench.

2. A multiple socket wrench comprising an elongated polygonal housing having an axially-extending cylindrical bore extending from end-to-end therethrough, a first elongated substantially cylindrical wrench telescoped within said bore, means fixedly securing said first wrench to said housing, said first wrench having ends projecting beyond the adjacent ends of said housing, said first wrench having a substantially hollow internal polygonal configuration extending therethrough to provide a pair of opposed open nut-receiving ends, the diameter of one of said ends of said first wrench being reduced with respect to the diameter of the opposed end thereof, a second substantially cylindrical wrench slidably disposed within said first wrench, said second wrench having a pair of longitudinally-spaced polygonal guide members projecting laterally therefrom and conforming in con-

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figuration to the polygonal configuration of said first wrench and slidably engaging thereagainst, said guide members holding said second wrench in spaced relation relative to said first wrench, said first wrench having a pair of longitudinally-spaced slots formed therein, said second wrench having a spring member disposed in the slot formed between said guide members, said spring member being releasably engageable within either one of said longitudinally-spaced slots, said second wrench having an internal polygonal configuration with an end thereof of reduced diameter with respect to the opposed end of said second wrench, and said second wrench being adapted for selective movement to extend one or the other of its ends beyond the adjacent end of said first wrench.

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WILLIAM FELDMAN, *Primary Examiner.*

MILTON S. MEHR, *Examiner.*