G. E. FRISZ.

OPERATING TOOL.

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1,431,389. Patented Oct. 10, 1922.

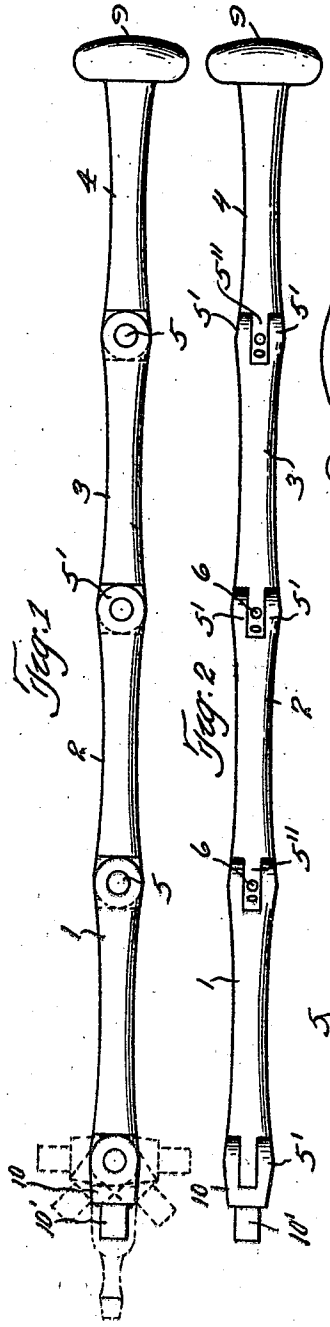


Fig. 1

Fig. 2

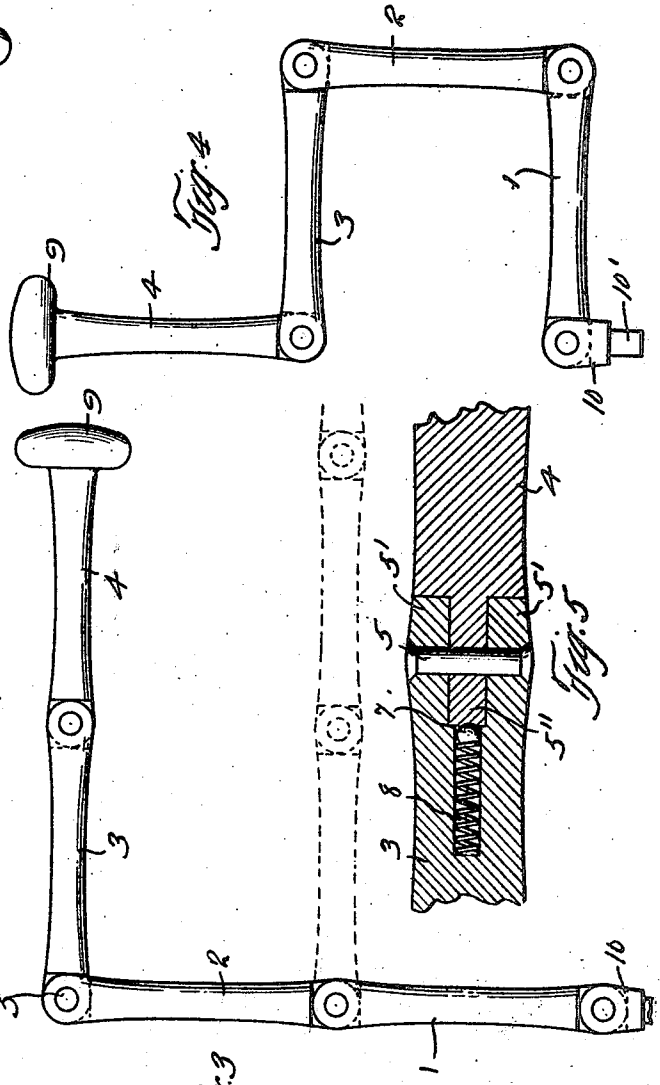


Fig. 4

Fig. 3

Fig. 5

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UNITED STATES PATENT OFFICE.

GEORGE E. FRISZ, OF INDIANAPOLIS, INDIANA.

OPERATING TOOL.

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To all whom it may concern:

Be it known that I, GEORGE E. FRISZ, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Operating Tools, of which the following is a specification.

The present invention relates to improvements in tools or implements, and has for its object to provide an operating handle or lever capable of being adjusted into a large number of different positions for use in places difficult of access, or to afford greater or less leverage as the particular operation may require.

A further object is to provide a tool which is so constructed as to be applicable to a large variety of instruments designed, for example, for removing nuts, bolts, screws and the like.

To this end the invention consists of a plurality of jointed sections, which sections are capable of being adjusted at substantially any angle with respect to another or the instrument or tool with which it is used, means preferably being employed for holding the sections at adjusted positions.

In the drawing:

Figure 1 is a side elevation of a tool constructed in accordance with my invention, and showing in dotted lines the various adjustments of its connector piece;

Figure 2 is a top plan, all of the sections of the tool being in alignment as in Figure 1;

Figure 3 is a view showing different adjustments of the handle sections;

Figure 4 is a similar view showing the handle adjusted into brace form; and

Figure 5 is an enlarged sectional view of one of the joints, showing more clearly the retaining means for holding the sections at adjusted position.

Throughout the following detailed description and on the several figures of the drawing, similar reference characters refer to like parts.

Referring to the drawing, it will be observed that the implement is composed of a plurality of sections 1, 2, 3, etc., of corresponding length and form and each pivotally connected to the other by a pivot pin 5. The joint between the sections is most clearly shown in Figure 5, one end of a section being bifurcated to form spaced ears 5′, 5′, and receiving therebetween the reduced end 5″ of the next section. Each end is rounded on an arc struck about the axial center of the pivot pin and the outer periphery of the end 5″ is formed with a series of recesses 6 to receive the spring actuated ball retainer 7 seated in a longitudinal bore 8 of the adjacent section. This construction provides for holding the sections at different angles according to the use of the implement.

The end section 4 is provided with a head 9 and the section 1 with a socket receiving connector piece 10 having a squared extremity 10′ to receive a wrench socket or other type of instrument attachment having a socket formation, such as the screw-driver shown in dotted lines in Figure 1. With this attachment and the sections in aligned position as in said figure, the implement becomes a long, straight handle screw-driver, but the handle thereof is capable of being bent at any joint in its length as may be required to get at nuts, bolts or the like in more or less difficult places. This adjustment may be made with due consideration of the leverage desired or required for actuating the particular object. Thus, if a medium leverage is desired, the handle may be flexed at its central joint as shown in Figure 3 in full lines, but if a greater leverage is required, bending at the second joint so as to assume the position shown in dotted lines in said figure, produces the desired result. Either still greater or less leverage is obtainable obviously by adjusting at either of the other joints and any of the sections may be positioned at a variety of angles other than a right angle.

As illustrative of the universal character of the operating handle the adaptation in Figure 4 is interesting, for here the handle is shaped into brace-like form which in a tool of this character is a very useful form for some kinds of operations.

It will be apparent that owing to the fact that the torsional strain is always against the joint the pressure exerted tends to hold the joints at their adjusted positions during manipulation.

I have illustrated the device as composed of four sections, but I desire it to be understood that I do not thereby limit myself to this number.

Having thus described my invention, what I claim as new is:—

An operating handle or tool of the class described comprising a plurality of pivotally

connected sections, one end section having at its free end a handle, the other end section having at its free end a tool-engaging member, and holding means intermediate the sections for maintaining the same at different relative adjustments, either on a line with one another or at different angles to one another, said means permitting the change to a different angle by a mere pressure radial to the longitudinal axis of a section yet maintaining the angular position so imparted during rotating action about said axis.

In testimony whereof I affix my signature.

GEORGE E. FRISZ.