



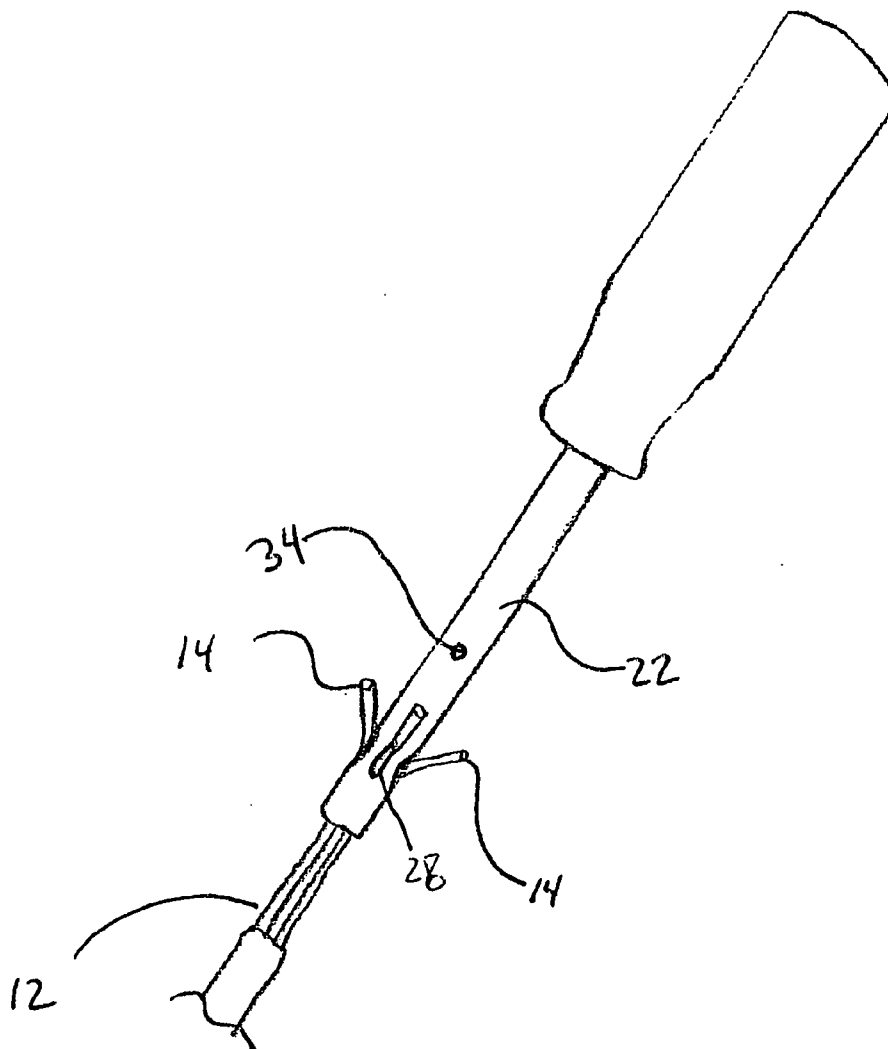
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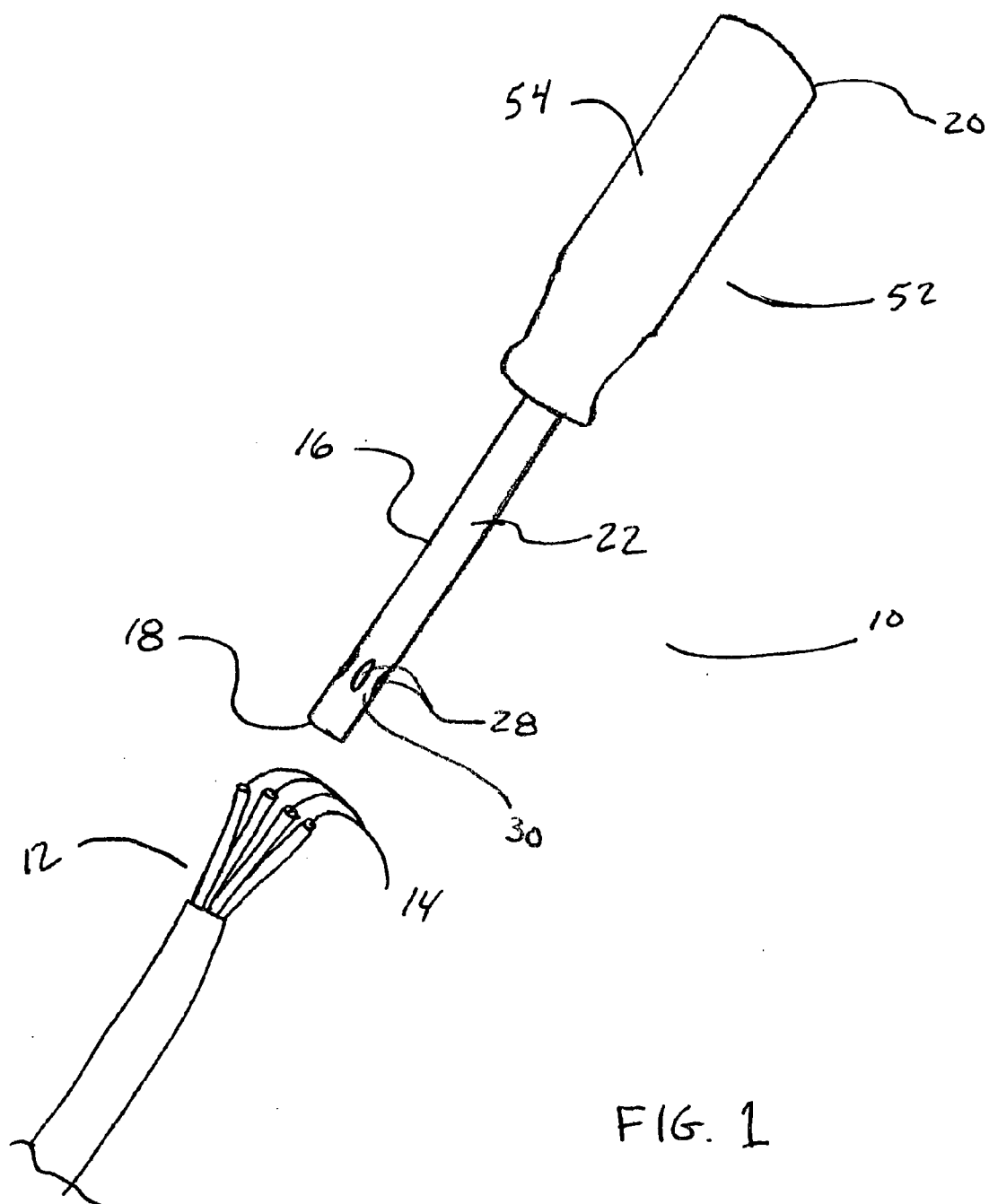
(19) **United States**(12) **Patent Application Publication**
Poole(10) **Pub. No.: US 2007/0215234 A1**(43) **Pub. Date: Sep. 20, 2007**(54) **ELONGATED MEMBER TWISTING TOOL****Publication Classification**(76) Inventor: **Trent D. Poole**, McDonough, GA
(US)(51) **Int. Cl.**
B21F 15/04 (2006.01)(52) **U.S. Cl.** **140/118**(57) **ABSTRACT**

Correspondence Address:

**COOK, ALEX, MCFARRON, MANZO, CUM-
MINGS & MEHLER LTD**
SUITE 2850, 200 WEST ADAMS STREET
CHICAGO, IL 60606(21) Appl. No.: **11/724,753**(22) Filed: **Mar. 15, 2007****Related U.S. Application Data**(60) Provisional application No. 60/782,624, filed on Mar.
15, 2006.

Tools for twisting together two or more elongated members are disclosed. The tool generally includes a shaft having a distal end and a proximal end, wherein the distal end is spaced from the proximal end by a central section. A cavity is disposed within the distal end and extending a length within the shaft toward the central section. The cavity is suitable for receiving end portions of the two or more elongated members. At least one elongated member-receiving channel is in fluid communication with the cavity, and at least one hole is defined in a sidewall of the shaft. The at least one elongated member-receiving channel is sized so that an elongated member can extend from the cavity through the at least one elongated member-receiving channel and through the at least one hole. Methods of making and using the tool are also disclosed.





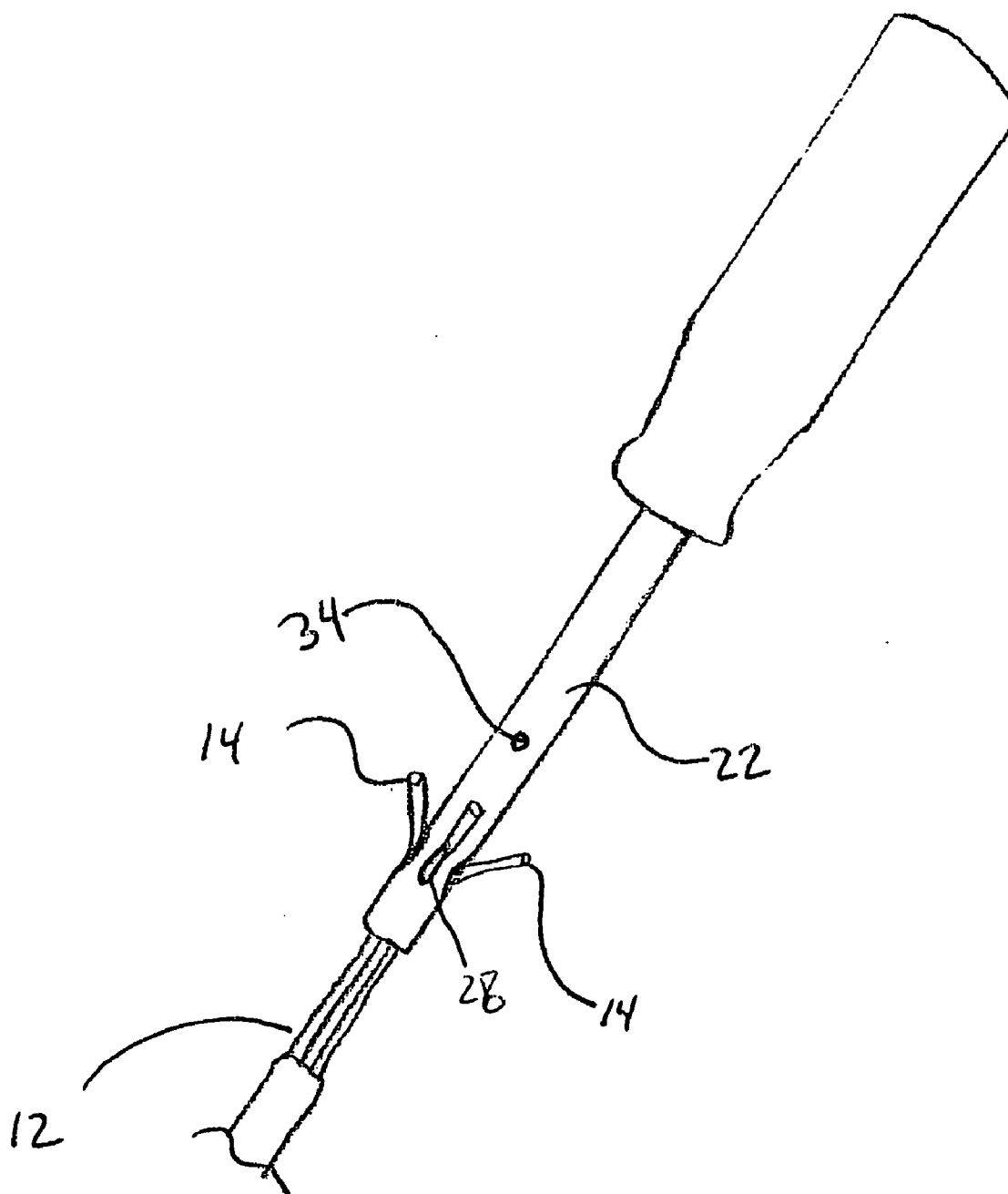


FIG. 2

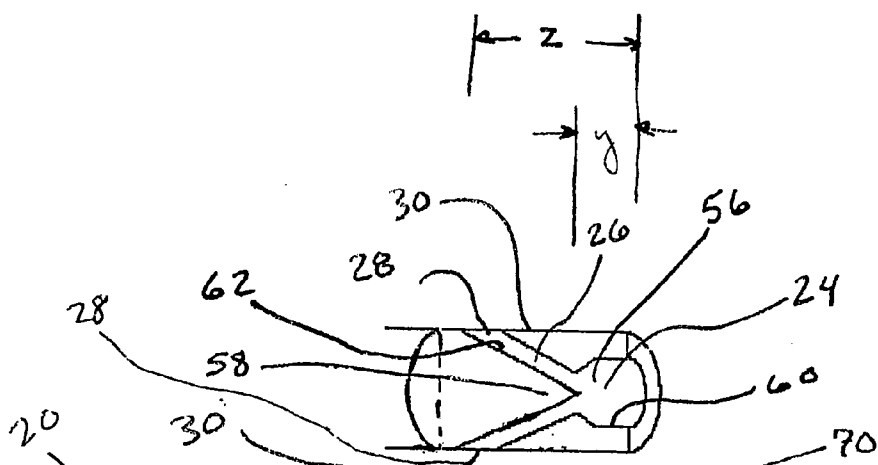


FIG. 3

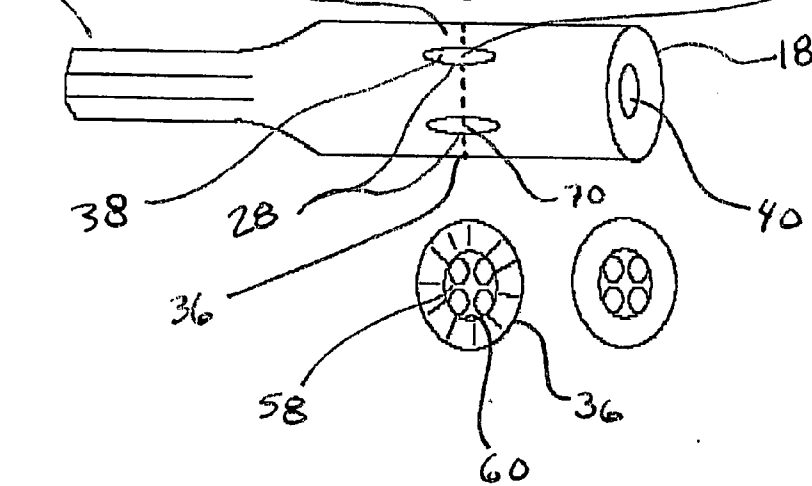
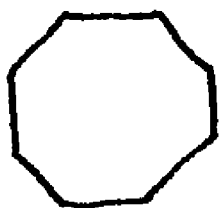


FIG. 4

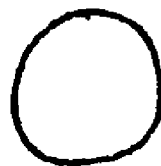
FIG. 5



A



B



C



D



E



F



G



H

FIG. 6

ELONGATED MEMBER TWISTING TOOL

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims benefit under 35 U.S.C. § 119(e) of U.S. Provisional Application entitled “ELONGATED MEMBER TWISTING TOOL,” filed on Mar. 15, 2006, having Ser. No. 60/782,624, naming Trent D. Poole as the inventor, the complete disclosure incorporated by reference.

FIELD OF THE INVENTION

[0002] This invention relates to tools for twisting elongated members, for example, electrical wires.

BACKGROUND OF THE INVENTION

[0003] Electricians and other individuals often need to twist two or more elongated members, notably wires, together. There exists a need in the art for a tool that can easily and effectively twist two or more elongated members together.

SUMMARY OF THE INVENTION

[0004] In one exemplary embodiment, the present invention is directed to a tool for twisting two or more elongated members with one another. The tool generally includes a shaft having a distal end and a proximal end, wherein the distal end is spaced from the proximal end by a central section. A cavity is disposed within the distal end and extending a length, y , within the shaft toward the central section. The cavity is suitable for receiving end portions of the two or more elongated members. At least one elongated member-receiving channel is in fluid communication with the cavity, and at least one hole is defined in a sidewall of the shaft. The at least one elongated member-receiving channel is sized so that an elongated member can extend from the cavity through the at least one elongated member-receiving channel and through the at least one hole.

[0005] In one embodiment, the cross-sectional diameter of the elongated member-receiving channel is generally smaller than the cross-sectional diameter of the cavity. Accordingly, when one or more elongated members are disposed within the cavity, only a select number of elongated members are received per elongated member-receiving channel and corresponding hole.

[0006] The exemplary tool of the present invention may further comprise a number of additional components or features including, but not limited to, another hole defined in the sidewall of the shaft to receive another elongated member, a handle with a grip section, a proximal end sized to engage with and be rotated by a drill, and a slot or hole in the central section suitable for receiving an end portion of the elongated member such that when the end portion is inserted into the slot, either the end portion of the elongated member or the tool may be rotated in order to cause the end portion of the elongated member to at least partially wrap around a perimeter of the central section.

[0007] In another exemplary embodiment, the present invention is directed to a tool set comprising a first tool and a second tool. The first tool generally comprises a first shaft having a first distal end and a first proximal end. A first cavity is disposed within the first distal end and extends a length within the first shaft toward the first proximal end.

The first cavity is suitable for receiving end portions of the two or more elongated members. At least one first elongated member-receiving channel is in fluid communication with the first cavity and at least one first hole is defined in a first sidewall of the first shaft. The at least one first elongated member-receiving channel is sized so that an elongated member can extend from the first cavity through the at least one first elongated member-receiving channel and through the at least one first hole. A handle portion with a grip section is further disposed at the first proximal end.

[0008] The second tool generally includes a second shaft having a second distal end and a second proximal end. A second cavity is disposed within the second distal end and extends a length within the second shaft toward the second proximal end. The second cavity is generally suitable for receiving end portions of the two or more elongated members. At least one second elongated member-receiving channel is in fluid communication with the second cavity and at least one second hole is defined in a sidewall of the second shaft. The at least one second elongated member-receiving channel is sized so that an elongated member can extend from the second cavity through the at least one second elongated member-receiving channel and through the at least one second hole. Also, the second proximal end of the second shaft is sized so as to be capable of being received by and removably engaged with (i) a handle portion with a grip section or (ii) a drill so as to rotate the second tool by hand or electric power.

[0009] In one embodiment, the cross-sectional diameter of either elongated member-receiving channels is generally smaller than the cross-sectional diameter of either cavity. Accordingly, when one or more elongated members are disposed within the larger cavity, only a select number of elongated members are received per smaller elongated member-receiving channel and corresponding hole.

[0010] The exemplary tool set of the present invention may further comprise a number of additional components or features including, but not limited to, another hole defined in either sidewall of either shaft to receive yet another elongated member, an engagable handle portion with a grip section, the handle portion being sized so as to be capable of receiving the second proximal end of the second shaft, the second proximal end of the second shaft being removably engaged with the handle portion.

[0011] The present invention is also directed to a method of twisting elongated members together. In one exemplary embodiment, the method of twisting elongated members comprises the steps of (i) inserting end portions of two or more elongated members into a cavity of a tool, such that at least one end portion of the two or more elongated members extends from the cavity of the tool through an elongated member-receiving channel in fluid communication with the cavity and optionally out of a hole defined in a sidewall of a shaft of the tool, and (ii) rotating the tool about an axis dissecting the shaft of the tool so as to cause the two or more elongated members to engage with one another. In one desired embodiment,

[0012] These and other features and advantages of the present invention will become apparent after a review of the following detailed description of the disclosed embodiments and the appended claims.

BRIEF DESCRIPTION OF THE FIGURES

[0013] Although the characteristic features of this invention will be particularly pointed out in the claims, the

invention itself, and the manner in which it can be made and used, can be better understood by referring to the following description taken in connection with the accompanying drawings forming a part hereof, wherein reference numerals refer to like parts throughout the several views in which:

[0014] FIG. 1 depicts a view of an exemplary tool of the present invention and an exemplary plurality of elongated members;

[0015] FIG. 2 depicts a view of the exemplary tool of FIG. 1 engaged with the exemplary plurality of elongated members of FIG. 1;

[0016] FIG. 3 depicts a partial cross-sectional view of the distal end of the exemplary tool of FIG. 1;

[0017] FIG. 4 depicts a view of another exemplary tool of the present invention;

[0018] FIG. 5 depicts an end view of the distal end of the exemplary tool shown in FIG. 1 or FIG. 4; and

[0019] FIGS. 6A-6H depict exemplary cross-sectional shapes for the cavity in the distal end of the exemplary tool shown in FIG. 1 or FIG. 4.

DETAILED DESCRIPTION OF THE INVENTION

[0020] To promote an understanding of the principles of the present invention, descriptions of specific embodiments of the invention follow and specific language is used to describe the specific embodiments. It will nevertheless be understood that no limitation of the scope of the invention is intended by the use of specific language. Alterations, further modifications, and such further applications of the principles of the present invention discussed are contemplated as would normally occur to one ordinarily skilled in the art to which the invention pertains.

[0021] The present invention is directed to tools for twisting elongated members and methods of making and using the tools. The disclosed tools may be used to twist wire, such as electrically-conductive wire, as well as many other elongated members.

I. Tools for Twisting Elongated Members Together

[0022] The tools of the present invention comprise one or more tool features that enable twisting of two or more elongated members to one another. One exemplary tool 10 of the present invention is shown in FIGS. 1-6. As shown in FIG. 1, exemplary tool 10 comprises a shaft 16 having a distal end 18 and a proximal end 20 wherein distal end 18 is spaced from proximal end 20 by a central section 22. Central section 22 of shaft 16 may have any cross-sectional shape including, but not limited to, an octagonal, triangular, circular, rectangular, hexagonal, pentagonal, star, or oval shape.

[0023] Exemplary tool 10 further comprises a cavity 24 (see FIG. 3) disposed within distal end 18 such that cavity 24 extends a length, y, within shaft 16 toward central section 22. Cavity 24 is suitable for receiving end portions 14 of two or more elongated members 12 (e.g., four end portions 14 are illustrated in FIG. 1). As shown in FIG. 3, exemplary tool 10 further comprises one or more elongated member-receiving channels 26 that extend from cavity 24 to corresponding holes 28 defined in a sidewall 30 of tool 10. Exemplary tool 10 is able to accept a plurality of end portions 14 of two or more elongated members 12 so that at least one of the end portions 14 extends through an elongated member-receiving

channel 26 and optionally out of hole 28 defined in sidewall 30 of shaft 16 (see, for example, end portions 14 of two or more elongated members 12 extending out of holes 28 in FIG. 2). In one exemplary embodiment, exemplary tool 10 comprises two (or three, or four, or five) elongated member-receiving channels 26 that extend from cavity 24 to corresponding holes 28 defined in a sidewall 30 of tool 10.

[0024] FIG. 3 further illustrates details of exemplary cavity 24 within distal end 18 of exemplary tool 10. As shown in the partial cross-sectional view of FIG. 3, cavity 24 may extend a length, y, from distal end 18 toward central section 22 of tool 10. FIGS. 3-4 further illustrate that cavity 24 has a cavity opening 40 (which may optionally be completely surrounded by portions of distal end 18) and a cavity shape 56. In an exemplary embodiment, cavity 24 has a cavity shape 56 that guides end portion 14 of elongated member 12 toward a respective elongated member-receiving channel 26 when elongated member 12 is inserted into cavity 24. Cavity shape 56 may be of any suitable shape including, but not limited to, rounded or conical in order to help guide elongated members 12 into elongated member receiving channels 26.

[0025] The partial cross-sectional view of FIG. 3 also illustrates two elongated member-receiving channels 26 extending from cavity 24 to corresponding holes 28 through sidewall 30 of shaft 16. At least one elongated member-receiving channel 26 is in fluid communication with cavity 24 and a corresponding hole 28 defined in sidewall 30 of shaft 16. Each of elongated member-receiving channels 26 are separated from one another by divider 58, which extends from central portion 22 of shaft 16 toward distal end 18. Divider 58 and cavity shape 56 desirably guide one or more elongated members 12 toward separate elongated member-receiving channels 26 extending from cavity 24 to corresponding holes 28.

[0026] Elongated member-receiving channels 26 may be sized so that elongated member 12 can extend from cavity 24 through at least one elongated member-receiving channel 26 and optionally through at least one hole 28 (i.e., depending on the length of elongated member 12) as shown in FIG. 2. Thus, the diameter of elongated member-receiving channels 26 should be sized such that it is sufficient for allowing a certain width (e.g., wire gauge) of elongated member to pass through.

[0027] In one embodiment, the cross-sectional diameters of the elongated member-receiving channels 26 are each sized such that they are generally smaller than the cross-sectional diameter of the cavity 24 in order to facilitate the receipt of elongated members 12 therethrough. In one embodiment, the cross-sectional diameter of the cavity 24 may be sized such that it may receive more than one elongated member 12. The cross-sectional diameters of the elongated member-receiving channels 24 may be sized such that they each are smaller than the cross-sectional diameter of the cavity 24, but each generally slightly larger than the diameters of the elongated members 12. In this embodiment, the plurality of elongated members 12 may be collectively feed through the cavity 24. When the elongated members 12 are received by the elongated member-receiving channels 26, the cross-sectional diameter of each of the elongated member-receiving channels 26 only allow for one elongated member 12 to be feed therethrough.

[0028] In yet another embodiment, the cross-sectional diameter of the cavity 24 may be sized such that it may

receive more than one elongated member 12. In turn, the cross-sectional diameters of the elongated member-receiving channels 24 may be sized such that they each are smaller than the cross-sectional diameter of the cavity 24, but each generally slightly larger than the cross-sectional diameters of a select number of elongated members 12. In this embodiment, the plurality of elongated members 12 may collectively be feed through the cavity 24. When the elongated members 12 are received by the elongated member-receiving channels 26, the diameter of each of the elongated member-receiving channels 26 only allow for the select number of elongated member 12 to be feed therethrough.

[0029] In yet another embodiment, the cross-sectional diameter of each elongated member-receiving channel 24 may be each sized to accommodate a plurality of elongated members 12 having different cross-sectional diameters. In this embodiment, each elongated member-receiving channel 24 may be sized to accommodate an elongated member 12 having a particular cross-sectional diameter. Accordingly, when the different sized elongated members 12 are feed through the tool, each of the elongated member-receiving channel 24 having diameters corresponding to elongated members 12 may parse each elongated member 12 to be feed therethrough.

[0030] In a similar embodiment, each of the elongated members may have a select cross-sectional shape and each elongated member-receiving channel may be shaped to accommodate each different shape. For example, the elongated members may have an oval cross-sectional shape, whereas the elongated member-receiving channel may have a corresponding oval cross-sectional shape. In another example, one elongated member may have a generally oval cross-sectional shape and another elongated member may have a generally square cross-sectional shape. Accordingly, the tool may comprise a corresponding elongated member-receiving channel having a generally oval cross-sectional shape and another elongated member-receiving channel having a generally square cross-sectional shape.

[0031] As shown in the FIGS. 3-4, holes 28 may be spaced as desired along an outer perimeter 36 of shaft 16. In one exemplary embodiment, holes 28 are substantially equally spaced from one another along perimeter 36 (see dashed line in FIG. 4) of shaft 16. Hole centers 70 of holes 28 may be spaced from one another by a distance x , wherein x is substantially equal to an outer perimeter length of perimeter 36 divided by the number of holes 28. Holes 28 may be positioned along sidewall 30 a distance, z , from distal end 18. In one exemplary embodiment, distance z (e.g., the distance of hole center 70 from distal end 18) is greater than lengthy (e.g., the distance between an end of cavity 24 and distal end 18). Typically, y ranges in length from about 5 mm (0.2 inch) to about 12.7 mm (0.5 in), while z ranges in length from about 12.7 mm (0.5 in) to about 25.4 mm (1.0 in).

[0032] Each hole 28 defined in sidewall 30 of tool 10 has a hole opening 38 positioned along sidewall 30, which may be optionally completely surrounded by portions of sidewall 30 of shaft 16. Each hole opening 38 may have any desired shape including, but not limited to, round, oval, oblong, and rectangular. As shown in the exemplary embodiment of FIG. 4, hole openings 38 have an oblong shape.

[0033] FIG. 4 illustrates a round (e.g., circular) exemplary cavity opening 40 of cavity 24. However, it should be understood that cavity opening 40 of cavity 24 may have any desired cross-sectional shape, including, but not limited to,

an octagonal, triangular, circular, rectangular, hexagonal, pentagonal, star, or oval shape. Suitable exemplary cross-sectional shapes for cavity opening 40 of cavity 24 are shown in illustrative FIGS. 6A-6H. In one desired embodiment of the present invention, cavity opening 40 has a hexagonally shaped so that distal end 18 of tool 10 fits around a screw head or nut (not shown) that can be tightened or loosened by twisting tool 10 about the screw head or nut. Other suitable shapes for cavity opening 40 may provide similar or different utility to exemplary tool 10.

[0034] FIG. 4 further illustrates an exemplary embodiment of the present invention wherein proximal end 20 of exemplary tool 10 has a cross-sectional shape suitable for engaging with a removable handle 52 (see FIGS. 1-2) or a drill (not shown). Proximal end 20 of exemplary tool 10 may have any desired cross-sectional shape including, but not limited to, an octagonal, triangular, circular, rectangular, hexagonal, pentagonal, star, or oval shape. In the illustrated exemplary embodiment, proximal end 20 has a hexagonal cross-sectional shape such that tool 10 may be removably engaged with handle 52 or a drill. Other cross-sectional shapes may provide similar or different utility to exemplary tool 10.

[0035] FIG. 5 illustrates end views of exemplary tool 10 of the present invention illustrating a relationship between divider 58 and cavity sidewall 60. Cavity 24 may have one or more dividers 58, which extend from central section 22 toward distal end 18. One or more dividers 58 may provide a wall 62 between separate elongated member-receiving channels 26 extending from cavity 24.

[0036] As shown in FIGS. 1-2, exemplary tool 10 may further comprise a handle portion 52, which may include a grip section 54. In one exemplary embodiment, handle portion 52 and/or grip portion 54 comprises a material that does not conduct electricity. Further, as shown in FIG. 1, handle portion 52 may be formed over a portion of shaft 16 with the intention of permanently bonding handle portion 52 to shaft 16. In an alternative embodiment described above, handle portion 52 is configured so as to be removably engagable with shaft 16, but is separable from shaft 16.

[0037] FIG. 2 further illustrates an optional feature on exemplary tool 10 in the form of one or more slots 34 along central section 22 of shaft 16. Slots 34 are suitable for receiving an end portion 14 of elongated member 14. When end portion 14 of elongated member 14 is inserted into slot 34, either the end portion 14 or tool 10 may be rotated in order to cause elongated member 14 to at least partially wrap around perimeter 36 of central section 22. This feature is advantageous for placing a partial loop or curve into elongated member 14, such as a ground wire, so that the curved portion can then be mounted to an electrical device, for example. It should be understood that each of slots 34 may independently extend completely through central section 22 or only partially into (i.e., less than completely through) central section 22 along shaft 16 from distal end 18 to proximal end 20.

[0038] As shown in FIGS. 1-2, exemplary tool 10 comprises shaft 16 having a distal end 18 and a proximal end 20 wherein shaft 16 has a substantially constant diameter and substantially constant cross-sectional area along a length of shaft 16. However, it should be understood that shaft 16 may have a diameter and/or cross-sectional area that varies along a length of shaft 16. For example, in some embodiments, distal end 18 containing cavity 24 (see FIG. 3) (described

below) may have a diameter and/or cross-sectional area greater than a diameter and/or cross-sectional area of central section **22** and/or proximal end **20**. Similarly, in some embodiments, proximal end **20** may have a diameter and/or cross-sectional area smaller than a diameter and/or cross-sectional area of central section **22** and/or distal end **18** (see, for example, proximal end **20** shown in FIG. **4**).

[0039] The above-described tools of the present invention may be used to twist together two or more elongated members. Suitable elongated members that may be twisted using the tool of the present invention include, but are not limited to, wires, electrically conductive wires, tie wires for rebar, etc. In one desired embodiment, the tool of the present invention is sized so that a user can operate the tool with one hand or with a hand-held drill.

[0040] In one exemplary embodiment of the present invention, the tool comprises a shaft having a distal end and a proximal end wherein the proximal end is spaced from the proximal end by a central section, a cavity disposed within the distal end and extending a length within the shaft toward the central section, the cavity being suitable for receiving end portions of the two or more elongated members, and at least one elongated member-receiving channel in fluid communication with the cavity and at least one hole defined in a sidewall of the shaft, the at least one elongated member-receiving channel being sized so that an elongated member can extend from the cavity through the at least one elongated member-receiving channel and through the at least one hole.

[0041] In a further exemplary embodiment of the present invention, a tool set comprises (1) a first tool for twisting two or more elongated members with one another, the first tool comprising a first shaft having a first distal end and a first proximal end, a first cavity disposed within the first distal end and extending a length within the first shaft toward the first proximal end, the first cavity being suitable for receiving end portions of the two or more elongated members, at least one first elongated member-receiving channel in fluid communication with the first cavity and at least one first hole defined in a first sidewall of the first shaft, the at least one first elongated member-receiving channel being sized so that an elongated member can extend from the first cavity through the at least one first elongated member-receiving channel and through the at least one first hole, and a handle portion with a grip section attached or attachable to the first proximal end, and (2) a second tool for twisting two or more elongated members with one another, the second tool comprising a second shaft having a second distal end and a second proximal end, a second cavity disposed within the second distal end and extending a length within the second shaft toward the second proximal end, the second cavity being suitable for receiving end portions of the two or more elongated members, and at least one second elongated member-receiving channel in fluid communication with the second cavity and at least one second hole defined in a sidewall of the second shaft, the at least one second elongated member-receiving channel being sized so that an elongated member can extend from the second cavity through the at least one second elongated member-receiving channel and through the at least one second hole, wherein the second proximal end of the second shaft is sized so as to be capable of being received by and removably engaged with (i) a handle portion with a grip section or (ii) a drill such that the second tool can be rotated by hand or by electrical power.

[0042] II. Methods of Making a Tool for Twisting Elongated Members

[0043] The present invention is also directed to a method of making a tool capable of twisting two or more elongated members with one another. Any conventional metal shaping step may be used to form the tools of the present invention. Suitable methods for making tools of the present invention include, but are not limited to, die casting, molded, extrusion, machining, or any combination thereof.

[0044] Exemplary tool **10** may be molded or shaped out of any suitable material, including, but not limited to, metal, steel, aluminum, plastic, wood, or any combination thereof as would be evident to one skilled in the art. In one exemplary embodiment, tool **10** comprises hardened steel. In another exemplary embodiment, at least a portion of tool **10** comprises a material that does not conduct electricity such as plastic or rubber.

[0045] Handle portion **52** and grip section **54** may similarly be constructed of any suitable material though it is desired that the handle portion and/or grip section be constructed of a sturdy material such as aluminum, metal, or a firm plastic. In another exemplary embodiment, the grip section may be of a material that is cushioned to provide a comfortable gripping surface for a user. The grip section typically has a diameter of greater than 1.27 cm (0.5 inches).

III Methods of Using a Tool to Twist Elongated Members Together

[0046] The present invention is further directed to a method of twisting two or more elongated members with one another. In one exemplary method of twisting two or more elongated members with one another, the method comprises (i) inserting end portions of two or more elongated members into a cavity of a tool, wherein at least one end portion of the two or more elongated members extends from the cavity of the tool through an elongated member-receiving channel in fluid communication with the cavity and optionally out of a hole defined in a sidewall of a shaft of the tool; and (ii) rotating the tool about an axis dissecting the shaft of the tool so as to cause the two or more elongated members to engage with one another.

[0047] In the above exemplary method, the rotating step may comprise gripping a handle portion of the tool and rotating the handle portion by hand. Alternatively, the rotating step may comprise engaging a proximal end of the tool with a drill, and activating the drill to rotate the tool using electrical power.

[0048] In one desired embodiment of the present invention, the method of twisting two or more elongated members with one another comprises twisting electrically conductive wires to one another using the above-described tool. One or more of the electrically conductive wires may extend through one or more elongated member-receiving channels extending from the cavity of the tool and through a hole defined in a sidewall of the tool shaft. In one embodiment in which a lead wire has a longer length than the remaining wires, an end portion of the lead wire extends out of the hole defined in the sidewall of the tool shaft. In other embodiments, two or more elongated members (e.g., electrically conductive wires) extend through elongated member-receiving channels and out of holes defined in the sidewall of the tool shaft.

[0049] While the specification has been described in detail with respect to specific embodiments thereof, it will be

appreciated that those skilled in the art, upon attaining an understanding of the foregoing, may readily conceive of alterations to, variations of, and equivalents to these embodiments. Accordingly, the scope of the present invention should be assessed as that of the appended claims and any equivalents thereto.

What is claimed is:

1. A tool for twisting two or more elongated members with one another, said tool comprising:

a shaft having a distal end and a proximal end wherein the proximal end is spaced from the distal end by a central section;

a cavity disposed within said distal end and extending a length, y , within said shaft toward said central section, said cavity being suitable for receiving end portions of the two or more elongated members; and

at least one elongated member-receiving channel in fluid communication with said cavity and at least one hole defined in a sidewall of said shaft, said at least one elongated member-receiving channel being sized so that an elongated member can extend from said cavity through said at least one elongated member-receiving channel and through said at least one hole.

2. The tool of claim 1, wherein said central section has a cross-sectional shape selected from the group consisting of circular, pentagonal, hexagonal, square, star, triangular, rectangular, polygonal, and oval.

3. The tool of claim 1, wherein said tool comprises a material selected from the group consisting of metal, steel, aluminum, plastic, wood, and combinations thereof.

4. The tool of claim 1, wherein at least a portion of said tool comprises hardened steel.

5. The tool of claim 1, wherein at least a portion of the tool comprises a material which does not conduct electricity.

6. The tool of claim 1, wherein said cavity has a cavity opening having a cavity opening cross-sectional shape selected from the group consisting of circular, pentagonal, hexagonal, square, star, triangular, rectangular, and oval.

7. The tool of claim 6, wherein said cavity opening cross-sectional shape is hexagonal, and said cavity opening is sized so as to be able to fit over a screw head.

8. The tool of claim 1 wherein said proximal end has a cross-sectional shape selected from the group consisting of circular, pentagonal, hexagonal, square, star, triangular, rectangular, and oval.

9. The tool of claim 1, further comprising a handle portion with a grip section.

10. The tool of claim 9, wherein said grip section has a diameter of greater than 1.27 cm (0.5 inches).

11. The tool of claim 1, said tool comprising two elongated member-receiving channels extending from said cavity to two corresponding holes through said sidewall of said shaft.

12. The tool of claim 1, said tool comprising three elongated member-receiving channels extending from said cavity to three corresponding holes through said sidewall of said shaft.

13. The tool of claim 1, said tool comprising four elongated member-receiving channels extending from said cavity to four corresponding holes through said sidewall of said shaft.

14. The tool of claim 1, further comprising a slot in said central section suitable for receiving an end portion of the elongated member such that when the end portion of the

elongated member is inserted into said slot, either the end portion of the elongated member or said tool may be rotated in order to cause the end portion of the elongated member to at least partially wrap around a perimeter of said central section.

15. The tool of claim 1, wherein said proximal end of said shaft is sized so as to be capable of being received by and removably attachable to a drill such that said tool can be rotated by the drill.

16. The tool of claim 1, wherein said proximal end of said shaft is sized so as to be capable of being received by and removably attachable to a handle portion with a grip section such that said tool can be rotated by rotating said handle portion.

17. The tool of claim 1, wherein said cavity has a cavity shape that guides an end portion of an elongated member toward said at least one elongated member-receiving channel when an elongated member is inserted into said cavity.

18. The tool of claim 1, wherein said cavity has a cavity shape that guides two or more end portions of two or more elongated members toward separate elongated member-receiving channels extending from said cavity to corresponding holes through said sidewall of said shaft when two or more elongated members are inserted into said cavity.

19. The tool of claim 1, wherein said cavity has a divider extending from a cavity sidewall toward said distal end, said divider providing a wall between separate elongated member-receiving channels within said cavity.

20. The tool of claim 1, wherein said cavity has a conical shape.

21. The tool of claim 1, wherein when two or more holes are defined in said sidewall of said shaft, the two or more holes are spaced from one another along a perimeter of said shaft.

22. The tool of claim 21, wherein hole centers of the two or more holes are spaced from one another by a distance x , wherein x is substantially equal to a length of said perimeter divided by a number of holes.

23. The tool of claim 1, wherein said at least one elongated member-receiving channel extends from a cavity sidewall toward said proximal end of said shaft.

24. The tool of claim 1, wherein said at least one hole is positioned along said sidewall a length, z , from said distal end of said shaft, wherein z is greater than y .

25. The tool of claim 1, wherein each hole has a hole opening positioned along said sidewall of said shaft, said hole opening having an oblong shape.

26. The tool of claim 1, wherein said tool is sized so that a user can operate said tool with one hand.

27. The tool of claim 1, wherein the two or more elongated members comprise electrically conductive wires.

28. The tool of claim 1, wherein the cavity and the at least one elongated member-receiving channel each have a select cross-sectional diameter, each of said cross-sectional diameters of the elongated member-receiving channels being generally smaller than the cross-sectional diameter of the cavity to facilitate receipt of the elongated members there-through.

29. The tool of claim 1, wherein the cross-sectional diameter of the elongated member-receiving channel accommodates a select number of elongated members that may be received therethrough.

30. The tool of claim **29**, wherein each elongated member-receiving channel accommodates a plurality of elongated members.

31. The tool of claim **29**, wherein each elongated member-receiving channel accommodates one elongated member.

32. The tool of claim **1**, wherein the elongated members and the at least one elongated member-receiving channel each have a select cross-sectional diameter, each of said cross-sectional diameters of the elongated member-receiving channel being generally larger than the cross-sectional diameter of the elongated members to facilitate receipt of the elongated members therethrough.

33. The tool of claim **1**, wherein the each of the elongated members have different sizes and each elongated member-receiving channel being sized to accommodate each different size.

34. The tool of claim **1**, wherein the each of the elongated members have different shapes and each elongated member-receiving channel being shaped to accommodate each different size.

35. A tool set comprising:

a first tool for twisting two or more elongated members with one another, said first tool comprising:

a first shaft having a first distal end and a first proximal end;

a first cavity disposed within said first distal end and extending a length within said first shaft toward said first proximal end, said first cavity being suitable for receiving end portions of the two or more elongated members;

at least one first elongated member-receiving channel in fluid communication with said first cavity and at least one first hole defined in a first sidewall of said first shaft, said at least one first elongated member-receiving channel being sized so that an elongated member can extend from said first cavity through said at least one first elongated member-receiving channel and through said at least one first hole; and a handle portion with a grip section at said first proximal end; and

a second tool for twisting two or more elongated members with one another, said second tool comprising:

a second shaft having a second distal end and a second proximal end;

a second cavity disposed within said second distal end and extending a length within said second shaft toward said second proximal end, said second cavity

being suitable for receiving end portions of the two or more elongated members; and

at least one second elongated member-receiving channel in fluid communication with said second cavity and at least one second hole defined in a sidewall of said second shaft, said at least one second elongated member-receiving channel being sized so that an elongated member can extend from said second cavity through said at least one second elongated member-receiving channel and through said at least one second hole;

wherein said second proximal end of said second shaft is sized so as to be capable of being received by and removably engaged with (i) a handle portion with a grip section or (ii) a drill so as to rotate the second tool by hand or electric power.

36. The tool set of claim **35**, further comprising a handle portion with a grip section, said handle portion being sized so as to be capable of receiving and being removably engaged with said second proximal end of said second shaft.

37. A method of twisting two or more elongated members with one another, said method comprising using the tool of claim **1** to twist the two or more elongated members.

38. A method of twisting two or more elongated members with one another, said method comprising:

inserting end portions of two or more elongated members into a cavity of a tool, wherein at least one end portion of the two or more elongated members extends from said cavity of the tool through an elongated member-receiving channel in fluid communication with said cavity and optionally out of a hole defined in a sidewall of a shaft of said tool; and

rotating the tool about an axis dissecting the shaft of the tool so as to cause the two or more elongated members to engage with one another.

39. The method of claim **38**, wherein said rotating step comprises gripping a handle portion of said tool and rotating said handle portion by hand.

40. The method of claim **38**, wherein said rotating step comprises activating a drill so that a rotating motion of the drill causes the tool to rotate.

41. The method of claim **38**, wherein the two or more elongated members comprise electrically conductive wires.

42. The method of claim **38**, wherein at least one end portion of the two or more elongated members extends out of the hole defined in the sidewall of the shaft of said tool.

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