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D. H. MOLITOR

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PORTABLE HOLDER FOR SMALL TOOLS

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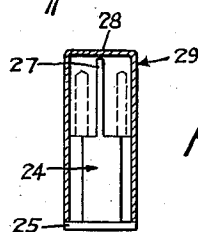
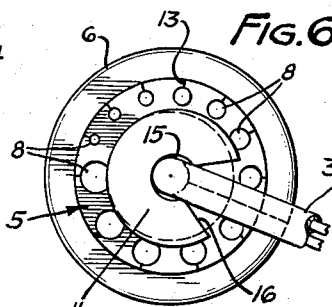
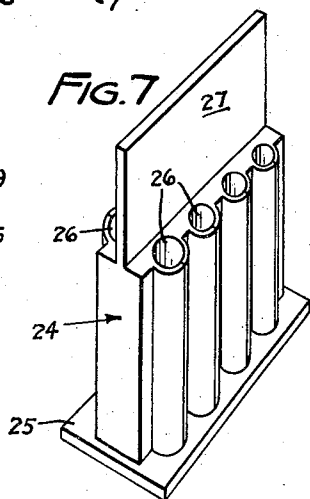
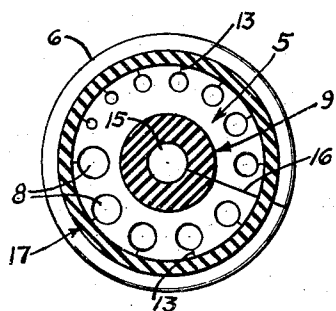
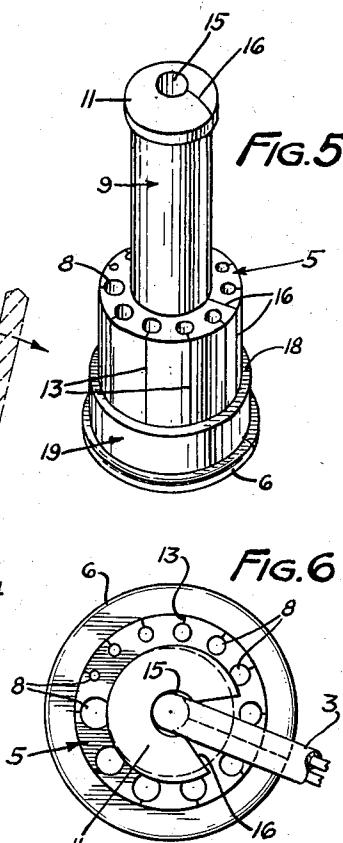
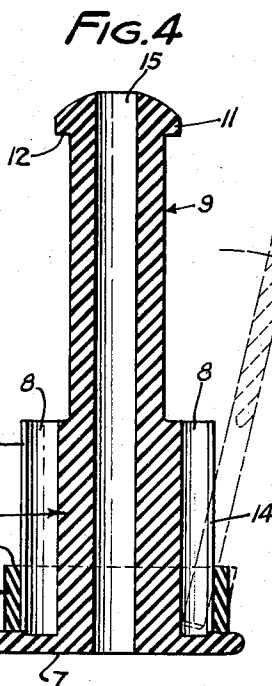
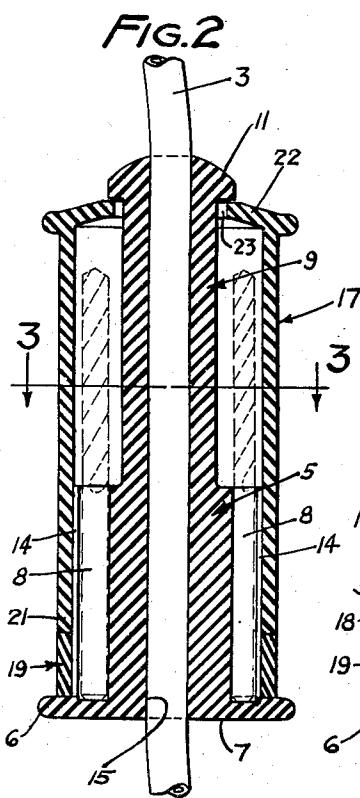
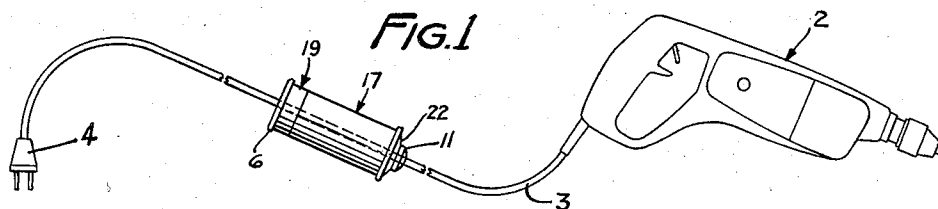


FIG. 3

FIG. 7

FIG. 8

INVENTOR.
DONALD H. MOLITOR
BY
Paul, Moore + Duggan
ATTORNEYS

1

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PORTABLE HOLDER FOR SMALL TOOLS

Donald H. Molitor, Belle Plaine, Minn.

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3 Claims. (Cl. 206—17)

This invention relates to new and useful improvements in holders for small tools, such as twist drills and the like.

In the performance of various jobs or work operations requiring the frequent drilling of holes in the work, which holes may be of different diameters, it may be necessary for the mechanic to frequently interchange the drill bits from one size to another as the work progresses, which may consume valuable time, and thus increase the ultimate cost of completing the job, especially if the drill bits are not conveniently located with respect to the mechanic doing the job.

An important feature of the present invention, therefore, is to provide a portable holder for drill bits and the like, having means for affixing it directly to the cord of an electric push-type drill, whereby the drills are always within convenient reach of the mechanic when it becomes necessary for him to substitute one drill for another in the performance of his work.

Another important feature of the invention resides in the provision of such a holder comprising a body formed from a suitable flexible material, such as synthetic rubber, or of a flexible plastic material, now well known to the trade, said body having an axial bore extending lengthwise therethrough for receiving and frictionally engaging the electric cord of an electric push-type drill, whereby the position of the drill holder upon said cord may be longitudinally adjusted thereon to position the drills within convenient reach of the mechanic at all times while manipulating the drill.

A further and more specific object of the invention is to provide a holder for twist drills and other small tools, comprising a flexible body having a base portion provided with a plurality of spaced drill supporting compartments disposed in parallel relation to the axis of said body, the outer wall portions of said compartments being longitudinally slitted whereby the drills and tools may be selectively removed from their respective compartments by outwardly swinging the upper ends thereof and thereby forcing the shank of the selected drill through the slit provided in the wall of its respective compartment. The compartments are preferably so sized that the drills are frictionally retained therein, so that they are not likely to accidentally drop out of said compartments when using the holder with the cover removed.

A further object is to provide a portable drill holder comprising an enlarged base portion having a plurality of drill supporting compartments therein disposed in parallel relation to the axis of said body, said base portion being provided at its upper end with an upwardly extending reduced cylindrical member having an enlarged head at its upper end, said head being disposed at an elevation above the uppermost ends of the drills or tools supported in the holder, and a flexible walled closure member having its lower end fitted over and frictionally engaging said base portion and having a reduced aperture in its upper wall through which the enlarged head of said reduced cylindrical member may pass, said base

2

portion and tubular member having a longitudinal bore therein extending from end to end of the holder, said bore being adapted to receive a suitable support for the holder, such as an elongated upright rod or the electric cord of a push-type electric drill.

Other objects of the invention reside in the novel slitting of the walls of the drill supporting compartments, whereby the operation of removing the drills therefrom is facilitated; in the longitudinal slitting of the base portion of the holder and the reduced cylindrical member extending upwardly from said base portion, thereby to facilitate applying the holder to an electric cord and whereby the holder may be applied thereto without requiring detachment from the cord of the usual plug provided at the free end of the cord; in the provision of such a holder which, when detached from the cord of an electric-type push drill, may be placed in an upright position upon its base on a workbench or other flat surface, or, if desired, it may be conveniently carried in a pocket; and in the provision of a tool holder of the class described which may be manufactured in quantity production at very low cost, a highly desirable attribute in devices of this general type.

These and other objects of the invention and the means for their attainment will be more apparent from the following description taken in connection with the accompanying drawings.

In the accompanying drawings there has been disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown, as various changes may be made within the scope of the claims which follow.

In the drawings:

Figure 1 is a view showing the tool holder applied to the cord of an electric hand drill;

Figure 2 is an enlarged vertical sectional view showing the general construction of the holder and its closure member, the closure member being shown in its normal position to protect and conceal the drill bits;

Figure 3 is a sectional plan view on the line 3—3 of Figure 2;

Figure 4 is a view similar to Figure 2, with the closure member detached from the holder;

Figure 5 is a perspective view of the body of the holder with the closure member detached, and showing the arrangement of the compartments in the base portion of the holder and the manner of slitting the outer wall portions of the compartments to facilitate removal of the drills therefrom, as indicated in dotted lines in Figure 4;

Figure 6 is a top view of Figure 4 showing the longitudinal slit in the body of the holder opened up, as when mounting the body on the electric cord or removing it therefrom;

Figure 7 illustrates a holder of slightly modified form, wherein the body of the holder is generally rectangular in configuration; and

Figure 8 is an end view of Figure 7 showing the closure member in section.

In the selected embodiment of the invention herein disclosed, there is illustrated in Figure 1, for purposes of disclosure, a conventional push-type electric hand drill 2 provided with the usual electric cord 3 having a conventional plug 4 secured to its free end for electrically attaching the cord to an electric service outlet, as is well known.

A feature of the present invention resides in the unique construction of the novel holder herein disclosed, which is shown comprising a flexible body provided at its lower end with an enlarged portion 5, which preferably is cylindrical in cross-section, as best illustrated in Figures 3, 5 and 6, but may be otherwise shaped, if desired.

3

The cylindrical base portion 5 is shown provided at its lower end with a flat disc-like member 6 preferably having a flat bottom 7, whereby the holder, when detached from an electric cord or other support, may be supported on its bottom end on a workbench or other flat surface, in an upright position. When thus positioned, and the cover, subsequently to be described, is detached from the holder, as shown in Figure 4, all of the drills are exposed, and the drills may then be readily selectively removed from the holder, or inserted thereinto, as will readily be understood by reference to Figures 4 and 5.

A plurality of circumferentially spaced compartments 8 are provided in the base portion 5 and are disposed in parallel relation to the axis of the body of the holder, as clearly illustrated in the drawing. The compartments 8 vary in diameter, in accordance to the diameter of the drills to be supported therein, and are of sufficient depth to retain the drills in parallel relation, as indicated in dotted lines in Figure 2.

Extending upwardly from the top of the base portion 5 is a reduced cylindrical member 9, having an enlarged head 11 at its upper end provided with a shoulder 12 located at an elevation above the top end of the longest drill to be supported in the holder, as clearly illustrated in Figure 2. The body of the holder, including the base portion 5 and the reduced member 9, is constructed of a suitable flexible material such as rubber or plastic, whereby it is non-breakable and provides a protection for the cutting ends of the drill bits, should the holder and drills be accidentally dropped to the floor.

Another important feature of the invention resides in the means provided for facilitating selective removal of the drill bits from their respective compartments. To thus facilitate removal of the drills from their respective compartments, each compartment has its outer wall portion longitudinally slitted, as indicated at 13 in Figures 3, 5 and 6, whereby the wall of each compartment is provided with abutting wall edges 14, as will be clearly understood by reference to Figures 4 and 5. By so slitting the outer wall portion of each compartment, the drills supported in said compartments may readily be removed therefrom by simply outwardly swinging the upper end of the selected drill, as indicated by the dotted lines in Figure 4, whereby the shank of the selected drill will separate the abutting wall edges of its slitted compartment wall, as will be understood by reference to Figure 4. If desired, the drills may, of course, be lifted out of their respective compartments without distorting said slitted compartment wall portions.

Another feature of the invention resides in the means provided for frictionally supporting the holder upon the usual electric cord of an electric hand drill, whereby the holder may be longitudinally adjusted along the length of the cord to locate it conveniently to the mechanic manipulating the drill.

To thus facilitate mounting the holder on the electric cord 3, the body of the holder, including the base portion 5 and reduced elongated member 9, are provided with an axial bore 15 which extends through the full length of the holder, as best shown in Figures 2 and 4. The diameter of said bore corresponds substantially to the diameter of the electric cord 3 of the drill, whereby the holder may be manually slid along the cord to any desired position thereon.

To thus facilitate mounting the body of the holder upon an electric cord 3, the wall of said body is longitudinally slitted from end to end, as indicated at 16 in Figures 3, 5 and 6, said slit extending outwardly from the bore 15 to the periphery of the body of the tool, whereby said slitted wall portion may be opened up, as indicated in Figure 6, to permit passage of the electric cord 3 through said slit into the bore 15, or its removal therefrom. The inherent flexibility of the material from which the body of the holder is fabricated causes the slitted wall

4

portions to instantly return to their normal closed positions when released, as when the electric cord is received in the bore 15, or is completely removed therefrom.

Another feature of the invention resides in the means provided for normally concealing the drills or tools within the holder when the latter is not in use. To thus conceal the tools within the holder, a flexible walled closure member, generally designated by the numeral 17, has its lower end sized to receive the upper portion of the base member 5 with its bottom edge abuttingly engaging a shoulder 18 provided adjacent the lower end of the base portion 5. In the drawing, the shoulder 18 is shown formed by an annular band or member 19 fitted onto the base portion 5 and frictionally retained thereon.

The band 19 may, if desired, constitute a continuation of the skirt or lower end 21 of the closure member 17, or it may be integral with the lower body portion 5. However, to facilitate manufacture, it has been found more desirable to provide the shoulder 18 by mounting a separate band on the base member which may be slid downwardly over the upper end of the base portion 5 to position it against the annular flange 6, in which position it will be firmly retained by its frictional engagement with the periphery of the member 5.

The upper end of the closure member 17 has a top wall 22 provided with an aperture 23 which preferably is slightly smaller in diameter than the head 11, whereby when the closure member is supported in position on the tool body, as shown in Figure 2, it cannot accidentally become detached therefrom, as will be understood. The top end of the head 11 is preferably made conical in shape or is upwardly curved, as shown in Figures 2 and 4, to facilitate inserting the head 11 through the slightly smaller aperture 23, as hereinbefore described.

It will also be noted that the over-all length of the closure member 17 is such that when the bottom edge of its skirt 21 is seated against the shoulder 18, the upper surface of its top wall is positioned against or adjacent to the downwardly facing shoulder 12 of the head 11. The annular member 19 and the closure member 17 are continuous in circumference, but are of such size that they may be readily passed over the plug 4 provided at the end of the electric cord 3 when applying the tool holder to said cord or removing it therefrom.

In Figures 7 and 8 there is illustrated a slightly modified construction which more readily lends itself to manufacture of some of the various flexible plastics now available on the market. It comprises a rectangular body 24 provided with a base plate 25. The body 24 is provided at each side with a plurality of tool-receiving compartments 26 which vary in diameter in accordance with the sizes of the drill bits or tools to be supported therein. A plate member 27 extends upwardly from the top end of the body 24 to provide a support for the upper wall 28 of a suitable closure member 29. The closure member, as shown in Figure 8, is adapted to be fitted over the wall member 27 and base portion 24 of the holder, with its lower edge seated against the base plate 25 at the bottom of the holder. The closure is retained in position on the holder by frictional engagement with the body thereof.

As indicated in Figure 7, the outer wall portions of the compartments 26 may, if desired, be longitudinally slitted, as in the previous figures, to facilitate removal of the drill bits from their respective compartments. However, in a portable tool holder designed more particularly for use on a workbench and the like, as shown in Figure 7, the drills or tools may readily and conveniently be lifted vertically out of their respective compartments, or inserted therein, without distorting the compartment walls, as indicated by the dotted lines in Figure 4.

The novel tool holder herein disclosed has been found extremely practical in actual use. It provides means for supporting a plurality of drills adjacent to the mechanic at all times. Its frictional sliding engagement with the electric cord 3 permits it to be positioned adjacent to the electric drill or remote therefrom along the length of the cord. When the closure member is in its operative position, shown in Figure 2, the drills cannot accidentally drop out of the holder, as will be understood.

If desired, the holder may be supported upon an upright rod, not shown, the diameter of which should preferably correspond to the diameter of the electric cord 3, so that the holder may be frictionally retained in position thereon.

The device illustrated in Figures 1 to 6 may also be utilized as a bench type holder, when removed from the electric cord 3. When so used, it is positioned in an upright manner upon its base flange or disc 6, in which position the closure member 17 may be removed to expose the drills until the work operation has been completed. The design and construction of the tool holder is such that it requires little or no hand work in the construction thereof, whereby it readily lends itself for manufacture in quantity production at extremely low cost. It is non-breakable and protects the cutting edges of the drills from damage, even when the holder is roughly handled, as when dropped to the floor, etc.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications may occur to a person skilled in the art.

I claim as my invention:

1. In a device of the class described, an elongated flexible body comprising an enlarged cylindrical base portion having a plurality of circumferentially spaced tool receiving compartments therein disposed in parallel rela-

tion to the axis of said body, and each compartment having its outwardly facing wall portion longitudinally slitted the greater portion of its length to provide contiguous abutting wall portions for each compartment capable of being flexed to facilitate selective removal of the tools from said compartments, said slits permitting the contiguous abutting wall portions of each compartment to be readily distorted by the shank of a tool, when a selected tool is tilted laterally through the slit in the wall of its respective compartment, thereby to expedite and facilitate the operation of selectively removing the tools from their respective compartments.

2. A tool holder according to claim 1, comprising a flexible sleeve-like closure member having its lower portion detachably fitted over said enlarged base portion and having its upper portion extending upwardly over the upper ends of the tools and engageable with means at the upper end of said elongated body to detachably secure said closure member thereto.

3. A tool holder according to claim 2, wherein the upper end of said elongated body has an enlarged terminal head adapted to pass through a restricted aperture in the upper wall portion of said flexible closure member, thereby to normally detachably retain the closure member in tool-concealing position on said body.

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