

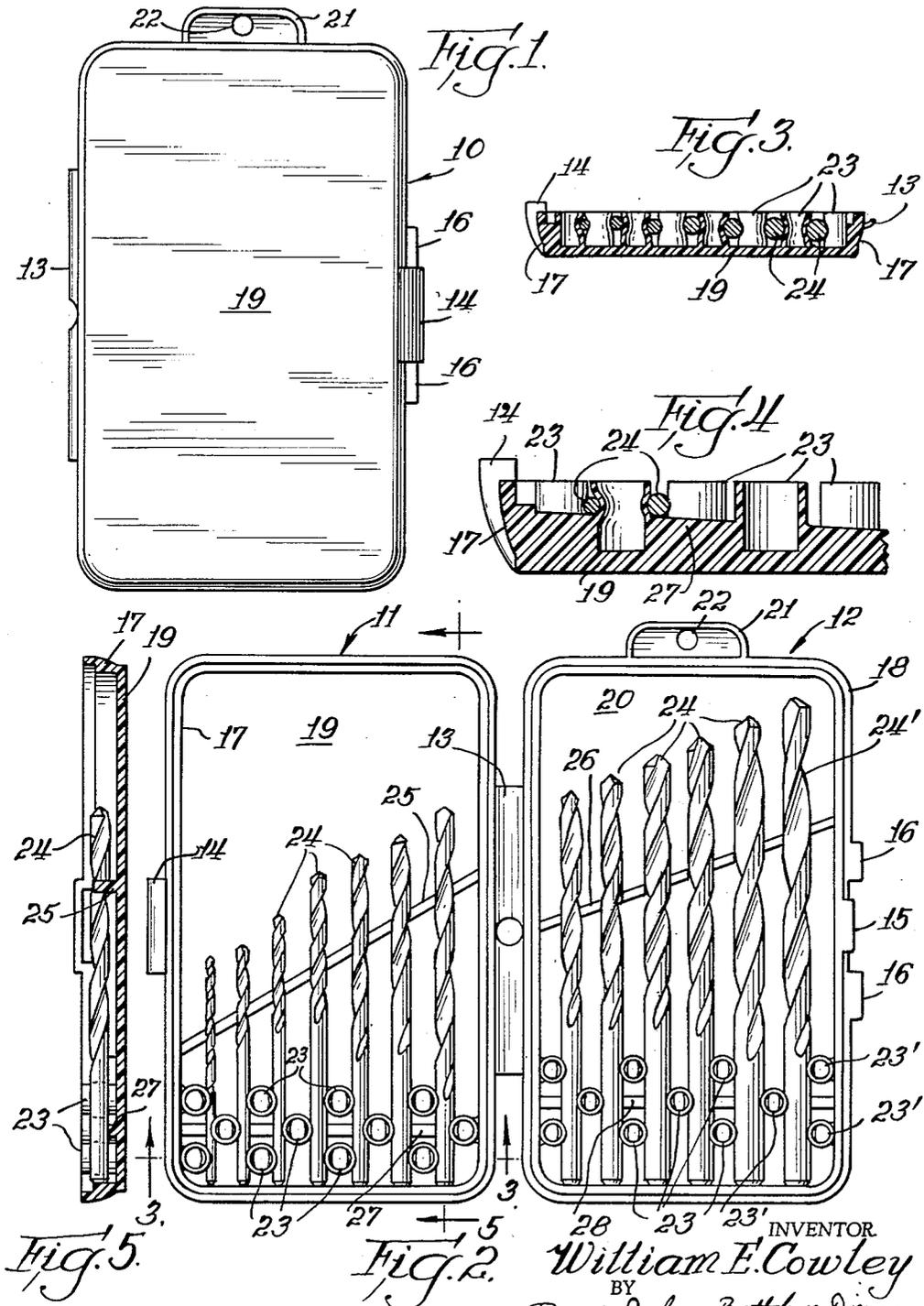
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PLASTIC CASE FOR DRILLS AND THE LIKE

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PLASTIC CASE FOR DRILLS AND THE LIKE

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The present invention relates to a pocket case made of polyethylene or other like plastic material and adapted to hold a set of drills or various other small tools such as screw extractors, an electrician's tap and drill set, files, etc.

Various types of plastic drill cases have previously been proposed and such cases commonly comprise holding means inside the case for holding drills of various sizes in predetermined spaced apart relation. For example, such cases normally include a plurality of holding means each of which is dimensioned to correspond to the size of a corresponding one of the several drills adapted to be carried within the case. It is further known to provide a case of the type described with holding means comprising a pair of upwardly projecting ears which are inclined angularly toward one another to form a restricted opening whereby a drill may be held between a corresponding pair of ears by snapping the drill downwardly past the free ends of the ears.

The principal object of the present invention is to provide a plastic pocket case embodying improved holding means for holding a set of drills or the like therein.

A more specific object of my invention is to provide holding means as last above mentioned which comprise a plurality of thin-walled tubular dowels arranged in parallel relation and spaced laterally to hold a drill which is pressed or wedged therebetween, such tubular dowels being adapted to exert a substantially uniform pressure on a drill inserted therebetween thus eliminating the necessity for snapping the drill into its position in the case.

The foregoing and other objects and advantages of the invention will be apparent from the following description, taken together with the accompanying drawings in which:

FIGURE 1 is a top plan view of a plastic drill case embodying the present invention, the case being shown closed as when carried in the pocket of the user;

FIGURE 2 is a top plan view showing the case of FIGURE 1 in open position with a set of drills mounted therein;

FIGURE 3 is a vertical section taken substantially along the line 3-3 of FIGURE 2 showing the manner in which a plurality of drills are squeezed or wedged between a plurality of thin-walled tubular dowels arranged in parallel relation for holding the drills in predetermined spaced apart relation, the deformation of the tubular dowels being exaggerated somewhat for purposes of illustration;

FIGURE 4 is a view similar to FIGURE 3 but taken on an enlarged scale to better illustrate the manner in which a drill is adapted to be squeezed between two or more dowels through deformation of the walls of the latter; and

FIGURE 5 is a longitudinal section taken substantially along the line 5-5 of FIGURE 2.

Referring now to the drawings, there is shown a plastic case 10 comprising a top or left side portion 11 and a bottom or right side portion 12 joined together by a flexible hinge strip 13 which is integral with the two half portions. Interfitting clasp members 14 and 15 are provided on the half portions 11 and 12, respectively, the latter half portion being further provided with a pair of projecting stop members 16 which serve to locate the clasp member 14 when the case is in closed position.

As viewed in FIGURE 2, the left hand side portion 11 is provided with an upstanding rim 17 which extends entirely around the periphery thereof, and the rim 17 cooperates with a corresponding upstanding peripheral rim 18 integral with the right hand side portion 12 so as to form together with top and bottom walls 19 and 20 a completely enclosed container for drills or the like when the case is in closed position as shown in FIGURE 1. A tab 21 is formed integrally with the right hand portion 12 and provided with an aperture 22 whereby the closed case may if desired be hung on a wall for storage purposes.

In accordance with the invention, a plurality of tubular dowels 23 are formed integral with the walls 19 and 20 for holding a set of drills 24 within the case 10. As shown in FIGURE 2, the dowels 23 are substantially perpendicular to the walls 19 and 20 so as to extend upwardly therefrom. In the particular embodiment shown, the dowels are arranged in staggered rows so that each drill 24 is held in place by a pair of dowels 23 on one side and a single dowel 23 on the other side. Such an arrangement is effective to hold the drills firmly in position. However, various other arrangements may be utilized such as providing only a single dowel on each side of each drill or providing two or more dowels on each side thereof.

It is an important feature of the present invention that the dowels 23 comprise relatively thin-walled resilient tubular members since such a configuration will facilitate deformation of the walls of the dowels when a drill is pressed or wedged therebetween. FIGURES 3 and 4 illustrate the manner in which the various drills 24 are pressed between corresponding dowels 23 into seated positions whereby the dowel walls are deformed in the area of contact immediately adjacent each drill and the upper ends of the dowels tend to resume their natural round configuration so as to overlap the drills slightly and thereby increase the holding action so as to prevent them from being accidentally displaced from their seated positions. It will thus be understood that the length of the dowels should preferably exceed the diameter of the drills to be held.

By way of example, it may be assumed that the drills illustrated in FIGURE 2 vary in diameter in increments of $\frac{1}{64}$ inch from $\frac{1}{16}$ inch to $\frac{1}{4}$ inch. Accordingly, the largest drill shown at 24' may be assumed to be $\frac{1}{4}$ inch in diameter. In this instance, the lateral distance between the single dowel 23' on one side of the drill 24' and the pair of dowels 23' on the opposite side thereof should preferably be on the order of 0.225 inch or about 0.025 inch less than the drill diameter. Consequently, when the drill 24' is pressed between the dowels 23' so as to be seated in the position shown in FIGURE 2, it will deform the walls of the dowels as described above. It will of course be understood that the various other dowels 23 are laterally spaced so as to be adapted to hold a drill of a corresponding predetermined size when pressed therebetween.

One of the principal advantages of the tubular dowels described hereinabove is the ease with which a drill or the like may be pressed therebetween into a seated position. The drills are not snapped into a seated position as is common with respect to holding means heretofore known, but rather they are pressed into a seated position in a smooth uniform manner. In addition, the tubular dowels described herein are adapted to be formed integrally with a plastic pocket case of the type shown by means of a mold which is relatively simple and inexpensive to manufacture.

The walls of the dowels should be sufficiently thin that they will be readily deformed when a drill or other tool to be held is pressed therebetween, and at the same time they must be resilient so that the upper ends of the dowels

will tend to resume their round configuration after a drill is pressed therepast into a seated position. For example, the dowels 23' for holding the 1/4 inch drill 24' may have an outer diameter of approximately 13/64 inch and an inner diameter of approximately 9/64 inch, thus providing a wall thickness of 1/32 inch. The several other dowels 23 provided for the case 10 may all be of the same size, or their diameters may be varied somewhat, depending upon the number and size of the tools to be held and the desired spacing of the tools within the case.

FIGURE 2 shows a cross rib 25 formed integral with the wall 19, and a similar cross rib 26 formed on the wall 20. These ribs are provided with a plurality of U-shaped seat portions, one for each drill, and thus aid in maintaining the drills in proper alignment in the case. In the particular embodiment shown, the seat portions are raised somewhat from the walls 19 and 20 so as to maintain the drills in spaced relation with respect to such walls. Accordingly, a pair of flat cross ribs 27 and 28 are formed on the walls 19 and 20 in the area of the dowels 23 so as to maintain the various drills substantially parallel to the walls 19 and 20 as best shown in FIGURE 5. If desired, the several cross ribs may be eliminated so that when the drills are pressed into their seated positions they will bear against the walls 19 and 20. The longitudinal spacing of the dowels may also be varied to obtain the desired hold upon a drill pressed therebetween.

It should be understood that the present invention is adapted to hold various tools other than drills such as screw extractors, files, an electrician's tap and drill set, or various other like objects.

While I have illustrated a preferred embodiment of my invention, it should be understood that various other embodiments will readily occur to those skilled in the art, particularly with my disclosure before them, and thus I do not intend to be limited to the foregoing description except insofar as the appended claims are so limited.

I claim:

1. A plastic pocket case for holding small tools of varying sizes in predetermined spaced apart relation including a pair of hinged wall portions each having holding means formed integrally therewith, said holding means comprising a plurality of thin-walled tubular dowels projecting generally perpendicularly from said wall portions, said dowels being made of a flexible material and being hollow so as to permit the walls thereof to flex inwardly, and said dowels being spaced apart laterally less than the lateral dimensions of corresponding tools so as to permit such tools to be wedged or squeezed therebetween.

2. A plastic pocket case for holding small tools of varying sizes in predetermined spaced apart relation including a pair of hinged wall portions each having holding means formed integrally therewith, said holding means comprising a plurality of resilient thin-walled tubular dowels projecting generally perpendicularly from said wall por-

tions, said dowels being made of a flexible material and being hollow so as to permit the walls thereof to flex inwardly and being spaced apart laterally less than the lateral dimensions of corresponding tools so as to permit such tools to be wedged or squeezed therebetween, and said tubular dowels being of a length greater than the thickness of a tool to be held whereby when a tool is pressed into a seated position therebetween so as to deform inwardly the flexible dowel walls in contact therewith, the upper ends of said dowels will tend to resume their natural round configuration thereby to increase their holding action.

3. In a plastic pocket case of the type which has hinged wall portions and is adapted to hold a plurality of small tools of varying sizes in predetermined spaced apart relation, the improvement comprising holding means including a plurality of thin-walled tubular dowels made of a flexible plastic material and being hollow so as to permit the walls thereof to flex inwardly, said dowels being formed integrally with the wall portions of said case so as to project generally perpendicularly therefrom for a length greater than the thickness of a tool to be held, and said tubular dowels being spaced apart laterally less than the lateral dimensions of corresponding tools so as to permit such tools to be wedged or squeezed therebetween.

4. In a plastic pocket case for holding drills of varying sizes in predetermined spaced apart relation, the improvement comprising, in combination, a plastic wall portion for said case, and a plurality of resilient thin-walled tubular dowels made of a flexible plastic material and being hollow so as to permit the walls thereof to flex inwardly, said dowels being formed integral with said wall portion so as to project generally perpendicularly therefrom and being laterally spaced apart varying distances which are less than the diameters of corresponding drills so as to permit a drill to be wedged or squeezed between corresponding adjacent dowels whereby a dowel may cooperate with a drill on each side thereof to hold the same, and said dowels being of a length which exceeds the diameter of the corresponding drills whereby when a drill is pressed into a seated position between such dowels so as to deform inwardly the flexible dowel walls in contact therewith, the upper ends of said resilient dowels will tend to resume their natural round configuration thereby to increase their holding action.

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