

[54] **DRAWER ARRANGER**
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220/22.3
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211/60 R, 60 T, 69.1; 248/201; 312/330,
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[57]

ABSTRACT

There is disclosed a device for holding a set of tools in a drawer, which includes two notched strips having notches spaced and shaped to receive the tools and hold them out of contact with each other and slotted spacing members in contact with opposite interior vertical faces of the drawer receiving opposite ends of each notched strip in a slot thereby holding the strips with predetermined spacing, vertically with their notched edges up.

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8 Claims, 4 Drawing Figures

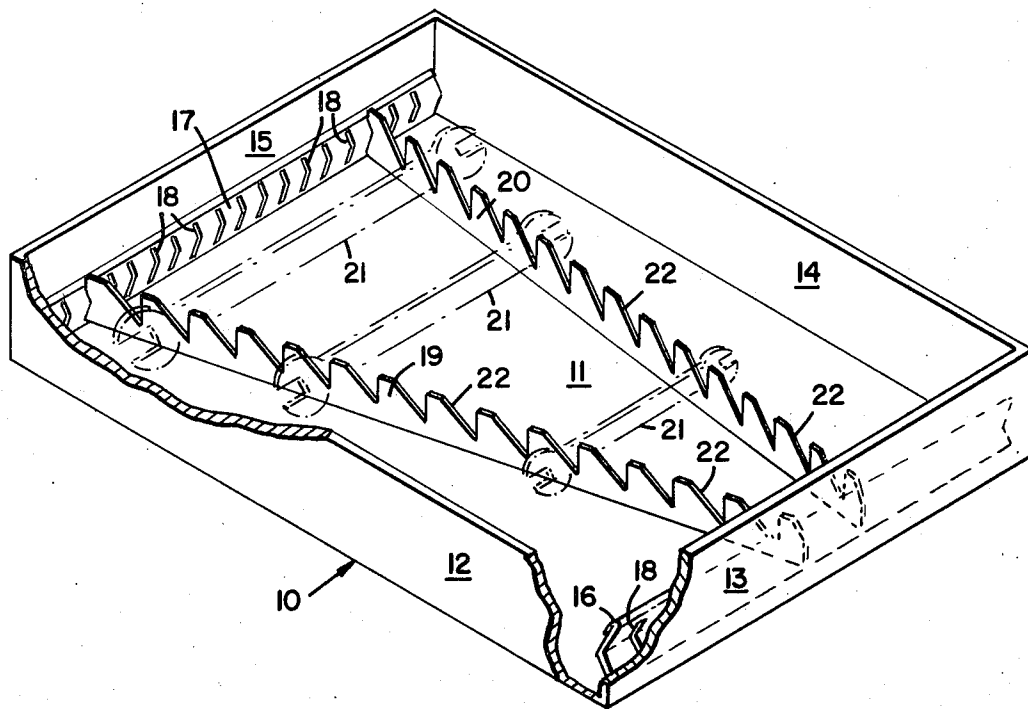


FIG_1

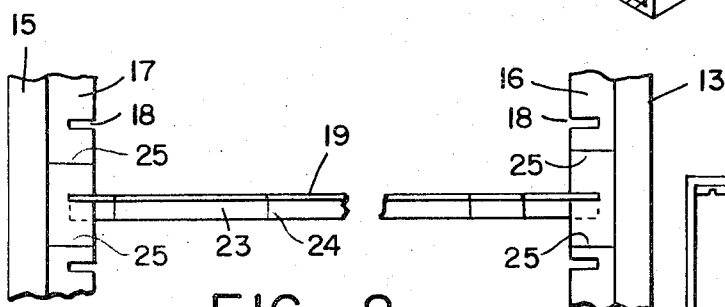
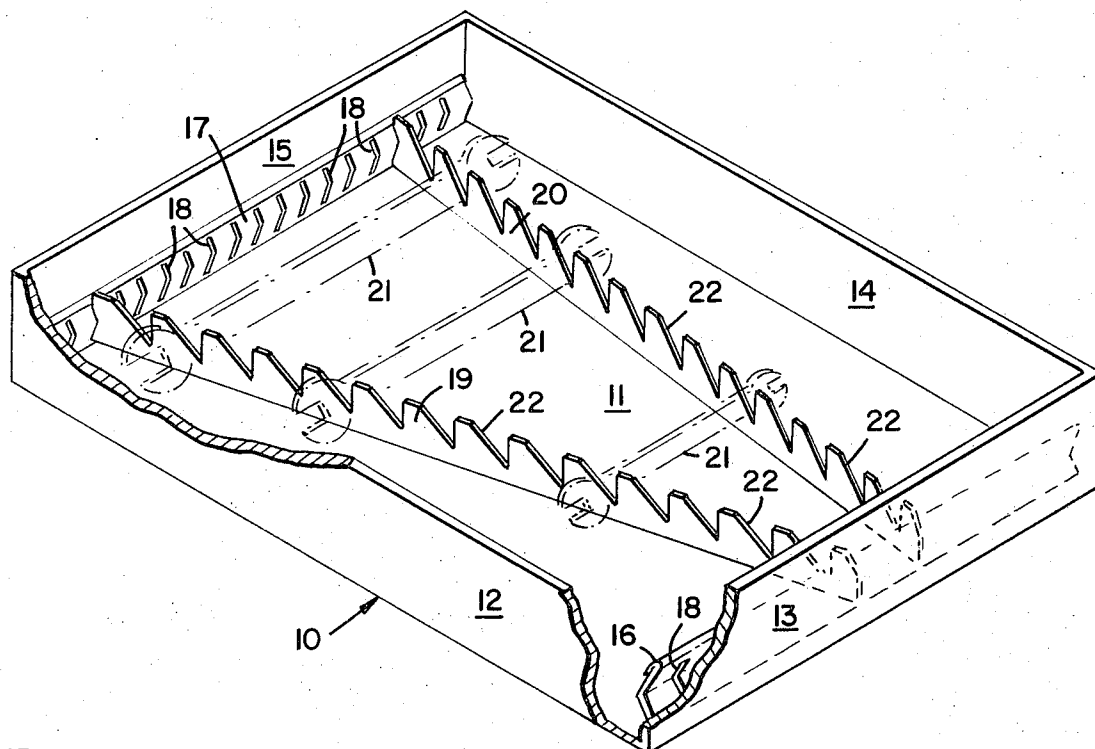


FIG_2

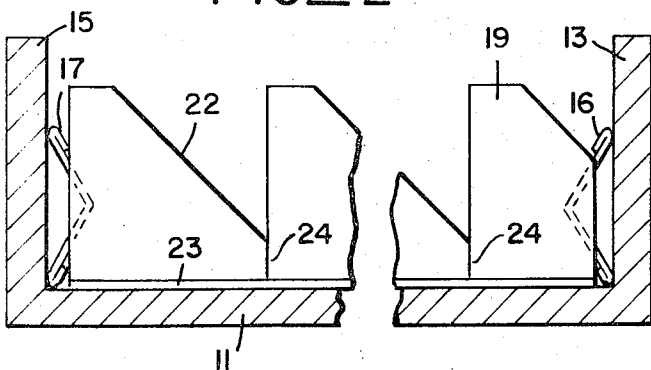


FIG_3

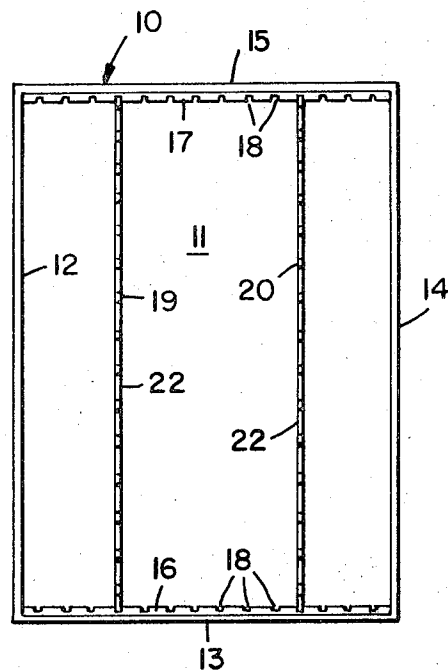


FIG_4

DRAWER ARRANGER

BACKGROUND

Many sets of tools used by craftsmen or professionals are similar in shape but distinguishable from each other by size or the configuration of the working element. Typical of these are sets of end wrenches or dentists' tools. For convenience in use and for protection of the tools it is desirable to adapt storage drawers to hold each tool separate from the other and preferably in a predetermined arrangement so that each has a unique position where it can always be found. This is such an important aspect of maintaining a set of tools that many sets come with their own cabinets which are already constructed with a unique position for each tool. However, purchasing such cabinets is expensive and frequently not desirable, for example, if built-in cabinets are already available.

THE INVENTION

This invention is an inexpensive, readily installed drawer arranger for already existing drawers to hold a set of tools. The invention includes a pair of tool-holding elements in the form of flat strips having one edge notched with notches shaped to receive tools and spaced to hold them out of contact with each other. The invention also includes a pair of spacers which lie in contact with opposing vertical interior surfaces of the drawer and have vertical slots adapted to receive the ends of the tool-holding elements.

The invention, and various embodiments of it, can be best described with reference to the accompanying drawings.

FIG. 1 is a partly cut-away perspective view of a drawer containing an arranger embodying this invention.

FIGS. 2 and 3 are respectively a partial plan view and a partial elevation view of a drawer containing an arranger embodying this invention.

FIG. 4 is a plan view of a drawer containing an arranger embodying this invention. In all figures the same reference number is used to identify the same element.

In FIG. 1 a drawer 10 constructed in the usual manner with a bottom 11 and four vertically positioned members 12, 13, 14 and 15 is in the form of an open-topped box. The drawer of FIG. 1 could be oriented in a cabinet in either direction, for example, with a drawer pull fixed either to vertical member 12 or 13. Usually a drawer is deeper than it is wide so for purposes of illustration, element 13 will be considered the front of the drawer; in other words, the element visible when the drawer is closed and in a cabinet.

The arranger of this invention is installed by first placing spacers 16 and 17 adjacent vertical members 13 and 15 arranged with vertical slots 18 facing toward the center of the drawer 10. Spacers 16 and 17 are illustrated with isosceles triangular cross sections with the slots intersecting the angle included between the equal-length legs, although many equivalent shapes for these elements can be used. Tool-holding elements 19 and 20 are then placed with one end in each spacer and positioned to have the proper position with respect to each other. In FIG. 1 the tool-holding elements are positioned to diverge toward the back of the drawer to hold a set of box wrenches 21 shown in broken lines. The holders are divergent in that each wrench having

a larger opening is longer to provide greater leverage to work a larger nut, and is held in a stable position only by wider-spread holding elements. It is evident that a large number of slots 18 in each spacer affords an opportunity to have holding elements 19 and 20 diverge at any desired angle.

The notches 22 in holding elements 19 and 20 are illustrated as right-triangular in shape, which is a shape that is general enough to hold almost any tool, but the notches may obviously be any shape to accommodate special tools, and in fact each of holding elements 19 and 20 may have different shaped notches for sets of tools being shaped differently at opposite ends. The term "notch" is intended to be generic and may include such arrangements as a series of holes in one holding element and U-shaped notches in the other whereby a tool may be held by being inserted through one holding element after which the other end is laid into the other. It is also intended that the term "tool" be used generically to include such things as hypodermic needles, sewing equipment or other implements whether used in professions, crafts or otherwise.

The spacers and holding elements may be made specially to fit particular drawers or they may be made in indeterminate lengths and cut to fit specific drawers. They may also be made with indented or partially cut or otherwise pre-weakened portions so that proper lengths can be simply broken off by frequent reverse bending along the pre-weakened cut or indentation. The arrangers of this invention may be fixed in a drawer with screws, adhesive or the like, but preferably the arrangers are simply placed in a drawer. Since the spacers cannot move axially in that they are restrained by the drawer and cannot move toward each other because they are restrained by holding elements 19 and 20, simply placing the entire assembly in a drawer produces a structurally stable arranger. An additional advantage of this feature is that the arranger can be placed in metal drawers without difficulty.

FIGS. 2 and 3 illustrate the interlocking of the various elements in more detail as well as some variations on the embodiments of FIG. 1. In FIGS. 2 and 3 the tool-holding element 19 is oriented perpendicular to the plane of drawer members 13 and 15 so that it would not diverge from its opposing element 20. This arrangement will be useful for holding a set of tools of the same size but with different utility such as dentists' tools. The tool-holding elements of FIGS. 2 and 3 are also formed with a flange 23 which lies flat against the bottom of the drawer 11. A flange 23 may be useful to provide rigidity to the tool-holding element if it is extremely long or of very light gauge metal.

The embodiment of FIGS. 2 and 3 also illustrates the use of pre-weakened slots for easy breaking of holding elements and spacers. Indentations 24 in the holding element 19 preferably extend from the bottom of each notch toward flange 23 and then across flange 23. In a preferred embodiment the portion extending from the bottom of notch 22 toward the flange is cut through completely and a pre-weakened indentation extends across flange 23. Of course, where the tool-holding element has no bottom flange but is in the form of a flat strip as illustrated in FIG. 1, it is essential that a pre-weakened area be not cut through.

Spacing means 16 and 17 may also be provided with pre-weakening indentations 25. In addition to providing easy separation into desired lengths, the provision

of pre-weakened areas insures that notches in both tool-holding elements will be aligned so that tools will be in the arranger of this invention with their axes square with the drawer.

FIG. 4 illustrates a plan view of an entire drawer 10 arranged with parallel tool-holding elements 19 and 20 positioned to run from the front to the rear of the drawer. Spacers 16 and 17 are illustrated positioned against drawer members 13 and 15 and lying with notches 22 facing upward. When assembling the arranger of this invention in a drawer as illustrated in FIG. 4, it is preferred first to place the spacers adjacent members 13 and 15 and then to insert holding elements 19 and 20. However, when the holding elements are made with a flange 23, the assembly is made by first placing holding elements 19 and 20 in the drawer and then inserting spacers 16 and 17.

What is claimed is:

1. An insertable and removable universal arranger for holding a set of tools in a spaced array in a drawer which comprises in combination:

- A. a drawer having at least two pairs of opposite facing vertical members;
- B. two interchangeable tool-holding elements in the form of insertable and removable elongated strips having flat planar end portions and upwardly facing and opening notches in an upper edge thereof, said notches being shaped to receive said tools and spaced to hold said tools out of contact with and generally parallel to each other when they are held in adjacent notches, each of said notches being of inverted-sawtooth configuration comprising only two edge surfaces which intersect at a point spaced upwardly from the lower edge of said element and which extend divergently upwardly therefrom and terminate at said upper edge of said element, each said notch being capable of securely accommodating tools of varying shank diameters and shapes by permitting any tool to rest in simultaneous support contact with each of said notch surfaces at a level measured vertically upwardly from said point of intersection where the lateral distance between said notch surfaces is equal to said particular tool's shank diameter at the point of support contact; and

C. first and second spacing means inserted in said drawer, each in respective contact with one pair of opposite facing vertical members of said drawer,

each said spacing means having angularly related walls defining an obtuse angle therebetween and defining with said associated drawer member a generally enclosed triangular chamber, said spacing means further having parallel vertical slots extending through said walls receiving said end portions of said tool-holding elements in selected angular dispositions and with said end portions being disposed within said chambers, said slots being spaced generally along the length of said spacing means and having walls which extend only vertically and generally normal to said length of said spacing means, each said spacing means being further held in contiguous contact with said respective vertical members of said drawer solely by said opposite ends of said tool-holding elements, said spacer means being inserted but releasably removable from said drawer, and

- D. each of said tool-holding elements having its opposite ends engaged, respectively, in a vertical slot of each said first and second spacing means with its notched edge up, and further being inwardly spaced from the other pair of opposite vertical members of said drawer.
- 2. The device of claim 1 wherein said tool-holding elements are parallel.
- 3. The device of claim 1 wherein said tool-holding elements are non-parallel.
- 4. The device of claim 1 wherein said tool-holding elements are formed with a flange attached to their non-notched edge.
- 5. The device of claim 1 wherein said tool-holding elements are formed with pre-weakened indentations.
- 6. The device of claim 1 wherein said spacing means are formed with pre-weakened indentations.
- 7. The device of claim 1 wherein said first and second spacing means have generally V-shaped cross-sectional areas, the apex of each cross section extending inwardly into said drawer from its respective drawer vertical member, said vertical slots extending from said apex toward its respective drawer vertical member.
- 8. The device of claim 1 wherein at least one said tool-holding element has a lower flange extending along the complete linear length thereof, said flange terminating short of and remaining outside of its respective slots in said spacing means.

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