

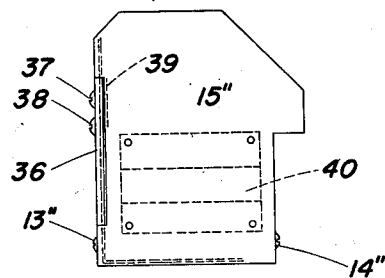
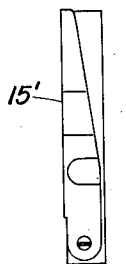
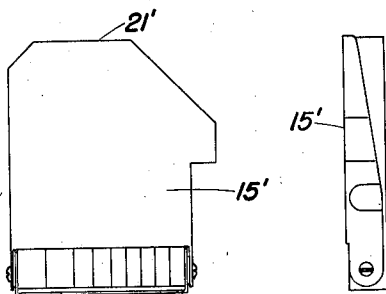
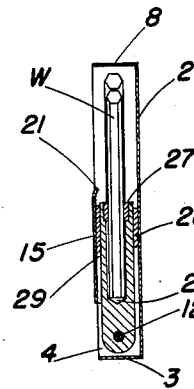
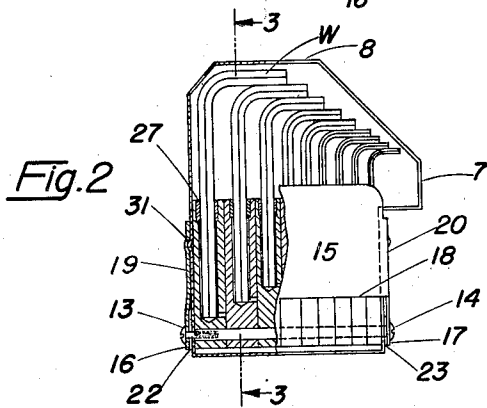
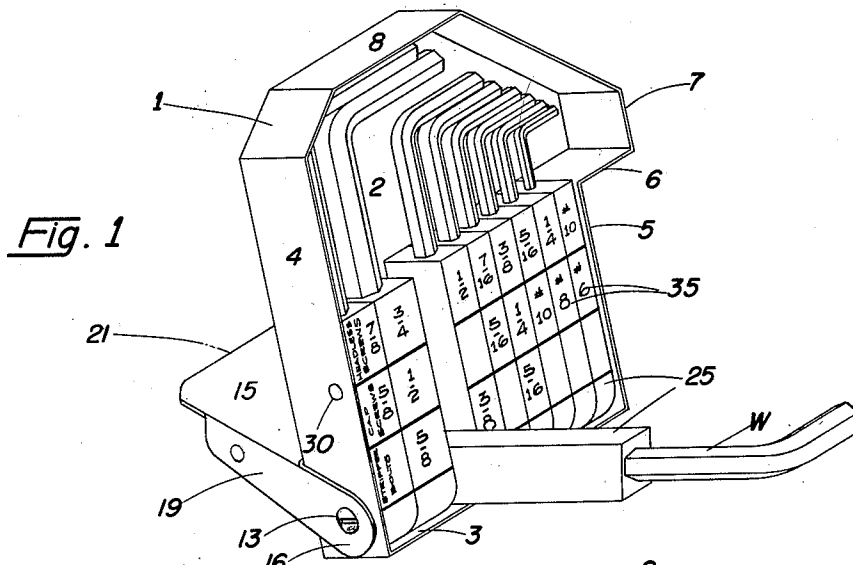
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A. J. GIBSON

2,590,307

WRENCH CASE

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Inventor

ALEXANDER J. GIBSON

By

George K. Kell
Attorney

UNITED STATES PATENT OFFICE

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WRENCH CASE

Alexander J. Gibson, Philadelphia, Pa.

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7 Claims. (Cl. 206—16)

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This invention relates to tool receptacles and is especially directed to providing a case or container for wrenches or keys of the type commonly referred to as "Allen" or "socket" wrenches consisting of generally L-shaped bars of hexagonal cross section adapted to engage in the correspondingly hexagonal sockets in the heads of so called "Allen" screws, plugs and the like.

Such screws and plugs are produced in a wide variety of standard sizes and types the principal varieties of screws including headless screws such as set screws, cap screws and shoulder screws or stripper bolts which for the same thread sizes generally have different sized sockets in their heads. Thus for example a quarter-inch headless screw may have a socket of one size, a quarter-inch cap screw a socket of another size and a quarter-inch stripper bolt a socket of still a third size, usually smaller than the sockets of either headless screws or cap screws of the same nominal diameter, while pipe plugs generally have somewhat larger sockets for substantially the same thread size. Consequently mechanics, tool makers and others using mechanical elements of this general type must have available a number of corresponding wrenches, sets comprising nine wrenches of different sizes meeting most requirements. Such wrench sets are sometimes sold in containers or stands in some of which spaces are provided for the respective wrenches allowing them to nest together to a greater or less extent and these are usually retained permanently by the purchaser for keeping the set of wrenches together. So far as I am aware however, no such container has been found fully satisfactory because of difficulties incident to selection and removal of a specific wrench or for some other reason.

It is accordingly an object of the present invention to provide an improved container for wrenches of this character in which individual sockets each formed to receive a wrench of specific size are provided whereby the entire set of wrenches is kept readily available and selection of one of them for use and its removal from and return after use to the container thereby greatly facilitated.

A further object is to provide in such a container means whereby a wrench fitting a screw or other part of specified size may readily be located among the other wrenches in the container. Another object is to provide in certain embodiments of the invention means whereby the container may be set up on a work bench or the like to display the set of wrenches therein and maintain them in convenient position for selec-

tion for use and also may be put away with the wrenches partially or fully enclosed within it and thereby prevented from becoming lost or intermingled with others in the owner's tool kit.

Other objects, purposes and advantages of the invention will more fully appear or be understood from the following description of certain embodiments of it illustrated in the accompanying drawing, in which

Fig. 1 is a perspective view of one container or wrench case embodying the invention as it appears when set up on a work bench or the like or for display of a set of contained wrenches;

Fig. 2 on a smaller scale is a fragmentary front elevation partly in section of the said container with its cover closed as when the set is to be put away;

Fig. 3 is a section on the line 3—3 in Fig. 2 and on the same scale;

Fig. 4 on a still smaller scale is a front elevation of a modified embodiment of the invention, Fig. 5 is a side elevation thereof, while

Fig. 6 on a like scale is a front elevation of a third embodiment.

Referring now more particularly to the drawing the container shown in Figs. 1-3 comprises a main casing 1 having a back wall 2, a bottom wall 3 extending normal thereto and side walls 4 and 5 paralleling each other and normal to both the back and bottom walls, the side wall 5 being somewhat shorter than the wall 4 and connecting with a laterally extending intermediate wall 6 merging into a vertical side wall 7 which is connected to the side wall 4 through a top 8 the middle portion of which is parallel to the bottom wall 3 while its ends are disposed angularly thereto.

Extending between the side walls 4 and 5 adjacent the bottom wall is a pivot rod or spindle 12 secured to the side walls by screws 13, 14 the latter also pivotally connecting thereto a cover 15 adapted when in one position (Fig. 2) to overlie part of the casing above cover ears 16, 17 which receive the screws, the lower edge 18 of the cover defining a space between the said ears whereby the cover may be swung from parallelism with the back wall to the position illustrated in Fig. 1 in which the edge 18 engages the outer face of the back wall while side flaps 19, 20 of the cover project downwardly for engagement with a supporting surface; the normally upper slightly rolled edge 21 also engages said surface and in cooperation with the rear lower corner edge of the casing the parts just mentioned support the latter in display position.

Between the ears 16, 17 and the respectively adjacent side walls of the casing annular washers 22, 23 form bearings for these parts as the cover swings from one of said positions to the other while within the casing the rod 12 provides a pivotal support for a plurality of wrench holders 25 each having a socket 26 extending inwardly from its free end normal to the spindle 12 and formed at least in part hexagonally, for example by the insertion in the socket adjacent its outer end of a bushing 27 the hexagonal interior of which conforms in size and shape to the cross section of a wrench shank to be received therein. The depth of the several sockets 26 is similarly accommodated to the length of the shanks of corresponding wrenches W whereby when each of the sockets has inserted into it a wrench of the size for which it is designed and all the holders are swung into the casing in parallelism with its back wall and into engagement with a pad 28 desirably secured thereto the several wrenches nest together with their shorter legs in overlapping relation in the space provided by the upper part of the casing, a pad 29 on the inner face of the cover when the latter is closed engaging the front surfaces of the holders to maintain them snugly in the casing while a pressed convex dimple 30 on each side wall of the casing cooperating with a depression 31 on each cover side flap releasably holds the cover closed.

The wrench holders 25 are preferably provided with indicia 35 indicating the sizes of the screws with which the corresponding wrenches are to be used, the indicia on those holders relating their respectively contained wrenches to one type of screw preferably being arranged so as to form a horizontal row across the casing which may be appropriately designated with the name of the screw type. Thus for example as illustrated in Fig. 1, nominal headless screw sizes are indicated in the upper row, those of cap screws in the second row and of stripper bolts in the third. Similar indicia may also be supplied for designating pipe plugs, particularly in casings for the larger wrenches, and any other class of mechanical elements having sockets of the type intended to receive wrenches of this character may similarly be designated whereby the kind of element and its size being known the wrench appropriate for operating it may readily be determined from the said indicia and thereupon the holder carrying the corresponding wrench may be swung outwardly about its pivot on sleeve 12 to facilitate removal of the wrench. Preferably the latter is swung into engagement with the front edge of bottom wall 3 which serves as a stop for it during or after removal of the wrench and to facilitate this movement the lower end of the holder may be rounded off; if the holder is then allowed to remain in extended position the wrench may be readily returned to its place therein after use and the holder containing the wrench then swung back into the casing among the others until again required.

In the embodiment of the invention shown in Figs. 4 and 5 the cover 15' of the casing is larger than cover 15 illustrated in the preceding figures; when closed it covers the exposed heads of the wrenches, preventing the wrench holders from swinging out of the casing while a lip or flange 21' on the free edge of the cover is bent inwardly and engages over the edge of the casing top wall for releasably holding the cover in closed position, the latter, like cover 15, serving also as a

support for the casing and its contained wrenches when in display position.

In the embodiment of the invention shown in Fig. 6, which may be preferred under certain circumstances, cover 15'' instead of being pivotally secured to the wrench holder pivot rod by the aid of screws 13'', 14'' is provided with a separate hinge 36 attached to the side wall 4 of the casing with the aid of screws 37, 38 passing through one leaf of the hinge and the said wall and threaded into a plate 39 which serves as a retaining nut within the casing. Also a suitably inscribed plate 40 or other indicia carrying means may be positioned on the inner face of cover 15'' to indicate the types of elements designated by the several rows of indicia on the wrench holders or these indicia may be shown directly on one or more of the holders themselves as in Fig. 1.

In the drawing I have illustrated wrench containers in which the casings and their covers are made from sheet metal and the individual wrench holders formed from solid bars of light metal such as aluminum, the bars being suitably bored to receive their supporting pivot 12 and the shanks of the respective wrenches, as well as the inserted bushings 27. The latter are preferably made of steel or other harder metal to minimize wear but it will be understood the wrench holder sockets may be broached or otherwise formed to hexagonal cross section substantially throughout their length if desired instead of being provided with bushings 27.

Nevertheless any suitable materials may be employed in the construction of my container, and the invention particularly contemplates making the several wrench holders from sheet metal each suitably formed-up and arranged to provide a hexagonal hole in its free end so as to receive a corresponding wrench and hold it when properly inserted in the holder in substantially the same way as the holders herein specifically shown and described.

It will be apparent that when supplied with wrenches and positioned on a work bench or the like as illustrated in Fig. 1, my container permits a desired wrench to be distinguished very readily by reference to indicia indicating which sizes of the various types of mechanical elements each is adapted to fit, and since mechanics using the wrenches are generally conscious of the thread size and type of element for which a specific wrench is desired by referring to said indicia the appropriate wrench may be easily selected with certainty of its fitting the element; thus the time-consuming practice heretofore in vogue of testing several wrenches of approximately the proper size until the suitable one is found is obviated. Moreover, after the wrench to be used has been determined by reference to said indicia it may be swung with its holder out of alignment with the other wrenches in the container and quickly removed without interference with or from any of the other wrenches, and if while the selected one is being used its holder is allowed to remain projecting outwardly from the casing the wrench may readily be returned to its proper place with a minimum of attention. Since when all the wrenches are enclosed within the casing they nest compactly together in overlapping relation and by the hexagonal form of the sockets in their holders are prevented from swinging about the axes of their respective shanks, the container occupies the smallest space in a mechanic's tool box consistent with convenient retention of the wrenches in readily avail-

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able condition while it is substantially impossible for any of them either to become dislodged so as to mingle with others or with other tools in the box or on a work bench.

While I have herein described with considerable particularity certain embodiments of my invention as illustrated in the accompanying drawing and have suggested certain modifications of the construction thereof, it will be understood I do not intend thereby to be limited or confined in any way as changes and modifications other than as herein suggested in the form, construction, arrangement and relationship of the several parts and instrumentalities employed will readily occur to those skilled in the art and may be utilized if desired without departing from the spirit and scope of the invention as defined in the appended claims.

Having thus described my invention I claim and desire to protect by Letters Patent of the United States:

1. A container for a plurality of substantially similar wrenches of different sizes, each wrench having work engaging portions at its ends extending respectively in planes normal to each other, the container comprising a casing having rear, top, bottom and side walls and a back wall the top wall including a portion extending parallel to the bottom wall and one extending angularly thereto, a spindle extending between the side walls and spaced from the back wall, a plurality of tool holders respectively pivoted independently and near one end on said spindle for movement from positions substantially parallel to and proximate the back wall into engagement and substantial parallelism with the bottom wall, each tool holder having a socket for reception of an end portion of a corresponding wrench, the socket in each holder extending from the outer free end thereof toward said spindle a distance proportioned to the wrench length whereby when each holder has received corresponding a wrench with an end thereof engaging the bottom of the holder socket and the other end lying in a plane parallel with the back wall of the casing each wrench intersects a plane normal to the spindle axis which is also intersected by at least one other of the wrenches lying in said parallel plane and having an end extending into the socket of an adjacent holder.

2. A container as defined in claim 1 in which each holder socket has a portion hexagonal in cross section corresponding to the cross section of the shank of the wrench for reception therein, and adapted to hold said wrench in non-rotative relation to the holder when its shank is disposed in said socket.

3. A container as defined in claim 1 in which a cover hinged to the spindle is adapted in one position to overlie the wrench holders in parallelism with the back wall and in another position to engage said back wall and in cooperation with an edge thereof to maintain the container in angular relation to a horizontal supporting surface.

4. A container as defined in claim 1 in which a cover is hinged to one side wall of the casing and adapted to overlie the holders and wrenches when the latter are disposed within the container to thereby enclose them therein.

5. A container for a set of wrenches of progressively decreasing size each wrench being of hexagonal cross section and having a shank and a shorter portion extending normal thereto, said container comprising a back wall and a perim-

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etral flange upstanding therefrom, a series of wrench holders disposed side by side between parallel portions of said flange each having an opening extending inwardly from one of its ends and of hexagonal shape proximate its mouth adapted to snugly receive a wrench shank of predetermined size and a stop within the holder limiting the extent to which said shank can be inserted therein, a spindle extending through said parallel portions of the flange and through all the holders proximate the other ends thereof whereby any holder may be swung about the spindle from substantial parallelism with the back wall of the casing into substantial normalcy thereto, said stops in the series of holders being disposed at decreasing distances from the mouths thereof whereby when the wrenches corresponding thereto are inserted in their respective holders and the latter swung into substantial parallelism with said back wall, the wrenches respectively will lie within said flange with their shanks parallel and their shorter portions overlying the corresponding portion of the next smaller wrench with the largest wrench inhibited from withdrawal from its holder by a part of the flange overlying its shorter portion.

6. A container as defined in claim 5 provided with a cover having a main portion adapted when closed to overlie at least the free ends of the holders when substantially parallel to the back wall of the casing, side flanges adapted to then embrace the said parallel portions of the casing flange and ears extending therefrom beyond the edge of the main portion and pivoted on said spindle, whereby the cover can be turned from closed position proximate the holders to acute angular relation with the outer face of the casing back wall with that edge of the main portion extending between the ears in engagement with said wall, the opposite edge of the main portion and the adjacent edge of the back wall then forming supporting means adapted to hold the container upon a supporting surface with the holders fully exposed in front of the rearwardly inclined back wall.

7. A container as defined in claim 5 including a cover pivoted on said spindle having a main portion adapted to overlie at least the free ends of the holders when the cover is disposed parallel to the back wall of the container and movable about said spindle and to expose the holders to a position in which said main portion extends behind and in angular relation to the back wall and in cooperation with the latter forms a support for the casing as a whole upon a supporting surface with the back wall at an acute angle therewith.

ALEXANDER J. GIBSON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,930,617	Huot	Oct. 17, 1933
2,403,825	Nissenbaum	July 9, 1946
2,473,758	Maitlen	June 21, 1949

FOREIGN PATENTS

Number	Country	Date
138,474	Great Britain	Feb. 12, 1920
374,638	Germany	Apr. 27, 1923
504,716	France	Apr. 20, 1920