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W. C. KRESS

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WRENCH AND WRENCH HOLDER

Filed June 14, 1929

Fig. 1.

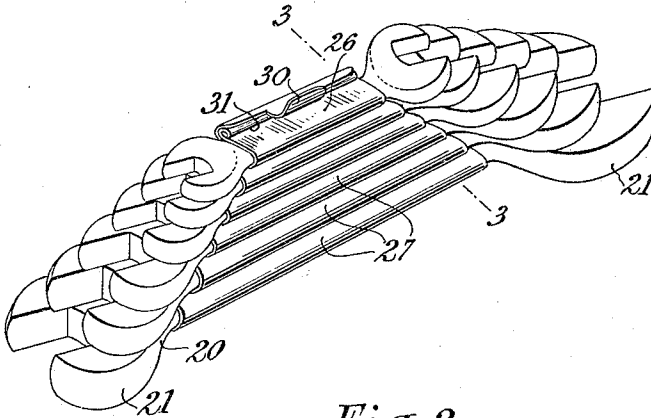


Fig. 2.

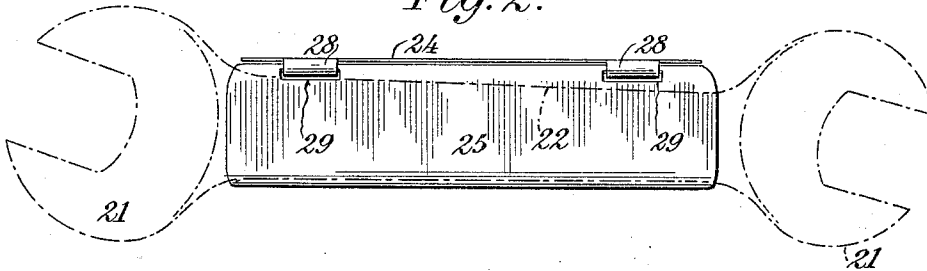


Fig. 4.

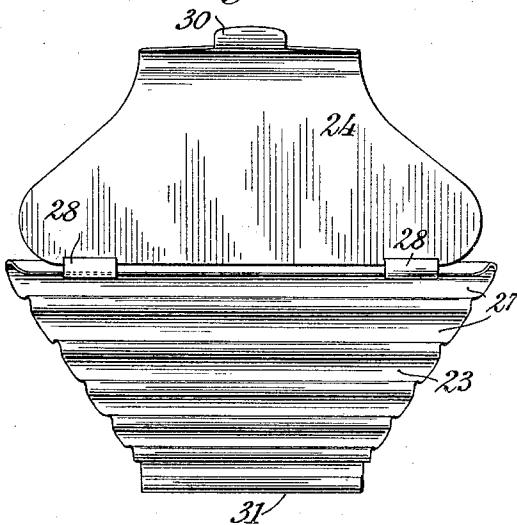
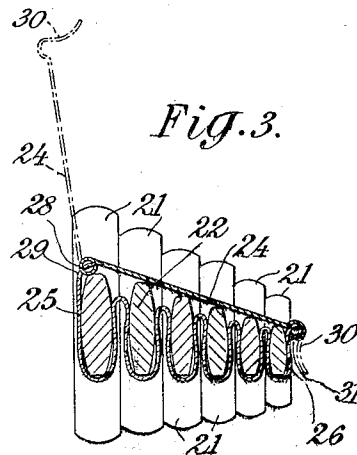


Fig. 3.



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WRENCH AND WRENCH HOLDER

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This invention relates to improvements in wrenches and wrench-holders, and provides improved means whereby the respective members of a set of double-headed wrenches of varying dimensions and of relatively uniform gradation may be assembled and bound together in a holder.

It is an object of the invention to provide a set of wrenches of the above-described character and an improved holder of simple construction in which they may be readily assembled in a predetermined arrangement, and from which any desired wrench of the set may be quickly removed and replaced.

In the accompanying drawing illustrating the preferred form of the invention:—

Figure 1 is a perspective view of a set of wrenches and a holder embodying the above-described invention.

Fig. 2 is a bottom view of the holder illustrated in Fig. 1, the largest wrench of the set to be used in the holder being indicated in broken lines.

Fig. 3 is a transverse sectional view of the wrenches and holder illustrated in Fig. 1.

Fig. 4 is a view of the holder illustrated in Fig. 1, the parts thereof being represented as having been opened.

The invention consists generally of a set of wrenches each having a pair of working heads 21, which may be of different sizes, and an intervening handle portion 22. As best indicated in Figs. 1 and 3, the wrenches are of various sizes and are substantially uniformly graded from the largest to the smallest.

A holder embodying the invention in the specific form herein disclosed may comprise a corrugated spacing plate 23 and a restraining plate 24. As indicated in Fig. 3, the spacing plate has an upturned edge portion 25 substantially equal in width to the width of the handle portion of the largest wrench of the set and an upturned edge portion 26 substantially equal in width to the width of the handle portion of the smallest wrench of the set. Each of the intervening corrugations 27 should be of a depth materially greater than half the width of the handle portions of the adjacent wrenches intended to be inserted

therein, and should not exceed the width of such handle portions. They should be of such form and width as to snugly receive the handle portions of the respective wrenches. Preferably, the wrench handles and the corrugations which form the pockets in the wrench-holder should be substantially of the configuration indicated in Fig. 3, the surfaces of the handle portions of the wrenches being slightly tapered off from their centers to their edges, and the parts of the corrugations forming the division walls between the pockets for the wrenches being slightly bulged at the bends so as to restrict the throats of the pockets. The construction is, therefore, such as to cause the handles of the wrenches to be firmly clasped by the walls of the pockets, as a result of which the wrenches will be yieldingly held in the holder until removed by the application of force.

In the preferred form of the invention the end walls of the plates 23 and 24 may be tapered so as to lie just along the inner surfaces of the heads 21 of the wrenches when inserted, thus preventing any material endwise movements of the wrenches with respect to each other or to the holder. This is of importance in that it tends to maintain the wrenches in the orderly arrangement indicated in Fig. 1, with each head exposed so that a wrench of any desired size may be readily selected for use and removed from the holder without disturbing the others.

The restraining plate 24 should be secured to the spacing plate 23 in such manner as to provide for the convenient opening and closing of the holder. In the preferred form herein disclosed, the restraining plate is hinged to the spacing plate at one side of the holder by tongues 28 of metal which extend through slots 29 in the spacing plate, the tongues being bent into cylindrical form adapted to cooperate with the slotted portions of the spacing plate to form the hinges. The opposite edge of the restraining plate may be provided with a bent portion 30 adapted to be snapped over the rolled edge 31 of the spacing plate, the bent portion and rolled-edge portion being adapted to serve respectively as a spring clasp and keeper

whereby the two parts of the holder may be yieldingly secured together.

The wrenches may be readily assembled in the holder by inserting the handle portions in the pockets formed by the corrugations in the spacing plate 23 and closing the restraining plate 24 so as to cause the catch 30 to be snapped over the keeper 31. When it is desired to use one or more of the wrenches, the restraining plate is unclashed from the spacing plate and turned upwardly about the hinge-joints 28, 29, after which the wrenches may be removed and reinserted at will.

The above-described holder, although of simple construction, is durable and practical. It may readily be made from two pieces of metal without the use of expensive tools and without the need of employing expert workmen. It may be constructed of any suitable material, preferably of sheet steel of appropriate gauge.

Notwithstanding the slight variations in the sizes of the wrenches and the pockets of the holder which may occur in practice, it is important that the two parts of the holder be so related that they may be clasped about the set of wrenches and detachably secured with a satisfactory spring snap effect between the catch 30 and the keeper 31. The corrugated spacing plate 23 is a highly satisfactory means of accomplishing such results without making it necessary to accurately dimension either the wrench handles or the parts of the holder, which would unduly increase the cost of construction and be lacking in economy.

It will be apparent that the distance between the catch or clasp 30 of the restraining plate 24 and the hinge-tongues 28 is substantially fixed. The corrugated pockets of the spacing plate, however, afford a convenient means whereby the relative dimensions of the parts of the finished holder may be accurately adjusted.

It is not at all necessary to initially give the corrugated pockets the finished form illustrated in Fig. 3. They may be given primary forms approximating those of the respective wrench handles, and the entire structure of the spacing plate may be such that it will be somewhat spread out so that the distance between the hinge-elements 29 and the keeper 31 will slightly exceed the distance between the hinge-tongues 28 and the clasp 30 of the restraining plate. After the wrenches have been inserted in the pockets, the spacing plate and wrenches may be inserted in a vise and compressed so as to cause the various pockets to conform with the handles of the inserted wrenches and bring the spacing plate and wrenches to the dimensions necessary to enable the clasp and the keeper to properly function.

In order that this may be effected it is important that sheet metal of proper thickness

and physical properties be selected for use in making the holder, and this is especially true with respect to the corrugated spacing plate, in order that each wrench may be held under proper tension in its respective pocket and in order that a proper working relationship may be maintained between the catch and the keeper.

The invention is not intended to be limited to the specific form in which it is herein disclosed for purposes of illustration, but should be regarded as covering modifications and variations thereof within the scope of the appended claims.

What is claimed is:—

1. A wrench-holder comprising a corrugated spacing plate the corrugations of which may serve as pockets to receive the various wrenches of a set, and a restraining plate having a hinged connection with said spacing plate at one end of its series of corrugations, and means whereby it may be detachably secured to said spacing plate at the opposite end of said series of corrugations.

2. A wrench-holder as defined by claim 1, of which the corrugations are of such form as to provide restricted entrance-ways to the pockets, whereby the removal of the wrenches therefrom may be yieldingly restrained.

3. A wrench-holder as defined by claim 1, having corrugations of gradually varying depth, and having portions at the opposite ends of the series of corrugations of such relative widths as to cause the connected restraining element, when closed, to cooperate with the corrugations and to provide a series of pockets of graded depth to receive the respective wrenches of a set.

4. The combination with a set of double-headed wrenches of varying dimensions and of relatively uniform gradation, of a two-piece holder comprising a sheet of metal having an upturned portion at one edge of a width substantially equal to the width of the handle portion of the largest wrench, an upturned portion at the opposite edge of a width substantially equal to the width of the handle portion of the smallest wrench, an intermediate series of corrugations of graded dimensions increasing in depth from the narrow upturned portion towards the wider upturned portion, the depth of the shallowest corrugation being greater than half the width of the handle portion of the smallest wrench and not exceeding such width, and the depth of the largest corrugation being greater than half the width of the handle portion of the largest wrench and not exceeding such width, and a restraining member comprising a sheet of metal having a hinged connection with one of the upturned portions of the corrugated sheet and a detachable connection with the other of said upturned portions, the two sheets being tapered at their ends so as to form limiting stops for the heads of the

wrenches whereby the wrenches of a set, assembled in the holder, may be held in a fixed orderly arrangement with respect to each other.

5 5. The combination with a set of wrenches of varying dimensions, of a wrench-holder comprising a corrugated plate the corruga-
10 tions of which may serve as pockets to receive the handles of the various wrenches of the set, the relative cross-sectional sizes and forms of
15 the pockets as compared with those of the respective wrench handles being such as to oppose relative movement between the wrenches and the holder, and the lengths of the re-
spective pockets being graded in substantial
correspondence with the sizes of the wrenches.

6. A wrench-holder, as defined by claim 5,
of which the entranceways to the respective
20 pockets are of less width than the greatest thicknesses of the wrench handles held in said
pockets.

7. A wrench-holder, as defined by claim
5, having a restraining plate connected there-
with at the opposite ends of its series of cor-
25 rugations and bridging its series of pockets,
said plate being readily detachable at at least
one end.

In witness whereof, I have hereunto signed
my name.

30 WILLARD C. KRESS.

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