June 16, 1931. W. C. KRESS 1,810,108

TOOLS IN SETS AND HOLDER THEREFOR

Filed Aug. 22, 1929

Fig. 1.

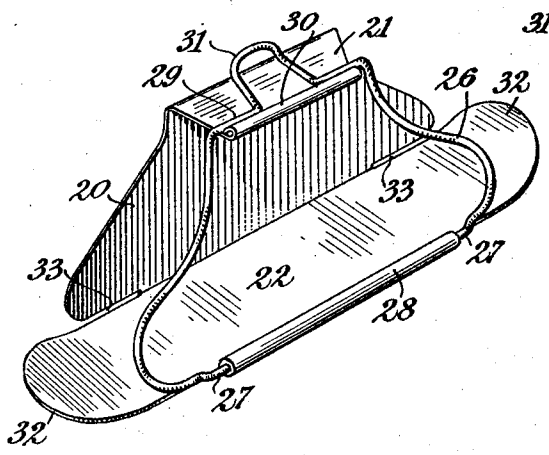


Fig. 2.

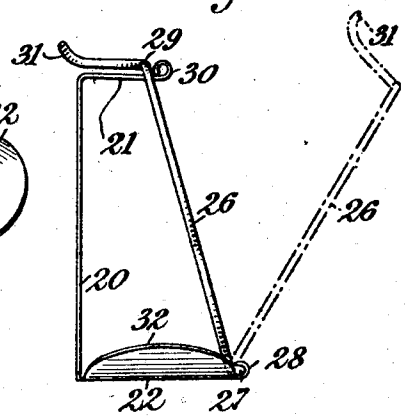


Fig. 4.

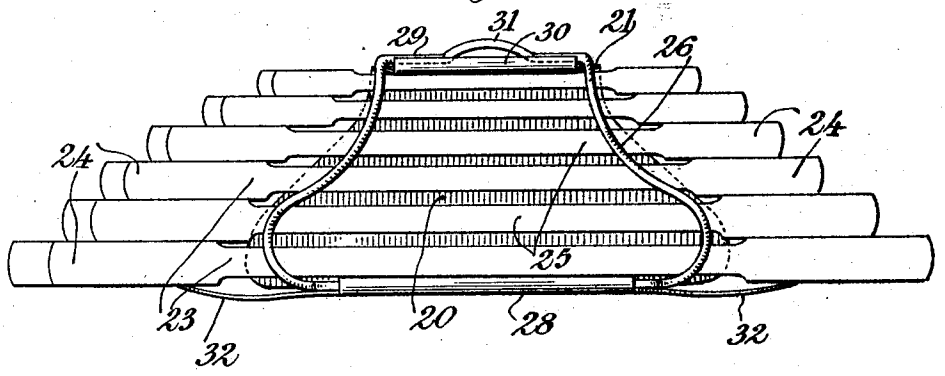
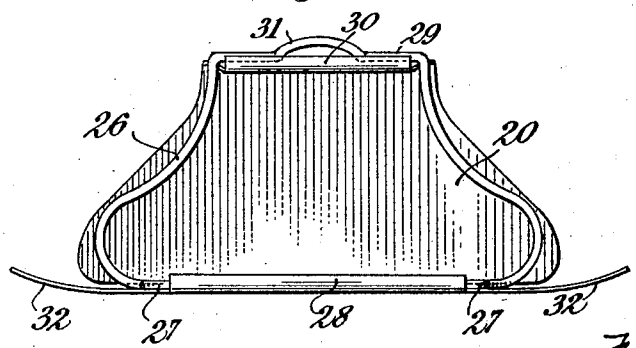


Fig. 3.



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UNITED STATES PATENT OFFICE

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TOOLS IN SETS AND HOLDER THEREFOR

Application filed August 22, 1929. Serial No. 387,601.

This invention relates to improvements in holders for tools and in a combined holder and set of tools of graded sizes.

It is an object of the invention to provide a relatively simple holder which can be manufactured economically, but which will firmly hold the tools of a set in such manner as to prevent rattling even though they may differ slightly as to their aggregate dimensions when assembled.

The invention is herein illustrated as applied to a wrench-holder and set of wrenches of graded sizes, but it will be obvious that the same principle may be made use of in the manufacture of holders for tools other than wrenches.

In the drawings illustrating the preferred form of the invention:

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

Fig. 2 is an end view of the holder.

Fig. 3 is a front view thereof.

Fig. 4 is also a front view of the holder, but is indicated as having a set of wrenches of graded sizes assembled therein, the wrenches being shown in edge view.

Referring first to Figs. 1, 2 and 3, the invention is illustrated as embodied in a wrench-holder comprising, in the form selected for purposes of illustration, a plate of metal, the central portion 20 of which comprises a back for the holder, and the edge portions of which are bent to form upper and lower flanges 21, 22 adapted to serve respectively as the upper and lower walls of the holder.

The space between the flanges 21 and 22 is adapted to receive the wrenches 23, as indicated in Fig. 4. These wrenches may be of graded sizes, having heads 24 at their opposite ends and intervening handle portions 25 adapted to be inserted in the holder between the upper and lower walls 21, 22.

The wrenches when inserted in the holder may be retained in place by any suitable means, herein disclosed as a wire hasp 26 having its ends 27 inserted in the end portions of a bead 28 rolled at the edge of the lower wall 22, and having an intermediate portion 29 adapted to be sprung over a bead 30 formed at the edge of the upper wall 21. The central portion of the hasp 26 may be bent into any appropriate form adapted to serve as a handle or thumb-piece 31.

The hasp may be detached from the upper wall 21 of the holder and opened by rotation about the hinge-joint 27, 28, as indicated in broken lines in Fig. 2, in order to permit the wrenches to be inserted, after which the hasp may be moved to its wrench-retaining position along the surfaces of the inserted wrenches, said retaining position being indicated in full lines in Figs. 2, 3 and 4. The material of the wrench-holder should be sufficiently resilient to permit the part 29 of the hasp to be snapped over the bead 30, the adjacent portions of the hasp and bead thus serving as a spring catch.

Preferably the end portions of the back plate 20 and the configuration of the wire hasp will be such as to approximately follow the lines formed by the inner surfaces of the heads of the wrenches, thereby preventing any material endwise movement of the wrenches either with respect to each other or with respect to the holder; and the upper and lower walls 21 and 22 should approximately correspond in width with the respective widths of the smallest and largest wrenches of the set, so that the hasp 26, when closed, will lie closely along the surfaces of the edge portions of the wrench handles and prevent relative lateral movement.

An important feature of the invention now to be described affords means whereby the wrenches of a set, even though not machined to accurate dimensions, may be firmly held between the upper and lower walls of the holder in such manner as to prevent rattling. This has been accomplished by spacing the upper and lower walls at such a distance from each other as to receive a set of wrenches of the largest dimensions to be provided for. In order, however, that wrenches the aggregate thickness of which may be somewhat less than the distance between the walls 21 and 22, may be firmly held within the holder, the end portions of one of said walls, herein disclosed as the lower wall 22, are indicated as being extended in length and turned inwardly so as to provide a pair of

spring fingers 32 adapted to make contact with the adjacent wrench when inserted and exert sufficient pressure to maintain the wrenches in close contact with each other and in contact with the upper wall 21.

The effective length of the fingers 32 may, if desired, be extended by slitting the plate inwardly from the ends along the bend between the bottom 22 and back 20, as at 33. It will be apparent, however, that the specific form of the invention herein disclosed comprising the resilient fingers 32 illustrates but one of many ways in which one wall of the holder may be made yielding in such manner as to maintain the wrenches of the set in close mutual contact with each other and with the walls of the holder, without making it necessary to have them accurately dimensioned so that the wrenches of a set will always be of the same aggregate dimensions.

The invention is not intended to be limited to the specific form herein selected 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 holder for a set of tools, said holder having a yielding wall adapted to serve as a take-up device, a second wall spaced therefrom between which and the yielding wall sets of tools of variable thickness may be held in close mutual contact, a third wall permanently connecting said spaced walls, and a tool-retaining element hinged to one of said walls and detachably engageable with the other.

2. A holder for a set of tools, said holder comprising a plate of metal having flanges at its opposite edges, between which the tools of a set may be confined, and means detachably connecting said flanges whereby said tools may be retained in said holder, one of said flanges having its opposite end portions in the form of inwardly-deflected resilient fingers to serve as a take-up device and thereby compensate for variations in the thickness of the tools of different sets.

3. A holder, as defined by claim 2, having slits extending inwardly from its opposite ends between the plate and the fingered flange to increase the effective lengths of the resilient fingers.

4. A holder for a set of tools, said holder comprising a plate of metal having resilient flanges at its opposite edges between which the tools of a set may be confined, and means whereby said tools may be removably retained in said holder, said retaining means comprising a wire hinged to one of said flanges, the other flange having a beaded edge portion to cooperate with a portion of said wire as a spring clasp.

5. A holder, as defined by claim 4, of which the wire tool-retaining means has its end portions hinged to one flange and its intermediate portion so disposed as to cooperate with the bead portion of the other flange to serve as a clasp and thumb-piece.

6. The combination, with a set of tools which may vary slightly in thickness, of a holder therefor, said holder having a yielding wall adapted to serve as a take-up device and a second wall, spaced therefrom, between which the tools of the set may be held in close mutual contact, the combined thickness of the tools of the set being greater than the distance between the yielding wall when free and the opposed spaced wall but not greater than the distance between said walls when the former is fully flexed.

7. The combination, with a holder having spaced walls, of a set of tools having parts to be inserted between said walls of an aggregate thickness not greater than the maximum internal distance between said walls, one of said walls comprising resilient inwardly-deflected fingers adapted to serve as a take-up device to hold the inserted tools in close mutual contact even though of less aggregate thickness than the maximum internal distance between said spaced walls.

8. The combination, with a holder, comprising a metal plate having spaced flanges at its opposite edges, of a set of tools having portions to be inserted between said flanges of an aggregate thickness not greater than the distance between them at the central portion of the holder, and releasable retaining means whereby said tools may be confined in said holder, one of said flanges having its opposite end portions terminating in inwardly-deflected resilient fingers adapted to serve as a take-up device and hold the inserted tools in close mutual contact even though of less aggregate thickness than the distance between said spaced flanges at the central portion of the holder.

9. The combination, with a set of double-ended wrenches of graded sizes, of a wrench-holder comprising a tapered plate having resilient flanges of different widths at its opposite edges between which the handle portions of the wrenches may be inserted, the widths of said flanges substantially conforming with the respective widths of the largest and smallest wrenches of the set, and the taper of the plate being such as to cause it to substantially fill the space between the inner ends of the heads of the wrenches, means for holding the set of wrenches in the holder comprising a wire having its end portions hinged to the free edge of one of said flanges, a bead on the free edge of the other of said flanges over which the intermediate portion of said wire may be snapped into a detachable engaging relation, and a pair of inwardly-curved spring fingers extending from the opposite ends of one of said flanges

to serve as a take-up device and hold the wrenches of the set in close mutual contact.

10. A holder for a set of double-ended wrenches, said holder having top, bottom and side retaining elements for the handle portions of said wrenches, the ends of the holder being open to permit the headed ends of the wrenches to extend beyond the ends of the holder, one of the retaining elements being movable to a wrench-releasing position to provide for the insertion and withdrawal of the wrenches, and one of the retaining elements having its opposite ends terminating in a pair of inwardly-deflected resilient fingers to serve as a take-up device and thereby compensate for variations in the thickness of the handles of wrenches of different sets.

In witness whereof, I have hereunto signed my name.

WILLARD C. KRESS.