Feb. 11, 1936. W. R. MOORE 2,030,147

WRENCH CLIP

Filed Jan. 16, 1932

Fig. 1.

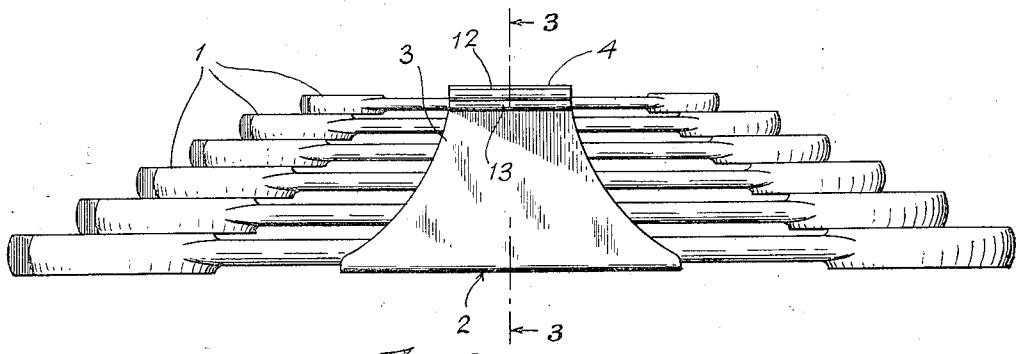


Fig. 2.

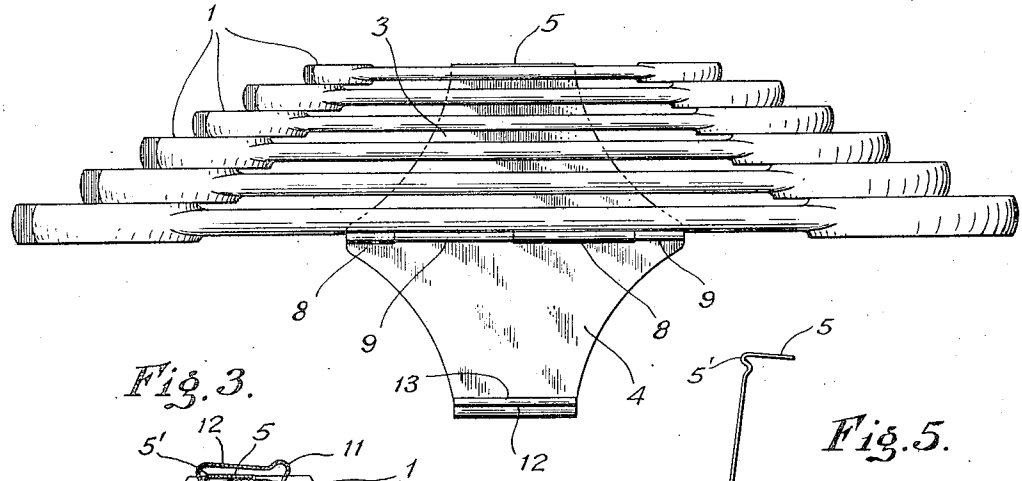


Fig. 3.

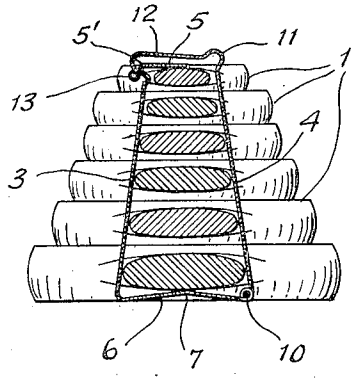


Fig. 4.

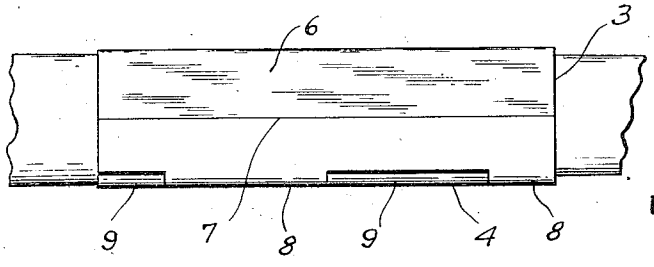
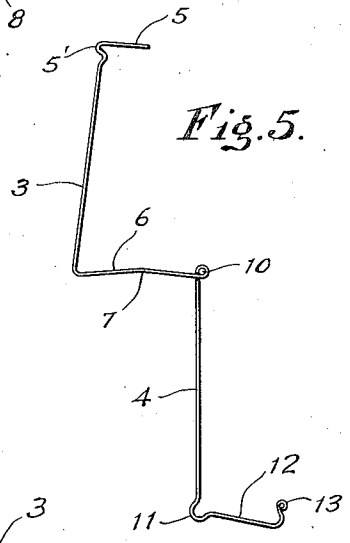


Fig. 5.



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WRENCH CLIP

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Application January 16, 1932, Serial No. 587,065

18 Claims. (Cl. 206—16)

My invention relates to wrench clips.

It has among its objects to provide an improved wrench clip of the type which is adapted not only to hold a set of wrenches together when closed, but which is also adapted to be opened to permit inspection of the wrenches or display thereof while still continuing to hold the same together. Further objects of my invention are to provide such a wrench clip which, by reason of an improved and simplified construction requiring only two cooperating hand forming means, is very effective in use, and also, requiring far less material than heretofore considered necessary, is capable of being manufactured at substantially smaller cost, while also being capable of being connected and disconnected by movement only of one of the band forming means relative to the other, is very convenient as regards assembly and opening or closing of the clip for display or other purposes. These and other objects and advantages of my improved construction will, however, hereinafter more fully appear.

In the accompanying drawing I have shown for purposes of illustration one form which my invention may assume in practice.

In the drawing,—

Fig. 1 is a side elevation of a wrench set equipped with my improved clip;

Fig. 2 is a similar side elevation of the opposite side of the same, but with the clip open for display purposes;

Fig. 3 is a sectional view on line 3—3 of Fig. 1;

Fig. 4 is a bottom plan view of Fig. 3, the ends of the wrenches being broken away, and

Fig. 5 is a side elevation of the clip in the open position shown in Fig. 2, but with the wrenches removed.

In this illustrative construction it will be noted that the wrenches 1 are disposed one above another with the smaller wrenches toward the top, in a manner usual in wrench sets, while my improved clip, generally indicated at 2 in Fig. 1 and hereinafter described, is disposed around the shanks of these wrenches.

Referring more particularly to the clip 2, it will be noted that the same herein comprises two pivotally connected parts 3 and 4, each of which is of the same general shape and provided with a narrow top and a wide bottom connected thereto by reversely curved sides. Of these, the part 3 has a lateral, and normally slightly downwardly inclined, portion or extension 5, herein in the form of a flange, on its upper end resiliently connected thereto by an oppositely extending bead 5', herein formed by grooving the top of the member 3 longitudinally below the member 5. This member 3 is also provided at its lower end with a portion or extension 6, herein in the form of a flange, extending in the same direction as the portion 5, but of substantially greater length and width than the latter and provided with an upwardly flexed or peaked portion in the form of a longitudinal rib or crease 7 midway between the edges thereof. This rib or crease 7 cooperates with the inclined portion 5 in providing resilient gripping means for the shanks of the wrenches which are disposed within the part 3 and are of such overall size as slightly to spread the portions 5 and 6. More particularly, the portion 5 is engageable with the shank of the top wrench, while the portion 6 has its crease 7 engageable with the shank of the bottom wrench. Thus, through the vertical compressing action of these portions upon the shanks, the heads of the several wrenches are pressed together in such manner as to be effectually frictionally held against separation, even when the same are engaged only by the portions 5 and 6.

As regards the part 4, the same herein is pivotally connected diagonally opposite the head 5' to the free edge of the portion 6 on the member 3, which edge is herein extended slightly downward on the opposite side of the crease 7 from the body of the member 3, while both this edge and the body are equally spaced from the crease 7. While various pivotal connecting means can be used, herein it will be noted that spaced rolled or turned up portions 8 on the member 6 cooperate with corresponding portions 9 on the bottom of the member 4, while a pintle pin 10 extends through all of the same in a usual manner. As shown in Fig. 3, the member 4 in its closed position also extends upward from the pivot thus provided and both this member 4 and the member 3 are bent or inclined inward toward the wrench shanks so that they fit relatively snugly the several superimposed shanks comprised in a set of wrenches. Moreover, it will be noted that the member 4 is provided at its upper end with an angularly extending, longitudinally disposed, grooved portion 11 which forms a protruding, resilient, reinforcing corner and has a cover member, or hood, 12 integral therewith and adapted to extend over the portion 5 and be connected thereto. Herein, this member 12 extends laterally over the portion 5 while spaced above the same and is provided on its extremity with a downturned and slightly inwardly extended rolled rim portion 13 adapted to snap past

the beaded portion 5' on the member 3 and be located below the same in such manner as to hold the parts securely together as shown in Fig. 3.

In the use of this construction, it will be evident that when it is desired to assemble the wrenches, the same may be readily assembled in the member 3 whenever the member 4 is in the open position illustrated in Fig. 2, the wrenches then being placed between the portions 5 and 6 in superimposed position one upon another with the smaller wrenches toward the top and the wrenches being, as usual, of such thickness that the portions 5 and 6 are slightly spread thereby. When all the wrenches are thus so placed in the member 3 as to fill the latter, they will be held in position by the resilient action of the portions 5 and 7, one of which grips the top of the top shank substantially spaced from the heads thereof while the other grips the bottom of the bottom shank substantially spaced from the heads thereof. When it is desired to close the package, the member 4 is then simply swung up from the position shown in Fig. 2 into the position shown in Fig. 3. In the latter, it will be noted that the member 4, through the engagement of its portion 13 with the bead 5', then tends to hold the members 3 and 4 in position, while both members 3 and 4 snugly enclose the shanks of the wrenches. Obviously the wrenches may be shipped in this condition, and when for any reason it is later desired to display the wrenches or permit access thereto, the member 4 will be readily released by simply lifting or pushing out its portion 13 and moving the member 4 into the position illustrated in Fig. 2.

As a result of my improved construction it will be noted that at the same time that a clip is provided which is adapted effectually to hold the wrenches either during handling or display, the clip is of an exceedingly simple construction adapted to be produced at small expense as compared with previous clips of this type. More particularly, it will be noted that the same includes only a small amount of material since the clip encloses only a small portion of space between the heads and only two members 3 and 4, apart from the pivot pin connecting these members, while these members 3 and 4, due to my improved construction, are also adapted to be very readily and inexpensively formed from relatively light and inexpensive sheet metal, all projections such as those adapted to project between the shanks being eliminated as are also all projections engageable with the heads. Moreover, it will be noted that these two parts function very effectively. For example, the same are made to fit the shanks of the wrenches in such manner as to minimize lateral shifting or spreading thereof, and thereby further to assist the spring members 5 and 6 in preventing longitudinal shifting of the wrenches. Further, by reason of these spring members, and particularly the improved and powerful resilient connections between the same, it will be noted that a very effective holding action is produced tending to prevent troublesome relative longitudinal movement between the wrenches and the clip. More particularly, it will be noted that due to the resilient band connection provided by the two members 3 and 4, and wherein the member 4 co-operates with and reinforces the member 3, the heads of the wrenches are so pressed directly together, and the wrench shanks are so firmly grasped as thereby to form a unit. Further, the wrenches are so firmly held thereby as to prevent longitudinal shifting of the wrenches in any normal use of the unit, and thereby make it unnecessary to provide spacing means between the wrench heads constantly abutting both sets of heads. Due to the engagement of the bead 5' by the portion 13 on the opposite side of the device from the pivot 10 for the member 4, a very simple connection is also made possible and one wherein, while retaining the holding character of the member 3, the member 4 may effectually cooperate therewith in effecting a firm grasp on the wrenches while being readily releasable at will. The construction of the parts 11, 12, 13 and their arrangement relative to the parts 5 and 5', also is very effective in preventing breakage or separation during rough handling, while also enabling the parts to be readily separable when desired. As a result of the effective holding of the wrenches and the resultant elimination of need for the constant engagement of the clip ends with the heads of the wrenches to prevent longitudinal shifting thereof, it is also made possible substantially to reduce the size of the clip and the amount of material required for the same. These and other advantages of my invention will, however, be apparent to those skilled in the art.

While I have in this application specifically described one embodiment which my invention may assume in practice, it will be understood that this form is used for illustrative purposes, and that the invention may be modified and embodied in various other forms without departing from its spirit or the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent is:—

1. A clip for wrench sets comprising a holding member having spaced overlying wrench shank engaging portions on its opposite edges between which a series of wrench shanks are closely receivable with the wrenches in compressed relationship including a portion normally engaging the top of the top shank and a second portion normally engaging the bottom of the bottom shank, and a co-operating member connecting said portions at diagonally opposite points and having a direct clamping engagement with one of said portions further compressing the wrenches in said holder.

2. A clip for wrench sets comprising a holding member having spaced upper and lower wrench shank engaging portions on its opposite edges between which said wrench shanks are receivable in compressed relationship, and a co-operating member for further compressing said holder and shanks connecting said portions at diagonally opposite points and having a depending holding and releasing portion engaging the back of said holding member adjacent the upper portion.

3. A clip for wrench sets comprising a holding member having spaced overlying wrench shank engaging portions on its opposite edges resiliently pressing the wrenches together, and a co-operating member pivoted on the free edge of one portion and having a resiliently mounted hood overlying the other portion and engageable with the connected edge of the same diagonally opposite said pivot.

4. A clip for wrench sets comprising a holding member having spaced upper and lower wrench shank engaging portions on its opposite edges between which a series of superposed wrenches are receivable in compressed relationship and a co-operating member pivoted on the free edge of said lower portion and having a resiliently

mounted extension overlying said upper portion and a depending holding and releasing portion on said extension resiliently engageable with the back of said holding member below said upper portion for further urging said shanks and holder into compressed contacting relationship.

5. A clip for wrench sets comprising a holding member having spaced wrench shank engaging portions on its opposite edges, and a co-operating member pivoted on the free edge of one portion and having a resiliently mounted extension overlying the other portion and engageable with the opposite edge of the same, said last mentioned edge having a bead thereon on the opposite side of the wrench shanks from said pivot and said co-operating member having a resiliently mounted extension extending over the wrench shanks and a depending portion thereon engaging said bead.

6. A clip for wrench sets comprising a holding member having spaced upper and lower wrench shank engaging portions on its opposite edges, and a co-operating member pivoted on the free edge of said lower portion engaging the body of said holding member at a point diagonally opposite its pivot and presenting resilient cushioning means above said upper portion.

7. A clip for wrench sets comprising a holding member having spaced upper and lower wrench shank engaging portions on its opposite edges, and a co-operating member pivoted on the free edge of said lower portion engaging the body of said holding member at a point diagonally opposite its pivot and presenting resilient cushioning means above said upper portion comprising a portion spaced above said upper portion having one edge resiliently connected to said co-operating member and a depending portion on the other edge resiliently connectible to the body of said holding member below said upper portion.

8. A clip for wrench sets comprising a holding member having spaced overlying wrench shank engaging top and bottom portions on its opposite edges, a co-operating member pivoted on the free edge of said bottom portion, said portions being of different width and having both lateral edges of the top portion spaced laterally from and within the lateral limits of the bottom portion and both said holding and co-operating members having body portions sloping toward one another from the opposite edges of the bottom portion and extending toward the top portion while engaging the wrench shanks, said members also having means further compressing said holder and wrench shanks comprising means for connecting said cooperating member to the body of said holding member below the connected edge of said top shank engaging portion and diagonally opposite the pivot of said cooperating member.

9. A clip for wrench sets comprising a holding member having spaced wrench shank engaging portions on its opposite edges between which a series of superposed wrenches are receivable in compressed relationship, a co-operating member pivoted on the free edge of one of said portions, said portions being of different width and having both lateral edges of said upper portion spaced laterally within the lateral limits of said bottom portion, and both said holding and co-operating members having body portions sloping toward one another from the opposite edges of said bottom portion and extending toward said upper portion while engaging the wrench shanks, and means carried on said co-operating member comprising a connecting portion for effecting lateral constriction of said body portions, said connecting portion extending over said upper portion and having a depending portion engaging the back of said holding member below said upper portion.

10. A clip for wrench sets comprising a resilient holding member having spaced wrench shank engaging top and bottom portions on its opposite edges and having on the bottom portion an upwardly extending means extending longitudinally thereof between its edges and engageable with the shank of the bottommost wrench positioned between said portions.

11. A clip for wrench sets comprising a resilient holding member having spaced wrench shank engaging flanges of different width on its opposite edges and having on the wider bottommost flange an upwardly extending means engageable with the shank of the bottommost wrench positioned between said flanges and disposed substantially vertically between the extremity of the narrower topmost flange.

12. A clip for wrench sets comprising a resilient holding member having spaced wrench shank engaging top and bottom portions on its opposite edges and having the bottom portion engageable with the shank of the bottommost wrench positioned between said portions, and a beaded portion forming a resilient connection between the top portion and the body of said holding member, said top portion having an unobstructed surface leading from the front edge thereof to said beaded portion.

13. A clip for wrench sets comprising a resilient holding member having spaced wrench shank engaging top and bottom portions on its opposite edges and having the bottom portion engageable with the shank of the bottommost wrench positioned between said portions, a beaded portion forming a resilient connection between the other portion and the body of said holding member, and a co-operating member pivoted to the free edge of said bottom portion and engaging said beaded portion.

14. A clip for wrench sets comprising a resilient holding member having spaced wrench shank engaging top and bottom portions on its opposite edges and having its bottom portion engageable with the shank of the bottommost wrench positioned between said portions, a beaded portion forming a resilient connection between the top portion and the body of said holding member, and a co-operating member pivoted to the free edge of said bottom portion and engaging said beaded portion, said co-operating member having a resiliently connected cover portion spaced above said top portion and a depending portion engageable with said beaded portion.

15. A clip for wrench sets comprising a holding member having spaced wrench shank engaging top and bottom portions on its opposite edges, said portions being of different width and one overlying the other and connected by a body portion engageable with the shanks between said portions, and a co-operating member pivoted to the free edge of the wider bottom portion and operatively connectible to the top portion and engageable with the opposite sides of the wrench shanks between said portions, each of said top and bottom portions forming a resilient abutment engaging one of the wrench shanks and said co-operating member having a resiliently connected portion opertively engaging the top portion diag-

onally opposite the pivot of said co-operating member.

16. A clip for wrench sets comprising a resilient holding member having spaced wrench shank engaging flanges of different width at its opposite edges and a projection on said holding member adjacent and below the narrower flange, and a co-operating member pivoted on the free edge of the wider flange and having a depending portion adapted upon rotation of said member about its pivot to engage and ride over the upper surface of the narrower flange and be snapped over said projection.

17. A clip for wrench sets comprising a narrow resilient holding member having narrow overlying portions on its opposite edges engageable only with the wrench shanks and substantially spaced laterally at each end thereof from the wrench heads and pressing the latter together, and a co-operating narrow resilient holding member substantially within the lateral limits of said first mentioned member pivoted on the free edge of one of said portions and having a connecting portion movable into a position overlying the other of said shank engaging portions and engaging the back of said first mentioned holding member and the connected edge of said other shank engaging portion.

18. The combination with a wrench set comprising a series of wrenches having superimposed shanks of different length and heads on the opposite ends of said shanks, of a narrow resilient holding member having flanges on its opposite edges gripping said shanks and spaced substantially from said heads, a pivoted co-operating holding member substantially within the lateral limits of said first mentioned holding member, and operative connections between said members for both automatically securing said members together and fixing both of the same against relative longitudinal movement with respect to said wrench shanks when said pivoted member is moved about its pivot into closed position comprising an extension on said co-operating member adapted to fit over one of said flanges and the wrench therein, and co-operating snap means on said extension and the back of said first mentioned holding member.

WALTER ROY MOORE.

CERTIFICATE OF CORRECTION.

February 11, 1936.

Patent No. 2,030,147.

WALTER ROY MOORE.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 1, first column, line 11, for "hand" read band; and column 2, line 26, for "head" read bead; page 2, second column, line 73, claim 4, after "relationship" insert a comma; page 3, second column, line 22, claim 11, for "between" read beneath; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 23rd day of June, A. D. 1936.

Leslie Frazer
Acting Commissioner of Patents.

(Seal)