March 3, 1970 K. B. HUMMEL 3,498,469

DISPLAY RACK CLAMP

Filed July 5, 1968 2 Sheets-Sheet 1

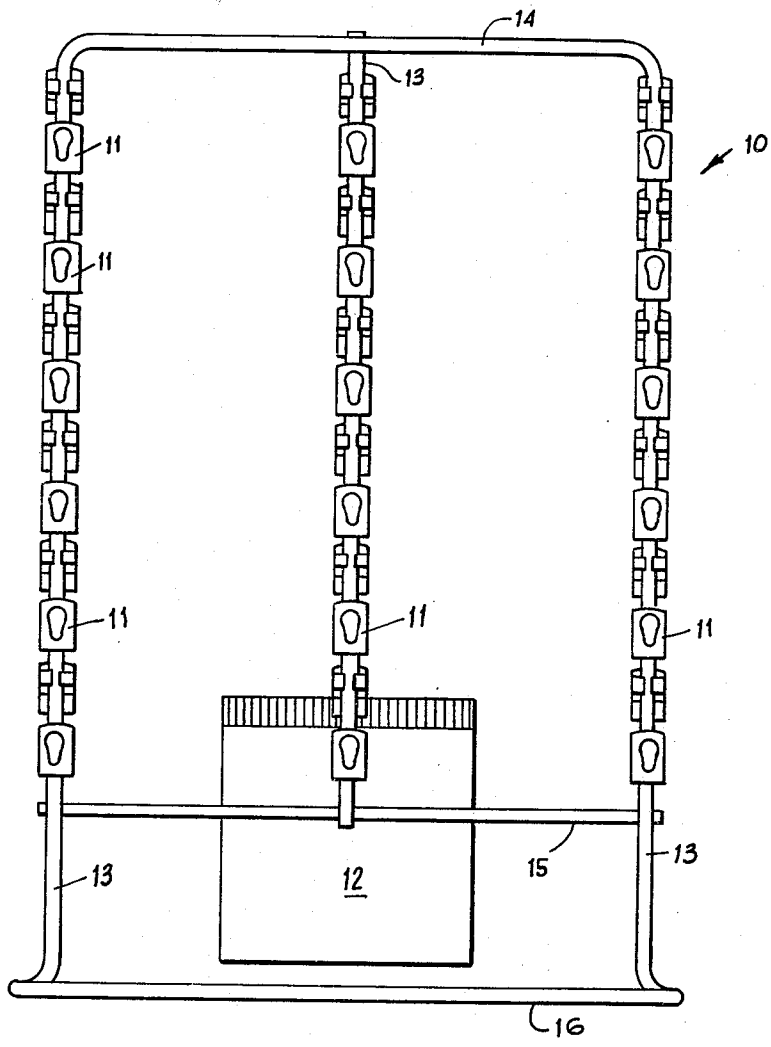


Fig. 1

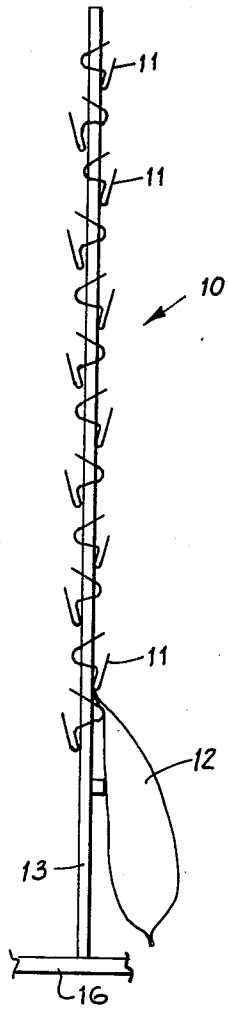


Fig. 2

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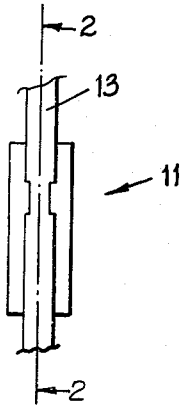


Fig. 4

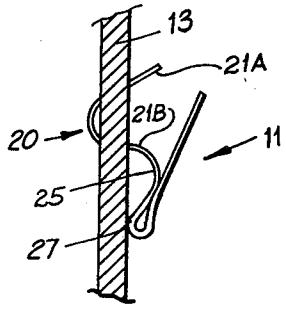


Fig. 5

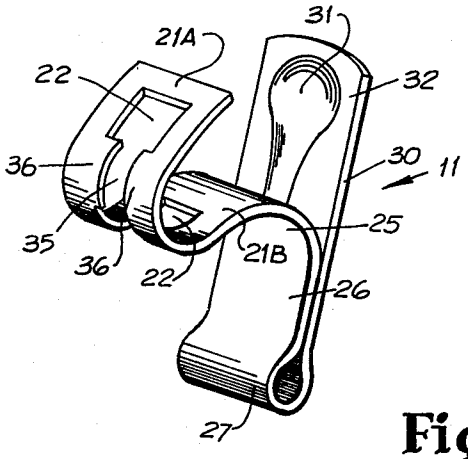


Fig. 3

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3,498,469

DISPLAY RACK CLAMP

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Int. Cl. A47b 29/00
U.S. Cl. 211—71 3 Claims

ABSTRACT OF THE DISCLOSURE

A clamping device for a display rack including a snap-on spring steel gripping portion which resiliently holds an end zone of the device against the bar to grip an object being displayed.

BACKGROUND OF THE INVENTION

Field of the invention

The present invention relates to a clamping device for a display rack.

Description of the prior art

At least some of the prior art is shown in U.S. Patents 2,116,386 to Copeland, 2,618,033 to Tinnerman, 2,583,092 to Dreyfus and 2,677,468 to Dreyfus. The prior art is also illustrated in U.S. Patent 2,547,531 to Melvin et al. which shows a product that has been manufactured for many years by applicant's employer and has proved commercially successful. One disadvantage of the spring clip of the Melvin patent is the fact that the spring clips must be threaded on the support bar and that this threading must be accomplished before the bars of the rack are completely assembled or welded together. This feature is a disadvantage for a number of reasons.

First, the holding of the spring clips with their legs parallel for an extended period of time sufficient to string or thread them on the bar is hard on the hands of the assembler. As a practical matter approximately one-half of the women hired to assemble the rack of the patent quit their jobs within a week because of the finger fatigue caused by the Melvin spring clip. Naturally this fatigue is something that is no longer a problem as one gets used to the procedure but this does not prevent the employee turnover. Second, as a practical matter a broken spring clip of the Melvin patent cannot be replaced because re-threading of the new spring clip would involve breaking apart the welded together bars and rewelding of those bars together after the broken spring clip is replaced. Consequently, there is room for improvement in the Melvin spring clip.

SUMMARY OF THE INVENTION

One embodiment of this invention might include in a clamping device for a display rack having a support bar, said device including a generally C-shaped spring member having opposed, spaced apart legs, each of said legs having an opening therethrough capable of receiving said bar, one of said legs having an outer bend spaced outwardly from its said opening from which outer bend a portion of the leg extends oppositely away from the other leg for a distance along said bar and to abut the bar by an end zone spaced from said bend, and a lever fixed to said leg portion to extend at least beyond said bend in a direction toward but spaced forwardly from the outer end of said other leg; the improvement which comprises said C-shaped spring member having formed therein a passage extending between and joining said openings, said passage having a width slightly less than the width of said openings so as to define projections extending toward one another between said openings, said projections being proportioned to snap over said bar and to bear against said bar to resiliently hold said end zone against said bar.

It is an object of this invention to provide an improved spring clip.

Another object of this invention is to provide a spring clip for use on a display rack which spring clip is quickly, easily and conveniently replacable.

Still another object of this invention is to provide a spring clip which can be easily removed and replaced on a display rack.

Related objects and advantages will appear as the description proceeds.

BRIEF DESCRIPTION OF THE DRAWING

The full nature of the invention will be understood from the accompanying drawings and the following description and claims.

FIGURE 1 is a front elevation of a display rack embodying the present invention.

FIGURE 2 is a side elevation of the display rack of FIGURE 1.

FIGURE 3 is an enlarged perspective view of a spring clip embodying the present invention and usable on the display rack of FIGURES 1 and 2.

FIGURE 4 is an enlarged fragmentary rear elevation of a portion of the structure illustrated in FIGURE 1.

FIGURE 5 is a vertical section taken along the line 2—2 of FIGURE 4 in the direction of the arrows.

DESCRIPTION OF THE PREFERRED EMBODIMENT

For the purposes of promoting an understanding of the principles of the invention, reference will now be made to the embodiment illustrated in the drawing and specific language will be used to describe the same. It will nevertheless be understood that no limitation of the scope of the invention is thereby intended, such alterations and further modifications in the illustrated device, and such further applications of the principles of the invention as illustrated therein being contemplated as would normally occur to one skilled in the art to which the invention relates.

Referring now more particularly to the drawings, there is illustrated a display rack **10** having mounted thereon a plurality of spring clips **11** which are usable to grip a bag such as the bag **12** shown in FIGURES 1 and 2. The display rack **10** includes a plurality of vertical rods **13** which are welded to a horizontal supporting rod **15** and a base rod **16** to form the rack. The two outside rods **13** are coupled together in a U-shaped configuration by the horizontal top **14** to which is also secured the center vertical rod **13**. An illustrative one of the spring clips **11** is illustrated in FIGURES 3, 4 and 5 and will be described as representative of all the spring clips **11**.

The spring clip **11** includes a C-shaped spring member **20** having opposed spaced aparts legs **21A** and **21B**. Each of the legs **21A** and **21B** has an opening **22** therethrough which receives the vertical bar **13**. The leg **21B** has an outer bend **25** which is spaced outwardly from the opening **22** in the leg **21B** and from which outer bend a portion **26** of the leg extends oppositely away from the leg **21A** for a distance along the bar **13** to abut the bar by an end zone **27** spaced from the outer bend **25**.

A lever **30** is fixed to and integral with the leg portion **21B** and extends upwardly beyond the outer bend **25** in a direction toward but spaced forwardly from the outer end of the other leg **21A**. It will be noted that

the leg or lever **30** includes a recess **31** which extends longitudinally of the lever **30** and which reinforces the lever **30** so that pressing of the upper portion **32** of the lever **30** causes the end zone **27** to be moved away from the bar **13** thus releasing an object such as the bag **12**.

Referring to FIGURE 3, it can be seen that the C-shaped spring member **20** has formed therein a passage **35** which extends between and joins the openings **22**. The passage **35** has a width which is only slightly less than the width of the opening **22** so as to define projections **36** extending toward one another and positioned between the openings **22**. The projections are proportioned to snap over the bar **13** and to bear against the bar **13** so as to resiliently hold the end zone **27** against the bar.

It can be appreciated that it is not necessary to string or thread the spring clips **11** onto the vertical bars **13**. Instead, the spring clips **11** are placed on the vertical bars **13** by forcing the legs **21A** and **21B** into approximate parallelism and by snapping the projections **36** over and around the bar **13** so that the bar passes through the passage **35**. The openings **22** each have a size and configuration which is similar to the cross sectional area of the bar **13** but which is greater than the cross sectional area of the bar. Thus, when the legs **21A** and **21B** are released they assume the position illustrated in FIGURES 4 and 5 causing the projections **36** to be forced against the bar and causing the end zone **27** to be forced against the bar to grip an object, bag or the like.

It will be evident from the above description that the present invention provides an improved spring clip which can be easily removed and replaced on a display rack. Thus, when the rack **10** is completely welded together with its various bars **13**, **16** and **15**, it is not necessary to string or thread the spring clip **11** onto the rack but instead the vertical bar is forced through the passage **35** into the openings **22**. It will also be evident that the present invention provides a spring clip which is easier to place on a display rack because the C-shaped spring portion **20** of the spring clip need not be held with its legs in parallel relation for as long a period of time as required in the prior art device.

While the invention has been illustrated and described in detail in the drawings and foregoing description, the same is to be considered as illustrative and not restrictive in character, it being understood that only the preferred embodiment has been shown and described and that all changes and modifications that come within the spirit of the invention and the scope of the claims are also desired to be protected.

The invention claimed is:

1. In a clamping device for a display rack having a support bar, said device including a generally C-shaped spring member having opposed, spaced apart legs, each of said legs having an opening therethrough capable of receiving said bar, one of said legs having an outer bend spaced outwardly from its said opening from which outer bend a portion of the leg extends oppositely away from the other leg for a distance along said bar and to abut the bar by an end zone spaced from said bend, and a lever fixed to said leg portion to extend at least beyond said bend in a direction toward but spaced forwardly from the outer end of said other leg; the improvement which comprises said C-shaped spring member having formed therein a passage extending between and joining said openings, said passage having a width slightly less than the width of said openings so as to define projections extending toward one another between said openings, said projections being proportioned to snap over said bar and to bear against said bar to resiliently hold said end zone against said bar.

2. The clamping device of claim **1** wherein said projections are in engagement with said bar and said portion of said leg has a resilient bias therein holding said end zone against said bar.

3. The clamping device of claim **2** wherein said openings each have a size and configuration similar to the cross sectional area of said bar but greater than said cross sectional area, said bar to be received into said openings by forcing said legs into approximate parallelism and snapping said projections over said bar so that said bar passes through said passage, said device being held in position on said bar by releasing the legs to permit said projections to grip the bar.

References Cited

UNITED STATES PATENTS

2,116,386	5/1938	Copeland	24—259
2,547,531	4/1951	Melvin et al.	24—259
2,583,092	1/1952	Dreyfus	211—120 X
2,630,923	3/1953	Makar	211—71
2,677,468	5/1954	Dreyfus	211—71

DAVID H. BROWN, Primary Examiner

U.S. Cl. X.R.

24—259; 211—120