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R. E. CARR

3,103,727

CLOTHESPIN

Filed May 26, 1960

Fig. 1.

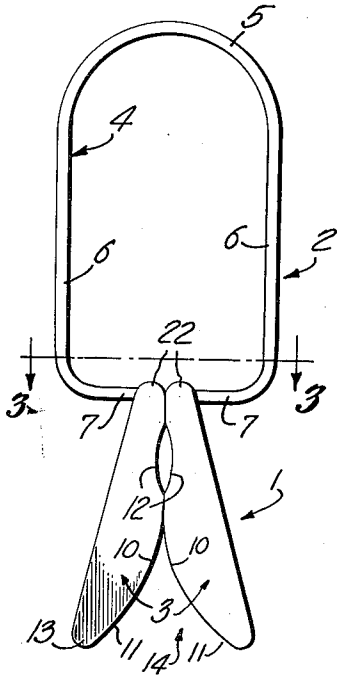


Fig. 2.

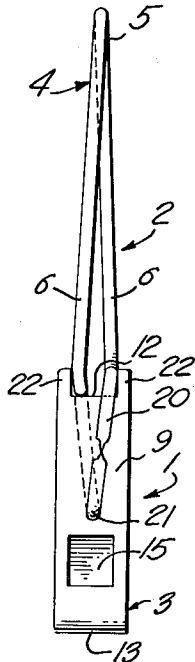


Fig. 4.

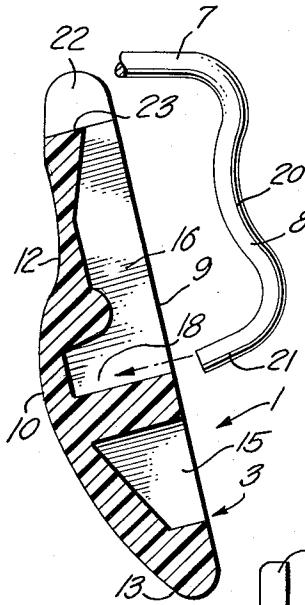


Fig. 3.

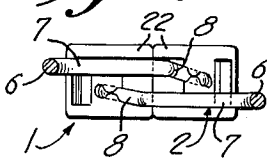


Fig. 5.

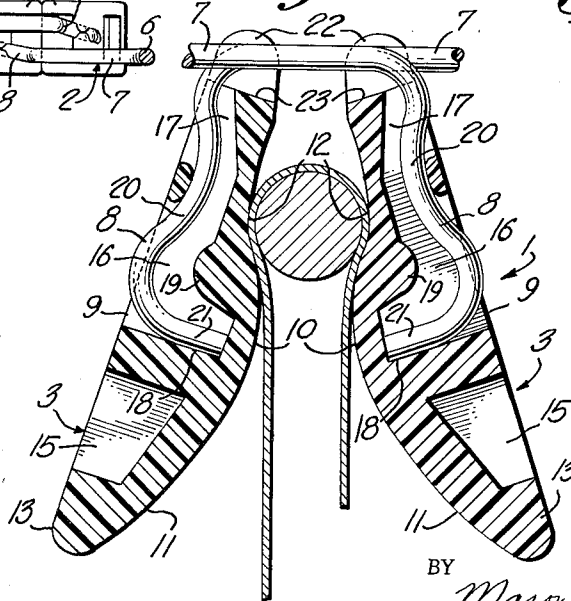
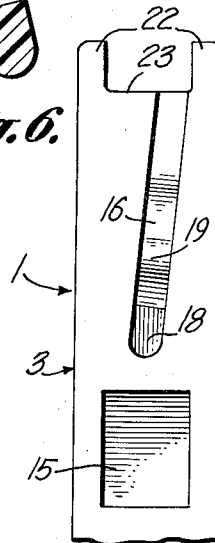


Fig. 6.



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3,103,727

CLOTHESPIN

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4 Claims. (Cl. 24-137)

This invention relates to clothespins, and particularly to improvements in clothespins of the general type disclosed in the patents to Harris, 2,500,677, issued March 14, 1950, and Harris et al., 2,720,003, issued October 11, 1955.

The clothespin disclosed in the mentioned prior patents consists of a pair of jaws of plastic, or other molded material, formed on, or fixed to, the ends of a length of spring wire which has been bent to form a ring, or loop, at the top and has its legs crossed to hold the jaws in face-to-face relation. The jaws have matching diverging end surfaces, so that the clothespin can be snapped over a clothesline in holding position, and it can be removed from the line by inserting the wire loop and pulling upwardly. The loop also provides a handy means for holding a supply of clothespins on the finger.

The general object of the present invention is to provide a clothespin of this general type which will have improved operating characteristics and which is structurally adaptable to ease of fabrication and assembly.

A more specific object of the invention is to provide a clothespin of the wire loop type wherein the wire ends are held against lateral displacement in use, so that there will be no likelihood of the jaws becoming moved out of lateral alignment with one another to the extent that they will be out of facial contact and will slip past one another under the pull of the wire spring.

Another object is to provide jaw elements for a clothespin which can be pre-molded and readily attached to the spring wire ends.

A still further object of the invention is to provide a clothespin which will have an improved bond between the jaws and the spring wire ends, so that the jaws will be firmly attached to the wire and will withstand considerable strain without breaking loose from the wire.

Other objects of the invention will become apparent from the following description of one practical embodiment thereof when taken in conjunction with the drawings which accompany, and form part of, this specification.

In the drawings:

FIGURE 1 is a side elevational view of a clothespin embodying the principles of the present invention;

FIGURE 2 is an edge view of the clothespin shown in FIGURE 1;

FIGURE 3 is a horizontal section taken on the line 3-3 of FIGURE 1;

FIGURE 4 is an enlarged detail view, illustrating one jaw of the clothespin in vertical section and the end portion of the spring wire adjacent the jaw before insertion therein;

FIGURE 5 is an enlarged view of the jaw section of the clothespin, showing the jaws in section and the wire ends secured in place therein; and

FIGURE 6 is an enlarged edge view of one of the jaws.

In general, the invention is concerned with clothespins of the type having jaws attached to the ends of the crossed legs of a spring wire loop to be held in face to face contact by the spring action of the loop, wherein the jaws carry means to engage the crossed legs to prevent lateral separation of the legs and displacement of the jaws, and

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the jaws and wire ends are formed for ready attachment to one another in a firm and permanent manner.

Referring to the drawings in detail, there is shown a clothespin 1 composed of a handle, or finger grip portion, 2 and jaws 3. The handle portion serves as a spring to urge the jaws toward one another in clamping relation.

The handle portion of the clothespin is formed of a single length of spring wire bent to proper shape. Preferably, the wire is shaped as a loop 4, having an arcuate top 5, downwardly extending substantially elongated parallel side arms 6, inwardly projecting cross arms 7 which have their inner ends in lapped relation, and legs 8 depending from the lapped ends of the cross arms and attached to the jaws. The legs 8 have particular configuration which will be described later.

The jaws are preferably molded, but could be made in other ways. The material of the jaws is a suitable plastic, or other moldable material. Each jaw has a straight back 9, and angularly related gripping and cam surfaces 10 and 11, respectively. The gripping surface includes a recess, or indentation, 12 extending transversely across the jaw and cooperating with a similar recess in the other jaw to encircle a clothesline, or rod, and hold the clothespin against accidental release from the line. The cam surface, while generally angularly related to the gripping surface, is defined as a smooth curve from the gripping surface to the jaw tip 13. Normally, the gripping surfaces of the jaws are in abutment, and the cam surfaces diverge outwardly from the plane of abutment to provide a tapered entrance throat 14 for the line, and inwardly converging cam faces which will be contacted by the line to spread the jaws against the tension of the spring wire handle to allow the line to seat between the gripping jaw surfaces in the recesses 12.

The backs of the jaws are relieved near their tips by the formation of pockets 15, which lightens the jaw tips and reduces the amount of material needed for the tips. The backs also have grooves 16 which extend from the jaw tops down the back toward pockets 15, at an angle to the side edges of the jaw and symmetrically positioned with respect to the jaw centerline. Grooves 16 receive the legs 8 of the wire handle, and, by having the legs oppositely inclined relative to one another, and at the same angle as the grooves in the jaws, a single jaw form may be used and will fit upon either leg of the handle. When two jaws are assembled on a handle, the jaws will be in proper alignment with one another. The groove bottom is formed to provide two aligned, recessed seats 17 and 18, separated by a raised wall 19. Each leg of the wire handle is bent to generally follow the contour of the groove bottom. To this end, the legs have arcuate offsets 20 to lie within the seats 17 of the grooves, and hook-like ends 21 to project into the well-like seats 18. When the jaws are properly fitted onto the legs 8, the material of the back edges of the jaws is heated and caused to flow so as to bridge over the groove in the jaw above the arcuate offsets 20. This will serve to securely lock the jaws to the legs of the handle, yet allow slight rocking movement of the jaws relative to the legs to allow the jaws to bring their gripping surfaces into abutment when the clothespin is not in use and to permit the jaws to adapt themselves to the line, or other member, being gripped.

Each jaw is provided with a pair of upstanding ears 22 at its top. The ears project from the side edges of the jaws, so that the ears are spaced apart and from a channel guideway 23 between them. The jaws and handle legs are so proportioned and related that the cross-arms 7 of the handles will lie within and move within, the channels 23 during opposing movement of the cross arms in directions substantially along the lengths thereof so

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that the cross-arms will be held against movement laterally of the jaws, and the jaws will consequently be held against lateral shifting relative to one another. This will maintain the jaws in face-to-face relation and hold the spring of the handle in proper tension.

It will be obvious that the clothespin disclosed herein can be made easily and will be quite strong and long-lasting. It will be very simple to use, as the entrance throat 14 can be placed over a clothesline and a slight downward pressure on the handle will cause the jaws to separate and to snap over the line. The spring tension of the handle will hold the device firmly in place. When it is desired to remove the clothespin, an upward pull upon the handle will cause the jaws to cam apart and snap off the line. During movement of the jaws toward and from one another, they will be held in alignment by means of the cross-arms riding in the channels 23 formed between the ears 22. Thus, they will always move, and be held in guided relationship.

While in the above one practical embodiment of the invention has been disclosed, it will be understood that the specific structure described and shown is merely by way of example and the invention may take other forms within the scope of the appended claims.

What is claimed is:

1. A clothespin comprising a pair of jaws, each jaw having one end of a spring wire permanently secured thereto, the spring wire projecting substantially normal to the jaw to which it is attached to overlies the opposite jaw to form a cross-arm, with the cross-arms of the two jaws overlapping above the jaws and the remaining portions of the wire projecting upwardly in parallel relation and joined at the ends thereof to form a single spring

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handle, said handle being substantially elongated relative to said jaws and said handle having substantially straight side arms to draw the jaws together into facial contact, and means carried by the jaws to embrace the overlapping cross-arms to hold them against lateral separation and the jaws against relative lateral displacement during opposing movement of said cross-arms in directions substantially along the length thereof.

2. A clothespin as claimed in claim 1, wherein the means embracing the cross-arms comprise spaced ears upwardly projecting from the jaws and defining channels in which the overlapping cross-arms lie.

3. A clothespin according to claim 1 wherein the jaws are provided in their backs with grooves in which said ends of said spring wire are seated for substantially the full length thereof, the jaws having integral bridges across the grooves to lock said ends of said spring wire within the grooves.

4. A clothespin according to claim 3 wherein said ends of said spring wire, are of undulating form and the bottoms of the jaw grooves have recesses forming seats generally conforming to said ends of said spring wire to receive the same.

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