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2,748,437

CLOTHESPIN

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FIG. 1.

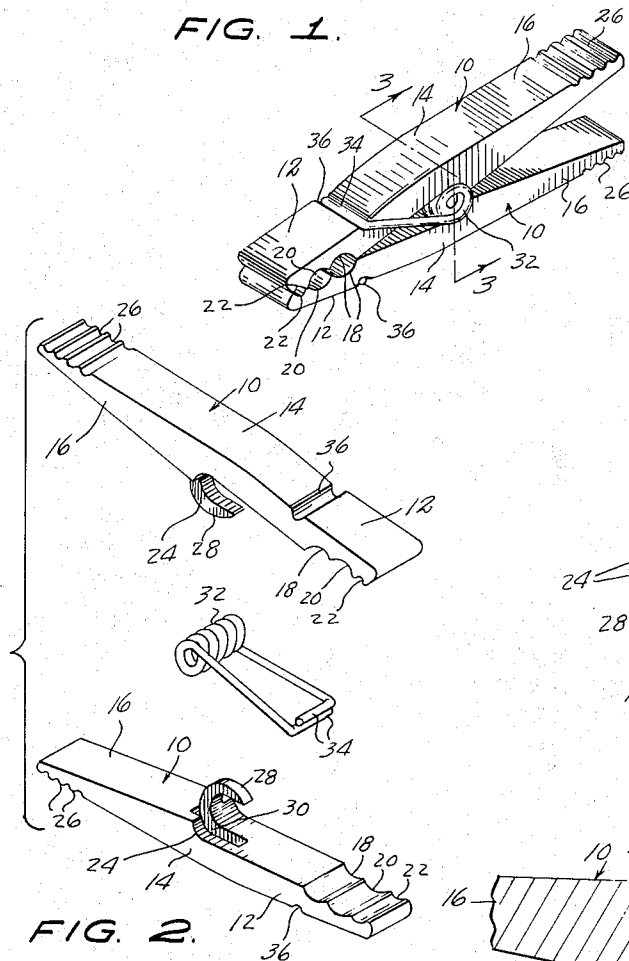


FIG. 3.

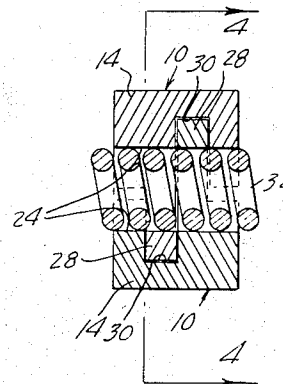
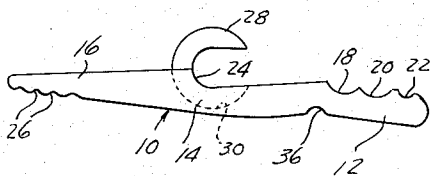


FIG. 5.



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CLOTHESPIN

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3 Claims. (Cl. 24—137)

The present invention relates to clothespin construction, and more particularly to that type of clothespin which comprises, basically, a pair of opposed members spring biased into gripping engagement with an object such as a clothesline, said members being relatively swingable about a pivot axis extending transversely thereof.

A salient feature of the present invention resides in the provision of means interlocking the members against relative deviation along lines extending transversely thereof, out of their prescribed, longitudinally aligned relationship. While interlocking means of this general type is not, per se, new, the present invention encompasses a novel formation of such an interlocking means, wherein each member has an arcuate rib disposed alongside an arcuate groove, said rib and groove being concentrically related to the pivot axis of the members, with the rib of one member engaging in and being guided by the groove of the other member, to hold the members against relative transverse movement while at the same time leaving them free for pivotal adjustment to open and closed positions.

It is a further important object of the present invention to provide, in an interlocking clothespin construction as stated, an arrangement wherein the opposed clothespin members will be identically formed. The importance of this arrangement will be readily appreciated in the art, since the construction permits a single die to be used in forming both members of a single clothespin, thus reducing measurably the cost of manufacture of the clothespin.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawing, in which like reference characters designate like parts throughout the several views, and wherein:

Figure 1 is a perspective view of a clothespin formed in accordance with the present invention;

Figure 2 is an exploded perspective view;

Figure 3 is an enlarged transverse sectional view taken substantially on line 3—3 of Figure 1;

Figure 4 is a fragmentary longitudinal sectional view on line 4—4 of Figure 3; and

Figure 5 is a side elevational view of one of the pin members, per se.

The reference numeral 10 has been applied generally in the drawing to designate identically formed, but oppositely arranged pin members. These can be of molded plastic or similar material, although the particular material used is, of course, relatively unimportant so far as patentability of the device is concerned. In any event, each member 10 is integrally formed with a jaw portion 12 at one end, a body portion 14 intermediate its ends, and a handle portion 16 at its other end.

The jaw portion 12, on its inner surface, has transversely extending grooves 18, 20, 22 of different widths, said grooves being adapted to receive an object to be gripped, such as a clothesline. The transverse grooves of the jaw portion of one member confront the corresponding grooves of the jaw portion of the other member, and thus, the jaws are, in effect, provided with opposed teeth that

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facilitate the gripping of an object securely between the jaws.

Preferably, the jaw portions 12 are of a generally constant thickness as shown in Figure 5, but obviously, the thickness of the jaw portions, and for that matter of the entire member 10, is a matter of commercial design. For example, it might be desired to form each member 10 as a relatively thin piece provided with one or more longitudinally extending reinforcing ribs for imparting strength thereto while conserving material.

As shown in Figure 5, the body portion 14 of each member 10 has its inner surface cut away arcuately as at 24, the arcuately cut away surface 24 merging into the inner surface of the jaw portion 12.

Considering now the formation of the handle portions 16, said handle portions are tapered in the direction of their lengths, with the larger ends of the handle portions merging into the body portions 14. The outer surface of each handle portion 16 has, preferably, a plurality of transverse grooves 26, which serve to roughen the exterior surfaces of the handle portions of the members 10, thus to facilitate grasping of the pin by a user.

Integrally formed upon the body portion 14 of each member 10 is an arcuate rib 28, said rib or hook 28 being disposed to one side of the longitudinal center line of the member 10 on which it is formed. Each member 10, further, has an arcuate groove 30 disposed at the other side of the longitudinal center line thereof, the rib 28 and groove 30 of each member being disposed in side by side relation and being extended in concentric relation (see Figure 4) to the pivot axis of the members.

A spring has been designated by the reference numeral 32, said spring having a coiled mid-length portion engaged between the concentric, arcuately cut away inner surfaces 24 of the respective members 10. The spring provides a pivot about which the members 10 may rock relative to one another, and has its ends extended longitudinally of opposite sides of the pin and formed with in-turned lateral extensions 34 engaging in transverse grooves 36 formed in the outer surfaces of the respective jaw portions 12. The construction is such as to cause the jaw portions 12 to be normally biased under pressure of the spring into engagement with one another, it being understood that the normally spaced handle portions 16 can be grasped and shifted toward one another to spread the jaw portions and thereby release the grip of said jaw portions upon an object such as a clothesline, not shown.

The construction illustrated and described has, as an important feature thereof, the interlocking rib and groove means 28, 30, that hold the members 10 against relative transverse deviation out of their prescribed positions. At the same time, the interlocking means used to hold the members against said transverse deviation is wholly concealed, as will be immediately apparent by reference to Figure 1, showing the assembled clothespin.

It is also considered to be of importance to note that the interlocking means is further designed to provide a positive guide for the members during the relative pivotal movement of said members to and from their normal positions shown in Figure 1.

A still further characteristic considered to be of substantial importance resides in the provision of an interlocking means that does not involve the use of separate dies for forming the respective members of the clothespin. In other words, the interlocking means which I have devised, as compared to previously developed means for the same purpose, allows the members to be shaped wholly identically to one another.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily

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limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles of operation and the means presently devised to carry out said principles, it being considered that the invention comprehends any minor change in construction that may be permitted within the scope of the appended claims.

What is claimed is:

1. A clothespin comprising identically formed, oppositely arranged members each including a handle portion at one end, an intermediate portion, and a jaw portion at the other end, said intermediate portions being respectively formed with hooks curving about a common axis extending transversely of the members, and with grooves also curving about said axis and spaced inwardly from the sides of the members, said hooks being engaged in said grooves for rotatable movement in opposite directions, for relative pivotal movement of the members about said axis; and a torsion spring including an intermediate, coiled portion extending through the hooks in coaxial alignment with the pivot axis of the members, said spring being formed with end portions in engagement with the respective members and being tensioned to resiliently, yieldably bias the members in a direction to shift the jaw portions toward each other.

2. A clothespin comprising a pair of opposed members each including a handle portion at one end, a jaw portion at the other end, and an intermediate portion connecting the jaw and handle portions, the intermediate portion of at least one member being formed with a hook curving about an axis extending transversely of the members and the intermediate portion of the other member having at least one groove also curving about said axis, the hook and groove being disposed inwardly from the sides of the members, said hook being engaged in said groove to hold the members against relative transverse movement and being rotatably movable about said axis in the groove to engage the members for relative pivotal movement about said axis; and a torsion spring including an intermediate coil portion extending transversely of and between the members through the hook, said spring including end portions bearing against the respective members and the coil por-

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tion and end portions being tensioned to normally bias the jaw portions toward each other.

3. A clothespin comprising identically formed, oppositely arranged members each including a handle portion at one end, an intermediate portion, and a jaw portion at the other end, said intermediate portions being respectively formed with hooks curving about a common axis extending transversely of the members, and with grooves also curving about said axis and spaced inwardly from the sides of the members, said hooks being engaged in said grooves for rotatable movement in opposite directions, for relative pivotal movement of the members about said axis; and a torsion spring including an intermediate, coiled portion extending through the hooks in coaxial alignment with the pivot axis of the members, said spring being formed with end portions in engagement with the respective members and being tensioned to resiliently, yieldably bias the members in a direction to shift the jaw portions toward each other, the intermediate portions having surfaces adjacent the hooks thereof curved about said axis and constituting continuations of the inner, spring-engaging surfaces of the hooks, said hook-adjacent and spring-engaging surfaces providing a transversely curved bearing surface for said coil portion of the spring extending the full width of the intermediate portions.

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