

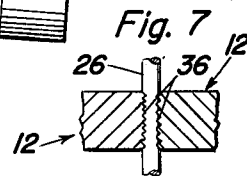
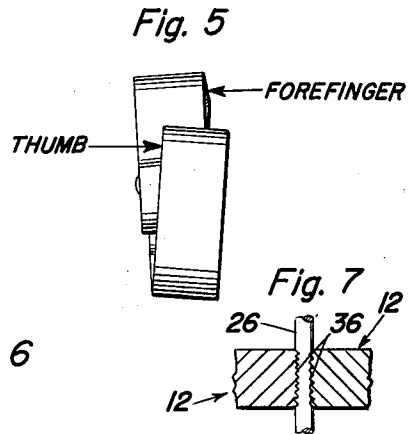
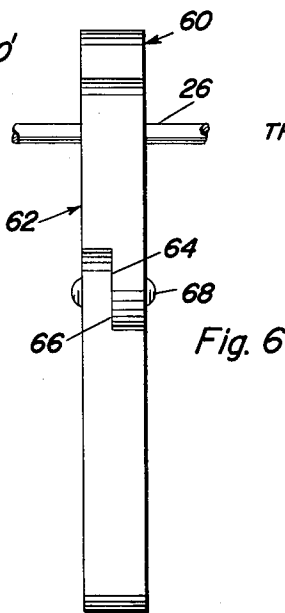
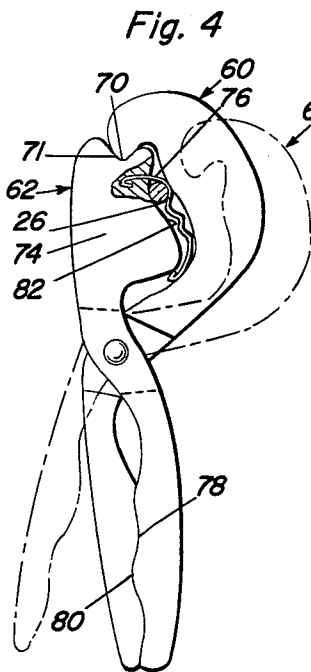
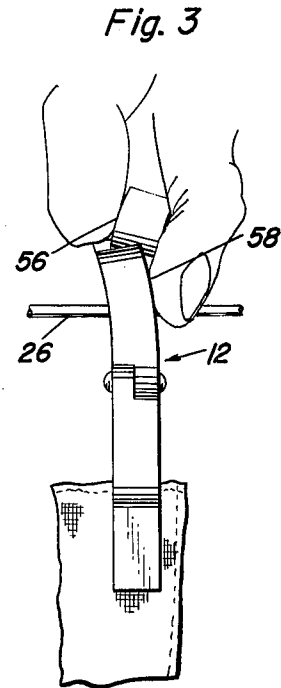
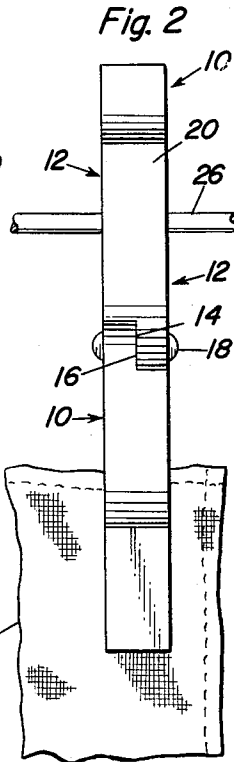
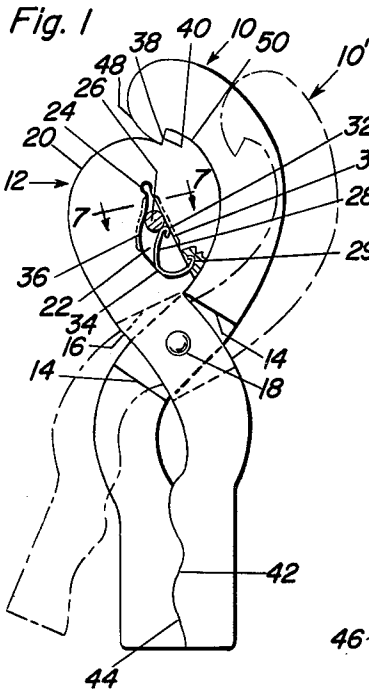
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CLOTHESPIN

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CLOTHESPIN

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This invention relates to clamping devices, and more particularly to a clothespin for securing laundry or clothing to a clothesline.

An object of the invention is to provide a clothespin which is permanently attached to and left on the clothesline.

Another object of the invention is to provide a clothespin for hanging clothes on a line whereby the clothes are clamped directly by the clothespin and do not loop over or touch the clothesline.

Still another object of the invention is to provide a clamp for holding clothes which is provided with lock means for holding it shut rather than the usual spring means.

Yet another object of the invention is to provide a clothespin provided with means for automatically gripping the clothesline for preventing undesired sideways movement of the pin.

Yet another object of the invention is to provide a clothespin that is simple in design, easy to manufacture and durable in use.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a front elevational view of one form of the assembled clothespin secured to a clothesline;

FIGURE 2 is an elevational view looking at the left edge of FIGURE 1;

FIGURE 3 is a view similar to FIGURE 2 illustrating the manner of releasing the clothespin lock;

FIGURE 4 is an elevational front view similar to FIGURE 1 showing a modification of the clothespin;

FIGURE 5 is a plan view of FIGURE 6 illustrating the manner of releasing the clothespin;

FIGURE 6 is a side elevational view looking at the left side of FIGURE 4; and

FIGURE 7 is a cross sectional view taken substantially on the plane of line 7-7 in FIGURE 1.

As shown in FIGURE 1, the clothespin assembly is composed of two sub-assemblies 10 and 12. The sub-assemblies comprise generally S-shaped levers which cross each other generally at their mid-portions.

The adjacent mid-portions of the levers 10 and 12 are provided with substantially U-shaped notches 14 and 16 respectively which extend to a depth equal to one-half of the thickness of the levers as shown in FIGURE 2. The bottoms of the U-shaped recesses overlap and abut one another, and the centers thereof are provided with apertures for receiving the shaft of rivet 18. The heads on each end of rivet 18 are larger than the apertures in the central portions of the levers 10 and 12 and thereby prevent separation thereof. However, these apertures are slightly larger in diameter than the outside diameter of the shank of the rivet 18 so as to permit some tilting or twisting of the levers relative to each other.

The upper end of the lever 12 is generally circular in shape as shown at 20 and is provided with a generally V-shaped slot or recess 22. The upper end of the recess 22 is circular as indicated at 24 to prevent concentration of stress at this point. The right side of the recess

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is substantially straight as indicated at 30 and is provided with a curved slot 29 for receiving the hooked end of an arcuate leaf spring 28. The leaf spring 28 is preferably formed of sheet spring steel and has its upper end hooked as indicated at 32 so as to make the spring generally symmetrical. The central portion 34 of the spring is resiliently urged against one side of the slot 22.

The curved surface 34 of the spring 28 permits easy entry of clothesline 26 into slot 22. Once the clothesline 26 enters the slot, spring 28 snaps back to its original position as shown in FIGURE 1 thereby retaining the clothespin on the line. As more clearly shown in FIGURE 7, the side walls of the slot or recess 22 are provided with vertically extending file-like ridges 36 which tend to bite into the surface of clothesline 26 when the lever 12 is forced downwardly on the line, thereby preventing sideways movement or slippage of the clothespin relative to the line.

The upper ends of the levers 10 and 12 are provided with projecting latch surfaces 38, 40 which interlock as shown in FIGURE 1 when the lower ends of the two levers are manually forced together. When the clothespin is open, the lever 10 assumes the dotted line position indicated at 10' in FIGURE 1.

The lower portions of the levers are provided with mating serpentine surfaces 42, 44 between which any clothing such as indicated at 46 in FIGURE 2 may be effectively gripped when the latches 38, 40 are interlocked.

When the upper ends of the clothespin legs are forced together, the arcuate camming surfaces 48 and 50 contact one another and gradually force the upper end of lever 12 downwardly and the upper end of lever 10 upwardly until the clothespin assembly reaches its closed position whereby the latching surfaces 38 and 40 eventually snap into engagement. The inherent resiliency of the levers 10 and 12 permits relative movement between the upper ends thereof. The levers are preferably formed of some conventional resilient material such as plastic, wood or non-corrosive metal.

To remove the clothes 46 from the clothespin, the operator places his thumb on one side of the upper end of lever 10 as indicated at 56 and places his index finger on the opposite side of the lever 12 as indicated at 58 and presses the two levers in opposite directions so as to cause a twisting force thereon which causes the levers to tilt relative to one another as indicated in FIGURE 3. The relative tilting or twisting motion of the levers is permitted by the inherent elasticity of which the material the levers are composed and by the clearance between the rivet 18 and the apertures through which the rivet extends. Sufficient twisting of the levers as indicated in FIGURE 3 permits separation of the latching surfaces 38, 40 so as to release the clothing 46 from between surfaces 42, 44.

The clothespin illustrated in FIGURES 4 through 6 is substantially similar in structure and operation to the form shown in FIGURES 1 through 3. The resilient levers 60 and 62 are provided with U-shaped notches 64 and 66 which have their bottom surfaces abutting one another and are pivotally held together by means of a rivet 68 extending through the central portions of the U-shaped recesses. The upper end of the lever 62 has a notch 70 therein which receives the lip 71 on the upper end of lever 60 for holding the clothespin assembly in the closed position as shown in FIGURE 4.

The upper end of the lever 62 has a head 74 thereon the right side portion of which has an arcuate slot therein for receiving the upper end of leaf spring 76 and securing it to the lever. The lower end of the leaf spring is normally resiliently urged away from the lever where-

by the clothesline 26 may be easily inserted between the lever and the spring as shown in FIGURE 4.

The open position of the lever 60 is indicated by the dotted line position thereof at 60'. In operation, the clothespin is initially in the open position and the clothesline is inserted between the spring 76 and the head 74. The clothing to be hung on the line is placed between surfaces 78 and 80 when the lower levers are pressed together until projection 71 snaps into recess 70. Once the levers have been operated to the closed position, the clothes are effectively held between the surfaces 78 and 80 and the clothesline 26 is gripped between the spring 76 and the head 74 since the spring is compressed toward the head by means of the upper end of lever 60.

As shown in FIGURE 5, the levers 60 and 62 are released at 70, 71 by exerting a twisting force thereon as indicated in FIGURE 5 in the manner illustrated in FIGURE 3. The surface 82 on the head 74 may be provided with sharp ridges of the type indicated at 36 in FIGURE 7 for gripping the clothesline 26.

In the open position of the clothespin, it may be freely moved along the line 26, however, once the clothespin is closed, the line 26 is tightly gripped thereby as explained above and cannot be moved.

To facilitate easy release of the latches 38, 40 and 70, 71, the thickness of the levers may be substantially reduced.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A clothespin comprising a pair of levers pivotally connected at their mid-portions, adjacent surfaces on the lower ends of said levers for gripping clothing therebetween, there being a recess in the upper end of one of said levers, a projection on the other lever resiliently mating with said recess when the ends of the levers are forced together, said recess and projection comprising a lock which holds the clothespin in a closed position and thereby retains the clothing between said surfaces, gripping means separate from said lock on the upper end of said clothespin for gripping a clothesline to prevent movement of the clothespin along the line, said gripping means being operatively connected to said levers to simultaneously grip said clothesline when said levers are operated to move the lower ends thereof together, said gripping means comprises a downwardly opening wedge-shaped notch with upwardly converging sides in one of said levers whereby the weight of the clothes wedges said line tightly between said sides.

2. A device as defined in claim 1 wherein said notch contains teeth transverse to the axis pivotally connecting the levers for gripping said line.

3. A clothespin comprising a pair of levers pivotally connected on a pivot axis at their mid-portions, there being adjacent surfaces on the lower ends of said levers for gripping clothing therebetween, there being a recess in the upper end of one of said levers, a projection on the other lever resiliently mating with said recess when the ends of the levers are forced together, said recess

and projection comprising a lock which holds the clothespin in a closed position and thereby retains the clothing between said surfaces, one of said levers being generally S-shaped, the other of said levers being reverse S-shape, said levers crossing each other and pivotally connected at their mid-portions, the adjacent side surfaces of said mid-portions being recessed for reducing the total thickness of the clothespin, a wedge shaped recess at the upper end of one of said levers for gripping a clothesline, said recess having longitudinally extending ridges therein substantially normal to the pivot axis of said levers.

4. A clothespin as defined in claim 1 wherein opposing sides of said notch are between the upper end of said levers and are forced toward one another by the other lever when the upper ends of the levers are moved together for engaging said projection in said recess.

5. A clothespin as defined in claim 4 wherein the lower end of one lever overlaps the lower end of the other lever.

6. A device as defined in claim 4 wherein said recess is formed on the upper top surface of said one lever, and said projection is on an upper portion of the other lever which overlaps said top surface.

7. A device as defined in claim 1 wherein each of said levers is formed of one integral piece of material, said notch being formed within the upper end of one of said levers, an arcuate spring member connected at one end to said one lever extending across and closing the entrance to said notch.

8. A clothespin comprising a pair of levers pivotally connected at their mid-portions, adjacent surfaces on the lower ends of said levers for gripping clothing therebetween, there being a recess in the upper end of one of said levers, a projection on the other lever resiliently mating with said recess when the ends of the levers are forced together, said recess and projection comprising a lock which holds the clothespin in a closed position and thereby retains the clothing between said surfaces, gripping means separate from said lock on the upper end of said clothespin for gripping a clothesline to prevent movement of the clothespin along the line, said gripping means being operatively connected to said levers to simultaneously grip said clothesline when said levers are operated to move the lower ends thereof together, said gripping means being located between the upper ends of said levers and between the lever pivot connection and said lock, said gripping means comprising a pair of downwardly extending jaws connected at their upper ends, one jaw comprising the upper inner surface of one lever, the other jaw comprising a cantilevered metal spring engageable by the other lever to close said jaws when the ends of the levers are moved together.

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