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FASTENER

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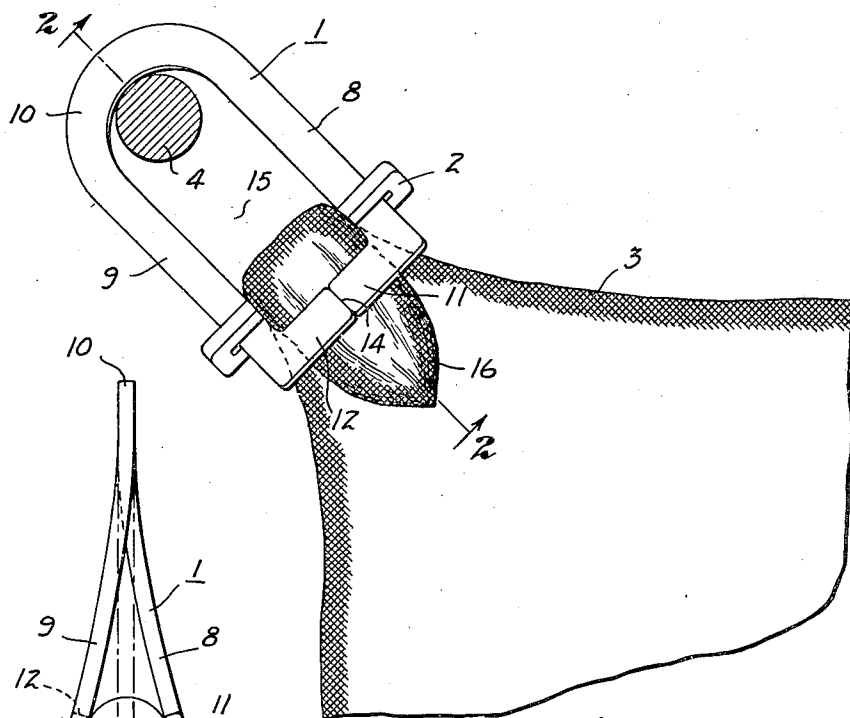


Fig. 1

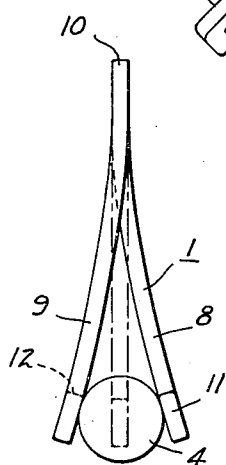


Fig. 3

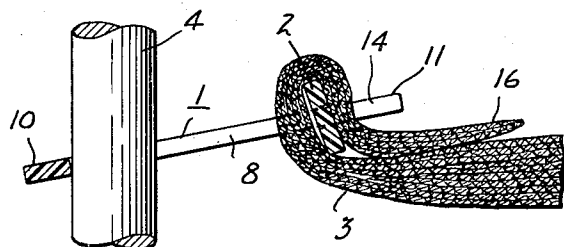


Fig. 2

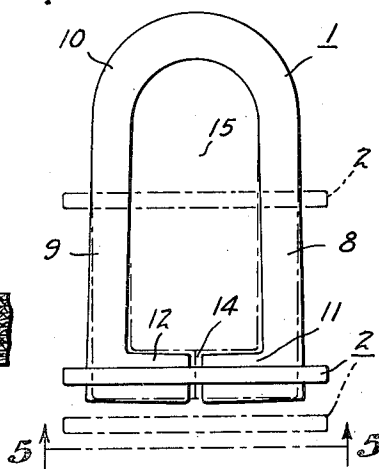


Fig. 4

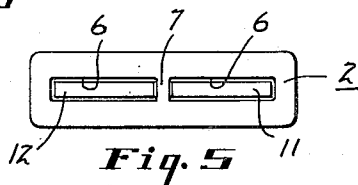


Fig. 5

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FASTENER

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9 Claims. (Cl. 24—72.5)

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This invention relates to fasteners and holding devices for cloth, rope, cord, straps and the like, and particularly to devices for holding towels, dishcloths and blankets. The present fastener is especially suited for use as a clamp to hold and keep in place the blankets in an infant's crib.

One object of the invention is to provide a simple and attractive holding device which will not puncture or cause excessive wear on cloth or other material and which is easily manufactured and assembled from inexpensive material.

Another object is to provide a device having a resilient frame which can be snapped or distorted and fitted onto posts having closed or obstructed ends without tying or other securing operation.

Other objects and advantages of the invention reside in certain novel features of construction and arrangement of parts which will become apparent as the following description of a preferred embodiment proceeds. This description is made in connection with the accompanying drawings forming a part of the specification.

In the drawings:

Figure 1 is a plan view of the whole device or fastener showing the same disposed about one of the posts of an infant's crib and holding one corner of a blanket;

Fig. 2 is a sectional view taken substantially along the line indicated at 2—2 of Fig. 1;

Fig. 3 is a side view partly diagrammatic showing how the resilient frame of the fastener is distorted or bent to place it about the post of the crib;

Fig. 4 is a plan view of the device partly diagrammatic showing the manner in which the frame is distorted to pass the sliding clamp bar in assembly and disassembly; and

Fig. 5 is an end view of the device taken substantially on a line indicated at 5—5 of Fig. 4.

The holder or fastener comprises in general a frame 1 and a clasp or clamp bar 2 slidably mounted thereon, the cloth, blanket 3, or other material to be retained being receivable over and around the clasp so that the free end of the material is pinched between the clasp or bar and the frame.

The frame 1, which may be made of wood, metal, or other suitable material, preferably a plastic composition such as a hard setting thermoplastic composition like polystyrene or methyl methacrylate or a thermosetting phenol formaldehyde or similar resin, is of rectilinear form having spaced generally parallel sides 8 and 9

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joined at one end by a curved end portion 10 which makes the frame generally "U" shaped in plan form. At the other end of the frame the side members 8 and 9 have integral lateral extensions 11 and 12, respectively, which are directed toward one another with their ends disposed in confronting relation substantially in abutment and providing a slit 14.

The clasp or slide bar 2 may be made of the same type of material as is used for the frame 1, a clear hard setting plastic resin being preferable. This slide is relatively wide, preferably being several times wider than thick. It is generally of figure 8 shape in plan form (Fig. 5) being apertured to provide elongated openings 6 that are of just sufficient length to pass the lateral extensions 11 and 12 of the frame 1. The openings 6 are separated from one another by a cross element or bridge 7.

The two broken line positions of the clamp or slide 2 shown in Fig. 4 represent the slide separated from and assembled on the frame. To assemble the fastener the frame 1 is distorted by springing apart the sides 8 and 9 from the broken line positions (Fig. 4) to approximately the full line positions of that figure. The spreading apart of the frame sides separates the lateral extensions 11 and 12 widening the slit 14 sufficiently to pass the cross element or bridge 7 of the slide bar 2. Figs. 4 and 5 show the slide bar 2 as it appears when passing over the lateral extensions 11 and 12, the latter being disposed on opposite sides of the bridge element 7. After passing the lateral extensions the slide or clamp 2 moves onto the sides 8 and 9 of the frame, the latter being received in the elongated openings 6 of the slide.

As soon as the bridge element 7 clears the lateral frame extensions the inherent resiliency of the frame 1 causes the sides 8 and 9 to move to their normal positions (the broken line positions of Fig. 4) closing the gap between the confronting ends of the lateral extensions 11 and 12 and narrowing the slit 14. Thus in its normal shape the frame 1 retains the slide or clamp 2 in assembled relation since the cross element or bridge 7 engages one or both of the lateral extensions 11 and 12, the slit 14 normally being too narrow to pass the cross element of the slide.

While the cross element or bridge 7 has been shown relatively narrow it may be made wider if desired, the lateral extensions 11 and 12 of the frame being correspondingly shortened or the slide bar 2 being made longer to accommodate the increased overall length of the two apertures 6.

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A particularly useful feature of the present fastener is the facility with which it may be attached without rope or straps to an upright post of an infant's crib. Such a post is indicated at 4 and may be closed or inaccessible at both ends as by the top and bottom rails of the crib. Thus it becomes necessary to assemble the fastener on the post without passing the fastener over the end of the post. To place the frame 1 about the post 4 the slide clamp 2 is first disassembled or removed from the frame 1 so that elongated central opening 15 of the frame is clear. The frame 1 which is normally substantially flat with its several parts disposed in a common plane is then sprung or twisted to the shape shown in Fig. 3, in which the sides 8 and 9 are distorted from their normal positions indicated by the broken lines to the curved positions indicated by the solid lines.

The sides 8 and 9, when so distorted, are disposed in divergent curved planes and the ends thereof carrying the lateral extensions 11 and 12 are sufficiently far apart to pass the post 4 into the central aperture 15 of the clamp frame. After passing the post 4 past the lateral extensions 11 and 12 of the frame the latter, by reason of its inherent resiliency, snaps itself or moves back to its normal flat position. Thereafter the slide or clamp 2 is assembled on the frame 1 in the manner previously described and the fastener is ready for use.

To secure in the fastener a piece of fabric material such as the blanket 3 an end corner 16 of the blanket is first passed upwardly through the central opening 15 of the fastener behind the cross bar or clamp 2. The blanket corner is then drawn forwardly over the top of the cross bar 2 and passed downwardly between the cross bar and the lateral extensions 11 and 12 of the frame. The portion of the blanket that is engaged between the bar 2 and the lateral extensions 11 and 12 of the frame is tightly clamped in place, any force or tug on the blanket proper tends to draw the cross member 2 tightly against the lateral extensions 11 and 12 more securely to pinch and retain the blanket portion therebetween.

As shown in Fig. 2 the plane of the cross bar or clasp 2 is at a right angle or substantially normal to the plane of the rectilinear frame 1. The parts of the fastener maintain themselves in this right angled or perpendicular relationship by reason of the relatively close fit of the sides 8 and 9 in the elongated openings 6 of the slide. As shown in Fig. 5 only sliding clearance is provided between the frame and the sides of the openings or apertures 6 so that twisting of the cross bar or clamp 2 is minimized.

Although the clearance between the slide bar or clamp and the side members of the frame is sufficiently close to restrict the twisting of the clamp bar on the frame the clearances in the ends of the elongated apertures 6 are sufficient to pass the extensions 11 and 12 bodily there-through when the sides 8 and 9 are sprung apart permitting the extensions to clear the cross member or bridge 7 of the clamping bar.

The principles of the present invention may be utilized in various ways, numerous modifications and alterations being contemplated, substitution of parts and changes in construction being resorted to as desired, it being understood that the embodiment shown in the drawings and described above is given merely for purposes of explanation and illustration without intending

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to limit the scope of the claims to the specific details disclosed.

What I claim is:

1. In a fastener of the frame and sliding clamp bar type in which the frame has spaced side members and cross members and the sliding bar assembled on the frame is apertured to receive the side members of the frame and is movable toward and away from one of the cross members of the frame to clamp material to be fastened therebetween, the improvement which comprises the combination of a cross element on the sliding clamp bar and a transverse slit severing said one cross member of the frame, the slit being so disposed as to pass the cross element of the clamp bar therethrough upon distortion of the frame, the undistorted frame normally holding the slit closed to retain the clamp bar assembled on the frame.

2. A fastener comprising a generally U-shaped frame member having spaced leg portions and lateral extensions on the leg portions directed toward one another, the lateral extensions being aligned and having confronting ends substantially in abutment, and a slide clamp having spaced openings separated by a cross element, the slide being receivable on the frame member upon springing apart of the leg portions of the latter to pass the cross element between the confronting ends of the lateral extensions, the normal space between said confronting ends being less than the width of the cross element whereby engagement of the cross element and one or both of the lateral extensions retains the slide in assembled relation on the U-shaped member.

3. A fastener comprising a resilient U-shaped frame member having spaced leg portions and lateral extensions on the ends of each leg portion, the lateral extensions being directed toward one another to substantially abut one another and normally substantially closing the end of the frame, and a slide clamp substantially of figure 8 shape receivable on the U-shaped frame member, said slide clamp having elongated openings for receiving the leg portions of the frame member and having a centrally disposed cross element that can be passed between the confronting ends of the lateral extensions upon slight springing apart of the leg portions of the frame member, the cross element being of sufficient breadth to span the normal gap between the lateral extensions.

4. A holding device comprising a frame with spaced side members and a split end, the side members each having a lateral extension at the split end, and a clamp slidably mounted on said frame side members, the frame being deformable to spread the side members and lateral extensions for removal of the clamp from and assembly of the clamp on the frame, said clamp having two elongated apertures substantially in end to end relation and a bridge intermediate said apertures, said elongated apertures of the clamp being shaped to pass the spread lateral extensions and frame side members, and said bridge being disposed to pass through the end split during such removal and assembly.

5. A holding device comprising a resilient frame including spaced side members having lateral extensions directed toward one another and a clamp slidable on the side members, the clamp having a pair of spaced apertures to receive the side members and a stop element between the apertures, said stop element being disposed normally to engage at least one of the lateral ex-

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tensions to retain the slide clamp assembled on the frame, the apertures being sufficiently large to simultaneously pass the lateral extensions therethrough upon distorting the frame to move the lateral extensions relative to one another to permit passage of the element between the extensions for disassembly and reassembly of the slide clamp and the frame, the frame in use being retained in normal shape by its inherent resiliency and being returned to normal by inherent resiliency upon release after said distortion.

6. A holding device comprising a resilient frame member having spaced side portions and intumed ends on the side portions directed toward one another and separated by a slit, and a clamp member apertured to receive the side portions of the frame member and slidable along the latter when assembled with the frame member, the intumed ends of the frame member being disposed normally to engage the clamp member to retain it assembled on the frame member, the apertures in the clamp member being large enough to pass the intumed ends of the frame member and having a different spacing from that of the slit between the intumed ends to require slight deformation of the frame to pass the intumed ends through the apertures in assembly and disassembly of the members, the frame member being adapted, upon release, to return to normal by inherent resiliency.

7. A holding device comprising a resilient frame member having spaced side portions and intumed ends on the side portions directed toward one another, the side portions and ends of the frame member all being normally disposed in a common plane, and a clamp member apertured to receive the side portions of the frame member and slidable along the latter when assembled with the frame member, the intumed ends of the frame member being disposed normally to engage the clamp member to retain it assembled on the frame member, the apertures in the clamp member being large enough to pass the intumed ends of the frame member and being slightly displaced from the normal positions of the intumed ends to require slight deformation of the frame to pass the intumed ends through the apertures in assembly and disassembly of the members, the frame member being adapted, upon release, to return to normal by inherent resiliency.

8. A holding device comprising a frame member of resilient plastic composition having spaced integral side portions and integral intumed ends on the side portions directed toward one another, and a clamp member also of plastic composition apertured to receive the side portions of the frame member and slidable along the lat-

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ter when assembled with the frame member, the intumed ends of the frame member being disposed normally to engage the clamp member to retain it assembled on the frame member, the apertures in the clamp member being large enough to pass the intumed ends of the frame member and being slightly displaced from the normal positions of the intumed ends to require slight deformation of the frame to pass the intumed ends through the apertures in assembly and disassembly of the members, the frame member being adapted, upon release, to return to normal by inherent resiliency.

9. A fastener comprising a resilient frame having spaced side members formed at one end of the frame with lateral extensions directed toward one another, a clamp member formed with spaced apertures to receive the side members of the frame, said clamp member apertures being substantially of the same general shape as and large enough simultaneously to pass the lateral extensions of the side members and being at a different spacing from the normal spacing of the lateral extensions of the frame to require slight deformation of the frame from normal to pass the lateral extensions thereof through said apertures in assembly, the frame returning to normal by inherent resiliency from said slight deformation whereby the different spacing of the apertures with respect to the normal lateral extensions retains the clamp member assembled on the frame.

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