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2,798,499

PIN CURL CLIP

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FIG. 1.

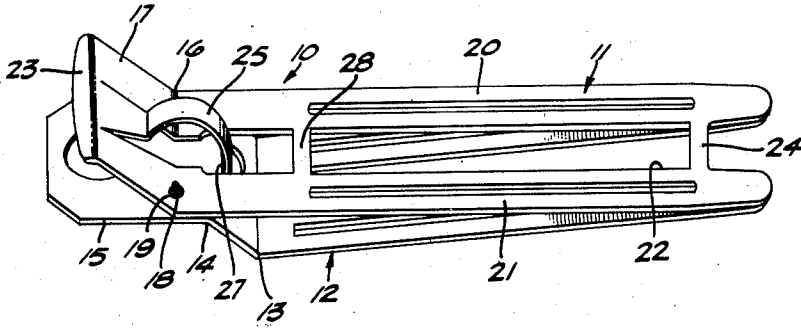


FIG. 2.

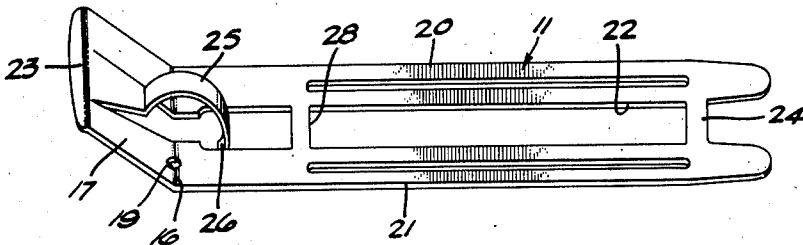
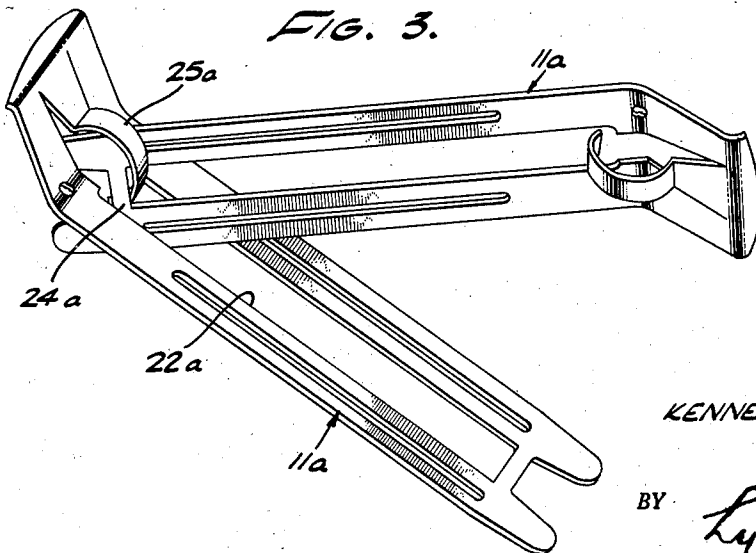


FIG. 3.



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2,798,499

PIN CURL CLIP

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2 Claims. (Cl. 132—46)

This invention relates to pin curl clips or clamps of the type shown in the Reiner et al. Patent Re. 23,163. Commercial forms of the device shown in that patent are manufactured and sold in very large quantities.

The clip consists essentially of two clamp jaws connected for hinging action and having resilient means for bringing the jaws to closed position. The resilient means consists of a tongue-like spring element integrally formed on one clamp jaw and engaging a ledge or shoulder provided upon the other clamp jaw. The two clamp jaws are manufactured separately and then connected at final assembly.

It has been found that some of the manufacturing operations on the clamp jaw having the tongue are impeded by tangling of these clamp jaws in pairs. The spacer bar on one often catches under the projecting tongue of another, and the resultant tangling impedes processing operations, and requires manual manipulation to separate the parts. For example, a tumbling operation is employed to remove any sharp edges remaining after a stamping operation, but tangling of the parts in pairs often results, as described. When tangling occurs, it interferes with orderly processing by automatic or semi-automatic devices and machinery, producing costly delays.

It is the object of this invention to provide novel means for eliminating this difficulty without adversely affecting the design or operation of the completed pin curl clip in service. This object is accomplished by placing an obstruction bar on the clamp jaw near the projecting end of the tongue, and thereby preventing a spacer bar on one clamp jaw from catching or "hanging up" on the tongue of another.

In the drawings:

Figure 1 shows a commercial form of pin curl clip constructed in accordance with the teachings of said Reiner et al. patent, and embodying the present invention.

Figure 2 shows the upper clamp jaw thereof, prior to assembly with the lower clamp jaw.

Figure 3 shows how two of the upper clamp jaws, constructed prior to the present invention, sometimes became entangled, in the spacer bar on one engaging the curved tongue on the other.

Referring to the drawings:

The pin curl clip generally designated 10, includes an upper clamp jaw 11 and a lower clamp jaw 12. Each of these is formed of sheet metal. The lower clamp jaw is provided with two separate bends 13 and 14 forming an offset handle portion 15. The upper clamp jaw 11 has a single bend 16 forming a handle 17. Upstanding lugs 18 on the lower clamp jaw 12 project through apertures 19 on the upper clamp jaw to form a hinged connection between the clamp jaws. As best shown in Figure 2, the upper clamp jaw 11 comprises a pair of legs 20 and 21 defining a slot 22 between them.

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The legs merge with the handle 17 and the end portion 23 of the handle forms an integral connection between the legs. A spacer bar 24 near the forward end of the legs forms a second integral connection therebetween.

A curved tongue 25 is formed integrally with the handle 17 and has a projecting hooked end 26 extending into the slot 22. This projecting end 26 of the tongue engages a ledge 27 provided on the lower clamp jaw 12. The tongue thus accomplishes the double function of holding the parts together against disassembly and also providing resilient means tending to move the clamp jaws together. The jaws may be separated when desired by applying manual pressure to bring the handle portions 15 and 17 together thereby pivoting the jaws about their hinged construction, as will be readily understood.

In accordance with my invention, I provide an obstruction bar 28 which extends across the slot 22 and integrally connects the legs 20 and 21 at a location near the projecting end of the tongue 25. This construction bar effectively prevents engagement of the spacer bar 24 on one clamp jaw 11 with the tongue 25 on another clamp jaw 11. Reference to Figure 3 shows how tangling of lower clamp jaws occurred prior to my invention. The clamp jaws 11a shown in Figure 3 are identical to those shown in Figures 1 and 2 except that the obstruction bar 28 is not present. In this prior construction, the spacer 24a on one of the clamp jaws could pass through the slot 22a on the other and engage the tongue 25a. Tangling of the parts in this manner interfered with processing and occasioned considerable delay. The provision of the obstruction bar 28 in accordance with my present invention has effectively eliminated this objectionable tangling.

Having fully described my invention, it is to be understood that I do not wish to be limited to the details herein set forth, but my invention is of the full scope of the appended claims.

I claim:

1. For use in a pin curl clip of the type comprising a pair of superposed clamping plates, a clamp jaw plate element having a pair of co-planar legs defining a slot between them, a handle portion integrally joining the legs at one end, a transverse spacer bar extending across the slot and integrally joining the legs near the other end thereof, a resilient tongue formed integrally with said handle and having a free end projecting into said slot, and an obstruction bar extending across the slot near the free end of said tongue to prevent tangling engagement of said tongue with the spacer bar on a duplicate plate element.

2. A clamp comprising two superposed elongated clamping plates pivotally connected relative to one another and having cooperating clamping jaws on one side of the pivotal connection, one of said clamping jaws comprising a pair of co-planar legs defining a slot between them, a handle portion integrally joining the legs at one end, a transverse spacer bar extending across the slot and integrally joining the legs near the other end thereof, a resilient tongue formed integrally with said handle and having a free end projecting into and through said slot and into engagement with the other clamping plate, and an obstruction bar extending across the slot near the free end of said tongue to prevent tangling engagement of said tongue with the spacer bar on a duplicate plate element.

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