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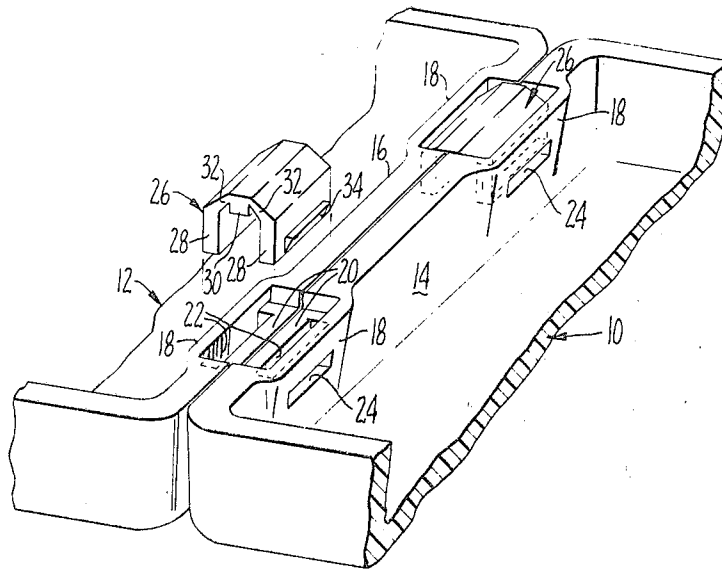
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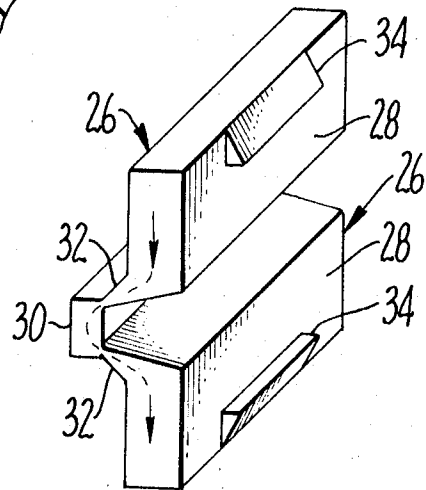
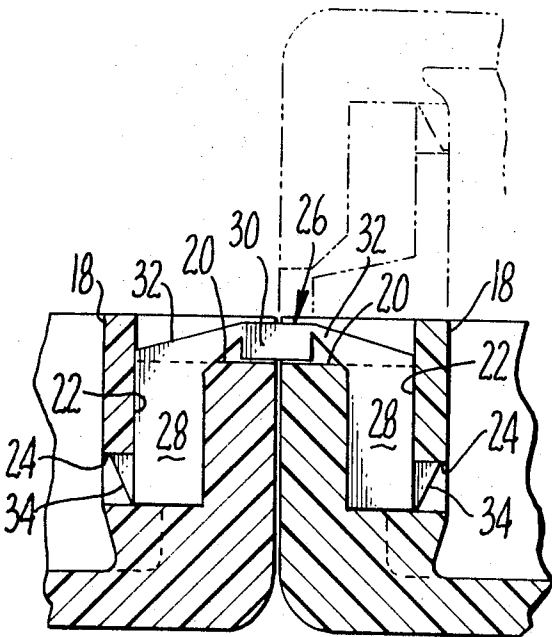
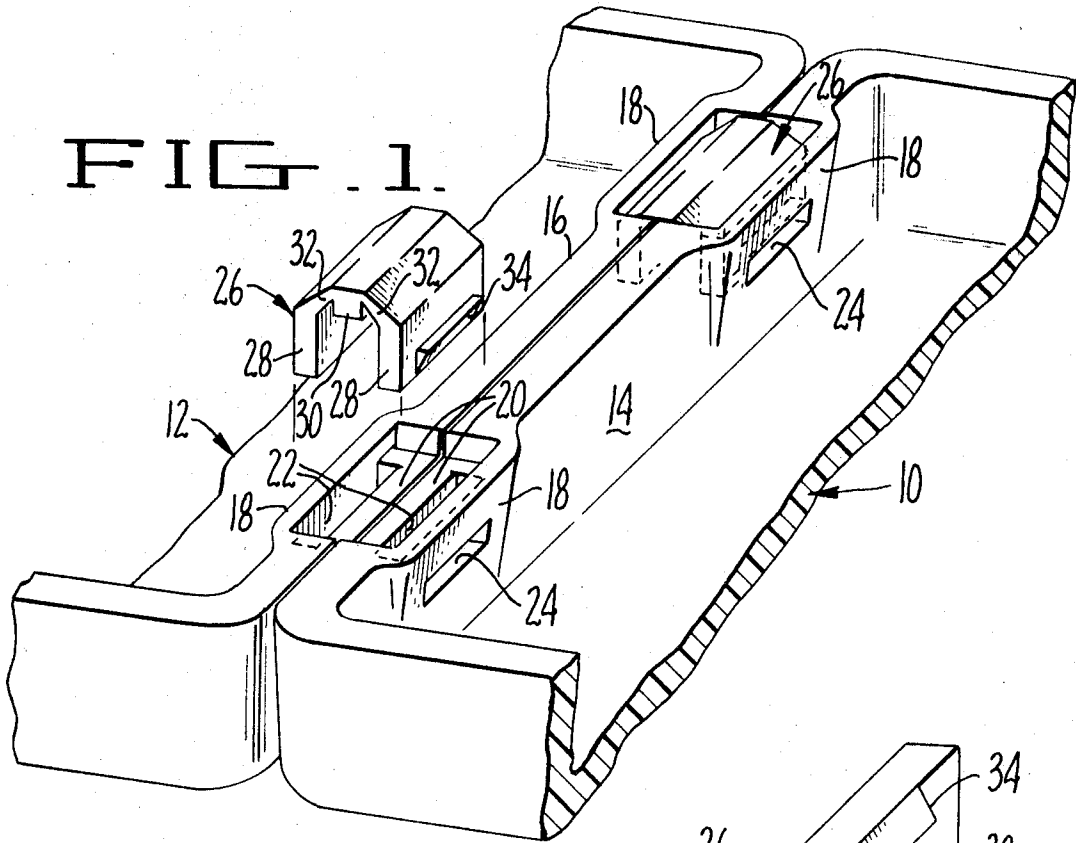
[54] **HINGE CONSTRUCTION FOR TWO-PIECE CONTAINERS**
 2 Claims, 3 Drawing Figs.

[52] **U.S. Cl.**..... 220/315,
 16/128 R, 16/171
 [51] **Int. Cl.**..... B65d 51/04,
 E05d 1/02
 [50] **Field of Search**..... 220/31 R,
 315; 150/5; 16/128 R, 171, DIG. 13; 229/2.5, 44 R

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ABSTRACT: An internally located and essentially out-of-sight hinge construction for a two-piece container, each of the container pieces having a pair of hinge sockets provided with locking slots, the adjacent hinge sockets of the container pieces being interconnected by one-piece flexible plastic hinge straps having at the ends thereof wedgelike protuberances adapted to be engaged with the locking slots. The hinge straps are provided with wall sections of minimal thickness constituting a pair of spaced, parallel hinge lines about which the respective integrated portions of each strap move relative to each other to permit opening and closing of the two-piece container through an angle somewhat in excess of 180°.





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HINGE CONSTRUCTION FOR TWO-PIECE CONTAINERS

The objects and advantages of the invention will be apparent from the following description taken in conjunction with the drawing forming part of this specification, and in which:

FIG. 1 is a partial view in perspective of a two-piece container in the open position, the container embodying the hinge construction of the invention, with one of the hinge straps being shown in removed relation to the container for assembly therewith;

FIG. 2 is a view in transverse section of the container of FIG. 1, the hinge strap being shown in end elevation, and portions of the hinge strap and the container being shown in dotted outline to illustrate the closed condition of the container and the orientation of the hinge strap when the container is in the closed condition; and

FIG. 3 is a view in perspective of a hinge strap alone, the same being shown in the attitude it has when the two-piece container is closed.

With reference to the drawing, container parts or halves 10 and 12 are provided with walls 14 and 16 which are disposed one atop the other when the two container parts are in the closed condition and disposed one laterally adjacent the other when the container parts are in the open condition.

The container parts 10 and 12 are preferably molded out of a suitable material, thereby enabling the walls 14 and 16 to be provided with thickened portions 18 at which the hinge strap receiving means are located. The hinge strap receiving means at each thickened portion 18 comprises a shoulder 20, a socket 22 and a slot 24.

For a pair of such adjacently disposed hinge strap receiving means, there is provided a one-piece hinge strap indicated generally at 26 and comprised of leg portions 28, block portion 30 and tapered yoke portions 32 extending from the leg portions to the block portion. Wedge-shaped protuberances 34 are integral with leg portions 28.

FIG. 1 illustrates the manner of assembling the two pieces of the container and two hinge straps 26. FIG. 3 illustrates the normal or unstressed condition of a hinge strap. When the hinge straps are yieldingly manipulated to their U-shaped conditions of FIG. 1, they may be then moved downwardly to dispose the leg portions 28 within the sockets 22 of the container pieces and to dispose the wedge-shaped protuberances within the slots 24, thereby clipping the two container pieces together and fixing the hinge straps in locked relation therewith.

The right-hand side of FIG. 2 shows that the subject hinge construction is disposed substantially wholly within the outer surfaces of container pieces 10 and 12. Thus the subject hinge construction is neat and unobtrusive with respect to the outside of the container, as contrasted with the typical outside hinge construction, the single-hinge line of which must be

disposed outwardly of the adjacent outer surfaces of the container pieces in order to permit noninterfering pivotal movement between the two pieces. Here the hinge lines are disposed inwardly of the adjacent outer surfaces of the container pieces, and noninterfering pivotal movement between the two container pieces is obtained by virtue of the fact that each hinge strap is provided with two hinge lines 33, 35 located at the juncture of yoke portions 32 with block portion 30. Relative pivotal movement between the container pieces 10 and 12 takes place about both hinge lines, which ensures that the two container pieces have noninterfering pivotal movement with respect to each other even though the totality of the hinge constructions and the location of all the hinge lines are within the outer surface margins of the container or box in its closed condition.

The container pieces 10 and 12 are preferably formed out of a tough resilient plastic having sufficient flexibility so that the thin walls of the container pieces defining in part the sockets 22 will flex outwardly and permit the passage of the hinge strap protuberances 34. To enable this to be more readily accomplished, the protuberances are provided with a length which is but a fraction of the length of the long dimensions of the leg portions 28 of the hinge straps.

The material forming the hinge straps is preferably polypropylene or its equivalent. Parallel threads or filaments may be molded into at least the yoke and ridge portions of the hinge strap transversely of the ridge portion 30 so as to constitute the plastic hinge strap a "living" hinge, i.e. one which will resist coming apart along its hinge lines, the hinge lines being the lines of joinder of the narrow ends of the yoke portions 32 with the ridge portion 30.

What I claim is:

1. A hinge construction for a two-piece container comprising a socket formed in the back wall of each of the two pieces of the container, said sockets being in alignment when the container is in closed condition and being in spaced-apart or offset parallel relation when the container is in substantially fully open condition, a flexible hinge strap having end portions and an intermediate portion, means securing the end portions of said strap within said sockets, and a pair of parallel, spaced-apart, hinge lines formed in the intermediate portion of said strap, said hinge lines being located within the outer boundaries of the container when it is in the closed condition but enabling noninterfering pivotal movement between the pieces of the container in their movement between fully open and closed conditions.

2. The hinge construction of claim 1, said end portions comprising leg portions and said intermediate portion comprising a generally centrally located block portion and a pair of tapered yoke portions interconnecting said leg portions and said block portion, said yoke portions being outwardly and angularly directed from said leg portions to said block portion and having their thinnest sections at their junctures with said block portion, said junctures constituting said hinge lines.

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