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## SHEET MATERIAL SEAM LOCK

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Fig. 1

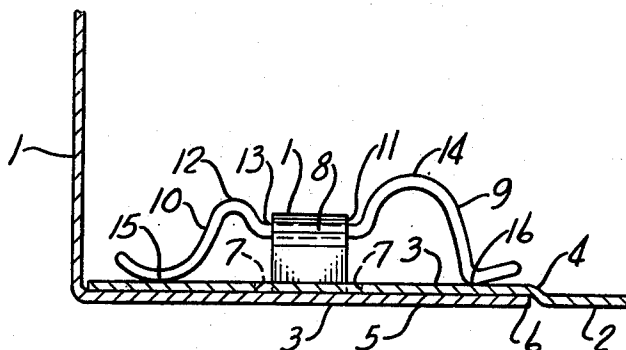
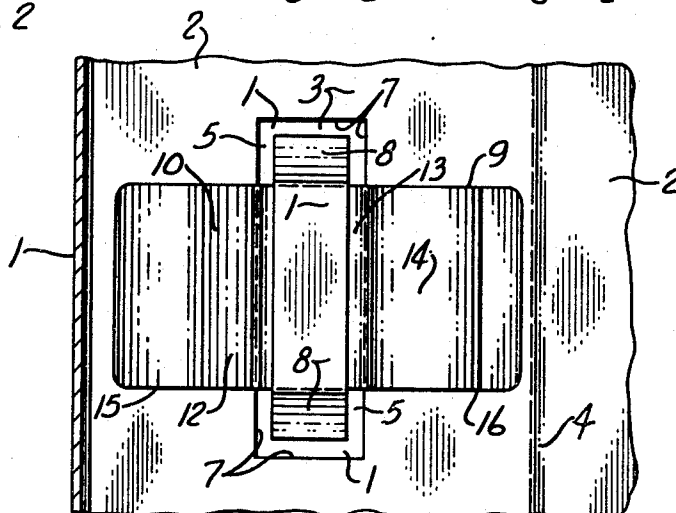


Fig. 2



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## SHEET MATERIAL SEAM LOCK

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1 Claim

### ABSTRACT OF THE DISCLOSURE

A sheet material seam lock for connection of overlying marginal edges of adjacent panels wherein an opening is provided in one of the panels and a loop element, which is secured to the other of the panels, projects through the opening and extends therebeyond. A spring retaining clip passes through the extended portion of the loop and rests on the panel which is provided with the opening such that it urges the loop under spring tension in the direction of extension to retain the panels in connected engagement. Where the spring clip engages the underside of the loop element, a recess is provided to prevent accidental lateral dislodgement of the clip.

### BACKGROUND OF THE INVENTION

#### Field of the invention

This invention relates generally to sheet material seams employed in cabinet structures and more particularly to seam locks to retain the adjacent panels in their connected relationship.

#### Description of the prior art

In sheet material cabinet structures, which are generally made of sheet metal, overlying marginal edges of adjacent panels are generally connected together by the passing of metal projections which extend from one marginal edge through corresponding openings in the marginal edge of the adjacent panel after which the metal projections are bent over to lock the panels together.

Such sheet metal seam locks are not only difficult to assemble, but they further do not provide a rigid seam or seam lock between adjacent cabinet panels. Furthermore, the bending over a metal tabs exposes the person who is making the assembly to the possibility of cutting one's hands in an attempt to bend the metal tabs or projections.

### SUMMARY OF THE INVENTION

It is the principal object of the present invention to provide a sheet material seam and lock therefor which is both easy to assembly and provides a rigid cabinet seam.

The sheet material seam lock of the present invention is for the connection of the overlying marginal edges of adjacent panels whereby an opening is provided in the marginal edge of one of the panels and a loop element which is secured to the other of the panels projects therefrom through the opening such that it extends therebeyond. A spring retaining clip passes through the extended portion of the loop element and engages the underside thereof while resting on the panel having the opening therethrough such that the spring clip continuously urges the loop element under spring tension away from the latter mentioned panel having the opening and in the direction of the looped extension. A retaining means is provided on the clip to seat the underside of the loop extension on the retaining clip and thereby prevent the clip from becoming accidentally dislodged in the lateral direction from under the loop.

The spring clip is preferably manufactured of a length of ribbon spring having a substantially  $\Omega$  shaped configuration wherein the outside of the central bend engages the underside of the loop element and the marginal bends thereof engages the surface of the panels through which the loop element passes such that the spring clip tends to urge the loop element on through the opening of the panel through which it passes. The central bend of the substantially omega shaped clip is recessed to provide a seat for the underside of the loop element to receive the same and thereby prevent the clip from accidentally becoming dislodged laterally from under the loop element. In other words, the recessed portion of the central bend in the otherwise substantially  $\Omega$  shaped clip provides a saddle with two humps on either side thereof and in which the underside of the loop element is received.

The present invention is further characterized in that one of the marginal edges of the mating and overlying panel edges may be provided with the marginal offset therealong to receive the adjacent overlying marginal edge of the mating panel to provide smooth contours where the panel edges meet thereby eliminating rough or sharp edges which would otherwise be exposed.

Other objects and advantages appear hereinafter in the following description and claim.

The accompanying drawings show, for the purpose of exemplification without limiting the invention or the claims thereto, certain practical embodiments illustrating the principles of this invention wherein:

FIG. 1 is a cross-sectional view in side elevation of one embodiment of the sheet material seam lock of the present invention.

FIG. 2 is a plan view of the sheet material seam lock illustrated in FIG. 1.

Referring to FIGS. 1 and 2, the sheet material panels 1 and 2 may be a sheet material of any desired type such as sheet metal or a plastic such as polyethylene which may or may not be flexible.

The seam illustrated may be part of any cabinet structure such as a sheet metal or plastic doll house for one example.

The marginal edges 3 overlie in flat engagement with each other for the length of the panel seam or connection. The marginal edge 3 of panel 2 is provided with a marginal offset 4 which receives cooperatively the marginal flange 5 of panel 1 to provide a smooth panel edge at the base 6 of flange 5.

Panel 2 is provided with the opening 7 therein through which the loop element 8 extends. Loop element 8 is in this particular instance an integral part of panel 1 and is further preferably formed by having it struck or molded outwardly from the sheet of material or panel 1. However, it can be readily realized that this loop element may be a separate loop of material secured to the panel 1 and it may further be either selected from a flexible or rigid material as desired.

The loop element 8 extends through opening 7 and therebeyond to provide a passage thereunder for the M-shaped spring clip 9 which is slid laterally underneath the element 8. For the purpose of insertion, the leading edge 10 of the spring clip 9 is provided with a beveled surface which will engage the leading edge 11 of the loop element upon insertion of the spring clip 9 from right to left under loop element 8 as viewed in FIGS. 1 and 2.

The sloped leading face 10 of the spring clip 9 permits the spring clip 9 to flex at the bend 12 thereby permitting the same to clear and pass underneath loop element 8 so that it will rest in the seat 13 of the clip.

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The seat 13 is a recess provided by the humps or bends 12 and 14 on either side thereof and which provides a retaining means to prevent or retain the clip 9 from becoming accidentally dislodged laterally from under the loop element 8.

The spring clip continuously urges the loop element 8 under spring tension away from panel 2 and in the direction of the loop extension to retain the panels in connected engagement. This is obvious from the fact that the marginal bends 15 and 16 of the spring clip 9 rest on panel 2 while seat 13 continuously urges the loop element 8 upwardly as seen in FIG. 1 due to the fact that spring clip 9 is continuously under compression.

For description purposes, it may be said that the ribbon spring 9 has a substantially  $\Omega$ -shaped configuration wherein the outside of the central bend 13 engages the underside of the loop element 8 and the marginal bends 15 and 16 thereof engage the panel 2 on opposite sides of the opening 7. The central bend 13 is further provided with a recess receiving means which in this instance would in fact be the seat 13 as provided by the bends 12 and 14 on either side thereof to receive the loop element 8.

FIGS. 1 and 2 illustrate only one seam lock whereas a plurality of the seam lock illustrated would normally be provided in spaced relation along each cabinet seam.

I claim:

1. A sheet material seam lock for longitudinal corner seams connecting overlying mating flat marginal edges of adjacent panels one flat edge of which is a flat flange, comprising an opening in one flat marginal edge of one

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of said panels, a projecting loop element secured to the other of said flat marginal edges of said other panel and projecting therefrom through said opening and extending therebeyond with engagement of said mating flat marginal edges, an M-shaped spring retaining lock clip extending through the extended portion of said loop element, said clip having spaced upward bends forming a loop seat therebetween and providing stops for said loop element, spring legs extending downwardly from the outer ends of said upward bends and terminating with upward bends providing feet for said legs resting on said one of said panels, said spring legs continuously urging said loop seat under spring tension away from said one of said panels to maintain said flat marginal edges in spring pressed engagement, and a marginal offset along one of said flat marginal edges to receive and interlock said adjacent corner overlying flat marginal edges.

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