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A. J. COOPER

1,771,289

HINGED JOINT

Filed Jan. 28, 1928

Fig.1.

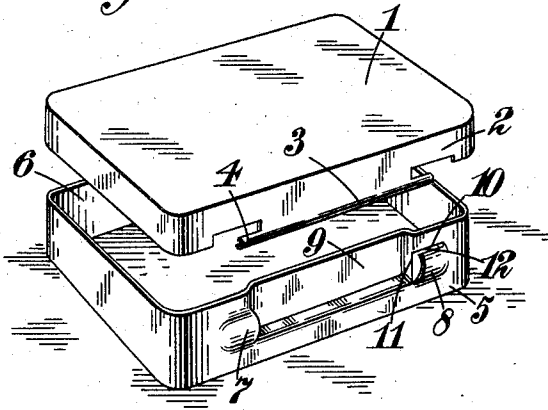


Fig.2.

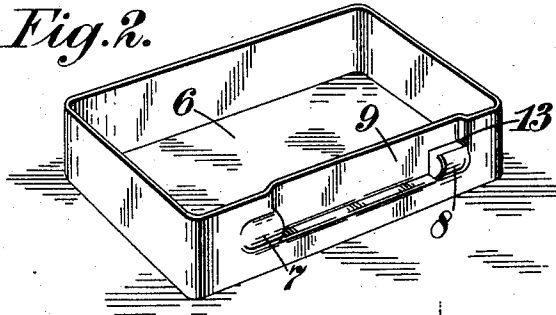


Fig.3.

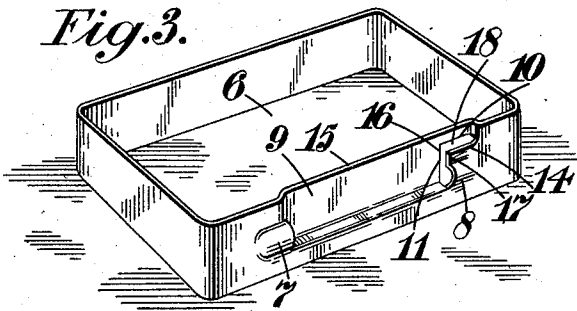
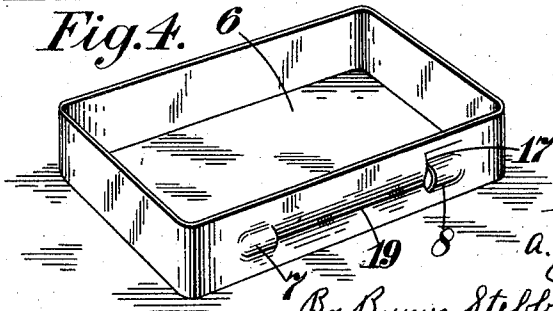


Fig.4.



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HINGED JOINT

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This invention is for improvements in or relating to hinged joints, and has for one of its objects to cheapen the cost of manufacture of hinged joints, and for another object to facilitate the assembly of the members of hinged joints. The invention is particularly adapted for embodiment in tin boxes, but it is also capable of other applications.

Another object is to provide a strong and neat hinged joint which can be cheaply made and the parts of which can be readily assembled.

A further object is to provide an improved and robust construction of joint whereof one of the members is formed with two housings for the reception of the hinge-pivot and is slit to permit parts of the member to be separated for the insertion of the hinge-pivot and afterwards closed together to hold the hinge-pivot in position.

The following is a description of some forms of tin boxes to which this invention has been applied. Reference is made to the accompanying drawings in which:—

Figure 1 is a perspective view of a box prior to the assembly of the hinged lid and shows a slit formed at two of the adjacent boundary edges of one of the housings for the hinge pivot.

Figure 2 is a similar view to Figure 1, and shows the offset portion of box extending to outer end of the slit.

Figure 3 is a perspective view showing the horizontal part of the slit situated between the housing and the edge of the box.

Figure 4 shows the construction of Figure 3 as it would appear without the lid after the final operation of assembling the latter part.

Referring firstly to Figure 1, it will be seen that the lid 1 has formed on the rear wall 2 of the rim an inverted T-shaped extension 3 the arms of which are bent to form the hinge pin 4. The rear wall 5 of the body 6 of the box is formed with two bridge-like housings 7 and 8 each with one open and one blind end whereof the open ends are directed towards each other. The material 9 of the wall 5 between the housings is offset inwardly in or-

der to permit the hinge pivot to work freely. A slit 10 is so formed as to extend along the top horizontal boundary of the housing 8 parallel to the axis of the hinge and joins the vertical edge 11 left by the formation of the open end of the housing. With this arrangement the housing can be sprung outwardly to form a gap 12 which permits the insertion of the pivot pin.

In Figure 2 the offset material between the housing is made to extend to the outer extremity 13 of the horizontal part of the slit; the insertion of the pivot pin is thus rendered more easy.

In Figure 3 the horizontal slit 10 is located between the boundary edge 14 of the housing 8 and the top edge 15 of the box and a vertical slit 16 extends upwardly at right angles to the axis of the hinge from the edge 11 to meet the horizontal slit; the housing is thus provided with an extension 17 which may be sprung outwardly to form a gap 18 for the insertion of the pivot pin.

Figure 4 shows the box as it would appear without the lid after it had been subjected to the final operation in assembling the lid. The top part of the offset material has been straightened out so as to leave beneath it a recess 19 for the hinge pivot and the extension 17 has been pressed inwardly to lie in the plane of the side of the box.

In all of the constructions illustrated, the material of the body of the box is left without any slits extending from the aforesaid slits which are adjacent to the housing 8, to the edge of the body of the box, and by this means a strong joint is produced.

I claim:—

1. A hinged joint having a hinge pivot carried by one member of the joint and aligned, open-ended bridge-like housings so placed on the other member of the joint as to receive the ends of the pivot, and the material adjacent to at least one housing slit to permit the passage of the hinge pivot into the housings but left unslit through at least one half of the outline of the housing and also left without any slits extending to an edge of the hinge member, for the purpose specified.

2. A hinged joint having a hinge pivot

integral with one member of the joint and aligned, open-ended bridge-like housings so placed on the other member of the joint as to receive the ends of the pivot, such housings being formed by indenting the material of the hinge member and slitting it to form apertures to the housings, and the material adjacent to at least one housing being slit to permit the passage of the hinge pivot into the housings but being left unslit through at least two adjacent sides of a rectangle bounding the housing and also being left without any slits extending to an edge of the hinge member, for the purpose specified.

3. A hinged joint having a hinge pivot carried by one member of the joint and aligned, open-ended bridge-like housings so placed on the other member of the joint as to receive the ends of the pivot, and the material adjacent to one only of the said housings slit in such manner as to allow the housing to move so that the hinge pivot may be placed in operative position, but left unslit through at least one half of the outline of the housing and also left without any slits extending to an edge of the hinge member and the material between one housing and the slit adjacent to the other housing offset inwardly away from the plane of the body of the hinge member, for the purpose specified.

4. A hinged joint having a hinge pivot carried by one member of the joint and aligned, open-ended bridge-like housings so placed on the other member of the joint as to receive the ends of the pivot, and the material adjacent to at least one housing slit to permit the passage of the hinge pivot into the housings but left unslit through at least one half of the outline of the housing and also left without any slits extending to an edge of the hinge member, a portion of the slit in the material at the said situation adjacent to a housing lying substantially at right angles to the axis of the hinge pivot and the remainder of the slit lying along the direction of the length of the said axis, for the purpose specified.

5. A hinged joint having a hinge pivot carried by one member of the joint and aligned, open-ended bridge-like housings so placed on the other member of the joint as to receive the ends of the pivot, and the material adjacent to at least one housing slit to permit the passage of the hinge pivot into the housings but left unslit through at least one half of the outline of the housing and also left without any slits extending to an edge of the hinge member, a portion of the slit in the material at the said situation adjacent to a housing lying substantially at right angles to the axis of the hinge pivot and the remainder of the slit lying along the direction of the length of the said axis, and said last-named portion of the slit being located substantially along the junction of the housing

and the body of the hinge member, for the purpose specified.

6. A hinged joint having a hinge pivot carried by one member of the joint and aligned, open-ended bridge-like housings so placed on the other member of the joint as to receive the ends of the pivot, and the material adjacent to at least one housing slit to permit the passage of the hinge pivot into the housings but left unslit through at least one half of the outline of the housing and also left without any slits extending to an edge of the hinge member, the material of the hinge member adjacent to the open end of a housing being offset in the direction away from the hinge pivot, and a portion of the slit in the material at the said situation adjacent to a housing lying substantially at right angles to the axis of the hinge pivot and the remainder of the slit lying along the direction of the length of the said axis, and the aforesaid offsetting being continued along the length of the strip of material between the last-named part of the slit and the adjacent edge of the hinge member, for the purpose specified.

7. A hinged joint having a hinge pivot carried by one member of the joint and aligned, open-ended bridge-like housings so placed on the other member of the joint as to receive the ends of the pivot, and the material adjacent to at least one housing slit to permit the passage of the hinge pivot into the housings but left unslit through at least one half of the outline of the housing and also left without any slits extending to an edge of the hinge member, the material of the hinge member throughout the distance between two housings which have their open ends facing each other being offset in the direction away from the hinge pivot, and a portion of the slit in the material at the said situation adjacent to a housing lying substantially at right angles to the axis of the hinge pivot and the remainder of the slit lying along the direction of the length of the said axis, and the aforesaid offsetting being continued along the length of the strip of material between the last-named part of the slit and the adjacent edge of the hinge member, for the purpose specified.

In testimony whereof I affix my signature.
ALBERT JAMES COOPER.