Dec. 10, 1935. J. M. SHIELDS 2,023,978

SHEET METAL BOX

Filed Sept. 29, 1934

Fig. 1

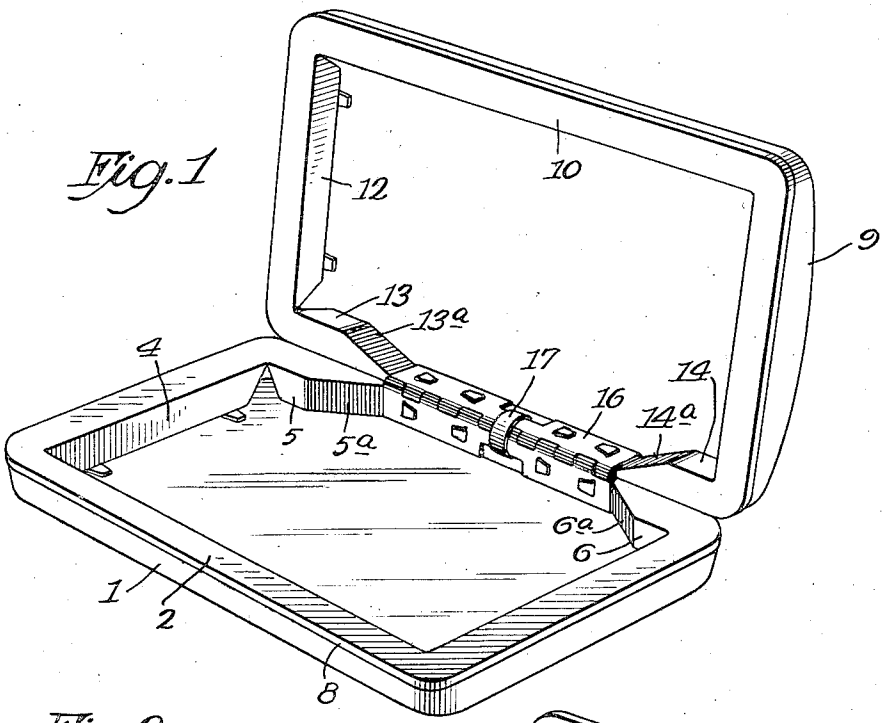


Fig. 2

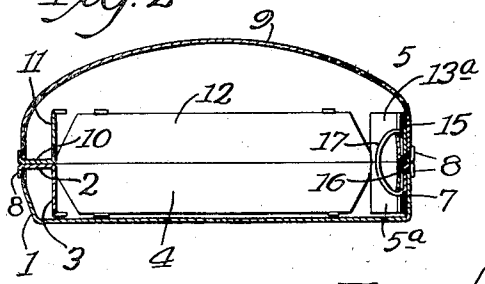


Fig. 3

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SHEET METAL BOX

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5 Claims. (Cl. 220—31)

The present invention relates to improvements in sheet metal boxes, usually small and of ornamental design, which consist of base and cover box members hinged together, and is applicable more particularly to boxes in which the edges of the side and end walls of two hinged members carry rim members having meeting flat faces connected to inwardly extending flanges. In boxes of this description it is difficult to apply a snap hinge in a satisfactory manner, since the axis of the hinge must of course be disposed at the rear edge of the flat faces of the rim members in order that the box cover of the box may be opened and closed on the box body, and it has heretofore been impossible to use an automatic snap hinge employing a C-shaped spring element, because of interference with the rim member, as usually constructed. Furthermore, if the leaves of the hinge members are riveted directly to back sides of the cover and base members of the box, the rivets mar the surface of the sides, so that they cannot be smoothly finished in case it is desired to finish the box without covering it.

The object of my invention is to overcome the difficulties mentioned in a simple and practical manner by a formation and construction of the rim members and associated parts which will avoid riveting the hinge leaves to the box members, and provide for the use of the ordinary form of snap hinge in a box of the class mentioned.

In the specification which follows I have described in detail the construction of an ornamental box embodying my invention, the essential elements thereof being set forth in the appended claims.

In the drawing, Figure 1 is a perspective view of the complete box; Fig. 2 is a central cross-section of the same, and Fig. 3 is a perspective of the upper and lower rim members and the snap hinge used to connect them, separated from each other.

Like reference characters indicate like parts in all the figures of the drawing.

The body member 1 of the box illustrated in the drawing may be understood to be formed of ductile sheet metal, stamped to provide end and side sections as shown, and having its outer face ornamentally finished. This box body is provided around its edges with a rim member having a wide flat meeting face section 2 which forms the meeting face of the body portion of the box along its inner line or boundary and is continuous with flanges disposed transversely of said meeting face,—i. e., extending at an angle, or approximately at right angles, thereto,—which together form an inner wall to the box body. The flanges thus forming an inner wall include a front section 3, end sections 4—4, rear short sections 5 and 6, angularly extending short sections 5^a and 6^a, and a rear section 7 forming a hinge support which is contiguous to the rear wall of the box body member 1, and is connected to the opposite portions of the meeting face section 2 of the rim member lying at the rear of the box member through the short inner wall sections 5 and 6 and the angularly extending sections 5^a and 6^a.

It will be noted that between the end inner wall sections and the rear hinge-supporting wall section the width of the meeting face of the rim member diminishes as the angularly extending wall sections 5^a and 6^a extend towards the rear hinge-supporting wall of the box body from the plane of the short rear wall sections 5 and 6. The rim member is secured to the box body by short marginal flanges 8 which are rolled downwardly over the edges of the body member and clamp the rim to the box.

The cover 9 of the box, of slightly different form, is constructed in the same manner, with a rim member having a corresponding meeting face section 10, front section 11, end sections 12—12, rear short sections 13 and 14, angularly extending short sections 13^a and 14^a, and a rear hinge-supporting section 15. The assembly of parts making up the cover of the box may be lined in any suitable manner, and the body assembly is designed to receive within the confines of the inner wall a pad, or tray, or other container member, as necessary to adapt it to its intended use.

The rim members of the box parts may consist of a single integral piece of sheet stamped into the form shown, as illustrated, or be of composite construction, with the sections of the rim lying at the rear of the box parts separately formed and secured to the other sections of the rim, or otherwise formed in separate parts secured together, as may be most convenient.

The snap hinge 16 which connects the body and cover assemblies of the box may be of the well-known construction shown, employing a C-shaped spring 17 which acts to automatically hold the box either open or closed, in one or the other of its two opposite positions. The hinge leaves may conveniently be secured to the hinge wall sections of the rim members secured to the body and cover of the box by lugs 18 which are struck up from the hinge sections and bent

downward through orifices in the hinge members, as illustrated.

It will be observed that by the construction described, in which the inner wall formed by the flanges of the rim member is carried back to the rear side of the box members (instead of extending straight along the inner line of a meeting face section of the rim of uniform width all around the box, as is usual in the manufacture of flat rim boxes), space and clearance is provided which enables a snap hinge of the construction shown to be employed, and the outer rear faces of the box members are not impaired in case the box is finished without covering it.

While I have illustrated in the drawing and described in the specification a rim member in which the meeting faces all lie in a single horizontal plane, it will be understood that these meeting faces may be more or less inclined, without departing from my invention, and I regard such a variation as within the scope of the claims herein made.

I claim:

1. An assembly of sheet metal box parts consisting of a box member and a rim member secured thereto, said rim member consisting of a wide meeting face section extending around the front and ends and opposite portions of the rear of the box member and inner wall sections connected to and extending transversely of said meeting face section along its inner line and including a front section and end sections and a rear section forming a hinge support, said hinge-supporting section being disposed contiguous to the rear wall of the box member and being connected to said opposite rear portions of said meeting face section of the rim member.

2. An assembly of sheet metal box parts consisting of a box member and a rim member secured thereto, said rim member consisting of a wide meeting face section extending around the front and ends and opposite portions of the rear of the box member and inner wall sections connected to and extending transversely of said meeting face section along its inner line and including a front section and end sections and short rear sections adjacent said end sections and angularly extending short sections adjacent said short rear sections and a hinge-supporting section contiguous to the rear wall of the box member disposed between said angularly extending short sections.

3. A sheet metal box consisting of a body assembly and a cover assembly, each assembly consisting of a box member and a rim member secured thereto, each rim member consisting of a wide meeting face section extending around the front and ends and opposite portions of the rear of the box member and transversely extending inner wall sections connected to said meeting face section along its inner line, said inner wall sections including a hinge-supporting section contiguous to the rear wall of the particular box member, and a hinge having its leaves secured to the hinge-supporting sections of the two rim members.

4. A sheet metal box consisting of a body assembly and a cover assembly, each assembly consisting of a box member and a rim member secured thereto, each rim member consisting of a wide meeting face section extending around the front and ends and opposite portions of the rear of the box member and transversely extending inner wall sections connected to said meeting face section along its inner line, said inner wall sections including a hinge-supporting section contiguous to the rear wall of the particular box member, and a snap hinge having a C-shaped spring and having its leaves secured to the hinge-supporting sections of the two rim members.

5. A sheet metal box consisting of a body assembly and a cover assembly, each assembly consisting of a box member and a rim member secured thereto, each rim member consisting of a wide meeting face section extending around the front and ends and opposite portions of the rear of the box member and inner wall sections connected to and extending transversely of said meeting face section along its inner line and including a front section and end sections and a hinge-supporting section contiguous to the rear wall of the particular box member and other sections connecting said hinge-supporting section and said opposite rear portions of said meeting rim section of the rim member, and a hinge having its leaves secured to the hinge-supporting sections of the two rim members.

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