

Sept. 25, 1951

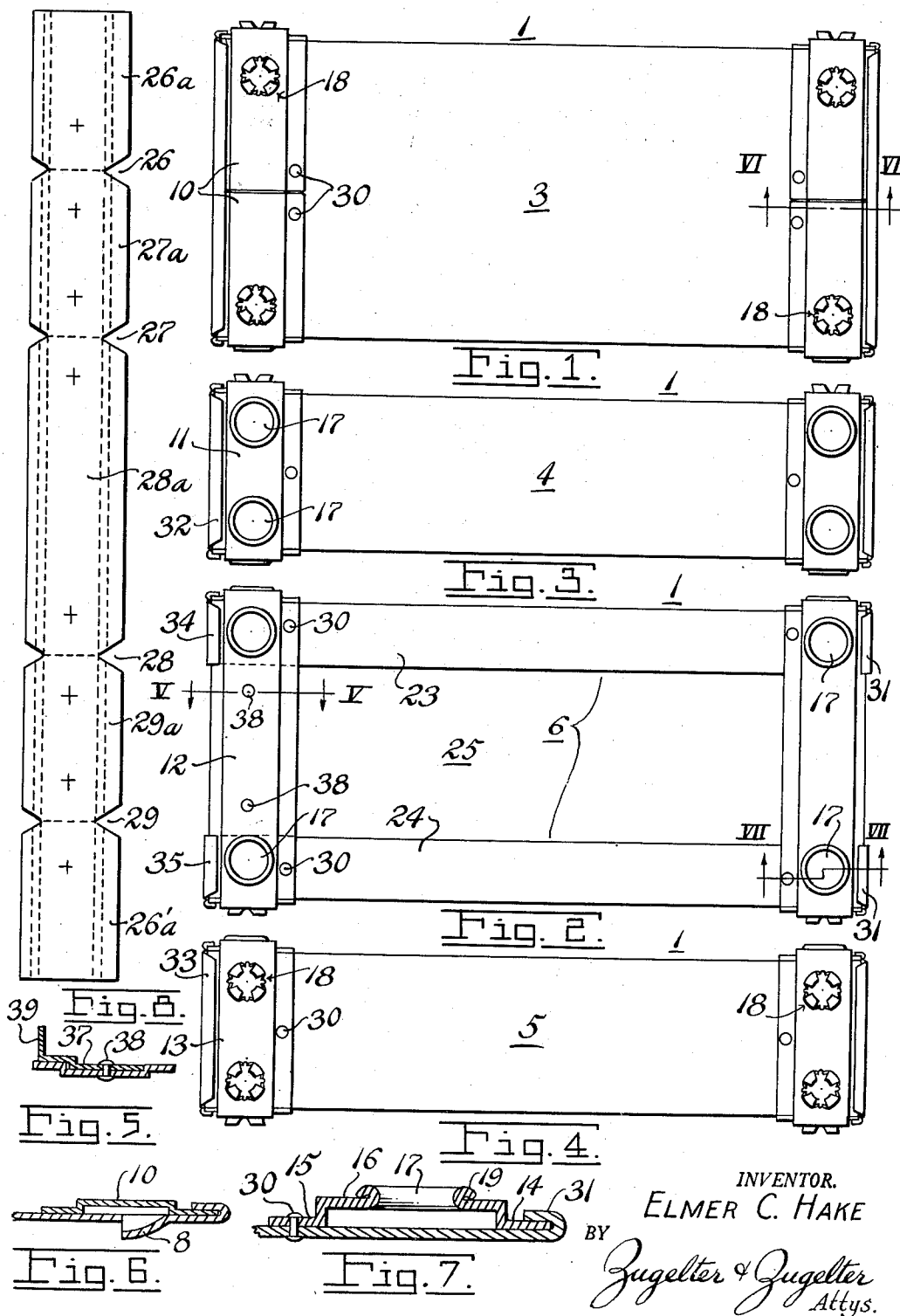
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2,569,236

INTERLOCKING DRAWER HOUSING

Filed Aug. 10, 1949

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

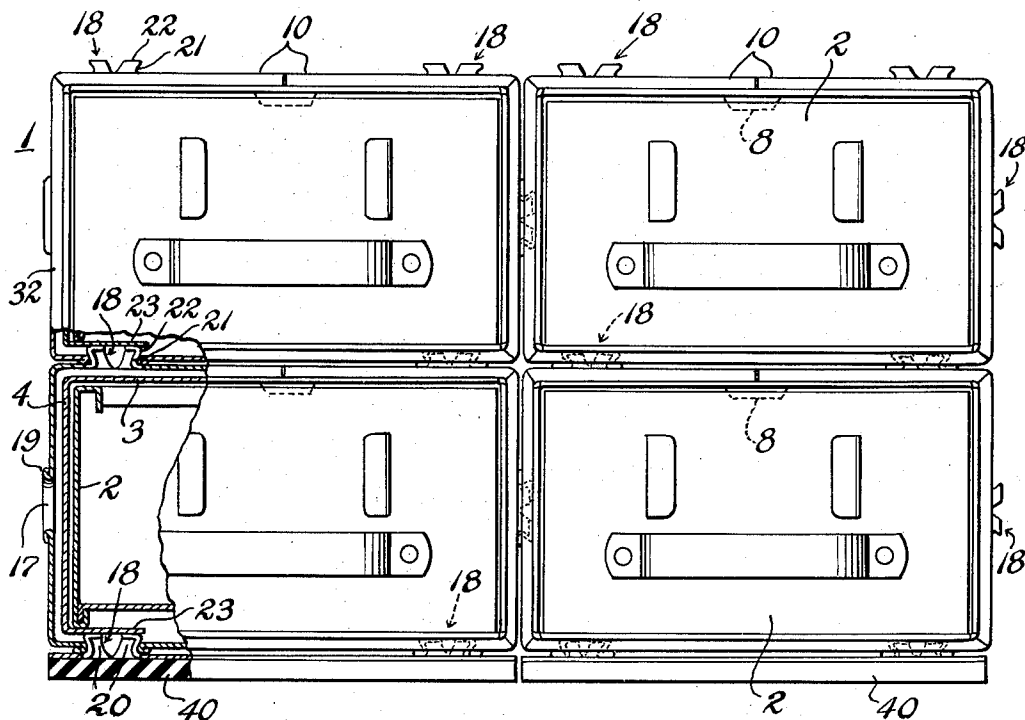


Fig. 10.

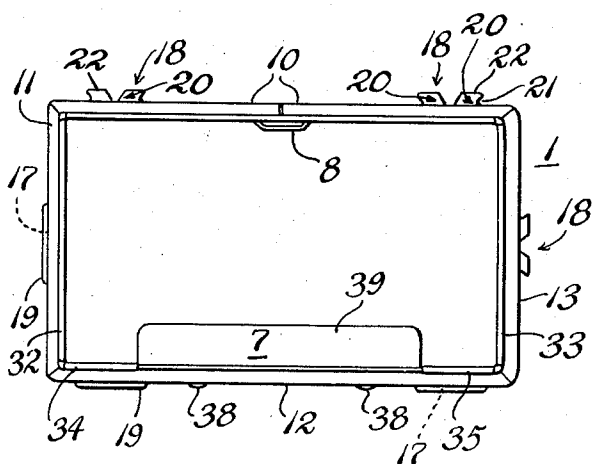


Fig. 9.

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INTERLOCKING DRAWER HOUSING

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9 Claims. (Cl. 312—111)

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This invention relates to drawer shells or housings provided with means whereby when a plurality of such housings are stacked in either vertical or horizontal rows the housings may be securely interlocked one with another, and when a plurality of parallel vertical stacks of such housings are mounted in side by side relationship, the abutting tops and bottoms of the drawer housings in each stack and the abutting side walls of the drawer housings in the several adjacent vertical stacks may be interlocked to provide a rigid and firmly connected assembly of drawer housings.

An object of this invention is to provide a drawer shell or housing which is so provided with means whereby a drawer shell of similar construction may detachably be secured to each of the top, the side walls and the bottom thereof, and so constructed that the attaching means will not interfere with free sliding movement of a drawer into or out of the housing.

A further object of the invention is to provide a drawer shell or housing that shall constitute an improvement over the drawer shell or housing disclosed in my copending application Serial No. 641,429, filed January 16, 1946, now Patent 2,482,174, in that its construction is such as to make it more rugged, and better suited for heavy duty, and adapted for manufacture in larger sizes.

These and other objects of the invention will be apparent to those skilled in this art from the following description taken in conjunction with the accompanying drawings, in which:

Figures 1 and 2 are top and bottom plan views, respectively, of a drawer shell or housing arranged and constructed in accordance with an embodiment of the invention;

Figs. 3 and 4 are views in elevation of the opposite sides of the drawer housing;

Figs. 5, 6 and 7 are views in section taken on lines V—V, VI—VI, and VII—VII of Figs. 1 and 2, respectively;

Fig. 8 is a plan view of a blank from which the end bands for the drawer housing are made and in which are formed interlocking apertures and resilient protuberances;

Fig. 9 is a view in elevation of the rear end of the drawer housing; and

Fig. 10 is a front view in elevation of a plurality of stacks of drawers, the drawers in the vertical and horizontal rows being interlocked one with another, portions of the assembly being in section to show the interlocking features.

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Throughout the drawings and the specification like reference characters indicate like parts.

In the drawings, a drawer housing 1 is shown having a hollow rectangular space into and out of which a drawer 2 may be slid. The housing has a top wall 3, side walls 4 and 5, and a bottom 6 on which the drawer is slidably supported.

The rear end of housing 1 is provided with a rear stop for the drawer and this stop may comprise an end wall or a flange 7 projecting upwardly from bottom 6. The top is provided with a downwardly projecting stop 8 at the front of the housing to engage an upwardly projecting lug on the top of the rear end of the drawer which co-acts to stop the drawer when it is pulled open. Stop 8, as shown in Fig. 6, is formed by partially severing a tab from the top wall and pushing downwardly as indicated.

The top, sides and bottom of the drawer are provided with inverted channels 10, 11, 12 and 13 adjacent the rear end thereof. These channels are secured on the outside of the housing to the respective top, sides and bottom. As shown by the section view in Fig. 7, the channels are provided with flanges 14 and 15 that extend outwardly at right angles to the sides of the channels and through flanges 15 rivets or other securing means are passed to fasten the channels to the drawer housing. When the channels are mounted as shown, the webs 16 thereof are spaced outwardly from the drawer housing.

As may be seen by inspection of the drawings, the channels at the rear of the drawer housing are located substantially in a plane extending transversely of and parallel to the rear end of the drawer housing. In some of the aforementioned channels apertures 17 and in others resilient protuberances 18 are formed. Thus, I may form apertures 17 in channels 11 and 12 extending vertically of side wall 4 and transversely of bottom 6, respectively, and resilient protuberances 18 in channels 10 and 13, extending transversely and vertically, respectively, of the top wall 3 and side wall 5.

As shown in Figs. 2 and 3, the apertures are circular. As illustrated in Fig. 7, the edges of the apertures are curled or peened outwardly as at 19 to provide rims for the apertures which are free of burrs or sharp edges.

The protuberances in the webs of channel 10 to 13 are similar and each comprises a plurality of lugs 20 preferably uniformly spaced in a circle. Lugs 20 are punched from the web and pushed outwardly and upwardly at an angle therefrom.

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The ends of the lugs are bent at right angles inwardly towards the center of the protuberance. Thus, each protuberance has a neck 21 at the bottom thereof and a head 22. The outside diameter of each neck is made smaller than the diameter of an aperture 17 and the outside diameter of each head 22 is made slightly larger than the diameter of an aperture 17. Thus, by placing a protuberance of one drawer housing over an aperture 17 of another housing and squeezing the two towards each other the head of the protuberance will snap through the aperture and the parts will be interlocked at the neck and rim of the protuberance and aperture.

The forward end of the drawer housing is provided with a similar set of inverted channels having apertures and protuberances in the same relative locations as indicated by corresponding reference characters.

As shown in Figs. 1 and 3, the protuberances and the apertures in transverse channels are preferably located adjacent the corners of the top and bottom of the drawer housing and in substantially the same location, that is the protuberance in one corner at the top is directly above the aperture in the corresponding corner in the bottom of the housing.

The drawer housing may be made of any suitable material and equipped with channels as above described. However, as shown, the drawer housing may be made of sheet metal with the top wall, side walls and bottom formed as a unitary structure. As shown in Fig. 2, the bottom is not fully closed, being formed by flanges 23 and 24 that extend laterally inward from the side walls 3 and 4 only part way across the bottom thus leaving a space 25 therebetween.

The channels 10, 11, 12 and 13 are preferably made from a single strip of metal as indicated in Fig. 8. This strip is notched on opposite sides as indicated at 26 to 29 inclusive, these notches being located at the bends or breaks corresponding to the corners of the drawer housing. The strip is formed with the channel in the middle portion, the width of the web being equal to the space between the inner dotted lines and the thickness of the respective sides of the channel being approximately the distance between adjacent dotted lines. When the strip has been notched and formed it is then bent around the opposite ends of the drawer housing. Strip 26a extends about midway across the top wall 3; strip 27a extends vertically alongside wall 5; strip 28a extends across bottom 6; strip 29a extends vertically alongside wall 4 and strip 26a' extends across top wall 3 to the middle thereof or to a point adjacent the end of strip 26a. When the channel has been formed, bent and applied to the housing as just described, the channel is secured to the top wall by means of rivets 30 extending through flanges 15 and the top and side walls and the bottom flanges 23 and 24. The outer flange is secured in place by a return bent flange 31 at the rear end of the top wall 3 as shown in Fig. 7. Similarly, flange 14 of the channels on the side walls 3 and 5 are secured by returned flanges 32 and 33 at the rear ends of the respective side walls and the outer flange of the channel extending across the bottom is secured by returned flanges 34 and 35 respectively formed at the ends of flanges 23 and 24. The outer flanges of the channels at the front end of the housing are secured in a similar manner as indicated by similar reference characters. Thus, the continuous channels at the opposite ends of

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the drawer housing are firmly secured to the ends of the drawer shell.

By reason of the channel and flange shape of the bands encircling the opposite ends of the drawer housing, strength and rigidity are given to the drawer shell thereby making it strong and rugged and suitable for heavy duty use such as for the storage of small screws, machine parts or other parts which are used in radio manufacturing establishments and machine shops, store rooms or other establishments.

As shown in Figs. 8 and 9, the rear drawer stop is constructed from an angle member 37. This angle extends across space 25 with the opposite ends thereof abutting the edges of flanges 23 and 24. One leg of angle 37 lies against the web of channel 12 and is secured by rivets 38 to the web thereof. Flange 39 of member 37 extends upwardly from bottom 6 and serves as the drawer stop.

In Fig. 10 is shown a plurality of drawer housings arranged in abutting vertical stacks, the drawers in a stack being interlocked between abutting top and bottom walls and between abutting side walls of adjacent stacks by the coacting apertures 17 and protuberances 18. The drawer shell or housing embodying this invention is so arranged that any number of vertical stacks of drawers may be placed side by side in interlocked relationship and that the number of drawers in any vertical stack may be made as great as the strength of the bottom drawer of a stack is capable of supporting.

When a stack of drawers is assembled it is preferable that a plate be secured to the lowermost drawer in a stack which plate may have secured to the underside thereof a pad 40 of resilient material such as rubber, felt or other composition to protect any surface on which the drawer housings may be stacked from scratches.

In Fig. 10 the portions of the assembly which are broken away illustrate how a resilient protuberance 18 projects through a matching aperture 17 and how the protuberances interlock with the rims of the apertures through which they extend.

While I have shown a drawer housing or shell preferably constructed of metal and so arranged that the bottom thereof is open, it should be understood that the bottom may be closed if it is so desired and also that the drawer housing may be constructed of material other than metal. The interlocking features incorporated in the channel which embrace the drawer shells may be applied to drawer housings made of materials other than metal and serve not only their interlocking purposes but give strength and rigidity thereto as well. The drawer housings or shells shown in the drawing may be made of thin gauge metal by reason of the reinforcing and strengthening feature of the embracing channels.

Since the protuberances 18 extend through the channel webs into the interior thereof and since these channels are closed by the top, side and bottom walls of the housing it is apparent that the protuberances will not project into the drawer housing to interfere in any way with the free sliding movement of the drawer into or out of the housing. Thus, as is indicated in Fig. 10, the drawers will be supported on the bottom flanges 23 and 24 and be freely slidable thereon without hindrance or interference from the resilient interlocking protuberances 18.

While I have shown the channels which embrace the ends of the drawer housing or shell

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as being provided with a pair of protuberances and apertures 18 and 17 respectively on each wall of the housing, that is, top, side, and bottom, it is apparent that if duty requirements are not too severe I may employ only one protuberance and one aperture at each end of the drawer housing or shell. It will also be apparent that where duty requirements are not too severe I may employ one encircling band of channel-shape which band embraces the housing at a point midway between the ends thereof and provided with the apertures and protuberances whereby a stack of drawers may be interlocked one with another or a plurality of stacks may be interlocked together in a horizontal direction as well as in a vertical direction.

Having thus described the invention it will be apparent to those skilled in this particular art that various changes and modifications may be made in the illustrated embodiment without departing from either the spirit or the scope of the invention.

What I claim as new and desire to secure by Letters Patent is:

1. A housing for accommodating a sliding drawer therein, said housing having top and side walls and a bottom serving as a runner for such drawer, said housing having a channel secured to and extending transversely of said top wall and bottom and vertically along said side walls, the webs of said channels being disposed outwardly from and in spaced relation to said housing walls and bottom, the center lines of said channels being in a substantially common vertical plane extending transversely through said housing, one of the webs of the channels extending across the top wall and bottom being provided with an aperture and the other being provided with a resilient protuberance disposed in substantially the same location as the said aperture in the opposite channel, the web of one of said vertically disposed channels being provided with an aperture and the web of the other vertically disposed channel being provided with a resilient protuberance disposed in substantially the same location as the aperture in the opposite channel, the apertures in said channel webs being disposed to receive the resilient protuberances of similar drawer housings mounted against the walls containing said apertures and the protuberances in said channel webs being disposed to be received in the apertures of the webs of similar drawer housings mounted against the walls of said housing containing said protuberances, whereby abutting tops and bottoms of housings arranged in a plurality of vertical stacks of drawer housings and the abutting side walls of housings in adjacent vertical stacks may be interlocked, respectively, one with another.

2. A housing according to claim 1 characterized by the fact that the channel extending across the top wall and bottom and vertically of the side walls comprises a band of channel shape in section which encircles the drawer housing, the opposite ends of which meet at a plane passing through the longitudinal center lines of the top wall and bottom of said housing.

3. A housing according to claim 1 characterized by the fact that the housing is of sheet metal and that the bottom thereof comprises flanges extending inwardly from the bottom edges of the side walls towards the center line of said bottom, and that the channel extending transversely of said bottom is secured to each of said flanges.

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4. A drawer housing according to claim 1 characterized by the fact that a channel extends transversely of the top wall and bottom adjacent the front and rear ends of the housing and that a channel extends vertically of each side wall of the housing adjacent the front and rear ends of said housing, the channels on the opposite sides at the front and rear being in alignment with one another, and that one pair of transverse channels associated with said top wall and bottom is provided with apertures and the other pair of transverse channels is provided with resilient protuberances, and the pair of channels on one side wall is provided with resilient protuberances and the pair on the other side wall is provided with apertures opposite the protuberances on the opposite side wall channels.

5. A housing according to claim 1 characterized by the fact that a band of channel shape in section is disposed adjacent each end of the housing and encircles the same to provide a pair of channels extending transversely of the top wall, bottom and a pair of vertical channels on each side wall, one pair of said transverse channels being provided with apertures and the other pair being provided with resilient protuberances in substantially the same location as the apertures, and that each channel of a pair of channels on one side wall is provided with an aperture and that each channel of a pair of channels on the opposite side wall is provided with a protuberance located opposite the respective apertures in the channels on the opposite side wall.

6. A housing according to claim 1 characterized by the fact that a band of channel shape in section is disposed adjacent each end of the housing and encircles the same to provide a pair of channels extending transversely of the top wall, bottom and a pair of vertical channels on each side wall, one pair of said transverse channels being provided with apertures and the other pair being provided with resilient protuberances in substantially the same location as the apertures, and that each channel of a pair of channels on one side wall is provided with a pair of apertures, one being adjacent the top wall and the other adjacent the bottom wall, and that the channels on the opposite side wall are provided with resilient protuberances located opposite the apertures in the opposite side wall channels.

7. A housing according to claim 1 characterized by the fact that a band of channel shape in section is disposed adjacent each end of the housing and encircles the same to provide a pair of channels extending transversely of the top wall, bottom and a pair of vertical channels on each side wall, each channel of a pair of channels transverse to one of said top wall and bottom being provided with an aperture adjacent each side wall and the other pair of said transverse channels being provided with resilient protuberance adjacent each side wall in vertical alignment with the apertures in the other pair of transverse channels, and that each channel of a pair of channels on one side wall is provided with an aperture and that each channel of a pair of channels on the opposite side wall is provided with a protuberance located opposite the respective apertures in the channels on the opposite side wall.

8. A housing for accommodating a sliding drawer therein, said housing being four-sided,

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opposite sides thereof being substantially parallel, pairs of spaced inverted channels extending transversely of and secured to opposite sides of said housing, the channels of one pair being opposite the channels of the other pair, each web of the pair of channels on one of said sides being provided with at least one aperture and each web of the pair of channels on the opposite side being provided with at least one resilient protuberance disposed in the same relative location as the aperture in the opposite pair of channels, each protuberance being so constructed as to snap through and be engaged by an aperture corresponding in size to the apertures in said channel webs, whereby one such housing may be secured to another similar housing by snapping the protuberances on one side of one housing through the apertures in the webs on a corresponding but opposite side of said similar housing.

9. A housing for accommodating a sliding drawer therein, said housing being four-sided, opposite sides thereof being substantially parallel, pairs of spaced webs extending transversely of and secured to opposite sides of said housing, each of said webs also being spaced from the housing sides to which it is secured, the webs

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on said sides being opposite each other, each web of one pair being provided with at least one aperture and each web of the opposite pair being provided with at least one resilient protuberance occupying substantially the same relative location as the apertures in the opposite pair of webs, each protuberance being so constructed as to snap through and be engaged by an aperture corresponding in size to the apertures in said webs, whereby one such housing may be secured to another similar housing by snapping the protuberances on one side of one housing through the aperture in the webs on a corresponding but opposite side of said similar housing.

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