Aug. 2, 1938. E. S. ROSCOE 2,125,813

FILING CABINET AND RECEPTACLE FORMING A PART THEREOF

Filed July 14, 1933 2 Sheets-Sheet 1

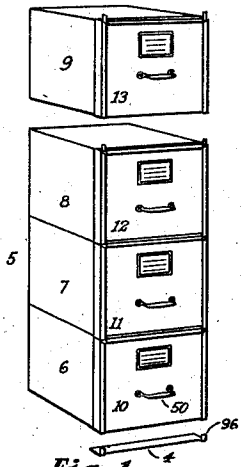

Fig. 1

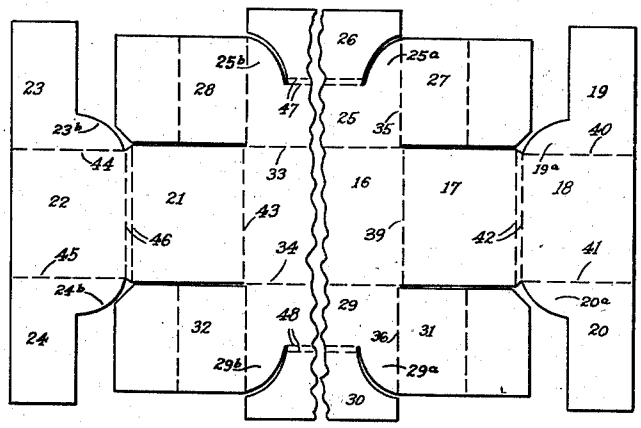

Fig. 2

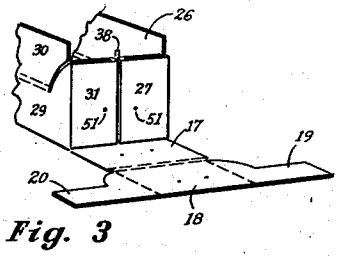

Fig. 3

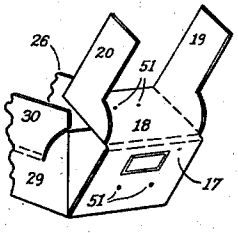

Fig. 4

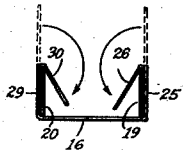

Fig. 5

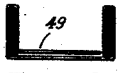

Fig. 6

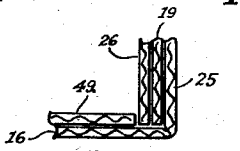

Fig. 7

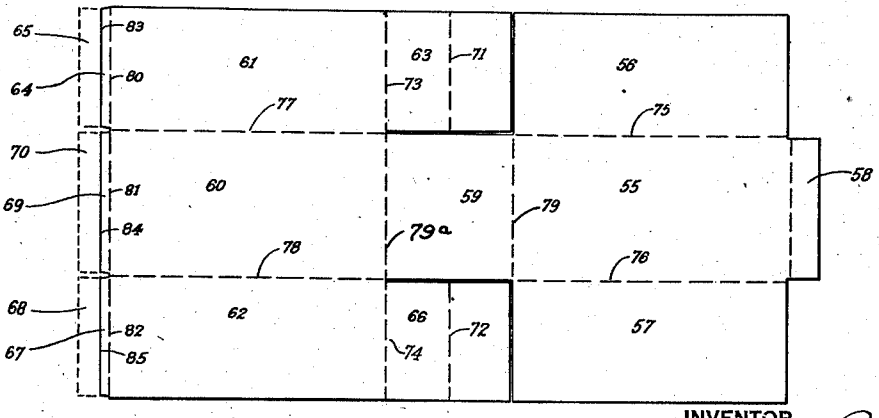

Fig. 8

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FILING CABINET AND RECEPTACLE FORMING A PART THEREOF

Filed July 14, 1933 2 Sheets-Sheet 2

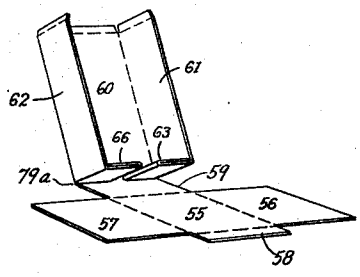

Fig. 9

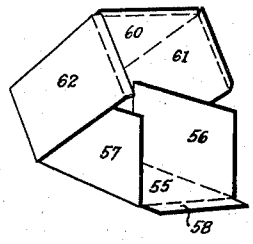

Fig. 10

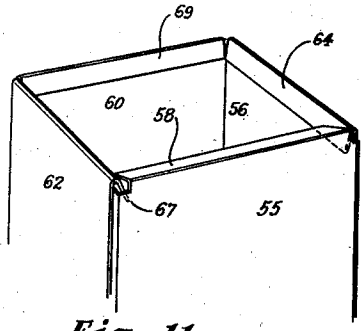

Fig. 11

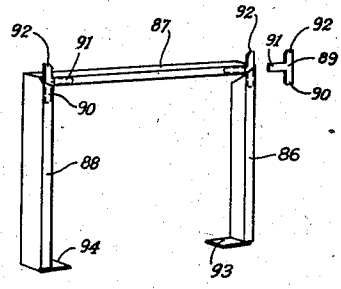

Fig. 12

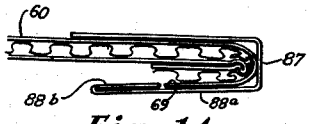

Fig. 14

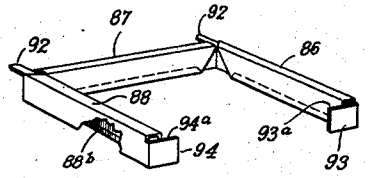

Fig. 13

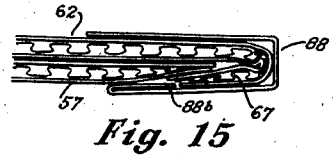

Fig. 15

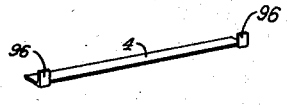

Fig. 17

Fig. 16

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UNITED STATES PATENT OFFICE

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FILING CABINET AND RECEPTACLE FORMING A PART THEREOF

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Application July 14, 1933, Serial No. 680,440

5 Claims. (Cl. 45—2)

This invention relates to filing cabinets and more particularly to transfer cases.

It is customary to make transfer cases of inexpensive material and of inexpensive construction, and for this reason such cases are now commonly made of corrugated board, pasteboard or like material. In as much as these transfer cases must be stacked one upon another and are also subjected to rather rough usage, it is necessary to construct them in such a manner and to reinforce them in such a way, that they will not deteriorate rapidly in use.

It is therefore, the purpose of the present invention to provide transfer cases of pasteboard material which are rugged in construction and which lend themselves to stacking and yet preserve a large measure of the sturdiness and neat appearance of cabinets which have been made from sheet metal.

In accordance with one feature of the invention, a drawer for such a transfer case is made from a single blank of sheet material formed and folded in such a manner that the drawer is reinforced by gussets of double thickness, one thickness extending from the side and one extending from the end of the drawer. This construction provides a stronger and more rigid drawer than former constructions wherein the reinforcing gussets of double thickness have both layers of the material forming the gusset extend either from an end or from a side of the drawer.

A further feature of the invention relates to a channel-shaped reinforcing border for the case and to a novel arrangement for locking this border on the case without the need of expensive riveting operations.

Still another feature of the invention relates to the construction of such a reinforcing border by which the border of one case interlocks with the border of another in such a manner that a stack of cases is held in vertical alinement.

An additional feature of the invention relates to a novel method of making a narrow overlapped fold of corrugated material without breaking the free edge of the folded material.

These and other features of the invention will appear from the detailed description and claims when taken with the drawings in which Fig. 1 is a perspective view of a stack of transfer cases in which the uppermost case of the stack is elevated above the stack to illustrate how the cases may be piled one above the other and still be retained in exact alinement; Fig. 2 is a view, partially broken away, of a blank suitable for making a drawer forming a part of the present invention; Figs. 3, 4, and 5 represent successive steps in the method of folding this blank to form a drawer; Fig. 6 is a transverse cross sectional view showing how a bottom pad holds the several flaps of the drawer in folded position; Fig. 7 is an enlarged corner detail of a section similar to that shown in Fig. 6 but indicating more clearly how the mentioned bottom pad holds the various flaps of the drawer in position; Fig. 8 shows a blank suitably cut and scored preparatory to forming a case for the drawer; Figs. 9, 10 and 11 illustrate the successive steps of folding this last mentioned blank to form the case; Figs. 12 and 13 represent different perspective views of a metal reinforcing border for the case; Fig. 14 is a sectional detail view indicating the manner in which the reinforcing border is locked in position on the case; Figs. 15 and 16 represent sectional detail views of modified arrangements indicating the finished form of the case with respect to the reinforcing border; and Fig. 17 is a perspective view of a stacking base.

Referring especially to Fig. 1, 5 generally indicates a stack of four transfer cases 6, 7, 8 and 9 with the case 9 slightly elevated above the remainder of the stack to show how these cases are held interlocked in vertical alinement. These cases respectively have drawers 10, 11, 12 and 13. A stacking base 4, which will be further described hereinafter, is illustrated as being slightly spaced below the lower drawer.

Each drawer is made from a blank of pasteboard or like material shaped and scored as shown in Fig. 2. This blank has a bottom section 16, front section 17, and a reinforcing front section 18, provided with lateral front section flaps 19 and 20. The blank also includes a rear section 21 and a reinforcing rear section 22, likewise provided with lateral rear section flaps 23 and 24. In addition, the blank is cut with a side section 25 to which there is attached a reinforcing side section 26. At the ends of the side section 25 there is joined a side section front flap 27 and a side section rear flap 28, both of which flaps have a medial line of scoring. At the opposite edge of the bottom section 16 there is also provided a side section 29 to which there is joined the reinforcing side section 30. Side section 29 is also provided with a side section front flap 31 and a side section rear flap 32 both flaps having a medial line of scoring. It should be noted that the sides 25 and 29 have gussets respectively designated 25*a*, 25*b*, and 29*a* and 29*b*, while the front section flaps 19 and 20 respectively have gusset portions 19*a*

and 20*a*, and the rear section flaps 23 and 24 respectively have gusset portions 23*b* and 24*b*.

In the forming of the blank, the side section front flaps 27 and 31 as well as the side section rear flaps 28 and 32 are each folded along the medial line of scoring, indicated by a dotted line, and the contacting faces of each flap are adhesively fastened together. In making the drawer from this blank, the side section 25 is folded along the line of scoring 33 as indicated in Fig. 3, to a position at right angles to the bottom 16, and the side section 29 is similarly folded along the line of scoring 34 to a position at right angles to the bottom. Thereafter, the side section front flaps 27 and 31 are respectively folded along the lines of scoring 35 and 36 at right angles with respect to both the side sections and the bottom. For convenience in holding the blank thus formed in its partially assembled condition, a double pointed tack or staple 38 is inserted into the material of the flaps 27 and 31 to bridge the abutting edges thereof. Similarly the side section rear flaps 28 and 32 are folded into a position at right angles to the side sections and to the bottom section, while the abutting edges of these flaps are held in folded position by a staple similar to 38. In the further assembling of the drawer, the front 17 is folded on the line of scoring 39 as indicated in Fig. 4 into engagement with the folded flaps 27 and 31, that is at right angles to the bottom 16. Thereafter, the lateral flaps 19 and 20 carried by the front reinforcing section 18, are folded respectively on the lines of scoring 40 and 41 at right angles to the reinforcing section 18. At this point the front reinforcing section with the lateral flaps 19 and 20 carried thereby, is folded on the lines of scoring 42 to engage the inside of the side section flaps 27 and 31 and with the lateral flaps 19 and 20 engaging respectively the inner surface of the side sections 25 and 29. From the foregoing, it will be seen that the front section 17 engages the front side of the flaps 27 and 31, while the reinforcing front section engages the inside of these mentioned flaps.

The rear of the drawer is similarly formed by folding the rear section 21 on the line of scoring 43 into a position at right angles to the bottom section 16 and the lateral flaps 23 and 24 on the reinforcing rear section 22, are respectively folded on the lines of scoring 44 and 45 into positions similar to that indicated in Fig. 4. The reinforcing rear section 22 may now be folded on the lines of scoring 46 so that this reinforcing rear section 22 engages the inside of the side section flaps 28 and 32 and so that the lateral flaps 23 and 24 respectively engage the inside of the sides 25 and 29. At this stage (see Fig. 5) the reinforcing side sections 26 and 30 are respectively folded on the lines of scoring 47 and 48 to engage respectively the inside surfaces of side sections 25 and 29. The reinforcing side section 26 now engages the inside surface of the lateral flaps 19 and 23, while the reinforcing side section 30 engages the inside of the lateral flaps 20 and 24. A sheet or pad 49 of relatively thick corrugated pasteboard is now laid on the bottom section 16 with its edges engaging the reinforcing side sections 26 and 30, as well as the reinforcing front section 18 and the reinforcing rear section 22, near the edges thereof which are adjacent the bottom 16 (see Figs. 6 and 7).

It will be understood that reinforcing gussets bridge the angular gap between the ends and the sides of each of the upper corners of the case, each corner gusset consisting of two thicknesses of material, one such as 19*a* forming a part of the reinforcing flap 19 which is bent into parallel relation with the side 25, and the other gusset portion 25*a* extending up from the side 25 and reinforcing the front end of the case by means of a flap 27. This flap extends from this gusset and the side 25 and is bent at right angles to these parts into parallel relation to the front end. Similarly the other front corner of the case is reinforced by the gusset portions 20*a* and 29*a* while the rear corners of the case are respectively reinforced by the gusset portions 23*b*, 25*b* and 24*b*, 29*b*.

The drawer may be finished by inserting the threaded ends of screws (not shown) through the perforations in handle 50, through the perforations 51 in the drawer front 17, through register openings in the side section flaps 27 and 31 and through the registered openings in the front reinforcing section 18, in which position the handle is held by nuts (not shown) engaging the screws. Washers (likewise not shown) of relatively large diameters under the nuts and handle reinforce the pasteboard against the push or pulls of the handles 50. Handle 51 in addition to functioning as a drawer pull, thus serves the additional purpose of keeping the drawer front in assembled condition.

The case for the drawer is formed from a blank shown in Fig. 8. This blank includes a bottom section 55 provided at its sides with reinforcing sections 56, 57 and with the end flap 58. This bottom section is joined by an end section 59 to the top section 60, which has joined thereto the side section 61 and 62. The side section 61 has joined thereto at one end the reinforcing flap 63 and at its other end a portion 64 constituting an inturned edge. This portion is provided with an extension 65 which is subsequently cut off as will be further set forth. The side section 62 at one end is provided with a reinforcing flap 66 and at its other end with a portion 67 constituting an inturned edge. This portion likewise has an extension 68 which is subsequently cut off. The top section 60 is similarly provided with a portion 69 also having an extension 70 to be subsequently removed.

In forming the case, the end flap 63 is folded back on itself along the line of scoring 71 and the folded parts are glued together. The end flap 66 is likewise folded back on itself along the line of scoring 72 and the folded parts are glued in this position. Subsequently the end flaps 63 and 66 are folded at right angles respectively to the sides 61 and 62 on the lines of scoring 73 and 74 as best shown in Fig. 9. Thereafter, the side sections 61 and 62 are folded on the lines of scoring 77 and 78 to a position at right angles to the top section 60. The top 60, side sections 61 and 62, and reinforcing sections 63 and 66 are now raised on the score line 79*a* as an axis as shown in Fig. 9 until the top 60 is at a right angle with the end 59. The side reinforcing members 56 and 57 are bent at slightly more than 90 degrees to the bottom 55 so that they can be easily enclosed by the side sections 61 and 62 (Fig. 10). The side sections, back and top are then rotated on the score line 79 until the edges of the side reinforcing sections 57 and 56 engage the top of the case.

The portions 64, 69 and 67 are now respectively folded on the lines of scoring 80, 81 and 82 (see Fig. 11). It has been mentioned that these portions in the process of manufacture were provided with extended portions 65, 70 and 68. These portions are provided, since with corru-

gated or other thick pasteboard material, it is not possible to make a short fold without breaking the cut edge of the material or separating its laminated structure. In accordance with the present invention, a novel method of making a short fold is provided. In this method, the extensions 65, 70, and 68 remain until the flaps are folded along scores 80, 81 and 82. After these scores have once been folded and unfolded, the excess material 65, 70 and 68 can be cut off. As a result, the short flaps 83, 84 and 85 can be again folded in the assembly of the case along the line already established without separation of layers of pasteboard or corrugated material at the cut edge of the flap.

In order to hold the portions in the mentioned folded positions and in order to give rigidity to the cases when stacked and further to hold the stacked cases in vertical alinement, a metallic border such as shown in Figs. 12 and 13 is provided for each case. This border is stamped from sheet metal and is subsequently folded into channel form. Thereafter the border is bent to provide a vertical portion 86, a horizontal portion 87 and a second vertical portion 88. This channel-shaped border is reinforced at its upper corners by T-shaped plates of metal 89, each having an extension 90 which is welded to the front face of the vertical border portion and an extension 91, which is welded to the front face of the horizontal border portion. Each plate is further provided with an upward extension 92 of a width about equal to the width of the channel space in the border portions 86 and 88, so that these extensions serve to interlock one border with an adjacent border to hold the stack of cases against misalinement in certain directions. The lower ends of the vertical portions 86 and 88 are respectively provided with feet 93 and 94 on which the case may stand. The front edges 93*a* and 94*a* of these feet are positioned in a plane spaced a distance from the plane of the inner surfaces of the fronts of vertical portions 86 and 88, about equal to the thickness of extensions 92 (Fig. 13). In this manner the cases are held against misalinement in the direction of movement of the drawers.

The border is first made up with its channel sides slightly opened as indicated in Fig. 14 so that it can be telescoped over the portion 64, 69 and 67. It should be pointed out that the inside flange 88*a* of the channel-shaped vertical portion 88 has its free edge 88*b* folded back on itself, so that this edge of the folded part engages the edge of the folded over portion 67 of the case. The horizontal portion 87 and the vertical portion 88 of the border have their inside flanges similarly constructed to engage the edges of the portions 69 and 64 to lock the border on the case.

As shown in Fig. 15, the portion 67 is formed in overlapping relation with the edge of the reinforcing side flap 57, the overlapping edges of these parts being crushed to adapt them to the channel space between the flanges of the channel portions such as 88. In Fig. 16 showing another embodiment of the invention the part 67 is cut to such length that its edge lies in the same plane as the adjacent edge of the reinforcing flap 57. It is found that when the reinforcing border is fastened in place in either of these ways, the border is so securely retained on the case that it cannot be removed therefrom without mutilating the material of the case. By reason of this secure fastening and by reason of the rigidity of the metallic border, the front of the case is retained in rigid rectangular form. This border also serves to protect the case from the usual wear incidental to the insertion in and withdrawal of the drawer from its case during use.

The inside folded edge, that is the fold between the portions designated 88*a* and 88*b* of the channel border shown in Fig. 14, also serves as a stop for the accidental, complete withdrawal of the drawer, since the top back edge of the drawer will catch at this fold unless the drawer is drawn straight out or tipped up slightly.

In Fig. 17 there is illustrated an enlarged view of the stacking base 4 which is provided with vertical extensions 96 serving to position the superimposed metal border, as indicated in Fig. 1, in the same manner as the stacking extensions 92. This stacking base is usually not required for batteries of transfer cases because the weight of the stack and the firmness of an adjacent stack holds the bottom case rigidly, but for single or outside stacks the bottom of the case tends to spread open slightly. For such uses the stacking base can be nailed or secured to the floor and thereby serves to hold the stack of cases in the desired position.

The foregoing disclosure is made merely by way of example and is not to be construed in a limiting sense since the invention may have numerous modifications and variations within the scope of the appended claims.

What I claim is:

1. In an article of the class described, an open-ended case formed of sheet material, reinforcing flaps joined to said material at the open end of said case, and folded to overlap the margins thereof, and a metallic border channel-shaped in cross section having the channel of said border fitting said open end and engaging certain of the folded reinforcing flaps, certain of the flanges of said border having portions extending inwardly beyond the free edges of said flaps and being reversely bent on themselves for abutting the free edges of certain of said flaps in end-to-end relation to lock the border on the case.

2. In combination with an open-ended receptacle formed of sheet material and having certain of the margins of said open end folded back parallel to the sides of said receptacle, a metallic border engaging certain of the sides and folds of said receptacle to hold the receptacle in assembled position, said border having a channel-shaped cross section, the inside flange of which has an inwardly folded forwardly extending portion substantially shorter than said flange and parallel to it, the free edge of said portion abutting the free edge of said folded back margins of the receptacle.

3. In combination with an open-ended filing casing, a metallic border for said open end, said border having two channel-shaped vertical portions each joined at an end thereof by a channel-shaped horizontal portion, a T-shaped reinforcing piece at each junction of said vertical portions and said horizontal portion, each piece having one extension attached to one of said vertical portions and a second extension attached to said horizontal portion, each of said pieces having a third extension projecting in the direction of the vertical portion and extending beyond the horizontal portion for interlocking with the vertical portions of the border of a second casing in vertical alinement with said first-mentioned casing.

4. In combination with an open-ended filing casing, a metallic border for said open end, said

border having two channel-shaped vertical portions joined by a channel-shaped horizontal portion, the junction of said vertical portions and said horizontal portion each being reinforced by a T-shaped metal piece joined to said portions, each piece having one extension attached to one of said vertical portions and a second extension attached to said horizontal portion, each of said pieces having a third extension projecting in the direction of the vertical portion and extending beyond the horizontal portion for interlocking with the vertical portion of the border of a second casing in vertical alinement with said first mentioned casing, and each vertical portion at the end thereof remote from said junction having a short metallic foot extending in a direction parallel to that of the horizontal portion.

5. In combination with an open-ended filing casing, a metallic border for said open end, said border having two channel-shaped vertical portions joined by a channel-shaped horizontal portion, each of the junctions of said vertical portions and said horizontal portion being reinforced by a metal piece joined to said portions, each of said metallic pieces having an extension projecting in the direction of the vertical portions and extending beyond the horizontal portion for interlocking with the vertical portion of the border of a second casing in vertical alinement with said first mentioned casing, and each vertical portion having a metallic foot extending in a direction parallel to that of the horizontal portion, the edge of each foot being set back from a face of its related vertical portion to define a slot for receiving the projecting extensions on a similar border of a casing in vertical alinement with said first mentioned casing.

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