Jan. 17, 1967 H. F. PALMER ET AL 3,298,479

LUGGAGE

Filed Feb. 17, 1966 3 Sheets-Sheet 1

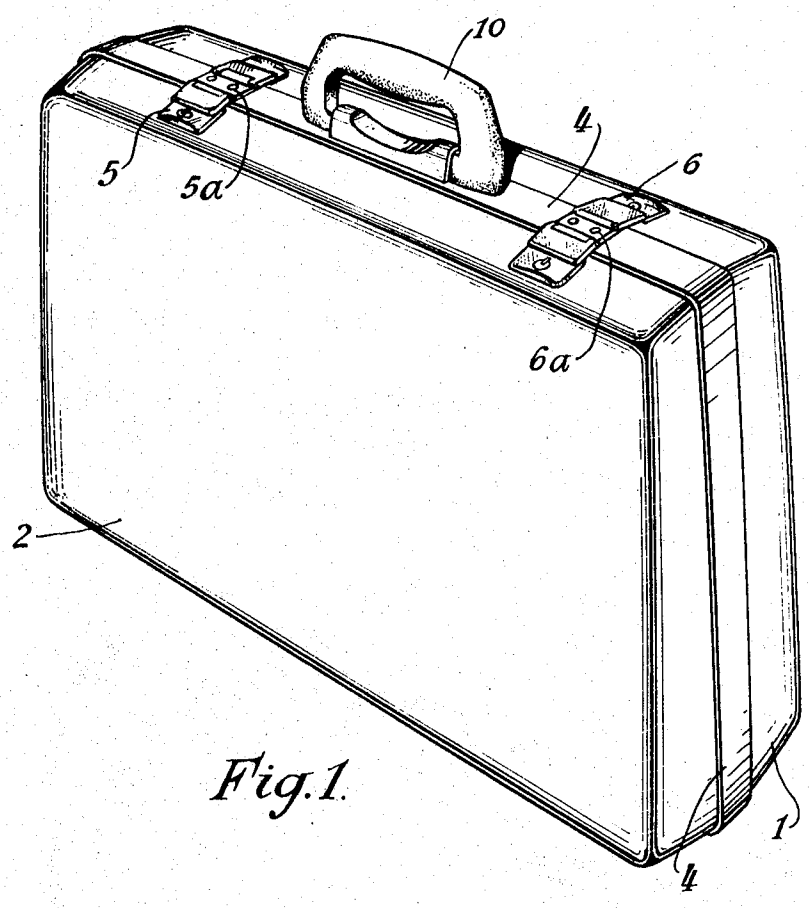


Fig. 1.

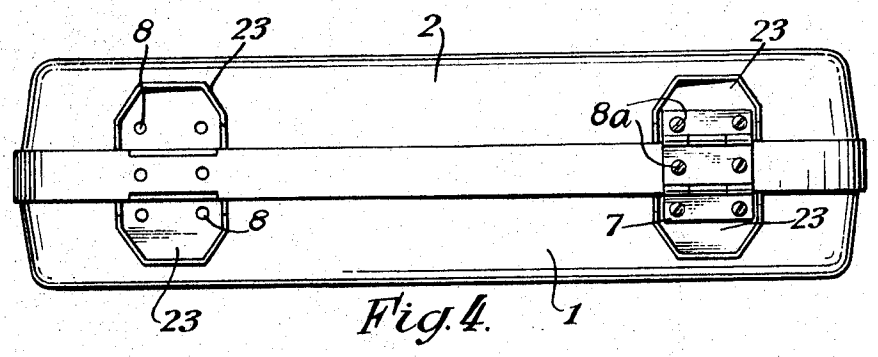


Fig. 4.

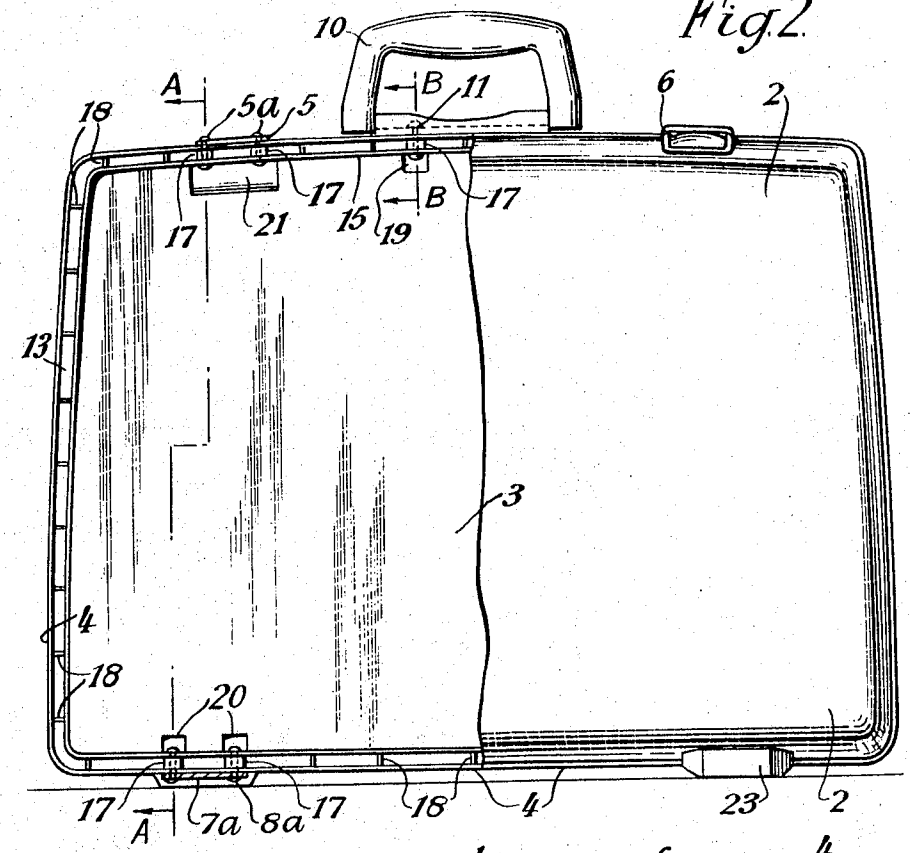
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Fig.2.



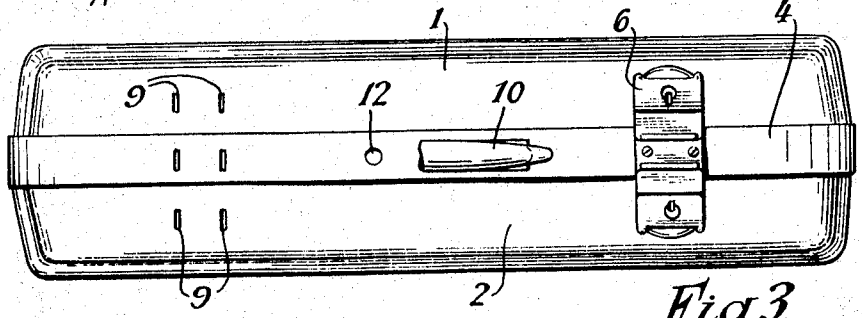


Fig.3.

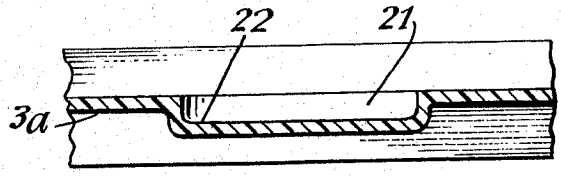


Fig.10.

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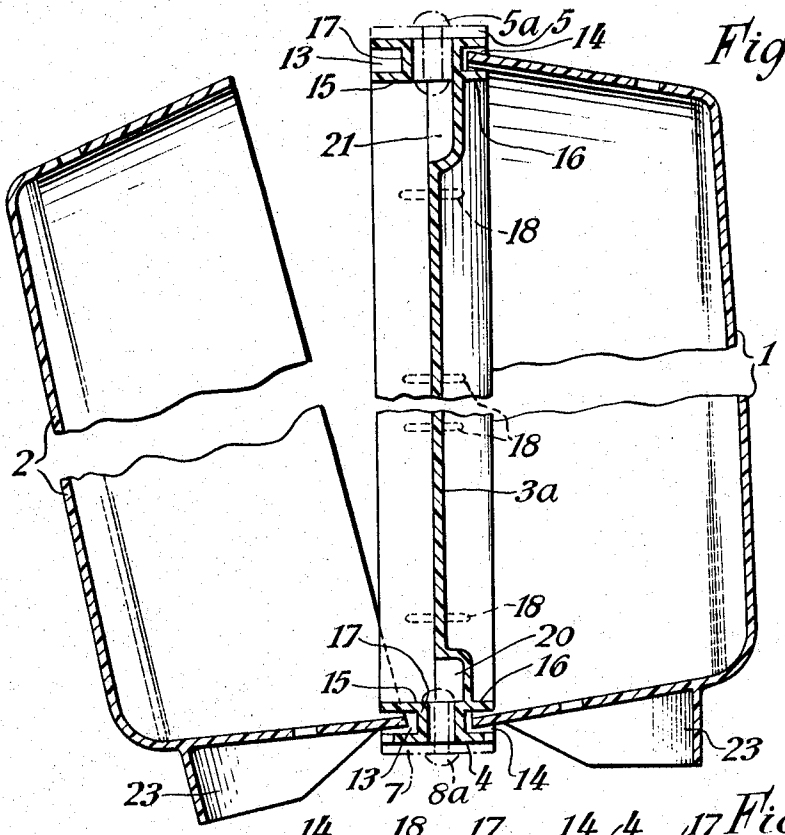


Fig.5

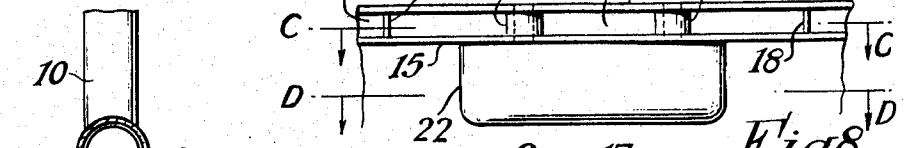


Fig.7

Fig.8

Fig.9

Fig.6

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LUGGAGE

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7 Claims. (Cl. 190—51)

This invention relates to an article of luggage of the kind having a body and a lid portion and a partition located intermediate the body and lid portions to separate the contents of each portion and retain the contents in place.

An object of the invention is to provide an article of luggage of the kind set forth wherein the partition is free moving with respect to the body and lid portions and forms an extension of the wall surfaces thereof, and acts as a bracing or stiffening member to prevent distortion of the article under load.

A further object of the invention is to provide an article of luggage wherein the partition is provided with a peripheral channel and so constructed as to allow hinges, a handle and fastening means to be effectively mounted on the partition, and to prevent distortion of the article under load.

According to the invention there is provided an article of luggage of the kind set forth wherein the body and lid portions and partition are hinged together such as to move freely with respect to one another, said partition comprising a planar member formed with a peripheral channel on each surface, the outer wall of each channel constituting an extension of the wall surfaces of the body and lid portions and the channels being bridged by means such as to allow hinges, a handle and fastening means to be mounted on the outer wall and without substantial distortion of the article under load.

The article of luggage according to the invention is preferably, but not exclusively, produced from thermoplastics material e.g. polypropylene, by means of an injection moulding machine and process.

Thus, according to a further aspect of the invention, there is provided a method of fabricating an article of luggage comprising the steps of producing by means of an injection moulding process, two plastics mouldings having a configuration such as to constitute the body and lid portions of the article, and producing a partition from a separate plastics moulding, said partition comprising a planar member surrounded by an outer wall spaced, on each surface of the planar member, from an inner wall to define a pair of channels bridged by means arranged to reinforce the partition to withstand loads applied in the plane of the surface and such as to allow hinges, a handle and fastening means to be fastened to the outer wall of the partition by means extending across the channels.

The constructional features of a preferred embodiment of the invention will now be described by way of example only with particular reference to the accompanying drawings wherein:

FIGURE 1 is a perspective view of an article of luggage having body, lid and partition members according to the invention;

FIGURE 2 is a side elevation of the luggage partly broken away to show the partition;

FIGURE 3 is a top plan view of the luggage;

FIGURE 4 is an underneath plan view of the luggage;

FIGURE 5 is a sectional view taken on the lines A—A of FIGURE 2 but with the lid member partly open;

FIGURE 6 is a section taken along the lines B—B of FIGURE 2;

FIGURE 7 is a side elevation of part of the channel of the partition adjacent one of the fastening members;

FIGURE 8 is an end view of part of the outer wall of the partition;

FIGURE 9 is a section taken on the line C—C of FIGURE 7, and

FIGURE 10 is a section taken on the line D—D of FIGURE 7.

The invention will be described with particular reference to luggage suitable for and carried by executives and known in the trade as "executive bags" or "executive cases," but it will be appreciated that the invention is applicable to suitcases and all other forms of luggage produced by any process from any suitable materials.

Referring to FIGURE 1, both halves of the luggage are substantially identical and both can be used as receptacles for documents and the like but for the sake of convenience, the halves of the luggage will be referred to as constituting a body portion **1** and a lid portion **2**. In the preferred construction, both portions **1**, **2**, are moulded, by means of an injection moulding process, from plastics material, preferably polypropylene. The partition **3** is formed as a separate plastics moulding and includes a frame portion **4** arranged to lie intermediate the body and lid portions **1**, **2**, of the luggage.

The luggage is provided with a pair of locking and securing devices **5**, **6**, mounted on the top edge of the frame **4** of the partition **3**, the locking devices **5** preferably having a double-action locking mechanism, such that when a key or lock actuating member is turned to one position, the case is opened and the partition **3** retained in co-operating engagement with one portion e.g. the body portion **1**, whilst actuation of the locking mechanism to a second position causes the partition **3** to be freed from engagement from said one portion and locked in engagement with the other portion of the case. In this manner, the two portions of the case can be unlocked and the contents inserted or withdrawn separately from either compartment, without any possibility of the contents becoming displaced.

Alternatively, as shown, the luggage is provided with securing means **5**, **6**, with two separate locks on each of the body and lid portions **1**, **2**; the fastening means for coupling the securing means to the partition being shown at **5***a*, **6***a*.

A pair of double-acting hinges **7** are rivetted or otherwise secured to the base portions of the body **1** and lid **2** and the frame **4** of the partition **3**; one of the hinges being shown in FIGURE 4 with holes **8** for the rivets or like fastening members **8***a* of the remaining hinge (not shown). Slots for the fastening means **5***a* of the lock **5** are shown at **9** in FIGURE 3.

A handle **10** is mounted on the frame **4** of the partition **3** by means of rivets or like fastening members **11** passing through holes **12** in the frame **4**. It will be seen that the fastening members **11** pass through the frame **4** and extend across a channel formed in the partition **3** as will be hereinafter described.

As previously indicated, the partition is multipurpose in function serving to separate the two halves of the case thereby rendering both halves completely self-contained, and also providing means for bracing the two halves of the case and preventing distortion thereof under load. For this purpose, the partition **3** comprises a planar member **3***a* surrounded by the peripheral frame **4** and having on each surface, a channel **13**, **14**, formed between the outer wall or frame **4** and inner walls **15** and **16** respectively.

The channels **13**, **14**, receive and accommodate the edges of the lid and body portions, when the case is closed, as shown for the body portion **1** in FIGURE 5. With such a construction, the partition **3** acts as a bracing

or stiffening member to prevent twisting or distortion of the body and lid portions when loads are applied to the case.

It will be appreciated that the presence of the channels **13**, **14**, whilst providing a construction of partition able to withstand applied loads without substantial distortion, and whilst necessary to accommodate the body and lid portions of the case, provides a weakness at the very points or places where strength is particularly required to withstand loads applied to the case in the place of the planar member *3a*, i.e. at the points where the handle, locks and hinges are applied. Furthermore, it is preferable to locate the planar member *3a* symmetrically with respect to the peripheral wall or frame **4**.

Thus, in order to reinforce the partition **3** in the region of the channels **13**, **14**, and particularly where the handle **10**, hinges **7** and locking means **5**, **6**, are to be attached, the partition **3** is provided with bridging members **17** at each point where a rivet or similar fastening member is used to secure the hinges, locks and handle to the partition.

Additional bridging members **18** are spaced at intervals around the partition and within the channel and act as spacing or reinforcing members. Where the body, lid and partition members are formed of plastics material, the bridging members **17**, **18** are moulded integrally with the partition member **3**.

Thus, as shown in the drawings, a bridging member **17**, is provided for each rivet or fastening member *5a*, *6a*, of the locking or securing devices **5**, **6**, respectively, for each rivet or fastening member *8a* of the hinges **7** and for each rivet or fastening member **11** of handle **10**. Each bridging member **17** constitutes a boss within which the respective rivet or fastening member is located to span the channels **13**, **14**. Referring to the fastening or securing means **11** for handle **10**, the ends of the fastening means **11**, remote from the peripheral wall **4** of partition **3**, are located within recesses **19** formed in the partition **3** during the moulding operation. Similar recesses **20** are formed in the planar member *3a* of partition **3** to accommodate the fastening means *8a* of hinges **7**, and recesses **21** accommodate the ends of the fastening means *5a*, *6a*, for the locking and securing devices **5**, **6**, respectively, together with part of the locking and securing devices.

It will be appreciated that where a recess e.g. **21** is formed in the planar member *3a* during a moulding operation, a corresponding protuberance e.g. **22** is formed on the opposite surface of the planar sheet.

A pair of feet **23** are preferably provided on the base of body and lid portions **1**, **2**, to allow the case to be supported in the upright position shown in FIGURE 2. Where the case is formed from plastics material, the feet are moulded integrally with the body and lid portions and suitably shaped to accommodate the hinges **7** as shown in FIGURE 4.

It will be seen that the channelled and planar construction of the partition **3** allows the partition to resist any applied stresses which might distort the body and lid portions and allows the body and lid portions to form a substantially flush fit with the peripheral wall **4** of the partition **3**. With the handle attached to the outer wall **4** of the partition, the weight of the contents of the case cannot effect distortion of the body or lid portions of the case or the frame of the partition, since, because of the continuous expanse of the material of the planar surface *3a* of partition **3**, the load is applied at a point capable of withstanding the maximum amount of stress without effecting distortion or fracture. The bridging members **17** provide reinforcement of the channelled portion of the partition and enable hinges, locking means and a handle to be attached to the peripheral wall **4** of the partition by means of fastening means extending across the channel to the inner walls **15**, **16**, thereby avoiding the distortion of the partition **3** if such hinges, locks and the handle were secured to the outer peripheral wall only.

Such a construction allows the planar member to be located centrally and symmetrically with respect to the peripheral wall **4**, thereby providing the maximum rigidity and enabling the fastening members for the hinges, locks and handle to be centrally located with respect to the peripheral wall of the partition.

Furthermore, the particular construction shown with recesses and corresponding protuberances moulded integrally with the partition allows the rivets or like fastening members to be shrouded or invisible on at least one planar surface of the partition.

We claim:

1. An article of luggage having a body and a lid portion and a partition located intermediate the body and lid portions, said body and lid portion and partition being hinged together to move freely with respect to one another, said partition comprising a planar member, a peripheral channel on each surface of the planar member, an outer wall of each channel constituting an extension of the wall surfaces of the body and lid portions and means bridging each channel to allow hinges, a handle and fastening means to be mounted on the said outer wall and without substantial distortion of the article under load.

2. A method of fabricating an article of luggage having a body and a lid portion and a partition arranged to be located intermediate the body and lid portions including the steps of producing by means of an injection moulding process, two plastics mouldings having configurations such as to constitute the body and lid portions of the article, producing by means of a separate moulding operation, the said partition having a planar surface formed with a peripheral channel on each surface, and moulding integrally with said partition means bridging the channels to reinforce the partition to withstand loads and to accommodate securing means for the hinges, fastening means and a handle of the said article.

3. A method of fabricating and assembling an article of luggage having a body and a lid portion and a partition arranged to be located intermediate the body and lid portions including the steps of producing by means of an injection moulding process, two plastics mouldings having configurations such as to constitute the body and lid portions of the article, producing by means of a separate moulding operation a planar member constituting the partition having a peripheral outer wall spaced, on each surface of the member, from an inner wall to define a peripheral channel on each surface moulded integrally with the said member and having means bridging each channel, assembling the body, lid and partition such that the outer wall of the latter forms a continuation of the wall surfaces of the body and lid portions, and applying hinges, fastening means and a handle to said outer wall of the partition by securing means passing through said bridging means.

4. An article of luggage having a body and a lid portion and a partition located intermediate the body and lid portions, said body and lid portions and partition being hinged together to move freely with respect to one another, said partition comprising a planar member surrounded symmetrically by an outer wall spaced, on each surface of the planar member, from an inner wall to define a pair of channels to accommodate the edges of the body and lid portions, the outer wall constituting an extension of the wall surfaces of the body and lid portions and said planar member being located symmetrically with respect to said outer wall, and means bridging each channel to allow hinges, a handle and fastening means to be mounted on and secured to the outer wall by securing means aligned with the symmetrically located planar member.

5. An article of luggage according to claim **1** in which the bridging means comprise bosses within which securing means for securing the hinges, fastening means and a handle to the partition are located to extend across the channels.

6. An article of luggage as claimed in claim 4 in which the bridging means extend on each surface, from the outer wall of the partition to the inner wall, apertures for the hinges, fastening means and the handle being formed centrally in the inner and outer walls of the channels and securing means for said hinges, handle and fastening means passing through said central apertures and bridging means which reinforce the channelled portions of the partition and allow the planar member to be symmetrically located with respect to the channels and the securing means to be aligned with the planar member.

7. An article of luggage according to claim 6 in which

the planar member is formed with depressions adjacent the apertures in the inner walls of the channels to accommodate the ends of the securing means and allow the planar member to be symmetrically located with respect to the channels and the securing means to be aligned with the planar member.

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FRANKLIN T. GARRETT, *Primary Examiner.*