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(54) **Multiuse suitcase with division walls mobile and adjustable in a plurality of bins of different measures, in particular for color-holder suitcases**

(57) A colour-holder suitcase for painters or other uses, in which it is foreseen a double hinge (3,4) with lock element (7) for keeping the cover in open position, two bevels for external bearing of the cover (1) and suitcase body (2), a support system (11,13) for picture paper-boards having a width adjustable for paper-

boards of various measures, a waterproof and no waterproof box-type element for holding various division walls that allow the insertion of colour tubes and solvent bottles of various dimensions in the inside of the suitcase.

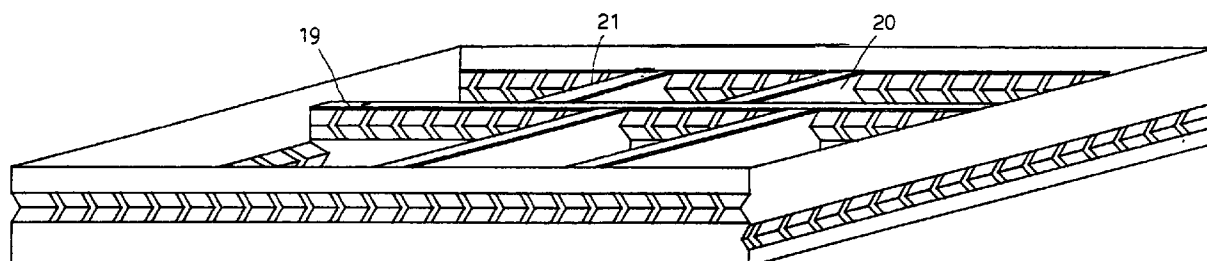


FIG. 12

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Description

[0001] This invention refers to the field of colour-holder suitcases and shows new and interesting improvements in some parts thereof.

[0002] A drawback that is present in suitcases of this type, that are actually commercially available, is the necessity of a hinge used for connecting the cover to the suitcase body, that can be an internal or external hinge joined by a screw plurality on the internal or external edge of the cover and suitcase body. This causes a high cost for the assembly of screws, and when they are mounted on the surfaces of the internal edge of cover and body elements, they can cause great difficulties during the assembly of many screws and therefore long assembly times.

[0003] Further, when the hinge is mounted in the suitcase inside, sometimes this requires the fulfilment of a cavity in the wood of cover and body edges to house the hinge, and this assembly type causes also a high fabrication cost. And when the hinge is mounted externally, it causes a drawback for a correct bearing of the suitcase in vertical position when it is laid on the pavement for awaiting its use, or it requires the use of four rest legs for allowing a stable bearing of the suitcase structure. Further, this hinge is not sufficient for avoiding that the cover, when opened, can fall down into the unwished side towards the closing, that can cause a physical damage to the user or towards a greater opening position, that can cause the breakage of the main hinge. Then, in general, it is used a second hinge with two arms hinged reciprocally at one end, this hinge allowing to get a sure stop in the open position and also avoiding the fall of the cover towards the closed position, being itself foreseen with a position of involuntary no-return. This second hinge requires the assembly of at least four further screws, as there are foreseen two of these hinges, one for each external side of the suitcase.

[0004] Another drawback is the fulfilment of the internal division walls of the suitcase body for holding colour tubes and solvent and oil or water bottles. These division walls usually are made-up of the fixed or half-mobile type, with wood lists that can be extracted and double bottoms, always made of wood, that can be removed for housing bottles or colour tubes of higher width measures.

[0005] In any suitcase the adaptability of these division walls causes always problems and above all high costs, as all of these division elements are made of painted wood and, when the complexity of division walls increases, obviously this increases also the suitcase cost. The versatility of the suitcase for the various exigencies, therefore, is not fulfilled in a correct and economical manner.

[0006] Another painter's exigency is the holding, in the inside of the suitcase, of linenized paper-boards that are used for the execution of a little picture.

[0007] These are normally inserted into the cover and

there are foreseen fastening elements of the type with wing hooks or shaped wood elements, but they have shown the drawback of allowing the insertion of linenized paper-boards only if they have well established measures, depending on the suitcase dimensions. Further the fastening of painted paper-board does not allow to avoid its contact with the suitcase walls, and this situation often causes the damage of the picture by the contact with its internal walls. A part of work is lost or damaged and it is necessary to restore it.

[0008] For remedying to these drawbacks, it is proposed a colour-holder suitcase that has only two lateral hinges that are external to the suitcase and then they do not interfere in any manner with the hermetic closing and these hinges can also have a stop nose for getting a sure opening position that prevents a further excessive cover opening. These hinges are assembled on the suitcase only by four screws mounted from the external side in a simple manner and they cause no hindrance to the perfect closing of the two suitcase parts.

[0009] As an alternative solution to the limit stop made up of the above mentioned hinge nose, when the hinges have any nose, the colour-holder suitcase has the cover edges and main body edges directed towards the separation surface formed by the cover and main body, these edges are supplied with two bevels with an angle higher than 90 degrees for allowing a sure cover rest in the completely opened position, this solution avoiding also its fall in the closed position of the colour-holder suitcase as described precedently.

[0010] Another improvement includes the support of linenized paper-board, that is made-up in the cover inside by sliding lists mounted on lower guides shaped approximately in a rail form and supplied with minimum internal stroke stops and external maximum stroke stops, and then they can be adjusted at a wished width of the maximum horizontal dimension of the paper-board. Naturally the maximum measure of the paper-board is included within the limits allowed by the suitcase dimensions, both in width and height directions. Further the lists can be turned towards the cover outside for allowing an easier introduction of the paper-board and then its return into the retracted position within the cover owing to the presence of two springs foreseen in the proper seat in the lower end of said lists for supporting the paper-board. The horizontal guides allow a sufficiently wide adjustment of the paper-board measures that can be inserted into the suitcase and further the cover system, owing to its stability due to the sure rest of the two above mentioned external bevels and hinges, allows also to use the suitcase as an easel for the use in art schools. In fact it is sufficient a support table for obtaining a comfortable position for the use of suitcase with its natural easel formed by the suitcase cover with its supports.

[0011] Another improvement very important under the economical point of view is made-up of the internal suitcase division walls, that can be made in two different

embodiment forms, one no waterproof and the other one waterproof embodiment form.

[0012] Substantially it is made a drawer that can be inserted into the inside of suitcase body as a box-shaped element open towards the high side, formed by metallic sheet made of galvanised steel, aluminium alloy or other alloy or also of plastic material, that, in the waterproof version shall be welded in the upwards bended edges after the shearing of metal sheet or plastic sheet pieces for obtaining a holder that cannot "lose" eventual drops of colour or solvent, that can damage the external envelope of the suitcase, always made of wood.

[0013] The waterproof solution includes the use, on the edges of said drawer, of some angle elements shaped with projections having triangular section, supplied with vertical slots equally spaced by a pitch of one centimeter, which slots allow the insertion of angle elements having various dimensions in length, that allow a division at will in a measure range sufficiently wide to cover the more different exigencies due to dimensions of instruments used by painters, such as brushes, spatulas, little solvent and oil bottles, colour tubes of various dimensions, and so on.

[0014] The no waterproof solution of above mentioned drawer includes a more simplified fulfilment form, as the slots and projections that hold the slots are made by shearing and following bending of metal sheet. In this manner we can get a peripheral support with a plurality of vertical slots about equidistant by one centimeter, and it is no more necessary to weld the drawer edges, that are let free, but they are only inserted using a limited pressure into the suitcase body.

[0015] Afterwards the slots are supplied with lists having various section forms and lengths, in relation to the use exigencies of the suitcase.

[0016] The division walls can have a flat or lightly shaped form, having a form of letter "U" turned upside down or an "omega" letter form with rectilinear feet.

[0017] The insertion of division walls in above mentioned vertical slots can be made in different position levels, i.e. the slots can be made in projections made in the high part of suitcase body thickness and in the adjacent side in the low part for avoiding interferences of the same projections holding the vertical slots.

[0018] Combining suitably the various types of division walls, the more different exigencies of dimensions can be satisfied without being binded to a fixed construction of division walls, reducing so greatly its cost with respect to traditional solution.

[0019] Other characteristics and advantages of the invention shall be shown by the reading of the following description of different fulfilment forms thereof, this description being made with reference to annexed drawings, in which:

- Figure 1 is an external partial lateral view of a suitcase in closed cover position, supplied with a

related external hinge;

- Figure 2 is an external lateral view of a suitcase with the open cover in the work position, with hinge limit stop nose;
- Figures 3 and 4 show in a more detailed and magnified representation the various hinge parts and the holes for the fastening screws;
- Figure 5 is a lateral view in partial section and front view of the hinge for showing the pin and the bended nose obtained by sheet pressing of a hinge element;
- Figure 6 shows an external view of the cover and suitcase body in closed position with relevant bev-els and without hinge;
- Figure 7 shows an external view of the suitcase cover and body in open position with relevant bev-els leaned reciprocally and without hinge;
- Figure 8 shows a front view of the internal cover part of the suitcase with support lists for painter's paper-board, that are adjustable in width direction;
- Figure 9 is a lateral view of a support list for paper-board in closed position within the cover;
- Figure 10 is a lateral view of a support list for paper-board in position extracted toward the cover outside for allowing the insertion of paper-board without causing damages to the newly made picture;
- Figure 11 is a perspective view of a drawer to be inserted into the suitcase body without the separation division walls;
- Figure 12 is a perspective view of the drawer of Figure 11 with some separation division walls;
- Figure 13 is a lateral view of a list type with projections for slots foreseen in high position, that form a peripheral element of the internal drawer;
- Figure 14 is a lateral view of a list type with projections for slots made in low position, that is another type of peripheral element forming the internal drawer;
- Figure 15 is a division type substantially flat or with reduced thickness for getting an internal division wall;
- Figures 16 and 17 are two different forms of angle section for the division walls;
- Figure 18 is a type of peripheral angle to be mounted on a drawer of the waterproof type with projections supplied with slots for the insertion of other division elements;
- Figure 19 is an angle for the waterproof drawer version with projections and slots for mounting further division walls;
- Figure 20 is a perspective view of the element of Figure 19 in assembled position within the drawer, ready to receive other vertical division walls.

[0020] In detail Figure 1 shows a lateral view of the colour-holder suitcase in closed position with lower body 1 and cover 2. The left end of the suitcase holds a hinge 3, 4 made-up of sheared elements having a L-

angle, in which the wings of the L letter are different, its long wing being foreseen for the assembly of screws 5 in related holes, while the short wing is joined in its external end with a pin or rivet 6 made of steel. The low element 3 is further shaped with a bending 8 for being protruding from the work plane by a thickness equal to the thickness of the hinge sheet, so that the two hinge elements, in the assembled position, are foreseen with a face placed in the same work plane, corresponding to the plane of the external suitcase face. Further the hinge part 3 can be supplied with a stop nose 7 foreseen on the short side, obtained by bending a sheet projection of the piece 3 and bended towards the internal or external surface of the suitcase.

[0021] Observing Figure 2 it can be observed that when the cover 2 is lifted, the hinge part 4 rests in a sure manner onto the stop nose 7, that is used as limit stop and fixes the cover in a sure position directed towards the outside, that is also a work position for painting a picture paper-board inserted into the cover. The nose thickness in vertical direction with respect to the drawing is evidently nearly equal to the thickness of the two plates 3 and 4.

[0022] In this embodiment the cover can be supported in a sure manner without causing any dangers by the sole use of two end hinges of described type. Figure 3 shows an enlarged view of hinge pieces and Figure 4 shows the final position at ab. 80° angular position of the hinge in open cover position. Figure 5 shows a view in partial section showing the pin 6 that is flat-riveted against the edge of the rest surface S1 and the stop nose 7 that reaches also the edge of the surface S1.

[0023] Figures 6 and 7 show the colour-holder suitcase shown in lateral view, but without the assembled hinge. This hinge is foreseen, in this case, without stop nose 7 and, instead of using the nose, the cover stop is obtained by another system. The edge between the rear side 2A of the cover 2 and the lower side 2B of the cover 2 is shaped with a longitudinal bevel 9 made along the whole width of the suitcase and similarly another bevel 10 is made, this time, on the superior-rear side of the suitcase body 1. The angle included between these bevels symmetrical with respect to the contact plane of the cover 2 and body 1 is lightly higher than 90 degrees, so that the cover 2, in open position, shown in Figure 7, can rest onto the body 1 exactly along the surface of the two bevels 9, 10 and the cover is put in open stable position with an angle higher than 90 degrees with respect to the horizontal plane.

[0024] In this case, as said, the hinge is more simple, i.e. it is without the stop nose 7, avoiding a fabrication phase.

[0025] Using only eight screws mounted in completely external position onto the suitcase, it is obtained a spare of more than 50% of assembly costs for the cover 2 and the inaccuracies of preceding technics are avoided.

[0026] Further it is got the further advantage that the bearing of the suitcase onto the ground in vertical posi-

tion on the side that includes the two bevels 9, 10 is stable and rests on one perfectly flat face without the need of costly supports of the suitcase edges, that were prec-
5 edently necessary for making itself stable in this position.

[0027] Figure 8 shows the second improvement of the suitcase. This figure shows the cover 2 in front open position or position suitable for the painter's work. The cover bottom holds two symmetrical guides 11 made-up of a base formed by a rectangular angle 11a that rests onto the internal cover surface and supplies a rail pro-
10 jection having a circular section 11. This guide 11-11a is made in a sole piece. Further the ends of the two guides 11 are foreseen with two stroke end stops 12 towards the inside for lists 13 that are inserted into the guides 11.

[0028] The position of lists 13 can be adjusted at will until the cover edge in external stroke stop and until the internal stops 12 towards the inside.

[0029] Further, as it can be seen in Figures 9 and 10, the lists 13 are supplied with a groove 14 for inserting at least a picture paper-board and are elastically held up by a spring 16 inserted in a hole 15 made in the lower end of list 13. Figure 10 shows the extracted position towards the cover outside of a list having a compressed spring 16, in which position it is possible to insert a picture paper-board. After having inserted the paper-board, the two lists 13 will return into rest position housed into the cover 2 thanks to expansion of springs 16. The groove 14 can be also double or triple according to the suitcase dimensions, therefore the painter can hold also two or more recently painted paper-boards keeping yet them at a suitable distance without causing any contact with one another. The adjustment of sliding lists allows to use an ample range of paper-board dimensions.

[0030] The third improvement of the colour-holder suitcase is made-up of the internal drawer CA made of metal with projecting angle edges, in which the projec-
40 tions are supplied with proper equidistant vertical slots, that are suitable for the insertion of further division walls, as described in the following. The drawer can be of waterproof type, i.e. with sides bended and welded in edges for avoiding the output of liquid colours from the drawer bottom, or the drawer can be no waterproof, or simply bended and without edge weldings. In both suitcases the sides of drawer CA are sheared and bended for forming on the sides opposite with one another some internal projections having an equilateral triangle sec-
45 tion, directed towards the drawer inside and supplied with equidistant vertical slots 128 having a normalised pitch of 1 cm or of higher value. The other two opposite sides have the internal projections offset in height lower or higher than the projections of other two sides, therefore the related projections do not interfere with one another onto the internal edges. The external surface 17 of the drawer enters freely but without excessive play into the lower body 1 of suitcase.

[0031] Figure 12 shows some division walls 19, 20, 21, the reference 19 being a longitudinal division wall that extends on the whole maximum width of suitcase, while the other ones are shorter in width. Moving at will the division wall 19, 2 bins of difference widths can be obtained and these bins can be further divided in the wished manner, obtaining bins with great space gain with respect to traditional wood-made division walls, that had no negligible thickness and had fixed dimensions.

[0032] Figures 13 and 14 show in lateral view two peripheral or division angles with vertical slots in high and low position, the low position being also extended until the drawer bottom, when one wishes the solution of no waterproof drawer and the edge type is the one provided on the external drawer side.

[0033] A section type of the division wall is shown in Figure 15 in lateral view and in Figure 15A in lateral view in a first version with circular bending 22 and the two edge wings of the angle in reciprocal closed contact. As an alternative version, one can make the division with angle in upset U-form, and it is inserted into the drawer, keeping the two bendings 23 and the two wings 24 directed downwards.

[0034] Figure 16 shows a section of a division element of narrow type with circular bending 25 in high position, as shown in the Figure 15A, with further arms 26 and 27 having opposed bendings at 45 degrees and further rectilinear wing directed towards the low sides 28, that are joined in the rectilinear wing 28.

[0035] Figure 17 shows an angle wider with respect to the one of Figure 16. It is made in a simpler manner, having a superior horizontal plane 29, followed by a little bending 33, an oblique wing 30 and an opposite oblique wing 31 and a vertical wing 32. The two vertical wings 32 are spaced by 1 centimeter, for being able to be inserted into two equidistant vertical slots made in the main drawer edges. The two wings 30 and 31 and the wings 26 and 27 are also supplied with vertical slots 18 for being able to divide ulteriorly the drawer with other flat division walls of the type shown in Figure 15.

[0036] Figure 18 shows an angle type to be used for internal edges of the waterproof drawer with a superior hook 34, two oblique wings 35 and 36 and a final vertical wing 37 for the final bearing onto the bottom. The wings 35, 36 are supplied with slots 18 as the other above mentioned types.

[0037] Finally the angle of Figure 19 is a further type of angle section with superior hook 38, oblique wings 39 and 40 and the vertical long wing 41.

[0038] An assembly example of this last angle is shown in Figure 20, in the suitcase of waterproof or no waterproof drawer.

[0039] Although this invention was described with reference to its particular fulfilment forms, many other variants and modifications and other uses shall be evident to the persons skilled in technics. Therefore it is preferred that this invention is not limited to above specific

description, but only by annexed claims.

Claims

1. A multiuse holder suitcase with division walls mobile and adaptable to a plurality of different measures of bins, in particular for colour-holder suitcases, in which it is foreseen a double hinge (3, 4) with lock element (7) for keeping the cover in open position, two bevels (9, 10) for external bearing of the cover (2) and suitcase body (1), a support system (11, 13) for picture paper-boards having a width adjustable for paper-boards of various measures, waterproof and no waterproof box-type elements for obtaining various division walls that allow the insertion of colour tubes and solvent bottles of various dimensions in the inside of the suitcase.
2. Colour-holder suitcase as described in claim 1, that has only two lateral hinges (3, 4) that are external to the suitcase edge and then they do not interfere in any manner with the hermetic closing, and these hinges can further have a stop nose (7) for getting a sure opening position that prevents a further excessive cover opening (2), said hinges being assembled on the suitcase only by few screws mounted from the external side in a simple manner and causing no hindrance to the perfect closing of the two suitcase parts.
3. Colour-holder suitcase as described in claims 1 and 2, characterised in that it has only two lateral hinges (3, 4) that are external to the suitcase edge and when the hinges have no stop nose (7), as described in claim 2, the colour-holder suitcase has the cover edges (2) and main body edges (1) directed towards the separation surface formed by the cover (1) and main body (2), these edges are supplied with two bevels (9, 10) with an internal angle higher than 90 degrees for allowing a sure rest of the cover (2) in the completely opened position, this solution avoiding also its fall in the closed position of the colour-holder suitcase.
4. Colour-holder suitcase as described in claims 1 - 3, when combined in different manners, that has in the cover inside a support of linenized paper-board, that is made-up in the cover inside with sliding lists (13) mounted on lower guides (11) shaped approximately in a rail form and supplied with minimum internal stroke stops (12) and external maximum stroke stops, formed by the edge of the cover (2), and then these lists can be adjusted at a wished width of the maximum horizontal dimension of the paper-board, this paper-board being included within the limits allowed by the suitcase dimensions, both in width and height direction.

5. Colour-holder suitcase as described in claims 1 - 3, and in particular in claim 4, in which the paper-board supports (11) further can be turned towards the cover outside, for allowing an easier introduction of the paper-board and then its return into the retracted position within the cover (2) owing to the presence of two springs (16) foreseen in the proper seat (15) in the lower end of said lists (13) for supporting the paper-board. 5
6. Colour-holder suitcase as described in preceding claims and in particular in claim 5, in which the support lists (13) of paper-board have one or more groove/s (14) , according to suitcase dimensions, therefore the painter can keep also two or more recently painted paper-boards keeping them yet at an established distance suitable for avoiding its reciprocal contact and also the contact with internal surfaces of the suitcase. 10
7. Colour-holder suitcase as described in preceding claims, in which the horizontal guides (11) allow a sufficiently wide adjustment of the paper-board measures that can be inserted into the suitcase and further the cover system (2), owing to its stability due to the sure rest of the two above mentioned external bevels (9, 10) and hinges (3, 4), allows also to use the suitcase as an easel for the use in art schools, as it is sufficient a support table for obtaining a comfortable position for the use of suitcase with its natural easel formed by suitcase cover (2) with its supports (13). 15
8. Colour-holder suitcase as described in preceding claims, in which it is provided a holder made-up of an internal drawer (CA), in which there are foreseen some internal suitcase division walls, this drawer being made in two different embodiment forms, one no waterproof and the other one waterproof embodiment form. 20
9. Colour-holder suitcase as described in preceding claims, in which the internal division walls (19, 20, 21) are inserted into a drawer (CA), which drawer can be inserted into the inside of suitcase body (1), said drawer being a box-shaped element open towards the high side, formed by metallic sheet made of galvanised steel, aluminium alloy or other alloy or also of plastic material, that, in the waterproof version, shall be welded in the upwards bended edges after the shearing of metal sheet or plastic sheet pieces for obtaining a holder that cannot lose eventual drops of colour or solvent, that can damage the external envelope of suitcase, always made of wood. 25
10. Colour-holder suitcase as described in preceding claims, in which the internal division drawer walls of

waterproof type are inserted on the edges of said drawer of angle elements suitably supplied with vertical slots (18) equally spaced by a pitch of one centimeter, which slots allow the insertion of angle elements (19, 20, 21) having various dimensions in length, that allow a division at will in a measure range sufficiently wide to cover the more different exigencies due to dimensions of instruments used by painters, such as brushes, spatulas, little solvent and oil bottles, colour tubes of various dimensions.

11. Colour-holder suitcase as described in preceding claims, in which, when the internal division walls are used in a drawer of no waterproof type, the drawer has a more simplified fulfilment form as the vertical slots (18) and projections (SP) that hold the slots are made by shearing and following bending of metal sheet, in which slots some lists of various forms in section and various lengths (19, 20, 21) can be inserted in relation to the use exigencies of suitcase use. 30
12. Colour-holder suitcase as described in preceding claims, in which the internal mobile and adaptable division walls of a drawer of no waterproof or waterproof type can have a flat or lightly shaped form, having a form of letter "U" turned upside down or an "omega" letter form with rectilinear feet and the insertion of division walls in above mentioned vertical slots (18) can be made in projections (SP) at different position levels, i.e. the slots can be made in the projection made in the high part of suitcase body thickness and in the adjacent side in the low part for avoiding interferences of the projections holding the slots (18) and combining suitably the various types of division walls, the more different dimensional exigencies can be satisfied, obtaining a good flexibility of division walls. 35

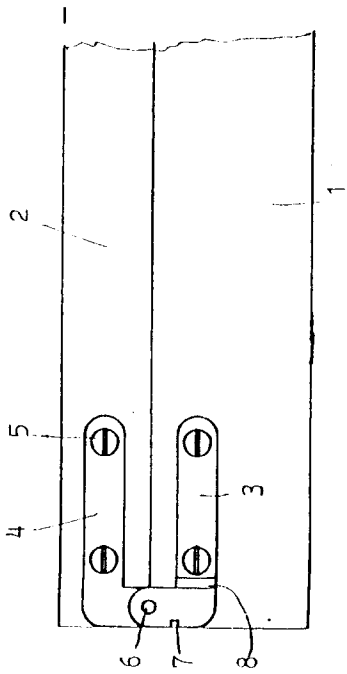


FIG. 1

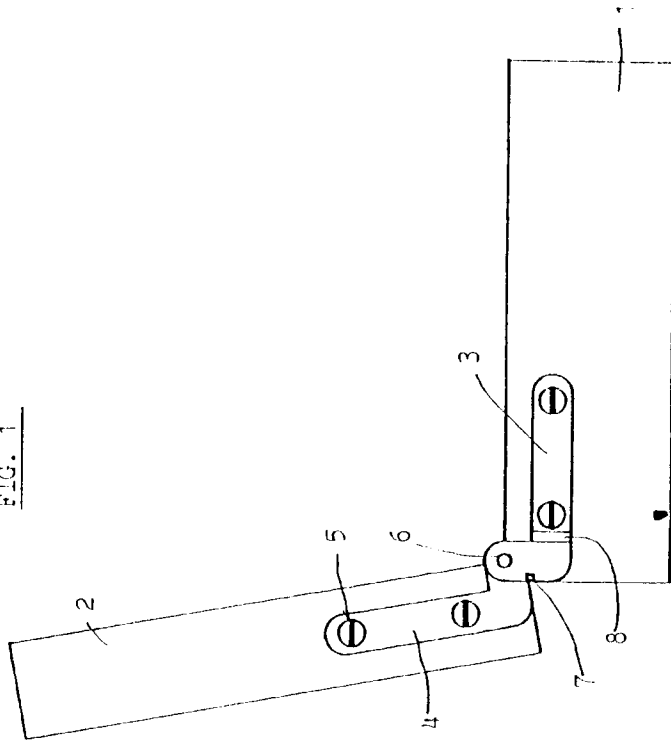


FIG. 2

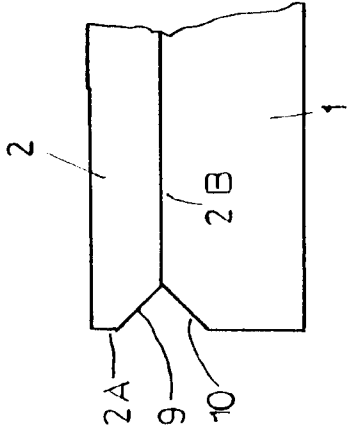


FIG. 6

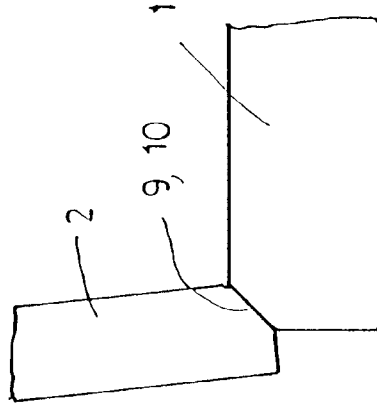


FIG. 7

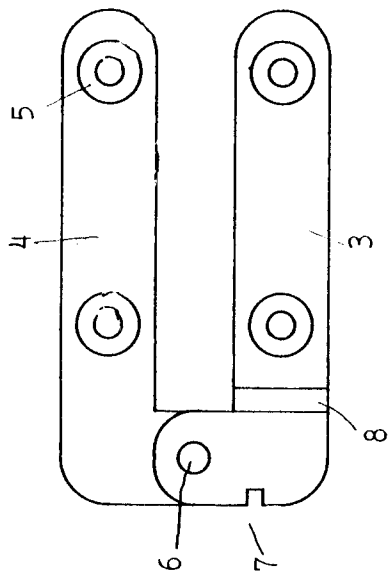


FIG. 3

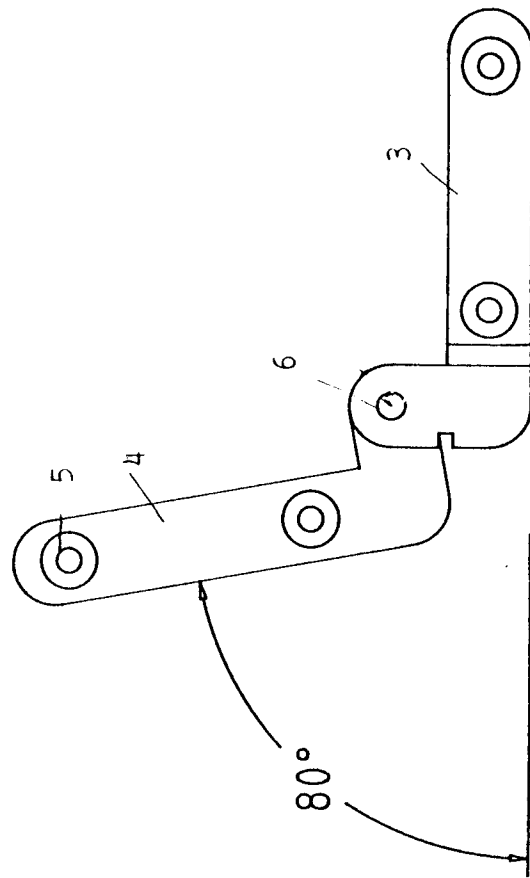


FIG. 4

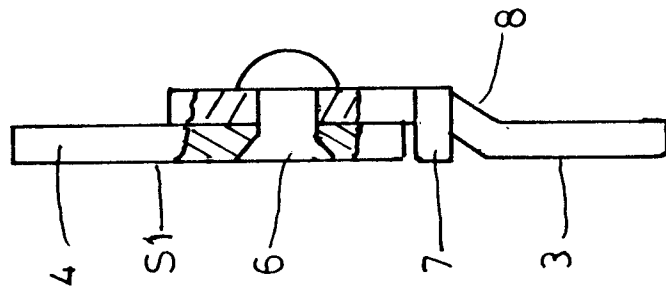


FIG. 5

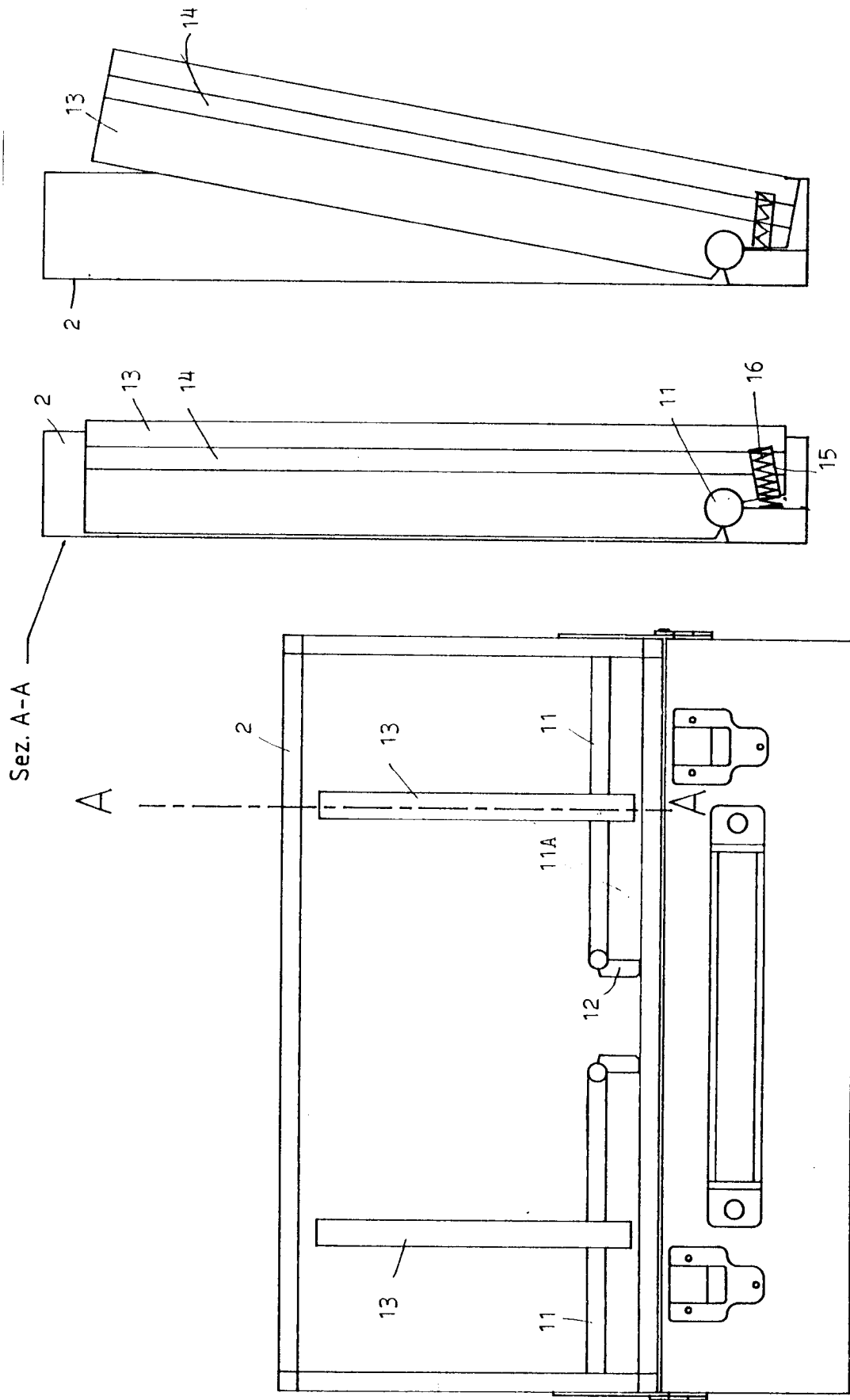


FIG. 10

FIG. 9

FIG. 8

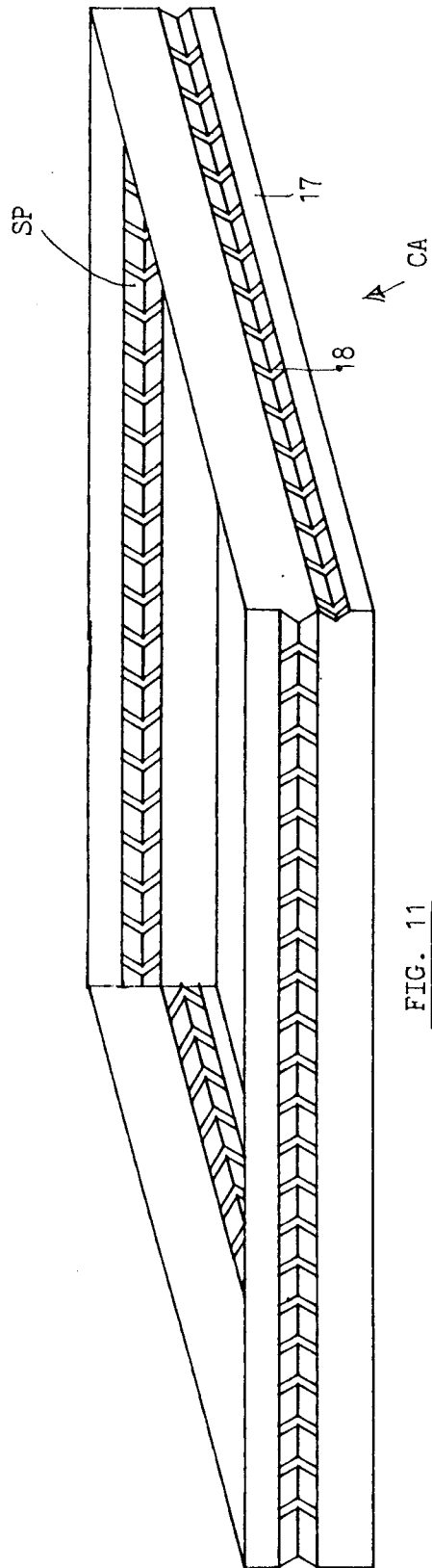


FIG. 11

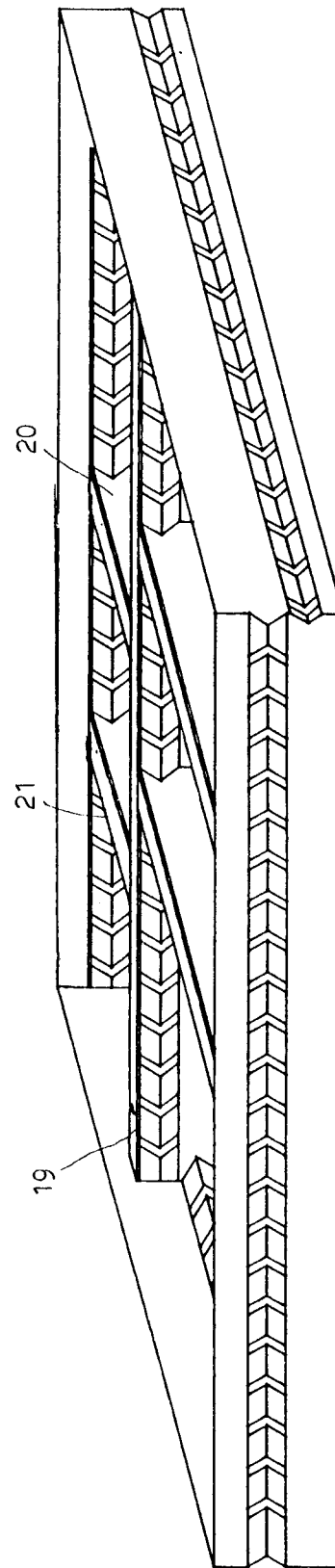


FIG. 12

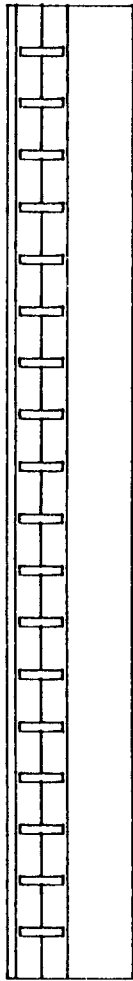


FIG. 13

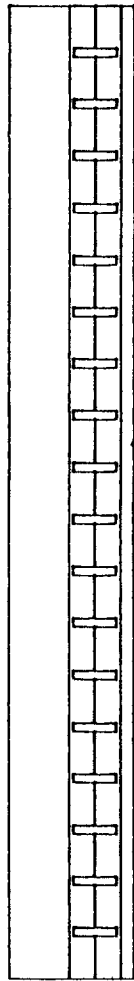


FIG. 14

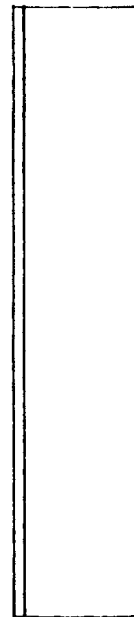


FIG. 15



FIG. 15A

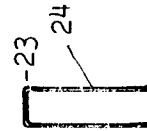


FIG. 15B

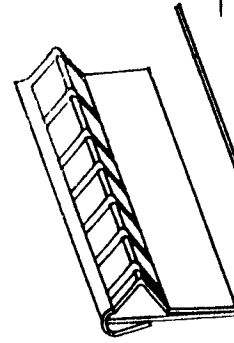


FIG. 20

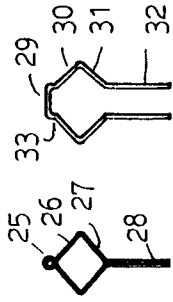


FIG. 16

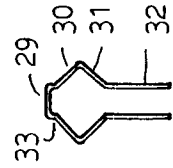


FIG. 17

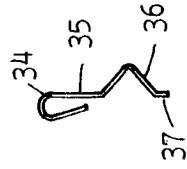


FIG. 18

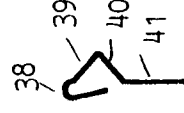


FIG. 19