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(54) Sheet, filing system as well as a device for creating openings in sheet material

(57) Sheet part (25), supplied with devices (16-19) such as openings to apply them in a filing system such as an album and/or folder on one side and supplied with fastening devices for the application of a sheet on the other side. These fastening devices consist out of two edge parts (26) opposite to each other connected to that sheet part strip, with in between an inserting device for a sheet. These edge parts can be supplied with self-adhesive material (27). The invention also relates to a filing system consisting of a folder with sheets to be placed therein, by which bayonet-like shaped openings are used to insert or remove them without exchanging the order of the other sheets. Finally the invention relates to a construction for making such bayonet-like openings.

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Description

[0001] The present invention concerns a sheet part that is supplied with devices to apply them in a filing system such as an album and/or folder on one side and supplied with fastening devices for the application of a sheet on the other side.

[0002] Such a sheet part is known in European Patent no. 0 322 507. Herein a filing folder is shown consisting of a number of bayonet-like gaps in the sheets that should couple to a support supplied with pins. In order to avoid loosening sheets, a number of sheets are attached to each other and a joint strip is used that is supplied with the above described bayonet gaps. Also, this is supplied with a pin shaped projection that snaps in a hole in the filing folder. Through which locking is generated. By removing this lock, it will be possible to take out such a collection of sheets out of the binding system. Although through this the problems are solved according the technical art, it is necessary to use an expensive strip. For such a strip requires a certain thickness. Besides, it is not possible to store a large quantity of such strips in a simple way due to the presence of the projecting pin, respectively recesses in the final inserting system of the sheets. At any rate such a system is not applicable with separate sheets.

[0003] Connecting sheets to the sheet part or strip is very difficult and cannot be executed by any user in a simple and neatly way.

[0004] An object of this invention is to provide a sheet part by which it is possible to connect sheets or other parts in a simple way.

[0005] This object is achieved by the above mentioned sheet part because they contain coupling devices being two edge parts opposite to each other connected to that sheet part strip, with in between an inserting device for a sheet. Such sheets can contain any, in the technical art known structure. According a preferred construction of the invention, at least one part of the material that is added is self adhesive to which an additional sheet can be applied. According a further idea of the invention two of such self adhesive parts are present, which are constructed approximately in V-shape in order to insert an additional sheet between this V-shape.

[0006] The invention also relates to a filing system for separate sheets, consisting of a folder for inserting the sheets containing at least two inserting pins or rings of which at least one can be opened and closed, and which pins or rings are constructed to insert the sheets through the applied openings, whereby at least one of the openings is bounded along the complete circumference of the sheet. Such a protecting folder is generaly known in the technical art. By this the pins or rings are always removed for inserting a sheet. This means that, if the folder, ordner or such is pretty full and a sheet must be added or removed at a position not being the end position of the other sheets, such as somewhere in the middle, by removing the pins or rings and inserting or removing a sheet, the position of the other sheets is lost and it becomes necessary to undertake complicated actions to get the sheets back into position. At a pinch all the sheets must be inserted one by one again with the risk of exchanging the order.

[0007] A more simple system for inserting sheets is the system used for suspension filing cabinets, by which they are supplied with an edge with gaps that have a bayonet-like outlet. Through gravity the concerned sheets are always filed with the outlet facing downwards so that getting loose of the sheets does not have to be feared. Such a system is unsuitable for ordners or other filing systems that are used in horizontal position.

[0008] It is a further object of the present invention to avoid the above mentioned disadvantages and to supply a filing system with an ordner or other filing system that in combination with sheets as a separate sheet system can be used in a simple and non-expensive manner by which it is always possible to insert respectively remove sheets without negatively effecting the order or alignment of the already present sheets.

[0009] This further object is realized through the above described filing system because this one contains at least one other gap in the sheet that extends to end freely at the end edge of that sheet, by which the first part of this extension of that opening stretches out at least in the direction parallel to the connecting line between the pins or rings, by which the width of the extended limited groove is larger than the dimension of the cross-section of the pins or rings.

[0010] Surprisingly it seemed that through the combination of two for decades known techniques, namely the technique of the all-sided limited gap and a removable pin or ring that can be opended, and the gap with a bayonet-like shape, a filing system can be created by which it is possible to simply remove a sheet out of a folder or ordner without exchanging the order of the other sheets. Also, for removing it is not only necessary that the pin is removed or the ring is opened, but also the concerned sheet must make a move upwards or downwards in the sense of moving the ring in the direction of the first part of the extension of the concerned gap. Only after that the outlet of the bayonet-like opening is released. The upward or downward sliding movement is not made by the other sheets and therefore the already present sheets in the folder cannot be moved.

[0011] The remaining part of the extension can be constructed in any suggested technical way. According a very simple construction this part stretches out perpendicularly from the first part, meaning the shortest way to the end edge of the concerned sheet.

[0012] In principle it is possible to construct the invention with two pins or rings. It is, however, possible to expand the invention to an unlimited quantity of pins or rings to supply maximum stability of the connection between the sheet and the filing folder. Besides, it is possible to apply any quantity of removable pins or rings in combination with any quantity of all-sided limited open-

ings. Besides it is not absolutely necessary that the concerned pins or rings are always applied in combination with such an all-sided limited opening in the sheet. At least one of the combinations pin(or ring)/opening should meet this requirement in order to avoid that sheets come loose while used.

[0013] In a preferred variant of the invention three pins or rings are present and each sheet contains one opening for co-operation with the pins, meaning one all-sided limited opening, while two other openings are constructed as the above described bayonet-like shape. Besides it is important that these two bayonet-like shaped openings are constructed so that movement in the same direction cause the release of the sheet.

[0014] The invention also relates to a sheet supplied with the above described openings. By sheet also is meant a sheet part consisting of a material strip to which with help of coupling devices and such, an additional sheet can be applied.

[0015] The invention also relates to a construction to apply the openings/gaps in a sheet consisting of a basic surface on which a construction is applied, by which between a part of that construction and the basic surface an inserting groove for a sheet or sheet part is bounded, by which the construction is supplied with coming and going movable punch devices perpendicular on the basic surface and by which that basic surface is supplied with devices that co-operate with the punch devices, by which the punch devices are equipped to make a gap/opening in that sheet. An example of such a construction is the well known perforator. According the invention this perforator is constructed in such a way that the above mentioned bayonet-like openings can be made. According a preferred construction of the invention, with such a perforator the combination of the above mentioned bayonet-like openings and the all-sided limited opening are made at the same time. Through this it is possible for the user to create sheets himself in such a simple way that these can immediately be filed in the above described manner.

[0016] The invention will now be described by way of example and with reference to the accompanying drawing in which:

Figure 1: illustrates schematically and perspectively a folder with a sheet applied therein by which another sheet is shown in removed position;
Figure 2: illustrates the folder according figure 1 with a following inserted sheet and shown in a slightly tilted position;
Figure 3: illustrates a further construction of a sheet according the invention; and
Figure 4: illustrates very schematically a structure to apply punch holes in a sheet or sheet part.

[0017] In figure 1 and 2 a protective folder in total view is indicated with 1. This consists of two not further indicated and known contour parts connected by a back part. Hinges between the back and the contour respectively back side are made by means of hinges 2.

[0018] In this construction example a support 4 is attached, for example by glue. This support 4 is supplied with a hinge 5 through which the upper part of support 4, that is connected to supporting back 3, ables to hinge. By comparing figure 1 with 2 such a hinge movement will appear.

[0019] Supporting back 3 is mainly U-shape constructed and supplied with two pins 6 as well as a screw-thread 7. Screw-thread 7 is constructed to receive a screw pin 8 which is also illustrated schematically in figure 1 and is shown in the applied position in figure 2.

[0020] In figure 1 a sheet is applied. A next sheet is inserted. This next sheet is indicated with 15 and is supplied with a circular opening 16 which is bounded all-sided by the sheet. This is constructed to co-operate with screw pin 8. Besides, two bayonet-like openings 17 are present consisting of circular round holes supplied with extensions. The first part of the extension is indicated with 18 and stretches out in the direction of the connection line between pins 6 or the centre lines of the openings 16, 17. It is important that the expanding direction of both first parts of the extension 18 of both openings 17 is the same. A second part of the extension is indicated with 19 and stretches out from the first part of the extension to the free edge of the sheet 15.

[0021] The above mentioned structure operates as follows: if a sheet 15 must be inserted in a folder that can already be filled with sheets, screw pin 8 is removed and the sheet 15 is positioned in such a way that the pins 6 in the second part of the extension indicated by 19 are moved. Next, the sheet 15 in figure 1 can be moved further to the left. Consequently, the sheet 15 in figure 1 is moved downwards so that the pins 6 become situated in the "upper" part of the opening 17. Exactly in this position, opening 16 is situated precisely beneath the insert opening of screw pin 8. Meaning, screw pin 8 can only be inserted in this position. After inserting screw pin 8 the sheet 15 is not only supported by opening 16, but also by openings 17. Moving the sheet 15 upwards is efficiently avoided by inserting pin 8. If a sheet must be removed, first pin 8 should be taken out and further by means of sliding the concerned sheet by placing the pins 6 in front of the second part of the extension of opening 17, indicated by 19, the sheet can be removed. By this the other sheets should not be moved and are kept in place by the pins 6.

[0022] Figure 3 illustrates a variation of the sheet shown in figures 1 and 2. This exists of a sheet part or strip 25. Therein the same openings 16 and 17 are applied. Near to the end, where the concerned information is found according the construction in figure 1, two with regard to each other movable edge parts 26 are applied. At least one of them is supplied with a self adhesive layer 27 which is protected by a protective foil 28. By removing the protective foil 28 while the edge parts 26 are separated, and followed by inserting a to be attached sheet

29, and pressing them against each other with the applied sheet in between, this sheet 29 can be attached to the strip 25. In this way, all sorts of sheets or other parts can be attached in a folder in a very simple manner. It will be understood, that the invention is also applicable to other structures by which sheets are attached to strips supplied with punch holes.

[0023] Figure 4 illustrates an example of a structure for producing the above described openings. This is illustrated only very schematically and shows large resemblance with the known paper perforators.

[0024] This structure is in total indicated with 31 and consists of a basic sheet 32 on which by means of a hinge 34 a control lever 33 is applied. Through the control lever 33 the punch pins 35 and 36 are operated which seize in the punch holes 37 respectively 38. The drawing clearly shows that the punch pins 36 are constructed for making circular holes in the concerned end part of the sheet while punch pins 36 are constructed for making the above described bayonet-like openings.

[0025] While the above description constitutes preferred embodiments of the present invention, it will be understood that the invention is susceptible to modification, variation and change without departing from the spirit and scope of the accompanying claims.

Claims

1. The present invention concerns a sheet part that is supplied with devices (16-19) to apply them in a filing system such as an album and/or folder on one side and supplied with fastening devices for the application of a sheet on the other side, **characterised in that**, the coupling devices being two edge parts (26) opposite to each other connected to that sheet part strip, with in between an inserting device for a sheet.

2. Sheet part according to claim 1, **characterised in that,** at least one of the edge parts, which are faced towards each other, is supplied with self-adhesive material (27).

3. Sheet part (25) according to one of the aforementioned claims, **characterised in that**, the sheet part is supplied with at least two openings (16, 17) of which at least one opening is bounded along the complete circumference of that sheet and of which the other opening is extended to freely end at the edge of that sheet, of which the first part (18) of this extension of that opening stretches out at least in the direction parallel to the connecting line between the centres of these openings.

4. Filing system for separate sheets, consisting of a folder (1) for inserting the sheets containing at least two inserting pins (6, 8) or rings of which at least one can be opened and closed, and which pins or rings are constructed to insert the sheets through the applied openings, whereby at least one of the openings (16) is bounded along the complete circumference of the sheet, **characterised in that**, this one contains at least one other opening (17) in the sheet that extends to end freely at the edge of that sheet, by which the first part (18) of this extension of that opening stretches out at least in the direction parallel to the connecting line between the pins or rings, by which the width of the extended limited groove is larger than the cross-section dimension of the pins or rings.

5. Filing system according to claim 4, **characterised in that**, the extension is supplied with a second part (19) that stretches out mainly perpendicularly from the first part.

6. Filing system according to the claim 4 or 5, **characterised in that**, at least three pins or rings are present and by which each sheet contains at least two openings (17) supplied with extensions, by which the shape and direction of these at least two extensions are mainly the same.

7. Sheet supplied with at least two openings (16, 17), **characterised in that**, at least one opening is bounded along the complete circumference of that sheet and of which the other opening is expanded to end freely at the edge of that sheet, by which the first part (18) of this extension of the opening stretches out at least in the direction parallel to the connecting line between the centres of these openings.

8. Structure (31) to apply the openings/gaps (16, 17) in a sheet (5, 15) consisting of a basic surface (32) on which a construction is applied, by which between a part of that construction and the basic surface an inserting groove for a sheet or sheet part is bounded, by which the construction is supplied with coming and going movable punch devices (35, 36) perpendicular on the basic surface and by which that basic surface is supplied with devices that cooperate with the punch devices, by which the punch devices are equipped to make a gap/opening in that sheet, **characterised in that**, at least one punch pin (35) is constructed in such a way that that opening (17) contains an extension which ends freely at the edge of that sheet, by which the first part of that extension stretches out at least in the direction parallel to the end edge of that sheet.

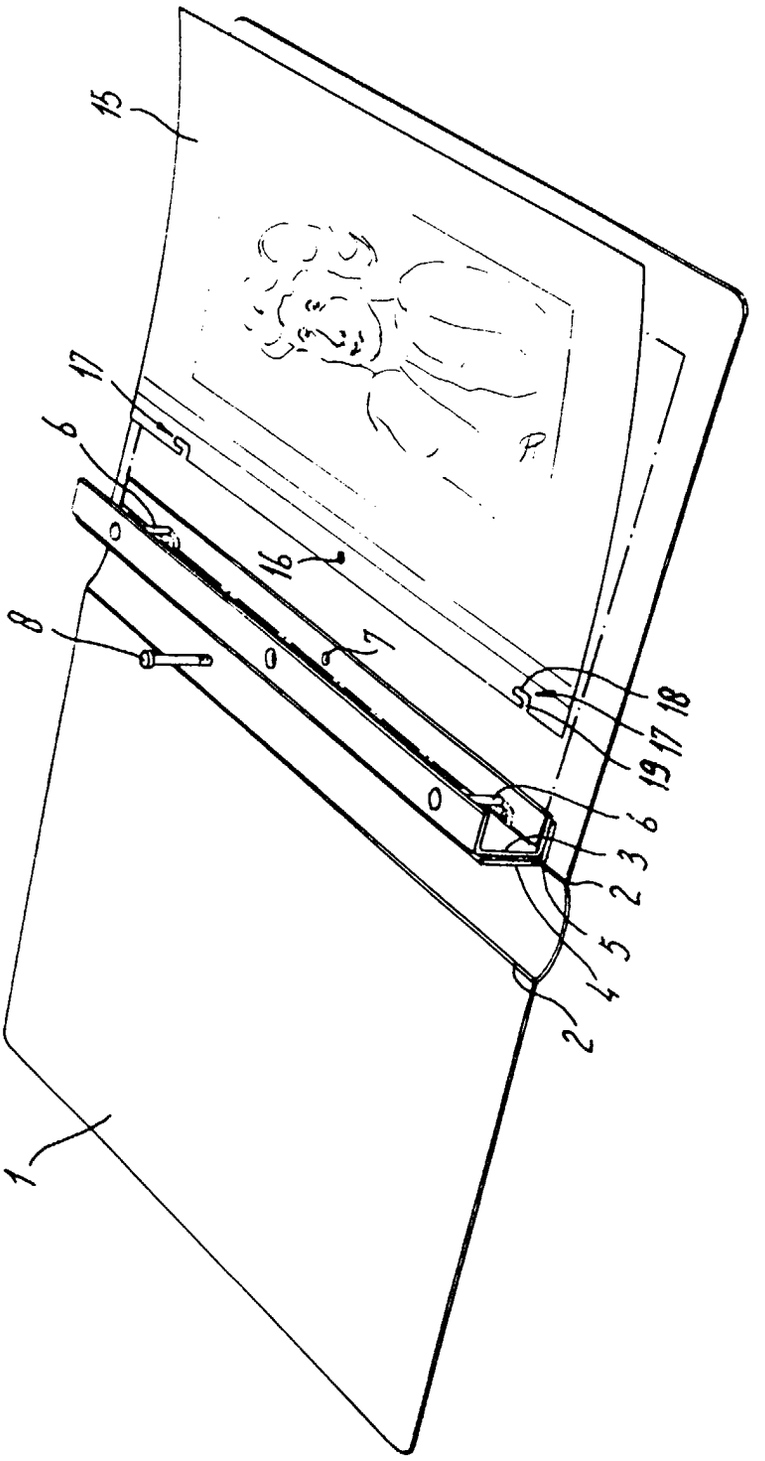
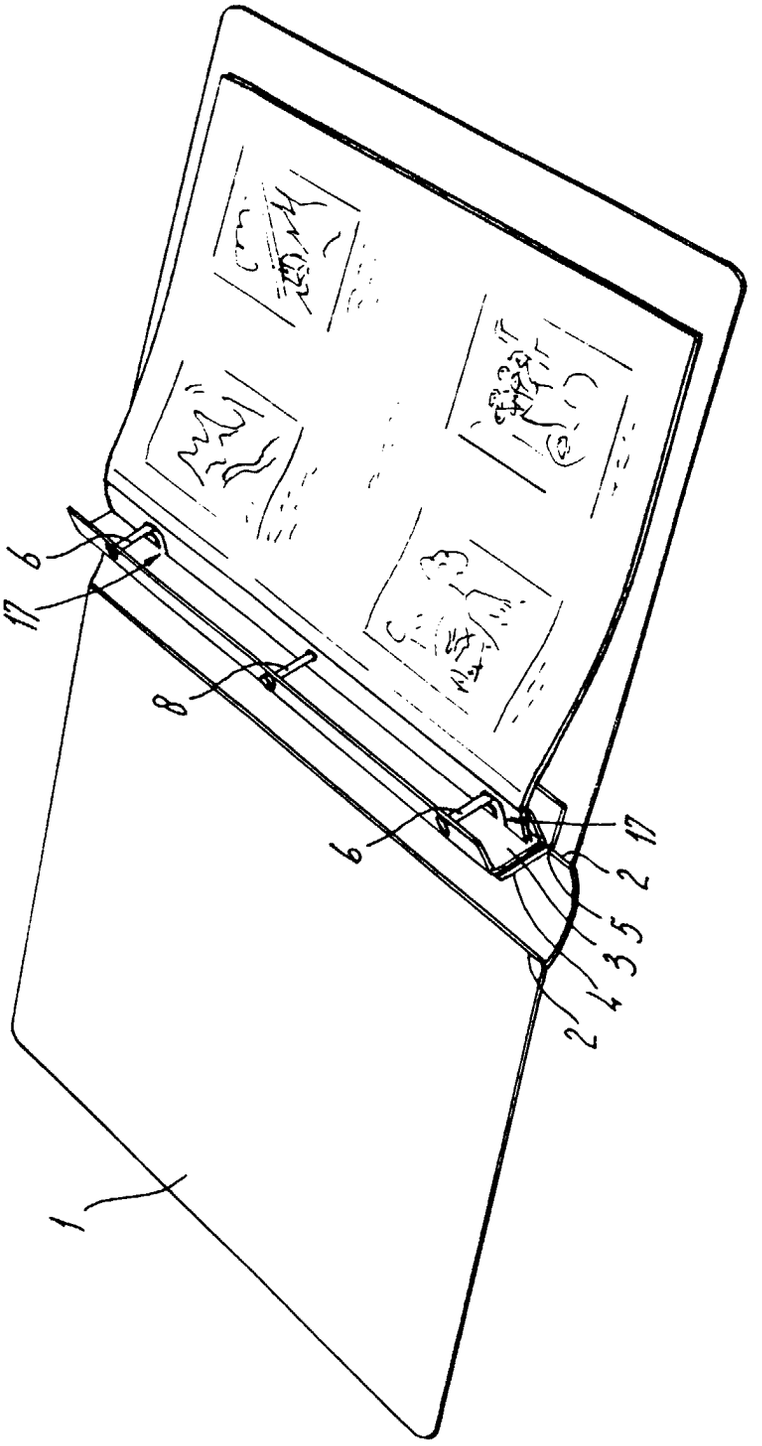


fig - 1

fig-2



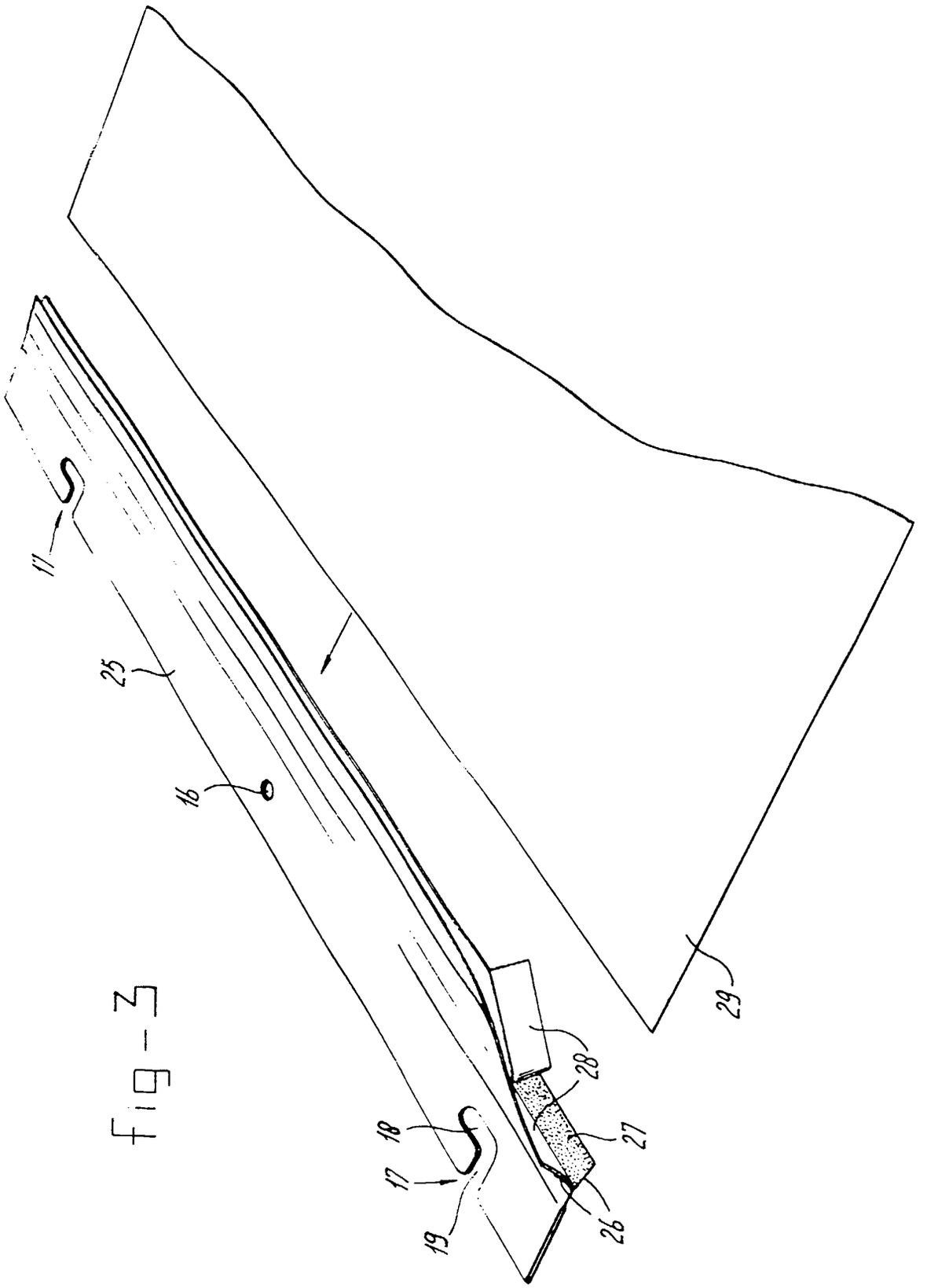


Fig-3

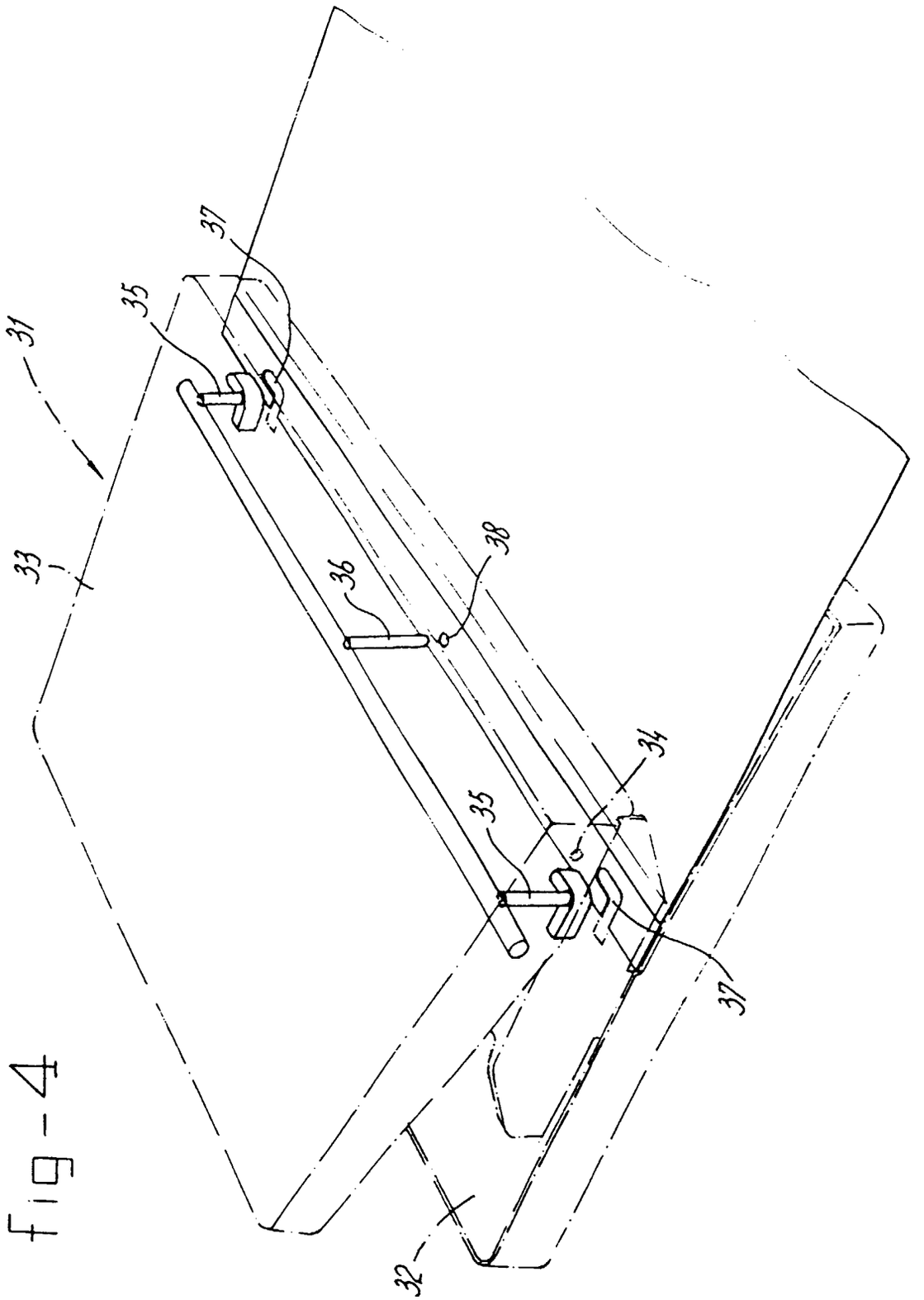


Fig-4