62,440

FORM 1
REGULATION 9

COMMONWEALTH OF AUSTRALIA

PATENTS ACT 1952-1973

APPLICATION FOR A PATENT

We BALTEA S.p.A.

of Via G. Jervis 77, 10015 IVREA, TORINO, ITALY

hereby apply for the grant of a Patent for an invention entitled:

PROTECTIVE SCREEN FOR A VISUAL DISPLAY DEVICE

which is described in the accompanying complete specification. This Application is a Convention Application and is based on the Application numbered: 52933-B/88 for a Patent or similar protection made in Italy on 3 March 1988.

Our address for service is:

GRIFFITH HACK & CO.
71 YORK STREET
SYDNEY N.S.W. 2000
AUSTRALIA

DATED this 1st day of February, 1989.

BALTEA S.p.A.
By their Patent Attorneys

GRIFFITH HACK & CO.

REPRINT OF RECEIPT
800548 01/02/89

TO: THE COMMISSIONER OF PATENTS
COMMONWEALTH OF AUSTRALIA

6631A:rk

DECLARATION FORM FOR COMPANY APPLICATIONS, AUSTRALIA

Form 6, 7.

Regulations 11(1) and 11(2).

COMMONWEALTH OF AUSTRALIA
PATENTS ACT 1952

DECLARATION IN SUPPORT OF AN APPLICATION FOR A PATENT

In support of the Application made by Baltea SpA (Name of Applicant Company)

of Via Jervis 77, 10015 Ivrea, (Turin), Italy
for a patent for an invention entitled:

Protective screen for a visual display device

I, Emilio TORRI (Full Name of Individual Declarant) of the Applicant's address, do solemnly and sincerely declare as follows:

1. I am authorized by the applicant for the patent to make this Declaration on its behalf.

2. The Applicant is in possession of the invention, the subject of the application.

3. Giorgio SOLERO (Full Name of Inventor)

of Via Botticelly, 11/12, 10155 Turin, Italy (Address)

is the actual inventor of the invention and the applicant is the assignee of the said inventor.

4. The basic application, as defined by Section 141 of the Act, was made in Italy (Country) on the 3rd day of March 1988, by Baltea SpA (Name of Applicant for Basic Application)

5. The basic application referred to in paragraph 4 of this Declaration was the first application made in a Convention country in respect of the invention, the subject of the application.

Declared at Ivrea, Italy, (City and Country) this 20th day of January 19 89

.....
(Signature)

To:
The Commissioner of Patents,
CANBERRA.

NOTE: Initial all Deletions and Alterations.
No witnessing and no legalisation.
For a Non-Convention application delete paragraphs 4 and 5 and initial the deletion.
For Multiple Priorities incorporate details of all basic applications in paragraph 4.
For application for a Patent of Addition add "of Addition" after the word "patent" wherever the word occurs, and initial each such insertion.
For Joint Application by a Company and an Individual amend form (A) that the individual declares he is one of the applicants and is authorised by the other applicant to make this declaration upon the latter's behalf (Paragraph 1), and that the Company is an Assignee of a part interest in the invention from him (Paragraph 3).

(12) PATENT ABRIDGMENT (11) Document No. AU-B-28983/89
(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. 627440

(54) Title
PROTECTIVE SCREEN FOR A VISUAL DISPLAY DEVICE

International Patent Classification(s)
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(21) Application No. : 28983/89 (22) Application Date : 01.02.89

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(31) Number	(32) Date	(33) Country
52933 /88 U	03.03.88	IT ITALY

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(71) Applicant(s)
BALTEA S.P.A.

(72) Inventor(s)
GIORGIO SOLERO

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GRIFFITH HACK & CO. , GPO Box 4164, SYDNEY NSW 2001

(56) Prior Art Documents
AU 606738 21470/88 H01J 29/06
AU 566724 11721/83 H01J 29/06
AU 505389 28991/77 H04N 5/64

(57) Claim

1. A protective screen for a visual display unit with a cathode ray tube having a display surface and a body structure for the cathode ray tube, said screen comprising a filter layer which is operative for protection purposes, a support frame for said filter layer, fixing means for connection with the body structure, an intermediate member, a pivot means for pivoting the filter layer with respect to the intermediate member and an adjustable means for adjustably positioning the intermediate member with respect to the fixing means, wherein the adjustable means comprises at least one guide and a body located therein and supported by the fixing means, the body being capable of sliding and pivotable movement within the guide.

627440

COMMONWEALTH OF AUSTRALIA

PATENTS ACT 1952 Form 10

SUBSTITUTE COMPLETE SPECIFICATION

FOR OFFICE USE

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Int. Cl:

Application Number:
Lodged:

Complete Specification-Lodged:
Accepted:
Lapsed:
Published:

Priority:

Related Art:

TO BE COMPLETED BY APPLICANT

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Complete Specification for the invention entitled:

PROTECTIVE SCREEAN FOR A VISUAL DISPLAY DEVICE

The following statement is a full description of this invention, including the best method of performing it known to me/us:-

4838A:rk

PROTECTIVE SCREEN FOR A VISUAL DISPLAY DEVICE

The present invention concerns a protective screen for a visual display device with a cathode ray tube having a display surface and a body structure for the cathode ray tube, comprising a filter layer which is operative for protection purposes.

Cathode ray tubes of more modern display units have levels of electrostatic and electromagnetic fields and a level of other radiations, which are generally considered not to be harmful. In order to lower the levels of the above-mentioned fields and residual radiations, it may be appropriate or it may be required by some health regulations to dispose in front of the display screen a protective screen which performs a filter function in regard to the electrostatic and electromagnetic fields and the residual radiation emitted by the cathode ray tube.

A screen of the above-defined type is known, which is permanently mounted between the body structure and the display surface of the cathode ray tube. That known construction is expensive since it adds the cost of the screen to the cost of the display unit, even when the screen is not strictly necessary. In addition the known construction does not permit the protective screen to be removed from the display screen when that might be required for cleaning the screen and to provide a better view of the images on the cathode ray tube.

An object of one embodiment of the present invention is therefore to provide a protective screen which can be easily fixed to the body structure of the visual display unit and which also permits direct viewing of the display surface of the cathode ray tube.

According to the present invention there is provided a protective screen for a visual display unit with a cathode ray tube having a display surface and a body structure for the cathode ray tube, said screen comprising a filter layer which is operative for

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protection purposes, a support frame for said filter layer, fixing means for connection with the body structure, an intermediate member, a pivot means for pivoting the filter layer with respect to the intermediate member and an adjustable means for adjustably positioning the intermediate member with respect to the fixing means, wherein the adjustable means comprises at least one guide and a body located therein and supported by the fixing means, the body being capable of sliding and pivotable movement within the guide.

The invention will be described in more detail, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a diagrammatic view of the screen according to the invention in the position of use,

Figure 2 is a side view of part of the screen shown in Figure 1,

Figure 3 shows some sectioned details of the screen shown in Figure 2, on an enlarged scale,

Figure 4 is a plan view of part of some details of the screen shown in Figure 1, on an enlarged scale,

Figure 5 shows details from Figure 4 in section taken along line V-V and on an enlarged scale,

Figure 6 shows the details illustrated in Figure 5, in a second working position,

Figure 7 shows other details from Figure 1 in section taken along line VII-VII and on an enlarged scale,

Figure 8 shows further details from the screen illustrated in Figure 1, in section taken along line VIII-VIII in Figure 4,

Figure 9 shows other details from Figure 1, in section taken along line IX-IX and on an enlarged scale, and

Figure 10 is a front view of part of the structure shown in Figure 9,

Referring to Figures 1, 2 and 3, a protective screen 15 for a display unit (VDU) 16 comprises a filter layer

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17 which is operative to provide the protection effect. The display unit 16 of known type is indicated in dash-dotted lines in the drawings and comprises cathode ray tube 18 having a display surface 19 and a body structure 20 for the cathode ray tube 18.

In accordance with the invention, the screen 15 comprises a support frame 21 for the filter layer 17, an intermediate support 22, adjustable fixing means 24 for fixing the intermediate support 22 to the upper portion of the body structure 20 and pivot means 26 between the frame 21 and the intermediate support 22 for pivoting the filter layer 17 with respect to the display surface 19 of the cathode ray tube 18 when the support 22 is fixed to the body structure 20.

The frame 21 comprises two half shell portions 28 and 29 (see Figures 3 and 7) of plastic materials which are provided with complementary coupling elements 31 and 32 respectively for interengagingly locking the shell portions 28 and 29 together, and ribs 30 on the shell portion 28 for correct positioning of the filter layer between the two shell portions 28 and 29. The complementary elements 31 and 32 are introduced and locked relative to each other by means of a simple pressure. The two shell portions 28 and 29 are each of a C-shaped section. The outside edges of the shell portions 28 and 29 are in mutual contact and their inside edges are resiliently urged against the filter layer 17 in such a way as to compensate for any dimensional differences in the filter layer 17.

In use the intermediate support 22 (see Figures 1, 3 and 4) is substantially centred with respect to the screen 15 and the body structure 20 of the VDU 16 and extends over a fraction, for example half, of the maximum width of the screen 15. The intermediate support 22 has an axis of symmetry 34 and a first adjustable fixing means 24 comprising a guide 36 extending front to back; on the lower portion of the support 22, parallel to the axis 34, and a rectangular plate member 37 which is

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capable of being fixed to the body structure 20 of the VDU 16, for example by means of a double-sided adhesive pad 38. The plate member 37 is provided with a rib 39 (see Figure 5) extending front to back and carrying a cylindrical body 54 which can both slide in the guide 36, with freedom of front-to-back translatory movement with respect to the support 22, and freedom to turn about the axis of the cylinder (compare Figs. 5 and 6) in this way the screen 15 is capable of being disposed at the optimum distance from the surface 19 of the CRT 18, at a position corresponding to an optimised position for fixing of the plate member 37 to the body structure 20.

The plate member 37 is disposed to the left side of the axis of symmetry 34 of the support 22. The fixing means 24 are completed by a second plate member 42 which is identical to the plate member 37 and which is disposed symmetrically to the plate member 37, with respect to the transverse axis of symmetry 34 of the support 22, and can also be fixed to the body structure 20 by means of a double-sided adhesive pad 38. The plate member 42 also comprises a rib 39 and a cylindrical body 54 by means of which it is slidable in a guide 43 on the support 22, which is identical to the guide 36 and which is disposed symmetrically to the guide 36 with respect to the axis 34.

The cylindrical bodies 54 of the plate members 37 and 42, together with the guide 36 and 43, form cylindrical coupling joints as indicated at 46 and 47 (see Figures 5) which allow the plate members 37 and 42 rotational freedom with respect to the intermediate support 22. That makes it possible to adjust to the angular position of the plate members to the particular shape of that part of the body structure of the VDU 16 to which the plate members are to be fixed, as can be seen in Figures 5 and 6. In Figures 5 and 6, the body structures 20 have different curvatures.

The guides 36 and 43 each comprise a central rib 48 which is parallel to the axis 34 and which projects from

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the lower portion of the support 22 and pairs of side flanges 51 and 52 which are parallel to the rib 48 and which, together with the terminal portion of the rib 48, define a corresponding cylindrical seat 53. Each coupling joint 46 and 47 comprises the cylindrical seat 53 of the support 22 and the cylindrical body 54 of the respective plate members 37 and 42. Each cylindrical body 54 is thus capable of sliding and rotating between the corresponding limbs 51 and 52 with freedom for translatory and rotational movement with respect to the intermediate support 22.

The side flanges 51 and 52 are each provided with a projection 56 which defines a constriction 57 for the cylindrical body 54. The flanges 51 and 52 are also capable of resiliently yielding to permit each cylindrical body 54 to be snapped into position and removed therefrom by way of the constriction 57 of the flanges 51 and 52.

The two ribs 48 are each provided with teeth (58) along their length. A corresponding tooth 59 on each cylindrical body 54 is capable of co-operating with the teeth 58 with an interference fit, for the purposes of locking the plate members 37 and 42 in the desired position. Manual movement of the support 22 in a transverse direction will cause the teeth 58 to be ridden over, resulting in positioning in incremental steps of the support 22. On the other hand, the interengagement of the teeth 59 with the teeth 58 does not impede the rotary movement of the plate members 37 and 42 with respect to the support 22 and the dimensions of the teeth 59 are such as to guarantee coupling to the teeth 58 in all possible angular positions of the two plate members.

The frame 21 (see Figure 1) is defined by four sides, to give a rectangular shape, in which the upper side and the lower side are longer than the other two sides when the screen 15 is mounted on the VDU 16. The upper side of the frame 21 comprises two lugs 61 and 62 which are provided on the outside shell portion 28. The

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two lugs 61 and 62 project upwardly from the upper side and with respect to the upper side of the inner shell portion 29 and define a rectangular space 63 in which the intermediate support 22 is housed.

The support 22 (see Figure 3) comprises a plate of substantially parallelepipedic shape and which is downwardly hollow and which is defined by an upper plate 66, a pair of side walls 67 and a pair of front and rear walls 68. The pivot means 26 comprise two pairs of pivot seats 69 and corresponding pins 70 which are interposed between the side walls 67 of the support 22 and the projecting lugs 61 and 62 of the frame 21. A friction ring 71 (see Figure 8) of resiliently yielding material, for example rubber, is forced between each wall 67 of the support 22 and the projecting lug 61, 62 of the frame 21 to permit the filter layer 17 to rotate with respect to the display surface of the CRT 18 in a damped fashion (see Figure 2). In addition the frame 21 can assume a stable position affording total access to the surface 19 by virtue of a rotary movement of more than 180°, in which an upper edge 72 of the shell portion 28 of the frame 21, in the space 63, is arrested against the upper plate 66 of the support 22 in the position shown in dotted lines.

In use the filter screen 17 remains, under the force of gravity, in a substantially vertical position, with an upper edge 73 (see Figure 3) of the shell portion 2[illegible] arrested against a vertically downwardly projecting limb 74 of the upper plate 66 of the support 22. Finally a damping block 75 (see Figure 2), for example of rubber, is disposed on the lower edge of the shell portion 29 and prevents damage to the screen 15 and the VDU 16 in the event that the filter layer 17 is moved violently towards the surface 19.

The filter layer 17 which is known per se is transparent and has two metallised and transparent surface layers. The frame 21 is of insulating material and comprises a mounting 76 for a socket 77 (see Figure

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9) of conductive material, provided with two resilient limbs 78 in electrical contact with the layer or the metallised layers of the filter layer 17. The socket 77 comprises a cylindrical opening 79 which is coaxial with an opening 81 of the mounting 76 to permit the introduction of a plug 82 into the opening 79, and in turn is capable of permitting an earthing connection for the filter layer 17 by means of a cable 83.

The above-described protective screen is capable of being easily fixed to the body structure 20 of the VDU 16 and ensures that the filter layer 17 can be easily removed by rotary movement of the frame 21 about the pins 70 to the stable position shown in dotted lines in Figure 2.

411/20655-A

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A protective screen for a visual display unit with a cathode ray tube having a display surface and a body structure for the cathode ray tube, said screen comprising a filter layer which is operative for protection purposes, a support frame for said filter layer, fixing means for connection with the body structure, an intermediate member, a pivot means for pivoting the filter layer with respect to the intermediate member and an adjustable means for adjustably positioning the intermediate member with respect to the fixing means, wherein the adjustable means comprises at least one guide and a body located therein and supported by the fixing means, the body being capable of sliding and pivotable movement within the guide.

2. A protective screen as claimed in claim 1 wherein the fixing means comprises at least one plate member.

3. A protective screen as claimed in claim 1 or claim 2 wherein the body member is cylindrical in shape.

4. A protective screen as claimed in any one of the preceding claims wherein the adjustable means comprises a pair of guides each with a body located therein, each body being supported by the fixing means.

5. A protective screen as claimed in claim 4 wherein each guide comprises two parallel flanges.

6. A protective screen according to any one of the preceding claims characterised in that said frame comprises two half shell portions of plastic material and complementary coupling elements for interengagingly locking said filter layer between said two shell portions.

7. A protective screen according to any one of the preceding claims characterised in that, in use, the intermediate member is substantially centred with respect to the display surface of the cathode ray tube and said body structure of the display unit and extends over a fraction of the width of the screen.

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8. A protective screen according to any of the preceding claims, characterised in that the or each guide extends front to back on said intermediate member, wherein the or each plate member comprises a projection having at one end said body.

9. A protective screen according to claim 8 when appended to claim 5 wherein said flanges are resiliently yielding to permit snap insertion and removal of said bodies and further comprising a rib parallel to said flanges, teeth on said rib and a tooth on said body and in which said tooth maintains engagement with said teeth in all possible angular positions of the or each plate member.

10. A protective screen according to Claim 5 wherein said flanges are resiliently yielding to permit snap insertion and removal of said cylindrical bodies.

11. A protective screen according to any of the preceding claims characterised in that said pivot means comprise two lugs projecting from an upper portion of said support frame and spaced apart, two side portions of said intermediate member and first and second pivotal couplings between said lugs and said side portions.

12. A protective screen according to claim 11 wherein said support frame is of rectangular shape with four sides of which one upper side of greater length comprises said two lugs and in which the second pivotal couplings are spaced apart a distance substantially equal to about a half of said one upper side of greater length.

13. A protective screen according to claim 11 further comprising a friction ring of resiliently yielding material which is forced between each side portion of said intermediate member and the respective projecting lug.

14. A protective screen according to any of the preceding claims characterised in that the filter layer has at least one conductive surface and said frame is of insulating material, and comprises an outwardly open housing in which there is provided a socket of conductive

material, which socket is in electrical contact with said conductive surface of the filter layer and is housed in said housing to permit a ground connection for said filter layer.

15. A protective screen according to any one of claims 3 to 14 when appended to claim 2 characterised in that said intermediate member and said support frame comprise an axis of symmetry and two plate members are provided which are disposed parallel to and on opposite sides with respect to said axis of symmetry.

16. A protective screen substantially as hereinbefore described with reference to the accompanying drawings.

Dated this 17th day of June 1992

BALTEA S.p.A.
By their Patent Attorney
GRIFFITH HACK & CO.

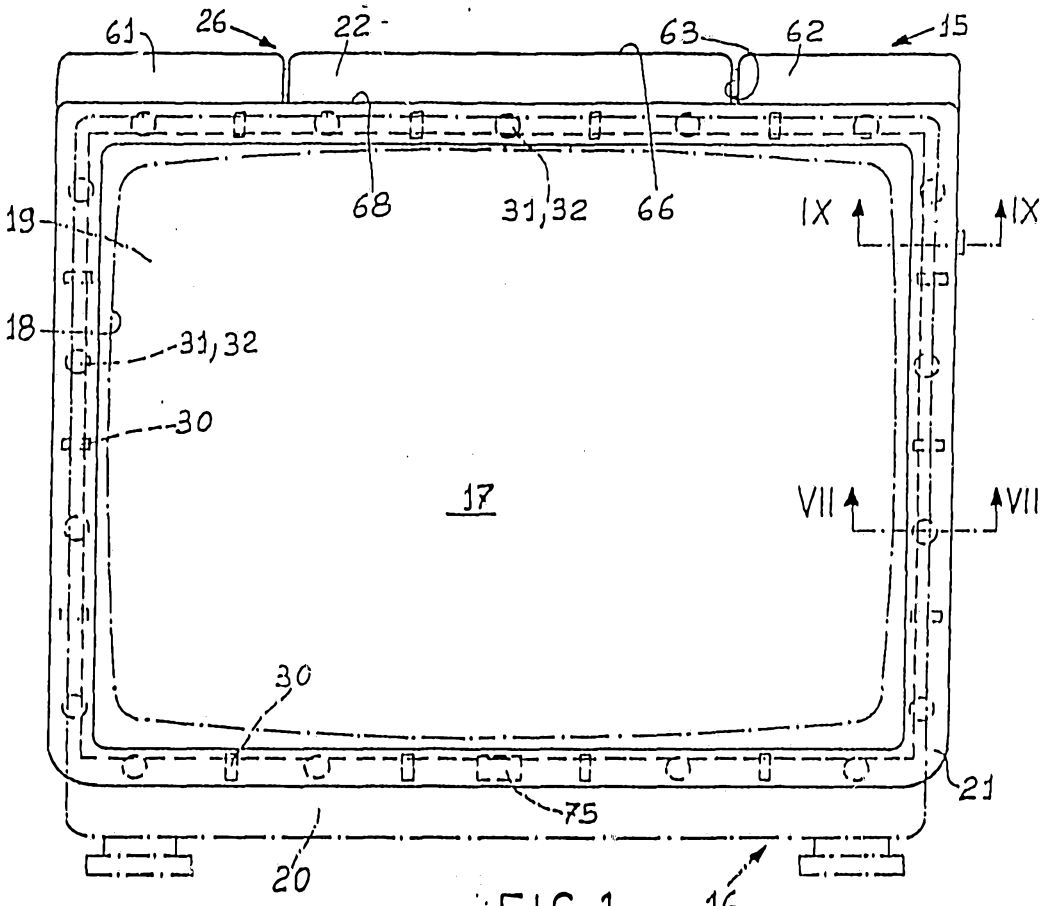

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FIG.1

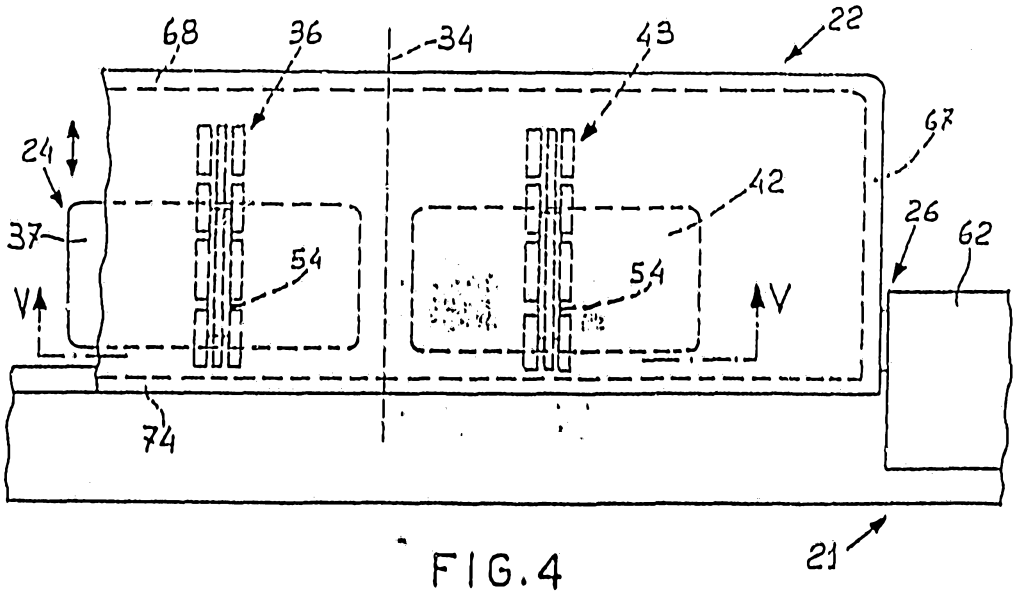

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FIG.4

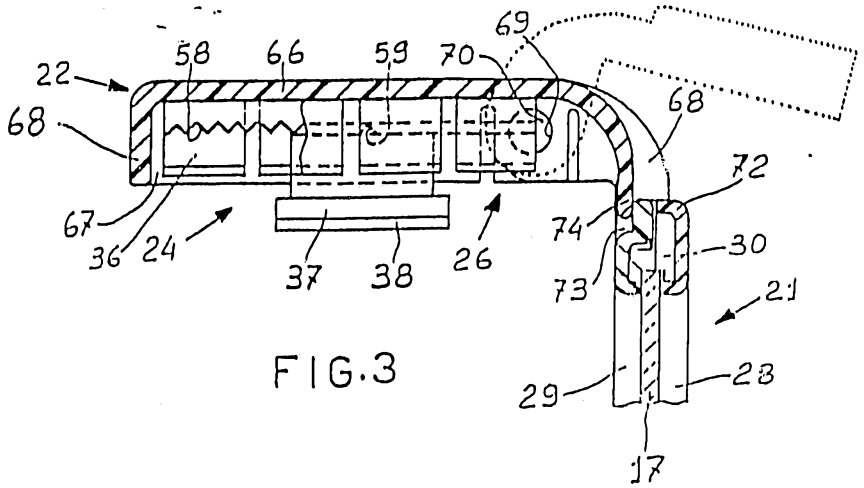


FIG.3

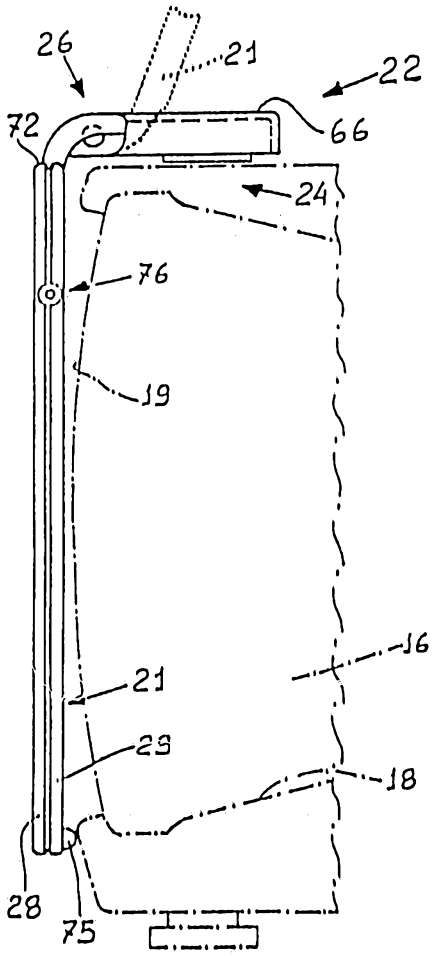


FIG.2

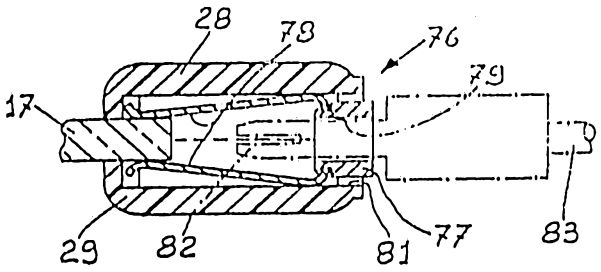


FIG.9

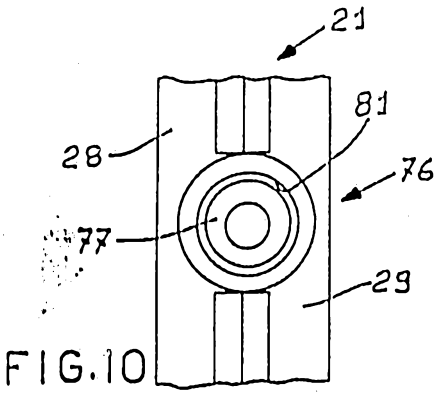


FIG.10

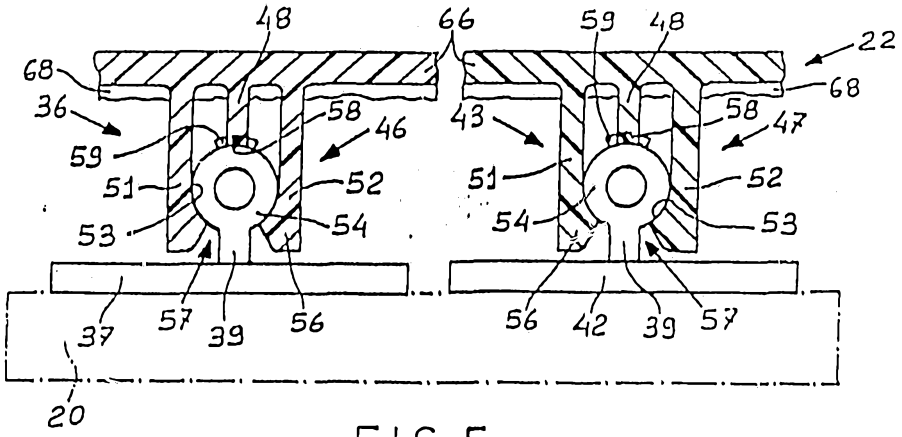


FIG.5

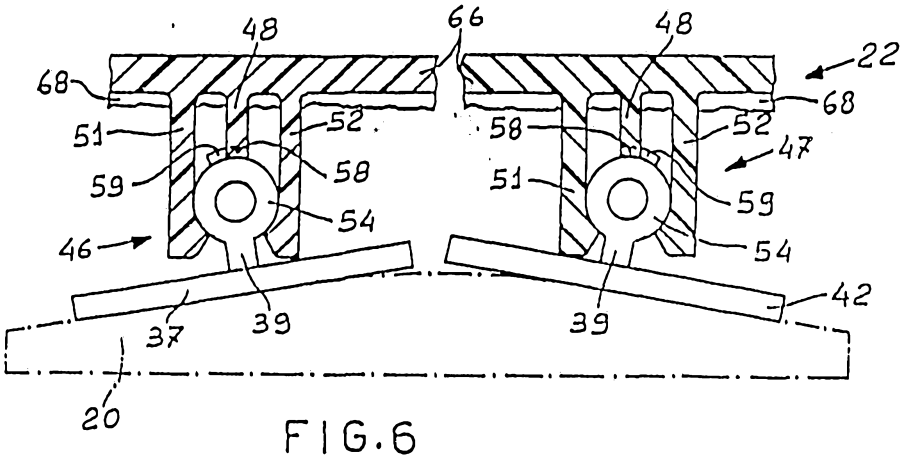


FIG.6

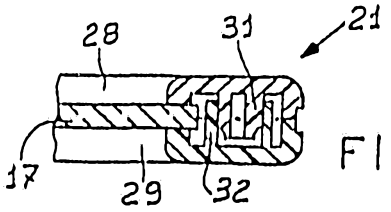


FIG.7

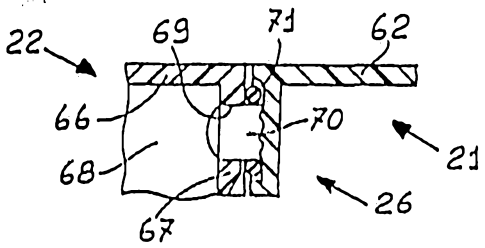


FIG.8