(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 838 348 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
29.04.1998 Bulletin 1998/18

(51) Int. Cl.[6]: **B42D 5/00**, B43L 5/02

(21) Application number: **97120079.5**

(22) Date of filing: **16.02.1994**

(84) Designated Contracting States:
DE FR GB IT

(30) Priority: **16.02.1993 US 19158**

(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
94400340.9 / 0 613 848

(71) Applicant:
MINNESOTA MINING AND MANUFACTURING COMPANY
St. Paul, Minnesota 55133-3427 (US)

(72) Inventors:
- **Bayer, Glen H.**
  PO Box 33427, Saint Paul, MN 55133-3427 (US)
- **Windorski, David C.**
  PO Box 33427, Saint Paul, MN 55133-3427 (US)
- **Crawford, Dennis L.**
  PO Box 33427, Saint Paul, MN 55133-3427 (US)
- **Stegink, David W.**
  PO Box 33427, Saint Paul, MN 55133-3427 (US)
- **Bilski, Lori A.**
  PO Box 33427, Saint Paul, MN 55133-3427 (US)
- **MacNamara, Carol E.**
  PO Box 33427, Saint Paul, MN 55133-3427 (US)
- **Wilson, Shari J.**
  PO Box 33427, Saint Paul, MN 55133-3427 (US)
- **Mertens, Timothy a.**
  PO Box 33427, Saint Paul, MN 55133-3427 (US)

(74) Representative:
Texier, Christian et al
Cabinet Regimbeau,
26, Avenue Kléber
75116 Paris (FR)

Remarks:
This application was filed on 17 - 11 - 1997 as a divisional application to the application mentioned under INID code 62.

(54) Roll of sheet material with strips of pressure sensitive adhesive

(57) A sheet material (14) (e.g. of paper) of at least 18 inches (45,72 cm) width being helically wound into a roll (18) being adapted to be dispensed from and journalled in an enclosure (22), the enclosure being part of a dispensing assembly (10). The sheet material (14) has strips (20) of repositionable pressure sensitive adhesive coated on its rear surface (16) by which the dispensed sheet material (14) can, for example, first be removably adhered to a backboard (12) adjacent the dispensing assembly (10) while still attached to the sheet material (14) on the roll (18) to afford writing on the dispensed sheet material (14), and may subsequently be separated from the sheet material (14) on the roll (18), removed from the backboard (12), and removably adhered to another support surface to display the written material.

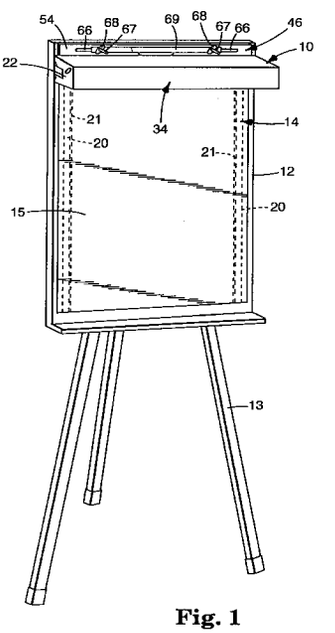

Fig. 1

EP 0 838 348 A2

Description

Technical Field

The present invention relates to large sheet material that can be supported at the front of a room on a support such as an easel during a meeting and used to record lists of items or ideas generated during the meeting, and in one aspect to the packaging of such sheet material.

Background Art

Many large pad assemblies are known that include a multiplicity of aligned flexible sheets (i.e., typically paper sheets) in a stack which are attached together along or adjacent aligned edges of the sheets, and include a stiff back card on which the stack is mounted so that the pad assembly can be supported at the front of a room on a support such as a presentation easel during a meeting and used to record lists of items or ideas generated during the meeting. During such use, typically one or more of the uppermost sheets on the pad, after being written on, are either (1) bent or pivoted away from an underlying sheet so that they project over and are supported on an upper support edge of the back card and the underlying sheet can be written on, or (2) are separated from the stack so that the separated sheet or sheets can be positioned elsewhere, typically on the walls of the room to which they are attached by means such as a clip, pin or a length of adhesive coated tape so that information on the separated sheets can easily be viewed by the participants of the meeting.

A pad assembly commercially designated "clingers" and available from the Ampad Corporation, Holyoke, Maryland, comprises a multiplicity of flexible sheets disposed in a stack with the corresponding edges of the sheets aligned and with each sheet having a band of repositionable pressure sensitive adhesive coated on its rear surface along aligned first edges of the sheets, and the band of repositionable pressure sensitive adhesive on each sheet adhering it to the front surface of the adjacent sheet in the stack. Sheets removed from the "Clingers" pad assembly can be releasably adhered to a support surface by the bands of repositionable pressure sensitive adhesive on the sheets.

U.S. Patent No. 5,153,041 discloses a pad assembly including a multiplicity of aligned flexible sheets attached together along one edge portion to form a stack from which any of several uppermost individual sheets can either be pivoted away from an adjacent sheet, or can be separated from the stack and releasably adhered to a support surface by repositionable pressure sensitive on the sheet that can adhere well to many rough surfaces; which pad assemblies can be made large in size and to include a stiff back card whereby they can be supported at the front of a room during a meeting in a generally vertical position and used to record lists of items or ideas generated during the meeting. Preferably, when used as a flip chart, the pad assembly further includes a stiff back card to which the bottom most sheet in the stack is attached. The top portion of the back card can have an elongate opening generally parallel to and spaced from that support edge with the part of the top portion between the opening and that support edge providing a handle by which the pad assembly can easily be moved from place to place. Also, the top portion of the back card can have two aligned parallel elongate through slots positioned adjacent opposite sides of the back card and adapted to receive the support pegs on some types of easels on which the pad assembly might be supported.

All of the pad assemblies described above are relatively large and thus not as portable or easily stored as may be desired.

Disclosure of the Invention

The present invention provides a relatively compact easily portable dispensing assembly for dispensing lengths of sheet material (e.g., paper) from a roll of sheet material included in the dispensing assembly that can be adapted to be mounted on an end portion of a backboard that may be supported on or included in a presentation easel or other support structure. The sheet material has strips of repositionable pressure sensitive adhesive coated on its rear surface by which the dispensed sheet material can first be removably adhered to the backboard adjacent the dispensing assembly while still attached to the sheet material on the roll to afford writing on the dispensed sheet material, and may subsequently be separated from the sheet material on the roll, removed from the backboard, and removably adhered to another support surface to display the written material.

The dispensing assembly according to the present invention includes the length of sheet material helically wound into a roll with spaced strips of repositionable pressure sensitive adhesive along its rear surface (e.g., longitudinally or transversely extending spaced strips); and an enclosure having a chamber in which the roll of sheet material is rotatably mounted so that lengths of the sheet material from the roll can be pulled from the roll through an opening in the enclosure and cut by pulling the dispensed length of sheet material against a cutting means on the housing. The enclosure of the dispensing assembly can also include means adapted to be releasably attached on one end portion of a conventional backboard with the opening adjacent the other end portion of the backboard.

In an embodiment disclosed herein, the dispensing assembly includes a cylindrical core around which the roll is positioned with end portions of the core projecting from end surfaces of the roll. The enclosure includes a front portion comprising elongate walls defining an elongate channel-like part of the front portion that is gener-

ally U-shaped in cross section, end walls across the ends of the channel-like part that with the channel like part define the chamber with an open side of the chamber between first and second opposite elongate opposite edges of the channel-like part and the cutting means along its second edge. The enclosure further includes a rear portion including a rear wall, a first edge extending between its opposite ends and defining one side of the opening, an attachment portion adjacent a second opposite edge that includes the means adapted to be releasably attached on one end portion of a conventional backboard, and opposed journal walls having surfaces defining generally central openings adapted to receive and journal the projecting portions of the core. Edges of the journal walls are mounted on the opposite ends of the rear wall for pivotal movement between an engaged position with the journal walls projecting generally normal to the rear wall in opposed relationship and receiving the projecting portions of the core, and a release position with the journal walls more in alignment with the rear wall to afford separation of the projecting end portions of the roll from the journal walls or engagement of the projecting end portions of the roll with the journal members. The first edge of the front portion is mounted on the rear wall on the side of the mounting portion adjacent its first edge to afford relative movement between the front portion and the rear portion between (1) a closed position with the rear wall across the open side of the chamber in the channel like part and the journal walls each along the inner surface of the adjacent end wall to retain the journal walls in the engaged position journalling the projecting ends of the core with the roll in the chamber; and (2) an open position with the rear wall spaced from the open side of the chamber in the channel like part, the journal walls spaced from the adjacent end walls to afford separation of the projecting end portions of the core from the journal walls or engagement of the journal walls with the projecting end portions of the core; and means for releasably retaining the front and rear portions in the closed position.

One sheet material that can be used in the roll and is described below in more detail comprises a paper sheet having an adhesive primer on its rear surface and a release material on its front surface. The repositionable pressure sensitive adhesive in the strips is firmly adhered to its primed rear surface and is adherable to most surfaces encountered in the office environment including brick, fabric, vinyl and painted surfaces to support a dispensed length of the sheet material, which can subsequently be cleanly removed from those surfaces. The coating of release agent on the front surface of the paper sheet both causes a very low release force from the strips of adhesive when the sheet material in the roll is unwound, while allowing the front surface of the sheet material to be easily written on with either solvent base or water base writing fluids. Also the coating of release material on the front surface of the paper sheet and the primer on its rear surface restricts bleeding of solvent base writing fluids (e.g., writing fluids with xylene, toluene, or iso propyl alcohol solvents) through the sheet material and onto a backboard supporting the sheet material while it is being written on by pens using such writing fluids.

Brief Description of Drawing

The present invention will be further described with reference to the accompanying drawing wherein like reference numerals refer to like parts in the several views, and wherein:

Figure 1 is a perspective front view of a dispensing assembly according to the present invention shown mounted on a backboard supported by a presentation easel;

Figure 2 is an enlarged perspective front view of the dispensing assembly of Figure 1 removed from the backboard;

Figures 3, 4 and 5 are enlarged perspective bottom views of the dispensing assembly of Figure 1 removed from the backboard and rotated 180 degrees end to end, with Figure 3 illustrating front and rear portions of an enclosure for the dispensing assembly in a closed position and having an end portion of a roll of sheet material in the enclosure broken away to show a journal wall of the rear portion in an engaged position; Figure 4 illustrating front and rear portions of the enclosure in an open position, the roll removed from the enclosure, and journal walls of the rear portion in an engaged position; and Figure 5 illustrating front and rear portions of the enclosure in an open position, and the journal walls in a release position;

Figure 6 is an enlarged sectional view taken approximately along lines 6-6 of Figure 2;

Figure 7 is a plan view of a die cut sheet from which the enclosure of the dispensing assembly of Figure 1 may be formed; and

Figures 8 and 9 are alternate embodiments of rolls of sheet material that may be included in the dispensing assembly of Figure 1.

Detailed Description

Referring now to Figures 1 through 7 there is illustrated all or parts of a dispensing assembly according to the present invention that is generally designated by the reference numeral 10. The dispensing assembly 10 is adapted to be mounted on a backboard such the backboard 12 illustrated in Figure 1 that has opposite end portions and as illustrated is supported on a presentation easel 13, but which could as well be supported on another support structure such as a conference room presentation cabinet.

The dispensing assembly 10 includes a length of

sheet material 14 (e.g., paper) having front and rear surfaces 15 and 16 respectively, which length of sheet material 14 is helically wound into a roll 18 having an axis with its front surface 15 outermost in the roll 18. Two spaced strips 20 of repositionable pressure sensitive adhesive extend longitudinally along the rear surface of the length of sheet material 14, with each strip 20 being closely spaced from a different one of the longitudinal edges of the sheet material 14. The sheet material (Figures 1, 4 and 6) can optionally have a line of perforations 21 parallel to and adjacent each strip 20 of repositionable adhesive on the side of that strip 20 opposite the adjacent edge of the sheet material 14 so that, if desired, edge portions of the sheet material 14 bearing the strips 20 of adhesive can either be (1) torn off along the perforations 21 or (2) folded 180 degrees along the perforations 21 and adhered to the rear surface 16 of the sheet material between the perforations 21 as may be desired so that the sheet material 14 does not adhere to surfaces along which it is stored. The sheet material 14 can be of any suitable width with sheet material 14 at least 45 centimeters or 18 inches wide being useful for many purposes, and paper about 61 centimeters or 24 inches in width being most useful when intended for use on the backboard of conventional presentation easels.

The dispensing assembly 10 also includes an enclosure 22 having walls defining a chamber 24, and means later to be explained mounting the roll 18 of sheet material 14 within the chamber 24 for rotation about its axis. The walls define an elongate opening 26 parallel to the axis of the roll 18 through which lengths of the sheet material 14 can be pulled from the roll 18. Cutting means 28 are mounted on one of the walls along the opening 26 for affording cutting a dispensed length of the sheet material 14 projecting through the opening 26 from the sheet material 14 on the roll 18 by pulling the end of the dispensed length of sheet material 14 along the cutting means 28 sequentially into engagement with the cutting means 28. Also included in the dispensing assembly 10 are means on the enclosure 22 adapted to be releasably attached or mounted on one end portion of the backboard 12 (i.e., typically on the upper end portion as illustrated in Figure 1) with the opening 26 adjacent the other end portion of the backboard 12.

The dispensing assembly 10 further includes a cylindrically tubular core 30 (Figures 4 and 6) having an axis with the roll 18 positioned coaxially around the core 30. The core 30 has projecting end portions 31 projecting axially past opposite end surfaces 32 of the roll 18.

The enclosure 22 includes a front portion 34 comprising three elongate rectangular plate like walls 35, 36, and 37 defining an elongate channel-like part 38 of the front portion 34 that is generally U-shaped in cross section, has opposite ends and has first and second elongate opposite edges 40 and 41 extending between its ends; and plate like end walls 44 across the ends of the channel-like part 38. The end walls 44 and the channel-like part 38 define the chamber 24 that has an open side between the first and second elongate opposite edges 40 and 41 of the channel-like part 38 with the cutting means 28 being along the second edge 41 that defines one side of the opening 26. The enclosure 22 also includes a rear portion 46 including a rectangular plate like rear wall 48 having opposite ends, a first edge 50 extending between its opposite ends and defining one side of the opening 26, an opposite second edge 52, and an attachment portion 54 adjacent the second edge 52 including the means on the enclosure 22 adapted to be releasably attached on one end portion of the backboard 12. The rear portion 46 also incudes opposed plate like journal walls 56 having cylindrical surfaces defining generally central openings 58 adapted to receive and journal the projecting end portions 31 of the core 30. Means are provided for mounting first edges 59 of the journal walls 56 on the opposite ends of the rear wall 48 for pivotal movement between (1) an engaged position (see Figures 3 and 4) with the journal walls 56 projecting generally normal to the rear wall 48 in opposed relationship and receiving the projecting end portions 31 of the core 30, and (2) a release position (see Figure 5) with the journal walls 56 more in alignment with the rear wall 48 to afford separation of the projecting end portions 31 of the core 30 from the journal walls 56 or engagement of the projecting end portions 31 of the core with the journal walls 56. Means mount the first edge 40 of the front portion 34 longitudinally on the rear wall 48 at the side of the attachment portion 54 adjacent the first edge 50 of the rear wall 48 to afford movement of the front portion 34 between (1) a closed position (see Figures 1, 2 and 3) with the rear wall 48 across the open side of the chamber 24 in the channel-like part 38 and the journal walls 56 each along the inner surface of the adjacent end wall 44 to retain the journal walls 56 in their engaged position journalling the core 30 with the roll 18 in the chamber 24; and (2) an open position (see Figures 4 and 5) with the rear wall 48 spaced from the open side of the chamber 24 in the channel-like part 38 and the journal walls 56 spaced from the adjacent end walls 44 to afford separation of the projecting end portions 31 of the core from the journal walls 56 or engagement of the journal walls 56 with the projecting end portions 31 of the core 30.

Means are also provided for releasably retaining the front and rear portions 34 and 46 in the closed position. Those means are provided in the form of L-shaped tabs 61 having proximal ends pivotably mounted on the end walls 44, and distal end portions 62 adapted to engage the rear wall 48 through slots 63 therein to retain the front and rear portions 34 and 46 in the closed position (Figures 1, 2, 3 and 4), or to be separated from the rear wall 48 (Figures 5 and 6) to afford its movement of the front and rear portions 34 and 46 to the open position.

The attachment portion 54 of the rear wall 48 has

two aligned elongate through slots 66 positioned adjacent opposite ends of the attachment portion 54 parallel to its edge 52, which slots 66 are adapted to receive the support pegs or screws 67 on many conventional types of backboards such as the backboard 12 illustrated in Figure 1 that can support the dispensing assembly 10. As is illustrated in Figure 1 and is typical of many backboards, the support screws 67 threadably receive wing nuts 68 that can bear against a bar 69 that is placed over the attachment portion 54 and also receives the screws 67 in spaced openings so that the screws 67, bar 69 and wing nuts 68 clamp the attachment portion 54 to the end portion of the backboard 12.

Also, the attachment portion 54 of the rear wall 48 has a longitudinally centered elongate opening 70 generally parallel with and spaced from its second edge 52 with the part of the attachment portion 54 between the opening 70 and the second edge 52 providing a handle by which the dispensing assembly 10 can easily be moved from place to place.

The end walls 44 and journal walls 56 have through openings 72 that are aligned when the front and rear portions 34 and 46 are in their closed position to afford visually inspecting the amount of sheet material 14 remaining on the roll 18.

The rear portion 46 includes spaced projections 74 adjacent the first edge 50 of the rear wall 48 (Figures 3, 4, 5 and 6), which projections 74 project transversely across the opening 26 and are adapted to retain the end of the sheet material 14 at a position spaced from the surface of the roll 18 after a length of sheet material 14 is cut from the length of sheet material 14 on the roll 18 by the cutting means 28. The rear wall 48 has openings 76 (Figures 4, 5 and 6 along the first edge 50 of the rear wall 48 and spaced on opposite sides of the projections 74, through which openings 76 a user can manually engage the cut end of the sheet material 14 on the roll 18 so that the sheet material 14 may be withdrawn from the roll 18 through the opening 26.

The enclosure 22 can be made of a sheet 80 of E-flute corrugated cardboard die cut to the shape illustrated in Figure 7 and folded along the crease lines indicated in Figure 7. In Figure 7 the walls, edges, openings, etc. described above have been numbered. As can be seen, each of the end walls 44 are formed by four folded together parts 44a, 44b, 44c and 44d of the die cut sheet 80 with the parts 44a and 44b attached end to end on the ends of the front wall 36 during assembly being folded over the adjacent parts 44c and 44d attached at the ends of the walls 35 and 37 respectively as can be seen in Figure 5, and with the part 44b having a slot providing clearance for parts of the projecting end portions 31 of the core that may extend past the journal walls 56. The rear wall 48 is formed by three folded together parts 48a, 48b and 48c thereof, and the journal walls 56 are each made of two folded together parts 56a and 56b of the die cut sheet 80. The cutting means 28 is provided by a rectangular elongate part 28a of the die cut sheet that is cut through one side layer and the corrugations of the cardboard and folded back and adhered along the remaining side layer of the cardboard as can best be seen in Figure 6. The edge 41 thus provided is safe for a person to touch, but affords clean easy cutting of paper sheet material 14 progressively pulled against it in a normal manner for dispensing sheet material against a cutting blade. As is best seen in Figure 7, the projections 74 are formed by elongate pieces 74a of the sheet having wider distal ends than attached ends that are transversely folded along their length and have the side parts at their distal ends inserted in slots 85 in the rear wall part 48b to retain the projections 74 with a triangular cross section in a plane transverse to the axis of the roll 18 as can best be seen in Figure 6.

The sheet material 14 comprises a layer of paper having a coating of adhesive primer on its rear surface 16 and a coating of release material on its front surface 15. The repositionable pressure sensitive adhesive in the strips 20 is firmly adhered to its primed rear surface 16 while the exposed surface of the adhesive in the strips 20 is sufficiently adherable to most surfaces encountered in the office environment including brick, fabric, vinyl and painted surfaces to support lengths of the sheet material 14 and is subsequently cleanly removable from those surfaces. The coating of release agent on the front surface 15 of the sheet material 14 both causes a very low release force from the strips 20 of adhesive when the sheet material is unwound from the roll 18, while allowing the front surface 15 of the sheet material 14 to be easily written on with either solvent base or water base writing fluids. Also, the coating of release material on the front surface 15 primarily, but with some help from the coating of primer on the rear surface 16, restricts bleeding of the solvent base writing fluids (e.g., writing fluids with xylene, toluene, or iso propyl alcohol solvents) through the sheet material 14 and onto a backboard or other surface on which the sheet material 14 is supported while it is being written on. As a specific example, the paper layer used was virgin white paper available from Crosspointe Paper Co., Miami Mills, West Carrollton, Ohio. The release agent was made by mixing together in a 452.8 grams (16 oz.) amber bottle forty-five grams of methyl acrylate, 35 grams of N-vinyl pyrrolidone, 5 grams acrylic acid, 15 grams of mercapto functional available commercially available as KF-2001 from Shin-Etsu, 0.25 grams of Vazo™ 64 and 150 grams of methyl ethyl ketone. The mixture was purged with nitrogen for five minutes at one liter per minute and then the bottle was sealed and tumbled in a constant temperature bath at 55° C for 48 hours. The conversion was 98 percent. The 15 percent solids release agent was applied to the front surface 15 of the paper using a 120 ruling mill gravure cylinder. The repositionable pressure sensitive adhesive in the strips 20 was a layer of microspheres in a binder. The microspheres were made by mixing, at room temperature,

307.69 grams of deoxygenated distilled water, 2.05 grams of ammonium lauryl sulfate and 2.56 grams of Acrylic Acid. That solution was neutralized with Ammonium Hydroxide to a pH of 7.0, and was heated to 70 degrees celsius. 100 grams of Iso-octyl acrylate and 0.31 grams of Benzoyl Peroxide were added to the resultant solution. The resultant mixture was rapidly stirred at a rapid agitation rate that yielded a desired particle size. The temperature was allowed to slowly drop to about 65 degrees celsius until the reaction exothermed and a polymerization reaction took place. After the exotherm temperature was reached, the mixture was cooled and cured for about 7 hours at 60 degrees celsius. The solution was filtered and allowed to separate into two layers. The bottom layer was discarded and the top layer was coagulated by adding Isopropyl Alcohol. The fluid was extracted and the solids re-dispersed in heptane to provide a mixture of 23% solids. The adhesive binder was made by mixing in a kettle 155.61 grams of Ethyl Acetate, 100 grams of Iso-octyl Acrylate and 4.15 grams of Acrylamide. The kettle was heated at 59 degrees celsius for 48 hours. The kettle was vented and 0.22 grams of Benzoyl Peroxide were added. The batch was thinned with 180.57 grams of Heptane. Then, a mixture of 0.66 grams of Ethyl Acetate and 0.49 grams of Santanox was added. A conventional primer was applied to the rear surface of the paper, after which a blend of equal amounts of 23% solids microspheres and 23% solids adhesive binder were die coated in two strips about 25.4 mm (1 inch) wide along the length of the paper at a wet adhesive coating weight of about 583.2 mg (9.0 grains) per 101.6 mm (4 inch) by 152.4 mm (6 inch) area. Such coatings produced a peel adhesion of approximately 300 grams ± 50 grams/1.25" using the Peel Adhesion Test described below, and a sheet removal force of approximately 40 grams ± 20 grams/1" using the Sheet Removal Test described below.

The Peel Adhesion Test tests the force required to remove polyester film applied to the adhesive coated test material measured at a specific angle and rate of removal. This force is expressed in grams per 31.75 mm (1.25 inch) width of coated sheet. A strip, 31.75 mm (1.25 inches) wide, of polyester film is applied to the horizontal surface of a adhesive coated sample fixed on a test plate. A 44.5 $Pa.cm^2$ (4.5 lb.) hard rubber roller is used to apply the strip. The free end of the polyester film is attached to the adhesion tester load cell so that the angle of removal will be 90 degrees. The test plate is then clamped in the jaws of the tensile testing machine which is capable of moving the plate away from the load cell at a constant rate of 304.8 mm (12 inches) per minute. A load cell reading in grams per 31.75 mm (1.25 inches) of coated strip is recorded as the polyester film is peeled from the coated samples.

The Sheet Removal Force test tests the force required to remove a sheet from a stack of at least two sheets which are dimensioned one inch by five inches at a ninety angle and rate of removal of 304.8 mm (12 inches) per minute. In the examples, this force is expressed in grams per inch width of coated sheet. A strip of at least one inch wide double coated Scotch™ Brand 410 Tape commercially available from the Minnesota Mining and Manufacturing Company is adhered to a steel test plate. Thereafter, a one inch wide sample coated with adhesive is cut from the sheet and is placed on the test plate, adhesive side down onto the tape so that the entire adhesive coated side of the test sample is covered. The test sample is placed parallel to the dimension of the test plate and the adhesive strip is centered so that the peel removal is made at a ninety degree angle. The test plate is then clamped in the lower jaws of Instron Tensile Tester which is capable of moving the plate away from the load cell at a rate of twelve inches per minute. A piece of Scotch™ Brand 810 Magic Tape commercially available from the Minnesota Mining and Manufacturing Company is then attached to the loose end of the top sheet. The tape is centered over the one inch loose end of the test sample. The free end of the tape is then clamped into the upper jaw of Instron Tensile Tester and then the sample is pulled away at a ninety degree angle and sheet removal force is measured.

Further details concerning the example release agent and the example repositionable pressure sensitive adhesive described above are to be found in a patent application filled concurrently herewith entitled "System Comprising Release Agent and High Peel Adhesion Repositionable Adhesive", attorney docket no. 49441USA3A, the content whereof is incorporated herein by reference.

Figures 8 and 9 illustrate alternate embodiments of rolls 98 and 108 of sheet material 94 and 104 that can be used in the dispensing assembly according to the present invention. Figures 8 and 9 each illustrate a length of sheet material (e.g., paper) 94 and 104 respectively having front and rear surfaces that is helically wound into a roll 98 and 108 respectively with their front surfaces outermost in the roll 98 or 108. Both lengths of sheet material 94 and 104 are wound coaxially around cylindrically tubular cores 95 and 105 respectively that have ends 96 and 106 respectively projecting from end surfaces 97 and 107 respectively of the rolls 98 and 108, and spaced strips 99 and 109 respectively of repositionable pressure sensitive adhesive along the rear surfaces of the lengths of sheet material 94 and 104. In the roll 98 of sheet material 90 illustrated in Figure 8, the strips 99 of adhesive extend longitudinally of the sheet material 90 and are evenly spaced across its width; whereas in the roll 108 of sheet material 100 illustrated in Figure 9, the strips 109 of repositionable pressure sensitive adhesive extend transversely across the rear surface of the length of sheet material 104 and are spaced along its length.

The present invention has now been described with reference to one embodiment of its enclosure and three

embodiments of the roll of sheet material used in the enclosure. It will be apparent to those skilled in the art that many changes can be made in the embodiments described without departing from the scope of the present invention. For example, the enclosure could be made with walls of polymeric material. The sheet material could comprise a polymeric film. The dispensing assembly would be useful for dispensing lengths of sheet material of the types described for use on surfaces other than the surfaces of backboards, such as on office or cubicle walls, and for that purpose, the slots 66 in the attachment portion 54 would not be needed. Also, the rear portion of the enclosure could be incorporated in or permanently attached to an end portion of a backboard. Thus the scope of the present invention should not be limited to the structures described in this application, but only by structures described by the language of the claims and the equivalents of those structures.

Claims

1. A length of sheet material at least about 18 inches (45,72 cm) wide, having front and rear surfaces, and being helically wound into a roll having an axis with said front surface outermost in said roll, said roll being adapted to be journalled in an enclosure from which the sheet material may be dispensed ; and

   spaced strips of repositionable pressure sensitive adhesive along the rear surface of said length of sheet material, said strips of repositionable pressure sensitive adhesive being firmly adhered along the rear surface of said length of sheet material and being adherable to most vertical surfaces encountered in the office environment to support a length of the sheet material, while being subsequently cleanly removed from those vertical surfaces ;
   said length of sheet material comprising a paper sheet, an adhesive primer on said rear surface, and a coating of release material on said front surface, said coating of release agent on said front surface causing a very low release force from the strips of adhesive when the sheet material in the roll is unwound, while allowing the front surface of the sheet material to be easily written on with solvent base and water base writing fluids, said coating of release material on said front surface and said coating of adhesive primer on said rear surface restricting bleeding of solvent base writing fluids through the sheet material while the front surface of said sheet material is being written on by pens using such writing fluids.

2. A length of sheet material according to claim 1 wherein said spaced strips of repositionable pressure sensitive adhesive extend longitudinally along the rear surface of said length of sheet material and are spaced transversely of said length of sheet material.

3. A length of sheet material according to one of claims 1 or 2 wherein said length of sheet material has longitudinal edges, only two spaced strips of repositionable pressure sensitive adhesive that extend longitudinally along the rear surface of said length of sheet material and are each closely spaced from a different one of said longitudinal edges, and a line of perforations parallel to and adjacent each strip of repositionable adhesive on the side of that strip opposite the adjacent edge of the sheet material.

4. A length of sheet material according to claim 1 wherein said strips of repositionable pressure sensitive adhesive extend transversely across the rear surface of said length of sheet material and are spaced along the length of the length of sheet material.

5. A length of sheet material according to one of claims 1 to 4 wherein said length of sheet material is about 24 inches (588 mm) wide and further includes a cylindrical core having an axis with said roll positioned coaxially around said core, said roll having axially spaced end surfaces and said core having projecting end portions projecting axially past said end surfaces.

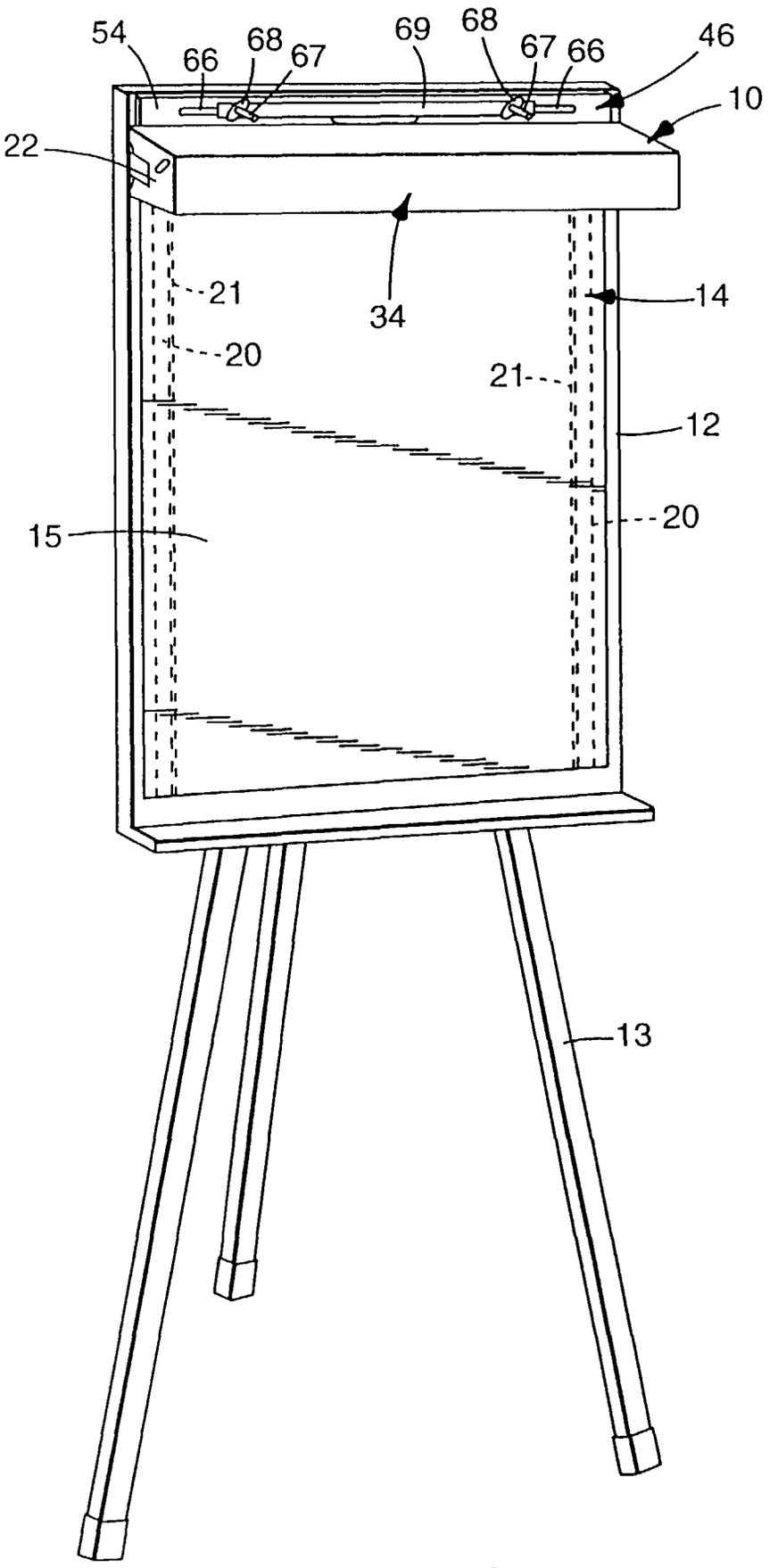

Fig. 1

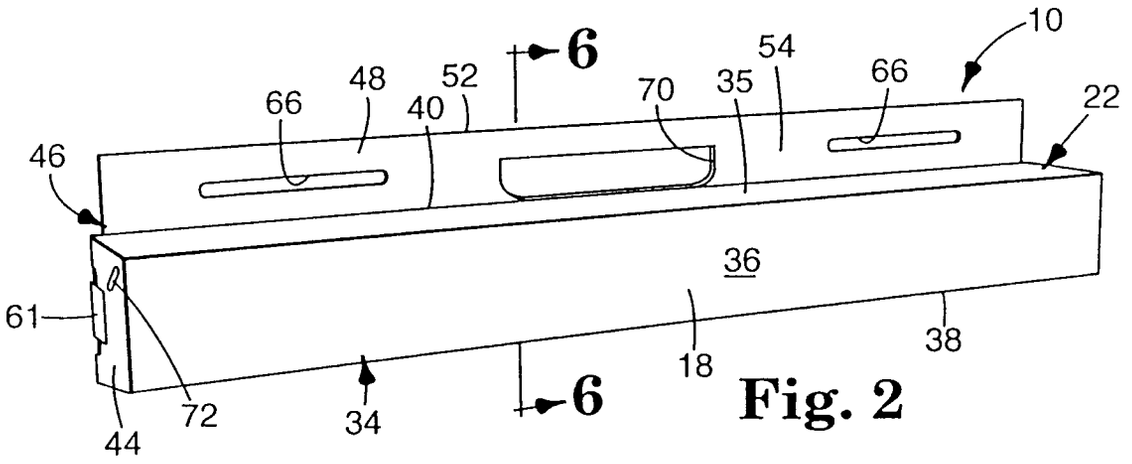

Fig. 2

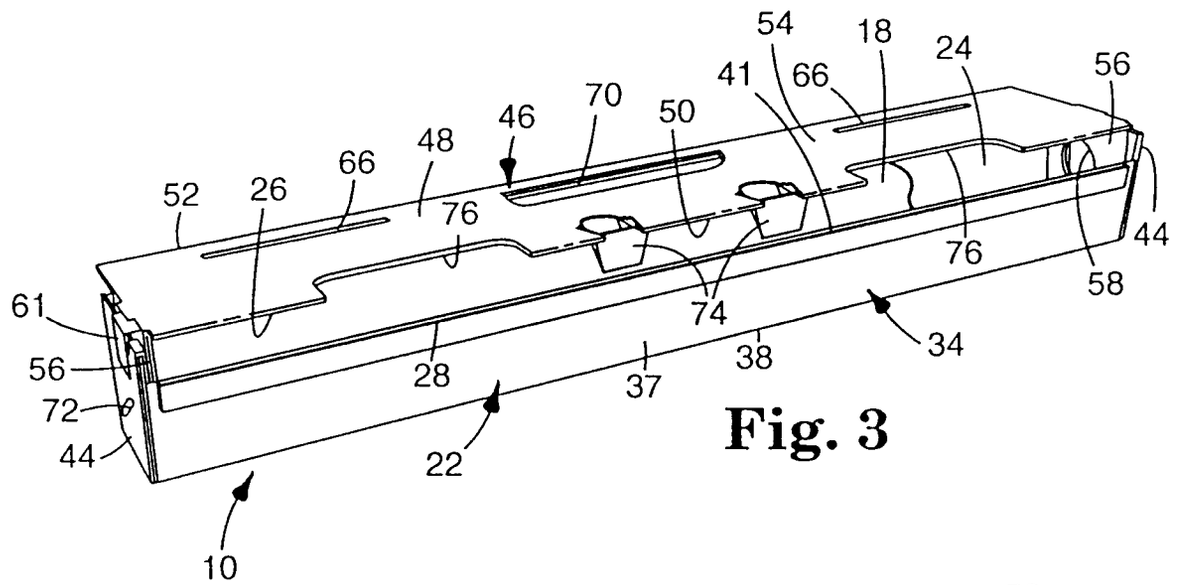

Fig. 3

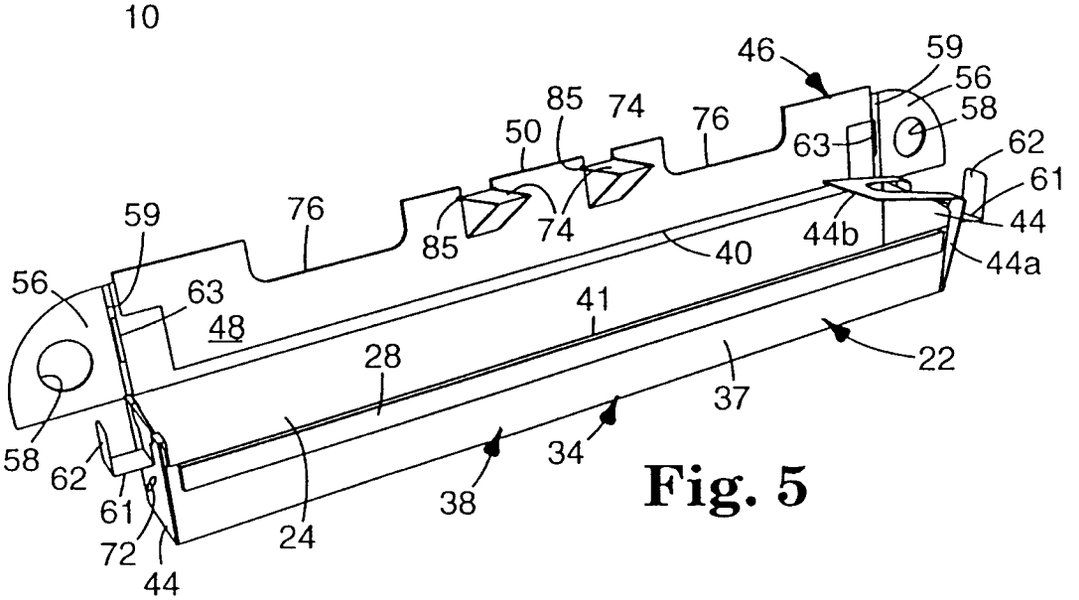

Fig. 5

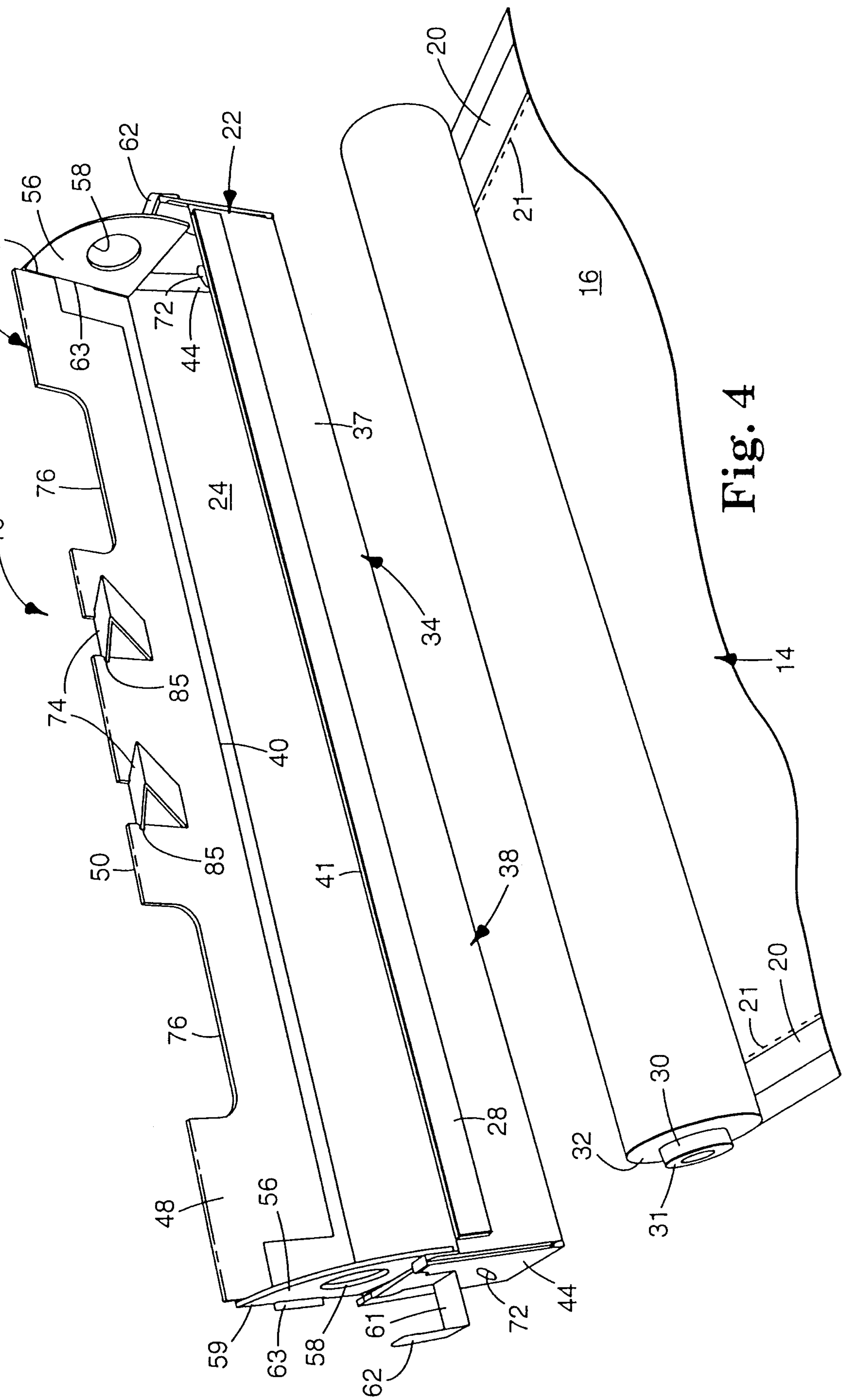
10
14
16
20
21
22
24
28
30
31
32
34
37
38
40
41
44
46
48
50
56
58
59
61
62
63
72
74
76
85

Fig. 4

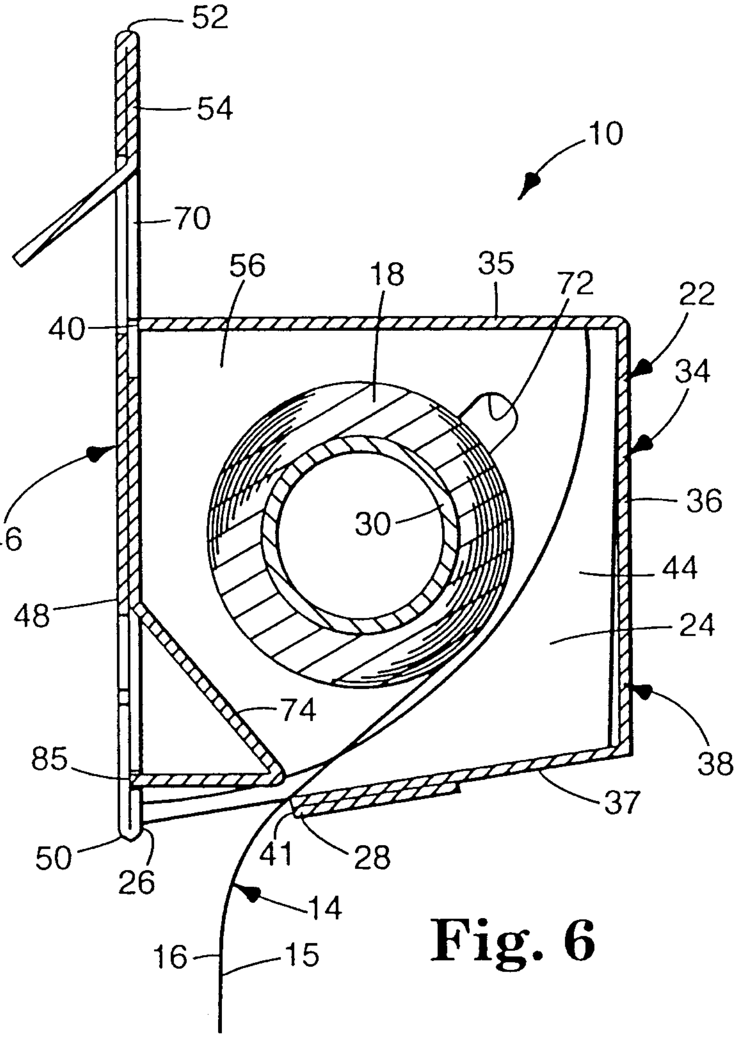
52
54
10
70
56
18
35
72
22
40
34
46
36
30
44
48
24
74
38
85
37
50
26
41
28
14
16
15

Fig. 6

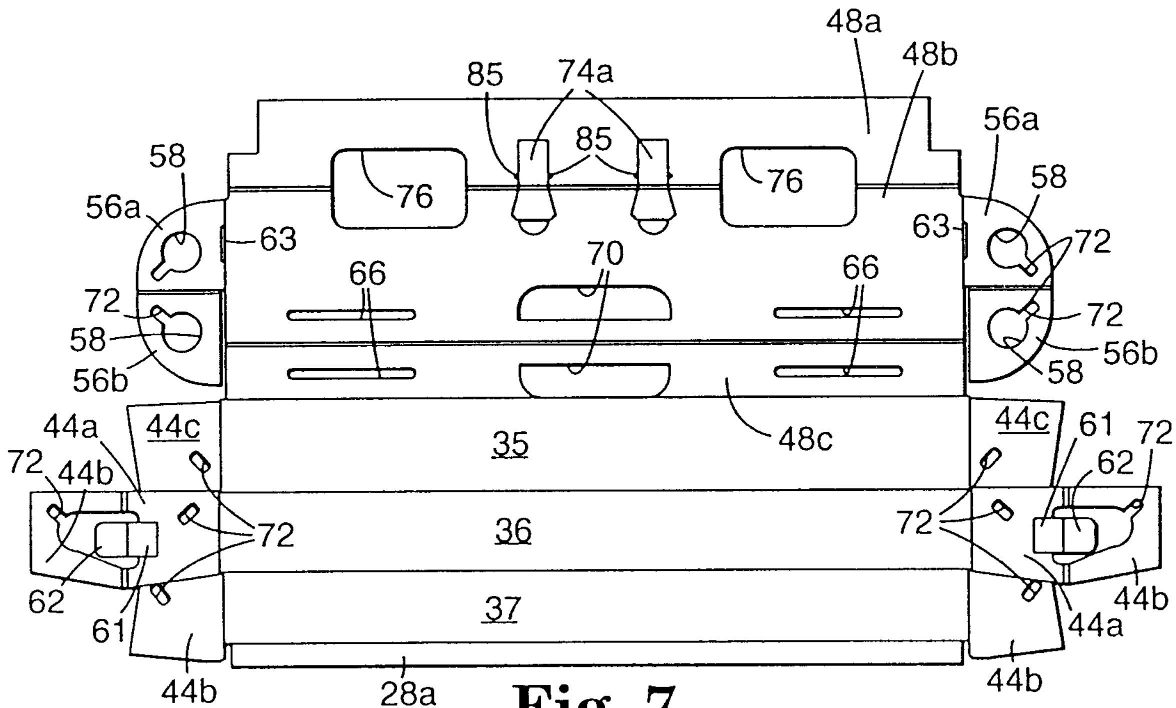
48a
48b
85
74a
56a
58
85
76
76
56a
58
63
63
72
70
66
66
72
72
58
56b
58
56b
44a
44c
35
48c
44c
61
72
72
44b
62
36
72
72
72
62
37
44b
61
44a
44b
28a
44b

Fig. 7

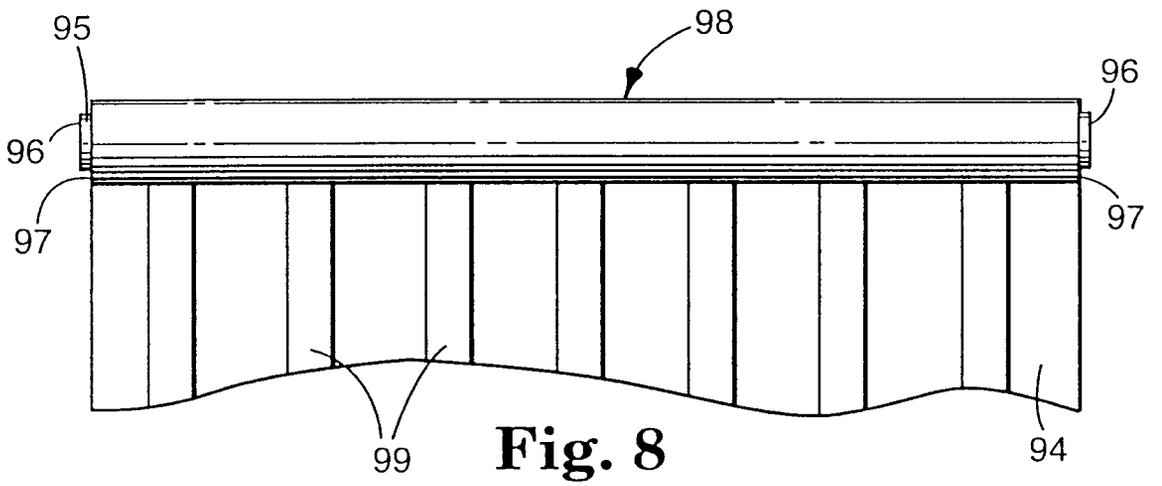

Fig. 8

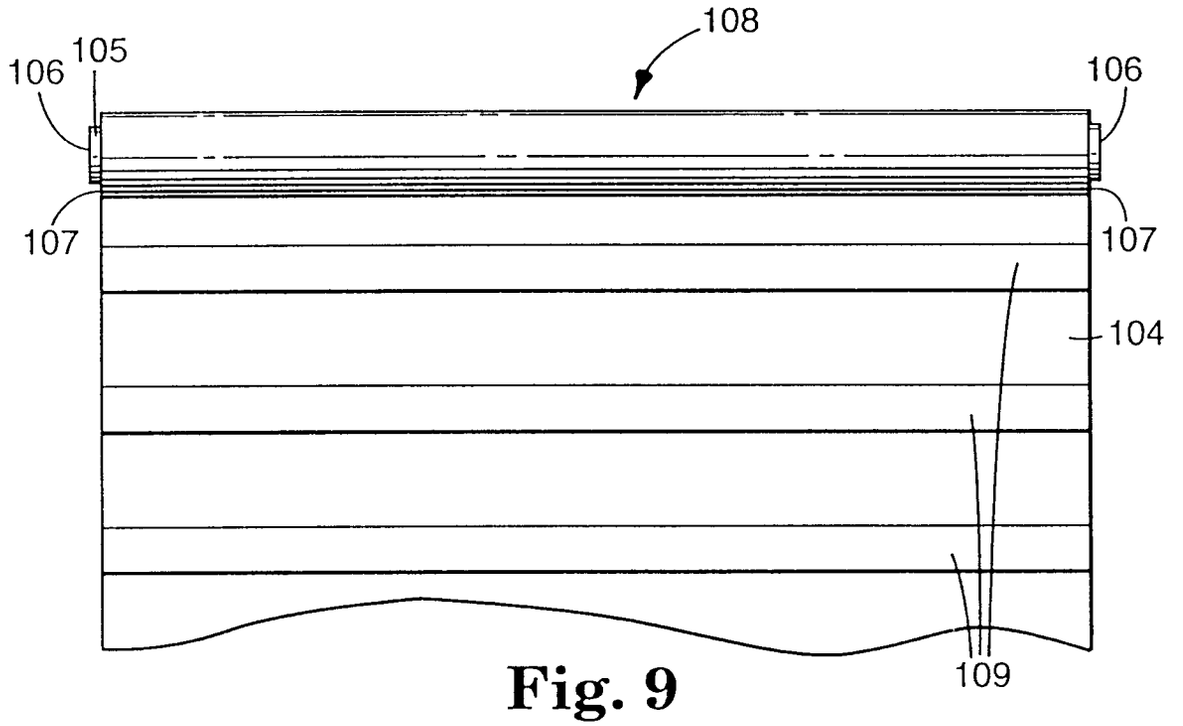

Fig. 9