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(54) **Arrangements for fastening fabrics to supporting structural members and standing sunshade made according thereof.**

Vorrichtung zur Befestigung von Geweben an eine Struktur tragenden Elementen und nach dieser Vorrichtung hergestellter Standschirm

Dispositif de fixation de tissus à des membres supportant une structure et parasol réalisé selon ce dispositif

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(56) References cited:  
**EP-A- 0 389 104**                    **EP-A- 0 524 272**  
**DE-A- 2 208 822**                    **GB-A- 321 557**  
**US-A- 5 242 004**

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## Description

**[0001]** This invention relates to an arrangement for fastening fabrics or canvas to supporting structural members applicable to covers made of fabric or cloth, tarpaulin canvases, big tops, large sized sunshades, screens, supporting and grooving fabrics, filters, etc. This arrangement for fastening fabrics is of the type including onto a longitudinal edge of said fabric, very close to the structural member to which it has to be fastened, an enlarged retaining element, which is arranged embedded within a related groove having a narrow mouth and a passageway downstream the section of said retaining element, this groove being shaped in said structural member.

**[0002]** According to the state of the art, several embodiments are known to fasten the end of a fabric or cloth to a supporting structural profile, for said purpose can be stated as examples the Spanish Utility Models nos. 113131, 222301, 247239, 262503, 271114 and 8802410 as well as European patents EP-A-415233 and EP-A-524272 and the German patent DE-A-2 208 822.

**[0003]** In all these backgrounds, different solutions are disclosed which either are little effective to achieve a tight fastening of the fabric or cloth to the profile or involve production an/or assembly costs which significantly increase the total cost of the structure involved.

**[0004]** The invention also refers to a sunshade, namely large sized, designed to be installed in terraces, gardens and any kind of environments exposed to weathering, although it can also be used in closed spaces such as fair premises, department stores, community spaces etc., constructed in accordance to the technical teaching of mentioned arrangement for fastening fabrics.

**[0005]** The concerned sunshade is of the type comprising radial arms on which are spread and joined a fabric, cloth or the like cover, namely composed of some sectors independent from each other, the longitudinal edges of which, close to said arms, comprises a retaining enlarged element which is arranged embedded within one of related narrowed entrance grooves provided on said radial arms. The make of the cover by means of a series of fabric or cloth sectors cut significantly down said cover manufacturing costs, and namely it simplifies and substantially shorten the job of assembling it and its tight joining (it must be capable of standing strong wind impacts) the radial arms.

**[0006]** A sunshade of above characteristics is disclosed in the aforementioned document EP-A-0524272 which in addition relates to the existence of said structure (fabric sectors) in prior patent FR-A-1 418 948. In referred European patent, means are disclosed to constitute said retaining means which ends the edge of the sunshade fabric cover, constituted by reinforcing elements of the fabric edge by means of a U-shaped portion of fabric or cloth which surrounds said edge, in order to

enlarge it and the portion of which is affixed to said edge through gluing, welding or sewing.

**[0007]** Referred embodiment, despite it simplifies carrying out French patent FR-A-1 418 948 which, in turn discloses joining means with eyes and linking elements, which could be affected by weathering, namely rain water, it still means a high cost manufacturing job, as it needs special machines and subtle finish work, while the result it offers has a limited effectiveness, because the retaining section is still limited to the edge itself of each fabric sector, retained within a narrowed mouth groove with the risk that, at any moment, and when it sustains strong wind impacts or unwilling pulls, it can be taken apart or broken away.

**[0008]** On the contrary, the arrangement as per the invention, particularly applied to a sunshade, proposes a solution which means a significantly simple achievement and mounting providing a higher security of the attachment and allowing a production and assembly under a low cost, particularly avoiding the requirement to use proceedings of high cost: sewing, welding, etc. or the use of special skilled forces, and the supporting structure of which and most of its component elements are basically composed by several extruded aluminum profiles, joined to each other by standardized elements which means a lower manufacturing cost. In addition said sunshade a very safe joining of each sector of fabric or cloth to the radial arms, no machines or skilled workers being required for its manufacturing and assembly.

**[0009]** According to the invention, said fabric or cloth edge retaining element of the edges of the cloth or canvas and in particular of each sunshade cover sector, for joining it to related radial arm is constituted by means of an elongated profile provided with a longitudinal opening within which profile a peripheral band remains locked, just close to a side edge of a related cover sector, locked in said profile and a strip, having a suitable shape, socketed in said opening. Said embodiment provides each fabric edge with a profile in the interior of which is tightly joined not a end or edge of the fabric but a peripheral band thereof, in a way it can hardly escape and said profile, in addition provides tightness and consistency to the arms union parts.

**[0010]** Said elongated profile with preference is obtained through extrusion, in order to cheapen its obtention and it forms a channel, for example having a U-shaped section, on the internal faces of which, in two longitudinal areas directly facing each other, there exists recesses, meanwhile said locking strip possesses a protruding mid portion, said strip span being such that it can be socketed within said channel introducing at same time a peripheral portion or band of the cover fabric, and remaining tightly locked within said "U" by the correspondence between recesses and protrusions of said profile and strip respectively, in a position of maximum embedding of the later.

**[0011]** On the other hand, the radial arms consists in some profiles obtained by extrusion provided with

grooves to house and fasten said profiles joined to the fabric edges or said grooves constituting a portion of the fastening profile of the fabric peripheral band.

**[0012]** Regardless of above, the proposed structure by means of independent sectors of fabric or cloth allows to match colors from the fabric and the profile constituting the radial arm.

**[0013]** The main characteristics of the arrangement for fastening fabrics to supporting structural members and the features of the sunshade obtained by its implementation, as well as its performances and advantages with respect to the state of the art, will result more apparent from the detailed description of preferred embodiment examples, which are described below with reference to drawing sheets.

**[0014]** In said drawings:

Figs. 1a, 1b, 1c show in cross section and schematically the object of this invention, which proposes to constitute the retaining element or fastening arrangement of the cover fabric edge by means of a pair of socketed members, locking between them a peripheral band of said fabric. Said figures show in three steps the union of the band just close to the side edge of the fabric to a grooved profile constituting said retaining element.

Fig. 2 shows in cross section, the arrangement of said retaining element within a groove of a structural member.

Figs. 3a, 3b and 3c are equivalents to Figs. 1a, 1b and 1c only including a change in the shape of the profile or retaining element.

Figs. 4, 4a, 5 and 6 shows in cross section through the cutting plane IV-IV of Fig. 8, the assembly of said retaining profile within another profile forming an structural supporting element (which can adopt several shapes) such as a radial arm of a sunshade on which rests a cover.

As far as it is concerned, Figs. 7a, 7b and 7c show another alternative embodiment of the retaining profile, said Figs. being equivalent to Figs. 1a - 1c and 3a - 3c previously referred.

Fig. 8 is a perspective view of the sunshade involved.

Fig. 9 shows in longitudinal section a radial arm and its hinging as well to a post linked in turn to a central mast as with an upper knot or element applied to the displacement of said arm.

Fig. 10 is an elevation view of the sunshade showing a folded radial arm and another unfolded.

Figs. 11 and 12 correspond to respective cross sections of the lower and upper sections of the mast, respectively.

Fig. 13 shows in an elevation longitudinal section, the mechanism to move the tubular element which acts on the radial arms in its folding and unfolding, being Figs. 14 and 15, respective cross sections of said mechanism by the cutting planes XIV-XIV and

XV-XV of Fig. 13.

Fig. 16 shows another example of embodiment which in an elevation view shows a simplified embodiment of the driving means of the ring coupled to the mast, in this case not fixed but coaxially movable, useful for the case of smaller sizes of sunshade.

Fig. 17 is a plan view cut by plane XVII-XVII of Fig. 16.

**[0015]** According to said figures, the sunshade object of this invention is characterized first in that the retaining element of the fabric edges -1- comprises a profile -2- -2b-, elongated as a channel, with a longitudinal opening -3- in the interior of which a peripheral band -1a- remains locked, very close to a side edge of a corresponding sector of the fabric -1- of the cover thanks to the introduction in the opening -3- of the profile -2- -2b- of a strip -4- which, embedded under pressure, tightly locks the portion -1a- of the fabric. This is due to the fact that the channel internal to the profile -2- -2b- shows at its internal faces some recesses -3a-, -3b- and the strip -4- in turn possesses a protruding central area -4a- (by its two faces) achieving thanks to it a tight embedding and a very tight locking of the band -1a- (see Figs. 3a, 3b and 3c). It can also be stated that the profile -2- possesses a slightly deformable constitution (its side branches can be slightly bent) to facilitate the introduction of the strip -4-, socketed under pressure. This strip -4- in addition possesses longitudinal ribs -4b- or a slightly toothed profile and it is ended at one of its edges by an elongated strip -4- which covers the channel -3- mouth (see Figs. 3a and 3c).

**[0016]** On the other hand, each radial arm comprises, according to example of Figs 4, 4a (and Figs. 5 and 6 including little variations) 3, a U-grooved profile -5- which shows side grooves -5a-, -5b-, with a central wall -6-, raised, the grooves -5a-, -5b-, of which receive the housed profiles -2- linked to the edges of the fabric or cloth -1- as it is shown in Fig. 2, said assembly being longitudinally introduced without it being possible they go out of said grooves -5a-, -5b- as they remain covered at the top by the setoff of said band -7-. In addition the profile -5- comprises side panels -5c- extending on the distal face of said band -7-, provided to clasp radial supporting posts -8-, joined to a ring -21- fixed to the mast -16- of the assembly support which is detailed below. The assembly is completed by end corks -9- fastened with end screws -9a- which complete each profile -2- locking to its related groove (see Figs. 4 and 4a).

**[0017]** In another example or optional variant (see Fig. 5) the profile -10- also comprises side grooves -11-, 11a- with separating walls -12-, -12a-, the grooves -11-, -11a- of which form in this case equivalents of the profiles -2- shown in Figs. 3a to 3c, as they receive directly embedded the strips -4- and within them a peripheral band -1a- of fabric or cloth -1- remains locked. Also, in this case, the profile -10- is extended in the lower part

by walls -10a- which surrounds the radial supporting posts -15-. In this case an upper cover -13- has been provided which covers and protects (namely from the rain) the mouths of said grooves -11- and -11a-, adopting a shape similar to the strip -7- disclosed in Fig. 4, leaving a slot for the fabric -1- exit. Optionally, it was thought to include in addition some rivets -29-, transversal to each groove -11-, -11a- which tightly fasten them on related post -4- embedded in them. Fig. 5 show an alternative embodiment of the radial arm of Fig. 4

[0018] On the other hand and with reference to Figs. 11 and 12, it can be seen in them that in a first example of embodiment, devised for wide span sunshades having a diameter equal to 4 m or over, the mast -16- is hollow and it has embedded in it a tubular, quadrangular element -17- which can be moved telescopically guided by angular profiles and is ended at the top by an annular element -18- with a plurality of pairs of radial bored wings -19- to which is connected with a bolt -20- the internal ends of the radial arms -5- or -10-. In addition, tightly joined to the post -17- there exists another annular element -21- with analogous wings -21a-, collar-like, fixed at the mast -16- at which wings -21a- are hinged the internal ends of some radial members -23-, depending on supporting posts of the radial arms -5- themselves, to which they are connected by their external end by the bolt -22- introduced within the walls -5c- or -10a-. It has to be pointed out that said annular elements -18-, -21- with wings -19-, -21a- are obtained by cutting the related extruded profile, which cheapens significantly its cost. Figs. 8 and 10 illustrates some of said sunshade elements.

[0019] The driving or operating mechanism of the central tubular element -17-, telescopically movable and which in this case means shutting the sunshade by upward movement of the tubular element -17-, are with preference constituted in the case of a large sized sunshade, a set of gears -24- driven by an external handle -25-, making the upright spindle -26- rotate, on which a centrally threaded plate -27- is moving like a nut, in a high resistance material, linked to the lower part of the tubular element -17- (see Figs. 13, 14 and 15).

[0020] Figs. 16 and 17 show an example of embodiment which implementates the principles of the invention, i.e. the means for joining the edges of each cloth or fabric sector -1- to the radial arms -5-, -10-, comprising in this case a minor sized in which a classical fastening has been chosen, i.e. with displacement of the annular element -30- to which are hinged the radial posts or ribs -31- coaxially to the mast -32-.

[0021] In this case it has been provided through driving an endless flexible element, such as a cord or belt -33-, joined to the ring -30- and which runs parallel to the mast -32- supported on guide cylinders -34-, 34a- or rollers -35-, -35a- Although the example includes the rollers -35-, -35a- in the interior of the mast -32- this embodiment could include the cord or belt -33- parallel to both opposite sides of the mast -32-, supported on suit-

able guide rollers or cylinders.

## Claims

1. Arrangement for fastening fabrics or canvas to supporting structural members applicable to covers, tarpaulin canvases, large sized sunshades, screens, supporting and grooving fabrics or filters, including a structural member to which a longitudinal edge of said fabric (1) has to be fastened a groove being shaped in said structural member, having a narrow mouth and a passageway, an enlarged retaining element (2) being embedded within said groove, said retaining element comprising an elongated profile provided with a longitudinal opening (3) and a strip (4) having suitable shape, socketed in said longitudinal opening **characterized in that** a peripheral band (1a) formed by a side edge of said fabric to be fastened remains secured and locked between said profile and said strip (4).
2. Arrangement, according to claim 1, **characterized in that** said elongated profile is obtained through extrusion and forms a channel, in the internal faces of which there exists, in two directly facing each other areas, some recesses and **in that** said locking strip possesses a protruding mid part, the span of said strip being so that it can be embedded in the interior of said channel introducing at same time a peripheral portion or band of cover fabric and remaining tightly fastened within said channel by correspondence between concavities and protrusions of said profile and strip, respectively, in a position of maximum socketing of the later.
3. Arrangement, according to claim 2, **characterized in** the said locking strip comprises, on its side surface, longitudinal ribs and is ended with an elongated band which covers the mouth of the channel.
4. Arrangement, according to the previous claims, **characterized in that** said channelled profiles are formed in the structural members themselves, obtained through extrusion as grooves provided to receive, socketed, the locking strip.
5. Arrangement, according to claim 4, **characterized in that** the groove is very close to a wall of said structural member and **in that** it further includes rivets transversal to each groove which tightly fasten its related strip socketed thereto.
6. Arrangement, according to any of the claims 1 to 3, **characterized in that** the structural members have at least one groove provided to receive socketed through longitudinal insertion said profile attached to the edges of the cloth.

7. Sunshade with an arrangement according to any of the previous claims, namely a large sized sunshade, comprising radial arms forming said structural members on which said fabric, cloth or the like cover is arranged and joined, composed of sectors independent from each other. 5
8. Sunshade, according to claim 7, **characterized in that** said elongated profile is obtained through extrusion and forms a channel, in the internal faces of which there exists, in two directly facing each other areas, some recesses and **in that** said locking strip possesses a protruding mid part, the span of said strip being so that it can be embedded in the interior of said channel introducing at same time a peripheral portion or band of cover fabric and remaining tightly fastened within said channel by correspondence between concavities and protrusions of said profile and strip, respectively, in a position of maximum socketing of the later. 10
9. Sunshade, according to claim 8, **characterized in that** said profile (2) adopts a U-shaped cross section with its branches adapted to slightly bend themselves to aid said strip to be locked thereto by socketing. 15
10. Sunshade, according to claim 9, **characterized in that** said U-shape channelled profiles are formed in the radial arms themselves, obtained through extrusion, which include in areas very close to its sides, upperly opened grooves, separated by at least a raised wall, said grooves being provided to receive, socketed, respective locking strips and **in that** it has been provided a cover, having the shape of a longitudinal band with two opposite inclination sides which covers in setoff the upper part of said two grooves delimiting at both sides some slots for fabric passing, said band being fastened to the arm by internal appendages which are coupled to mentioned at least one raised wall, and it is further foreseen that each arm shows some extensions of their lower face constituted by side walls designed to surround supporting posts. 20
11. Sunshade according to any one of the claims 7 to 10, **characterized in that** the radial arms comprise profiles obtained through extrusion which include a main portion having U-shaped grooves at their sides, separated by at least one intermediate wall which upwardly extends in a longitudinal ban having two opposite inclination sides which covers in setoff the entrance of said grooves, delimitating a small slot for the fabric passing, said grooves being adapted to receive longitudinally introduced said profile linked to the edges of each cover sector of the cover fabric and because under said pair of grooves the profile extends in side walls designed

to surround the supporting posts.

12. Sunshade according to claim 7 **characterized in that** it comprises a hollow central mast in which a tubular element is introduced which is adapted to be telescopically moved by driving means, such as a spindle, said tubular element ending at the top by a first annular element provided with a plurality of pairs of radial bored wings, each pair being angularly equispaced, to which internal ends of said radial arms are hinge connected by a bolt.
13. Sunshade according to claim 12 **characterized in that** a second annular element has being provided, which also includes a plurality of radial bored wings pairs, each pair angularly equispaced, said annular element constituting a collar fixed to the central mast, to which it is coaxial, and on which are hinged the external ends of crossbars acting as supporting strips of the radial arms, said strips are in turn hinged by their external free end, introduced between said extension side walls.
14. Sunshade according to claim 7, **characterized in that** it comprises an annular element to which the supporting strips of the radial arms supporting the cover are joined, said annular element being movable coaxially to the mast and linked to an endless flexible element which runs parallel to the mast surrounding some guide rollers or cylinders duly anchored to the mast. 25

#### Patentansprüche

1. Anordnung zur Befestigung von Stoffen oder Leintüchern an tragenden Bauelementen, die bei Abdeckungen, Zeltleinwänden, großflächigen Sonnenschirmen, Abschirmungen, Stütz- und Rillensstoffen bzw. -filtern zum Einsatz kommen, mit einem Bauelement, an dem eine Längskante des Stoffes (1) befestigt werden soll, wobei in dem Bauelement eine Rille mit enger Öffnung und einem Durchgang ausgebildet ist, wobei in der Rille ein vergrößertes Halteelement (2) eingebettet ist, wobei das Halteelement ein Längsprofil aufweist, die mit einer Längsöffnung (3) und einer Leiste (4) mit entsprechender Form versehen ist, das mit der Längsöffnung verbunden ist, **dadurch gekennzeichnet, dass** ein durch eine Seitenkante (1a) des zu befestigenden Stoffes gebildetes Umfangsband zwischen dem Profil und der Leiste (4) fest gehalten und eingeschlossen ist. 30
2. Anordnung nach Anspruch 1, **dadurch gekennzeichnet, dass** das Längsprofil mittels Extrusion entsteht und einen Kanal bildet, an dessen Innenflächen in zwei sich direkt gegenüberliegenden Be-

- reichen einige Aussparungen vorhanden sind und dass die Verschlussleiste einen hervorstehenden Mittelteil aufweist, wobei die Spannweite der Verschlussleiste so beschaffen ist, dass sie im Innern des Kanals eingebettet werden kann, wobei gleichzeitig ein peripherer Abschnitt bzw. Band des Abdeckstoffes in den Kanal eingebracht und darin durch Entsprechung der Konkavitäten und Vorsprünge des Profils bzw. der Leiste in einer Stellung mit maximalem Eingriff der letzteren fest verankert wird.
3. Anordnung nach Anspruch 2, **dadurch gekennzeichnet, dass** die Verschlussleiste an der Seitenfläche Längsrippen aufweist und mit einem Längsband abgeschlossen wird, das die Öffnung des Kanals überdeckt.
4. Anordnung nach den vorhergehenden Ansprüchen, **dadurch gekennzeichnet, dass** die Ausbildung der Kanalprofile in den Bauelementen selbst erfolgt, die durch Extrusion mit Rillen hergestellt werden und zur Aufnahme der darin einrastenden Verschlussleiste dienen.
5. Anordnung nach Anspruch 4, **dadurch gekennzeichnet, dass** sich die Rille sehr nahe an der Wand des Bauelements befindet und dass die Anordnung weiterhin quer zur jeweiligen Rille verlaufende Nieten aufweist, die die jeweilige darin eingearastete Leiste fest verbinden.
6. Anordnung nach einem der Ansprüche 1 bis 3, **dadurch gekennzeichnet, dass** die Bauelemente mindestens eine Rille zur Aufnahme des durch Längseinschieben eingerastete, an den Rändern des Tuchs befestigten Profils aufweisen.
7. Sonnenschirm mit einer Anordnung nach einem der vorhergehenden Ansprüche, und zwar ein großflächiger Sonnenschirm mit radialen Armen, durch die die Bauelemente gebildet werden, an denen der aus Abschnitten unabhängig voneinander bestehende Stoff, das Tuch oder eine ähnliche Abdeckung angeordnet und verbunden ist.
8. Sonnenschirm nach Anspruch 7, **dadurch gekennzeichnet, dass** das Längsprofil durch Extrusion hergestellt wird und einen Kanal bildet, an dessen Innenflächen in zwei sich direkt gegenüberliegenden Bereichen einige Aussparungen vorhanden sind und dass die Verschlussleiste einen hervorstehenden Mittelteil aufweist, wobei die Spannweite der Verschlussleiste so beschaffen ist, dass sie im Innern des Kanals eingebettet werden kann, wobei gleichzeitig ein peripherer Abschnitt bzw. Band des Abdeckungsstoffes in den Kanal eingebracht und darin durch Entsprechung der Konkavitäten und
- Vorsprünge des Profils bzw. der Leiste in einer Stellung mit maximalem Eingriff der letzteren fest verankert wird.
9. Sonnenschirm nach Anspruch 8, **dadurch gekennzeichnet, dass** das Profil (2) einen U-förmigen Querschnitt annimmt, wobei dessen Arme sich leicht verbiegen können, damit die Leiste darin durch Einrasten eingeschlossen werden kann.
10. Sonnenschirm nach Anspruch 9, **dadurch gekennzeichnet, dass** die Ausbildung der U-förmigen Kanalprofile in den durch Extrusion hergestellten radialen Armen selbst erfolgt, die in Bereichen sehr nahe an der Wand oben offene Rillen aufweist, die durch mindestens eine hochgezogene Wand voneinander getrennt sind, wobei die Rillen zur Aufnahme der jeweiligen einrastenden Verschlussleisten dienen, und dass eine Abdeckung vorhanden ist, die die Form eines Längsbands mit zwei einander gegenüber liegenden Schrägseiten aufweisen, durch die versetzt der obere Teil der zwei Rillen überdeckt wird, die auf beiden Seiten Schlitze zum Durchschieben des Stoffs abgrenzen, wobei das Band an dem Arm mittels innerer Fortsätze befestigt ist, die an die mindestens eine, zuvor genannte, hochgezogene Wand gekoppelt sind, wobei des weiteren vorgesehen ist, dass jeder Arm einige Verlängerungen seiner aus Seitenwänden bestehenden Bodenflächen zeigt, die zur Umschließung der Stützpfeiler dienen.
11. Sonnenschirm nach einem der Ansprüche 7 bis 10, **dadurch gekennzeichnet, dass** die radialen Arme durch Extrusion hergestellte Profile mit einem Hauptabschnitt mit U-förmigen Rillen an der Seite aufweisen, die durch mindestens eine Zwischenwand voneinander getrennt sind, die sich nach oben in einem Längsband mit zwei einander gegenüber liegenden Schrägseiten erstrecken, durch die versetzt der Eingang der Rillen überdeckt wird, die einen kleinen Schlitz zum Durchschieben des Stoffs abgrenzen, wobei die Rillen so beschaffen sind, dass sie das längs eingeführte, mit den Rändern des jeweiligen Deckbereichs des Abdeckstoffes verbundene Profil aufnehmen, und dass sich das Profil unter dem Rillenpaar bis zu den Seitenwänden erstreckt, die zur Umschließung der Stützpfeiler dienen.
12. Sonnenschirm nach Anspruch 7, **dadurch gekennzeichnet, dass** er einen hohlen Zentralmast aufweist, in den ein rohrförmiges Element eingeführt wird, das so beschaffen ist, dass es durch Antriebsmittel, wie z.B. eine Spindel, teleskopisch beweglich ist, wobei das rohrförmige Element am oberen Ende durch ein erstes ringförmiges Element abgeschlossen ist, das mit mehreren Paaren radialer

durchbohrter Flügel versehen ist, wobei jedes Paar voneinander den gleichen winkligen Abstand aufweist, mit dem die Innenenden der radialen Arme mit einem Bolzen gelenkverbunden sind.

13. Sonnenschirm nach Anspruch 12, **dadurch gekennzeichnet, dass** er ein zweites ringförmiges Element aufweist, das ebenfalls mehrere Paare radialer durchbohrter Flügel aufweist, wobei jedes Paar voneinander den gleichen winkligen Abstand aufweist, wobei das ringförmige Element aus einem am Zentralmast befestigten Bund besteht, der koaxial zum Mast verläuft und mit dem die Außenenden der Querleisten, die als Stützbänder für die radialen Arme fungieren, gelenkverbunden sind, wobei die Bänder ihrerseits mit ihrem, zwischen den verlängerten Seitenwänden eingeschobenem, freien äußeren Ende gelenkverbunden sind.

14. Sonnenschirm nach Anspruch 7, **dadurch gekennzeichnet, dass** er ein ringförmiges Element aufweist, an dem Stützbänder für die die Abdeckung tragenden radialen Arme befestigt sind, wobei das ringförmige Element koaxial zum Mast beweglich und mit einem endlosen flexiblen Element verbunden ist, das parallel zum Mast verläuft, der einige Führungsrollen bzw. Zylinder umgibt, die fest am Mast verankert sind.

## Revendications

1. Système destiné à fixer du tissu ou de la toile sur des éléments structurels de support, applicable aux couvertures, toiles de bâches, stores de grandes dimensions, écrans, tissus de support et rainurés ou filtres, y compris un élément structurel sur lequel le bord longitudinal de ce tissu (1) doit être fixé, une rainure étant prévue dans cet élément structurel, élément présentant une ouverture étroite de passage, un élément de rétention élargi (2) étant encastré dans cette rainure, cet élément de rétention présentant un profil allongé muni d'une ouverture longitudinale (3) et d'une bande (4) de forme adéquate, logé dans cette ouverture longitudinale, **caractérisé par le fait qu'une bande périphérique formée par le bord latéral de ce tissu à fixer est maintenue et bloquée entre ce profil et cette bande (4).**

2. Système, conformément à la revendication 1, **caractérisé par le fait que** ce profil allongé est obtenu par extrusion et forme une gouttière dans la face interne duquel se trouvent, dans deux zones se faisant directement face, des renforcements et **par le fait que** cette bande de fermeture présente au centre une partie en saillie, la portée de cette bande étant telle qu'elle peut être encastrée à l'intérieur de cette gouttière en introduisant en même temps une

portion périphérique ou bande de tissu de couverture, cette bande restant fermement fixée à l'intérieur de cette gouttière grâce à la concordance entre les concavités et les saillies de ce profil et de cette bande respectivement, dans une position d'emboîtement maximal de cette dernière.

3. Système, conformément à la revendication 2, **caractérisé par le fait que** cette bande de fixation comporte à la surface latérale des côtes longitudinales et se termine par une bande allongée qui recouvre la bouche de la gouttière.

4. Système, conformément aux revendications précédentes, **caractérisé par le fait que** ces profils en forme de gouttière sont réalisés dans les éléments structurels eux-mêmes, obtenus par extrusion en tant que rainures prévues pour recevoir, emboîtée, la bande de fermeture.

5. Système, conformément à la revendication 4, **caractérisé par le fait que** la rainure est très proche d'une cloison de cet élément structurel et qu'elle inclut de plus des rivets transversaux à chaque rainure qui servent à fixer fermement la bande respective emboîtée.

6. Système, conformément à l'une des revendications 1 à 3, **caractérisé par le fait que** les éléments structurels présentent au moins une rainure prévue pour recevoir par emboîtement par introduction longitudinale ce profil fixé sur les bords du tissu.

7. Store présentant un système conforme à n'importe laquelle des revendications précédentes, plus précisément un store de grande dimension, comportant des bras radiaux formant ces éléments structurels sur lesquels le tissu, toile ou couverture similaire est disposé et auxquels il est uni, se composant de secteurs indépendants les uns des autres.

8. Store, conformément à la revendication 7, **caractérisé par le fait que** ce profil allongé est obtenu par extrusion et forme une gouttière, dans la face interne de laquelle se trouvent dans deux zones se faisant directement face, des renforcements et **par le fait que** cette bande de blocage est munie d'une partie centrale en saillie, la portée de cette bande étant telle qu'elle peut s'emboîter à l'intérieur de cette gouttière en introduisant en même temps une partie périphérique ou bande de tissu de couverture, celle-ci restant fermement fixée attachée à l'intérieur de cette gouttière grâce à la concordance entre les concavités et les saillies du profil et de la bande respectivement, dans une position d'emboîtement maximal de cette dernière.

9. Store, conformément à la revendication 8, **caracté-**

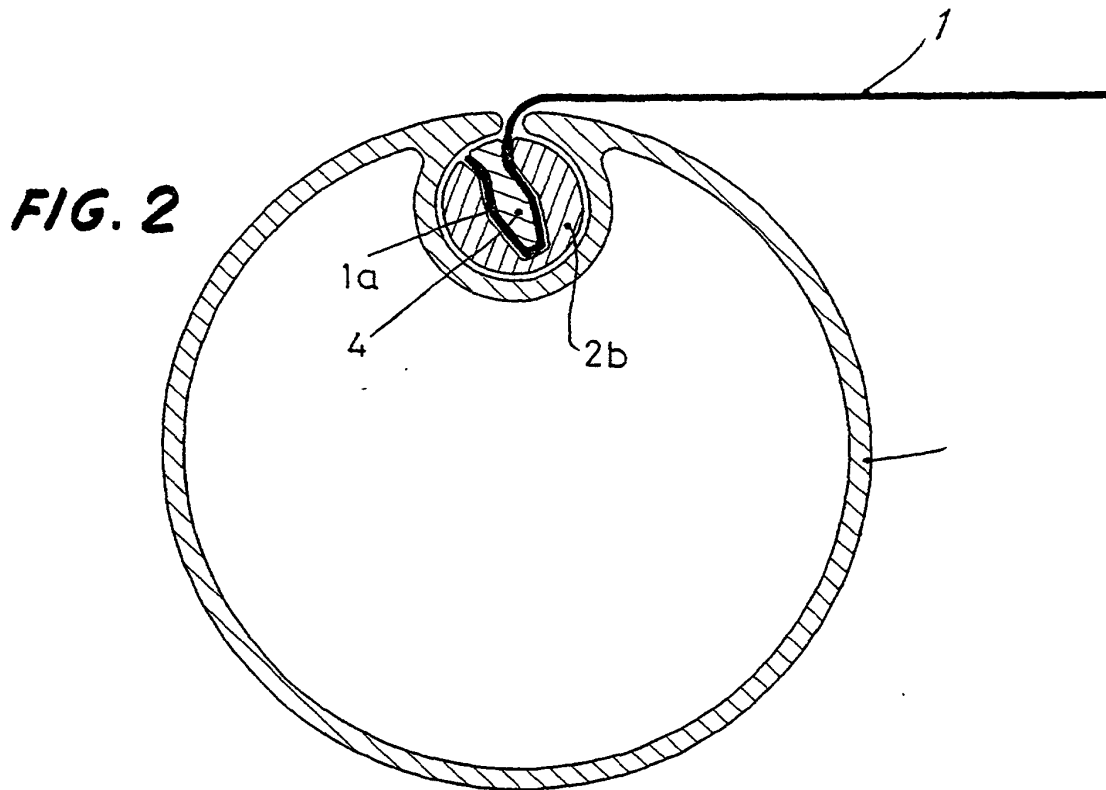
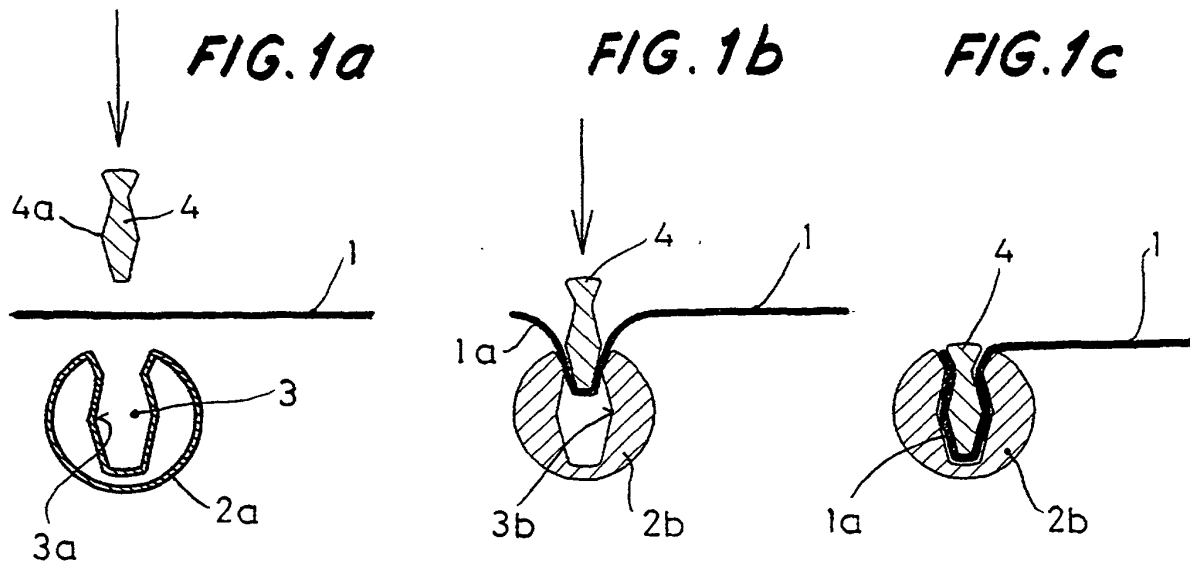
**risé par le fait que** le profil (2) présente une section transversale en forme de U dont les branches ont été prévues pour se cintrer afin de façon à aider la bande à être bloquée par emboîtement.

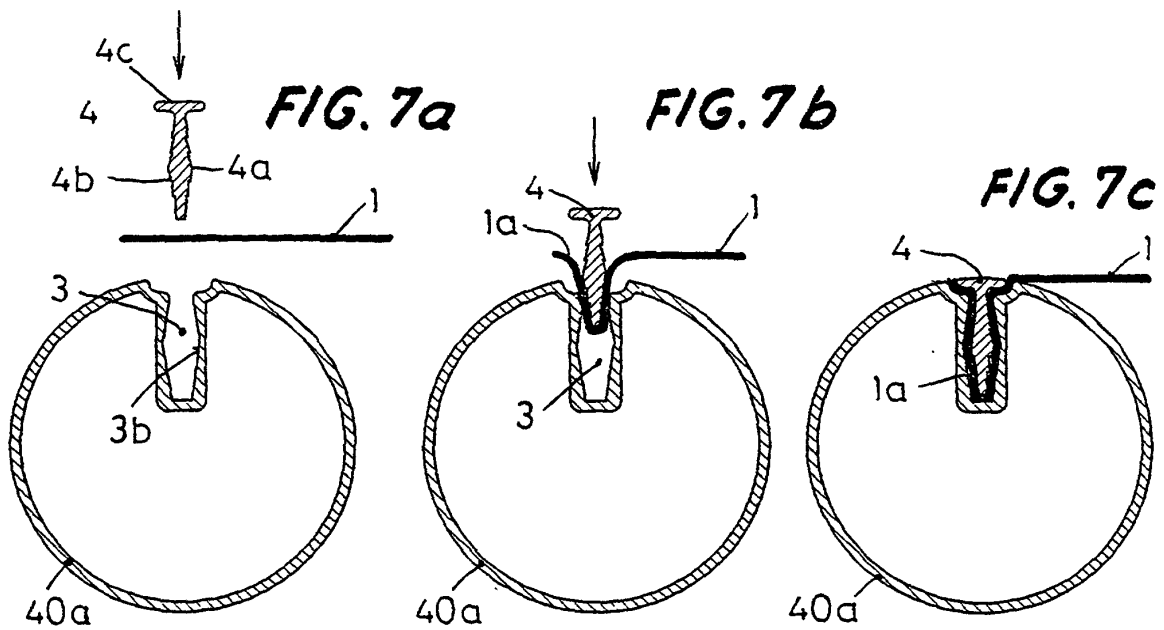
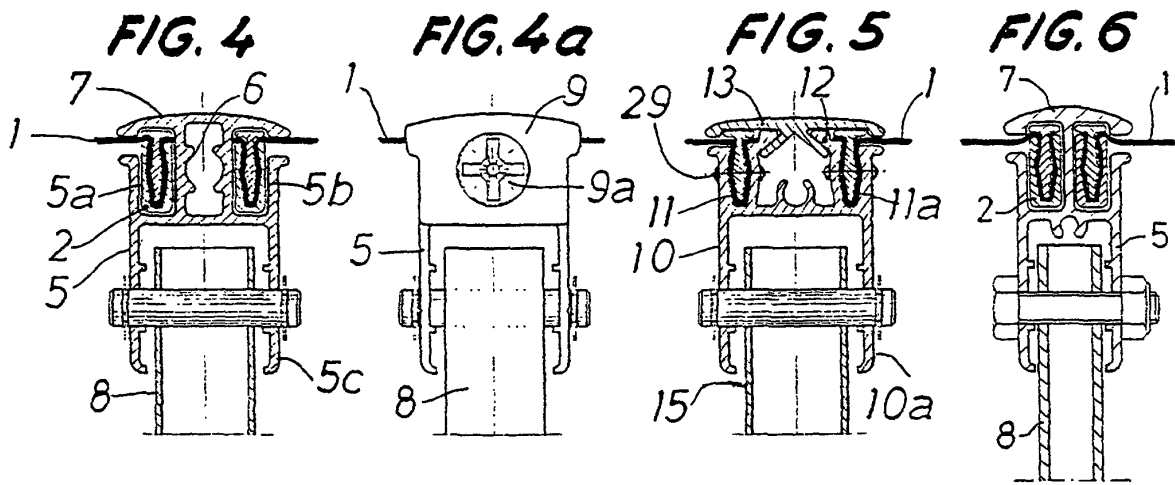
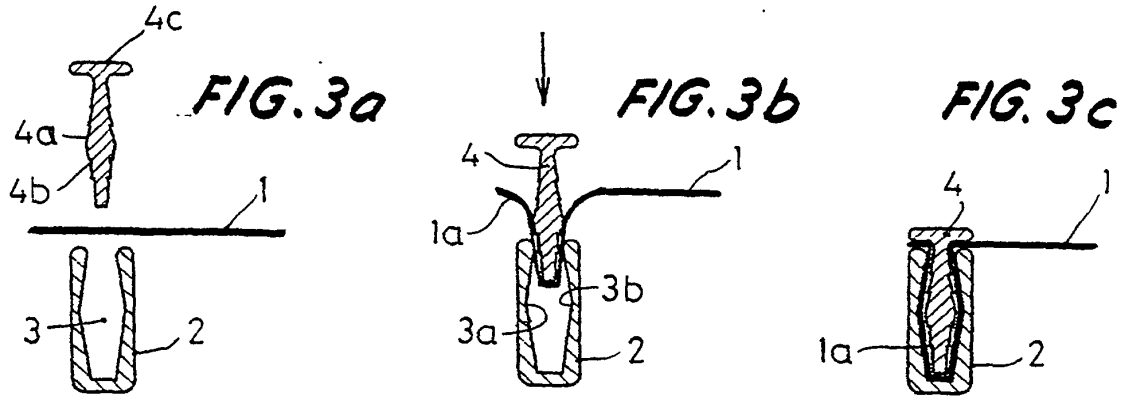
- 5
10. Store, conformément à la revendication 9, **caracté-**  
**risé par le fait que** ces profils en U en forme de  
 gouttière sont réalisés dans les bras radiaux eux-  
 mêmes, obtenus par extrusion, ce qui inclut dans  
 des parties très proches de leurs côtés, des rainu-  
 res ouvertes vers le haut, séparées par au moins  
 une cloison verticale, ces rainures étant prévues  
 pour recevoir emboîtées leurs bandes de blocage  
 respectives et **par le fait qu'on** a prévu un couver-  
 cle, ayant la forme d'une bande longitudinale ayant  
 deux côtés inclinés opposés qui recouvrent en s'en  
 détachant la partie supérieure de ces deux rainures  
 et délimitent des deux côtés des fentes permettant  
 au tissu de passer, cette bande étant fixée aux bras  
 par des appendices internes qui sont accouplés au  
 moins à l'une des cloisons verticales déjà mention-  
 nées, et l'on a prévu de plus que chaque bras pré-  
 sente quelques extensions sur sa face inférieure  
 constituées par les cloisons latérales prévues pour  
 entourer les poteaux de support. 10  
 15  
 20  
 25
11. Store conformément à l'une quelconque des reven-  
 dications 7 à 10, **caractérisé par le fait que** les  
 bras radiaux comportent des profils obtenus par ex-  
 trusion qui comprennent une partie principale dotée  
 de rainures en forme de U sur le côté, séparés par  
 au moins un mur intermédiaire qui s'étend vers le  
 haut sous forme de lèvre longitudinale ayant deux  
 côtés inclinés opposés qui recouvrent en s'en écar-  
 tant l'entrée de ces rainures, délimitant ainsi une pe-  
 tite fente prévue pour le passage du tissu, ces rai-  
 nures étant prévues pour recevoir introduit longitu-  
 dinalement le profil rattaché aux bords de chaque  
 secteur de recouvrement du tissu de couverture et  
 parce que sous cette paire de rainures, le profil  
 s'étend dans les murs latéraux prévus pour entou-  
 rer les poteaux support. 30  
 35  
 40
12. Store conformément à la revendication 7, **caracté-**  
**risé par le fait qu'il** comporte un mât central creux 45  
 dans lequel est introduit un élément tubulaire qui  
 est adapté pour être déplacé de manière télescopi-  
 que par des moyens d'entraînement, tels qu'une  
 broche, cet élément tubulaire se terminant au som-  
 met par un premier élément annulaire muni de plu-  
 sieurs paires d'ailes radiales perforées, chaque pai-  
 re étant angulairement équidistante, auxquelles les  
 extrémités internes de ces bras radiaux sont à cha-  
 mière étant connectée par un écrou. 50  
 55
13. Store conformément à la revendication 12, **carac-**  
**térisé par le fait qu'un** second élément annulaire  
 a été prévu, comportant également plusieurs paires

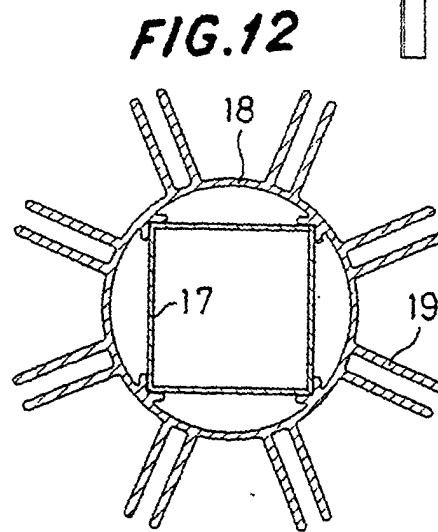
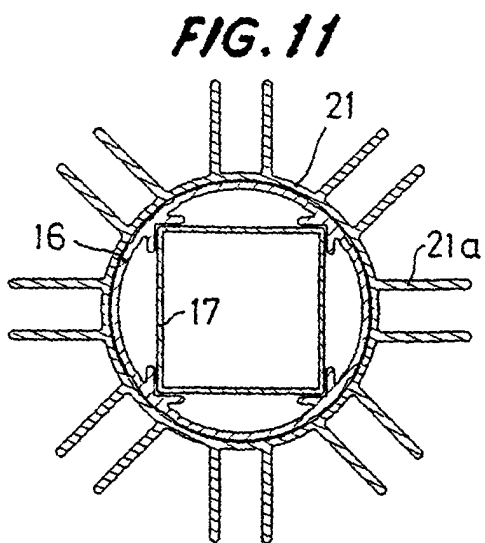
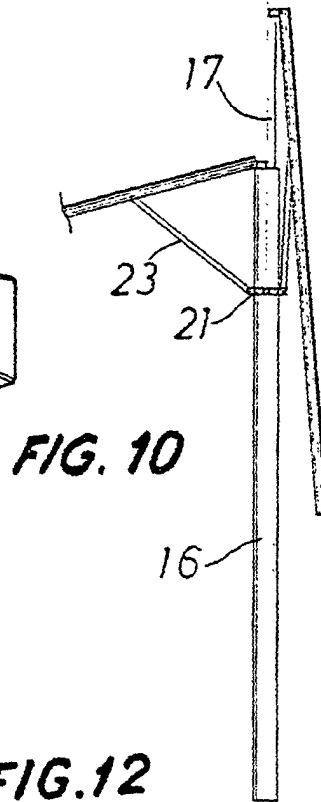
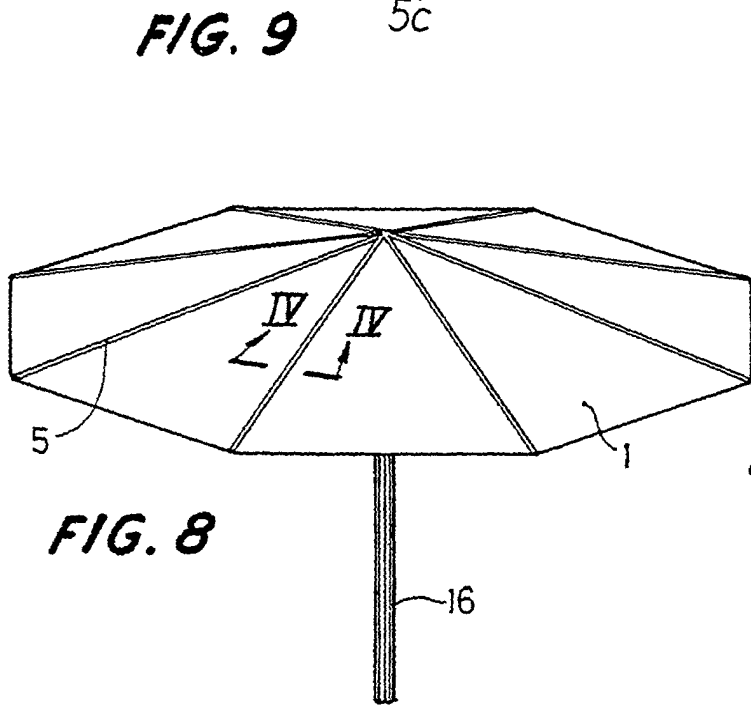
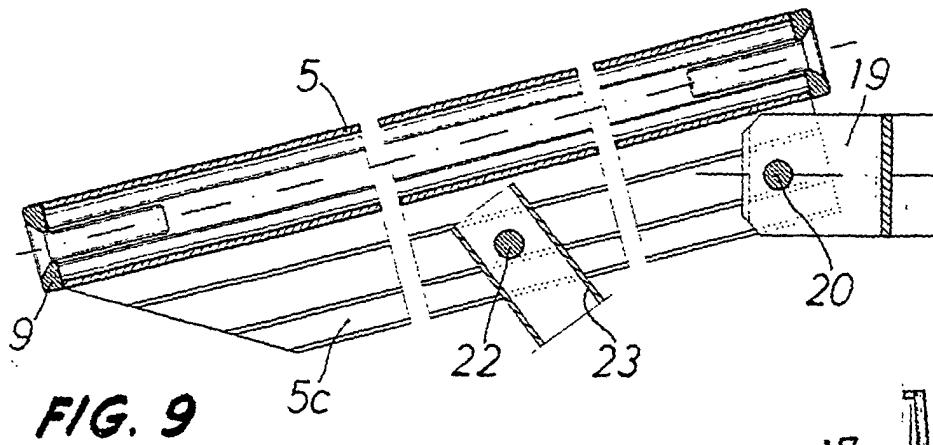
d'ailes radiales perforées, chaque paire angulaire-  
 ment équidistante, cet élément annulaire consti-  
 tuant un collier fixé au mât central, avec lequel il est  
 coaxial, et sur lequel sont accrochées par des char-  
 nières les extrémités externes des barres servant  
 de bandes support des bras radiaux, ces bandes  
 étant à leur tour accrochés par des charnières par  
 leur extrémité libre externe, introduites entre les  
 cloisons latérales d'extension.

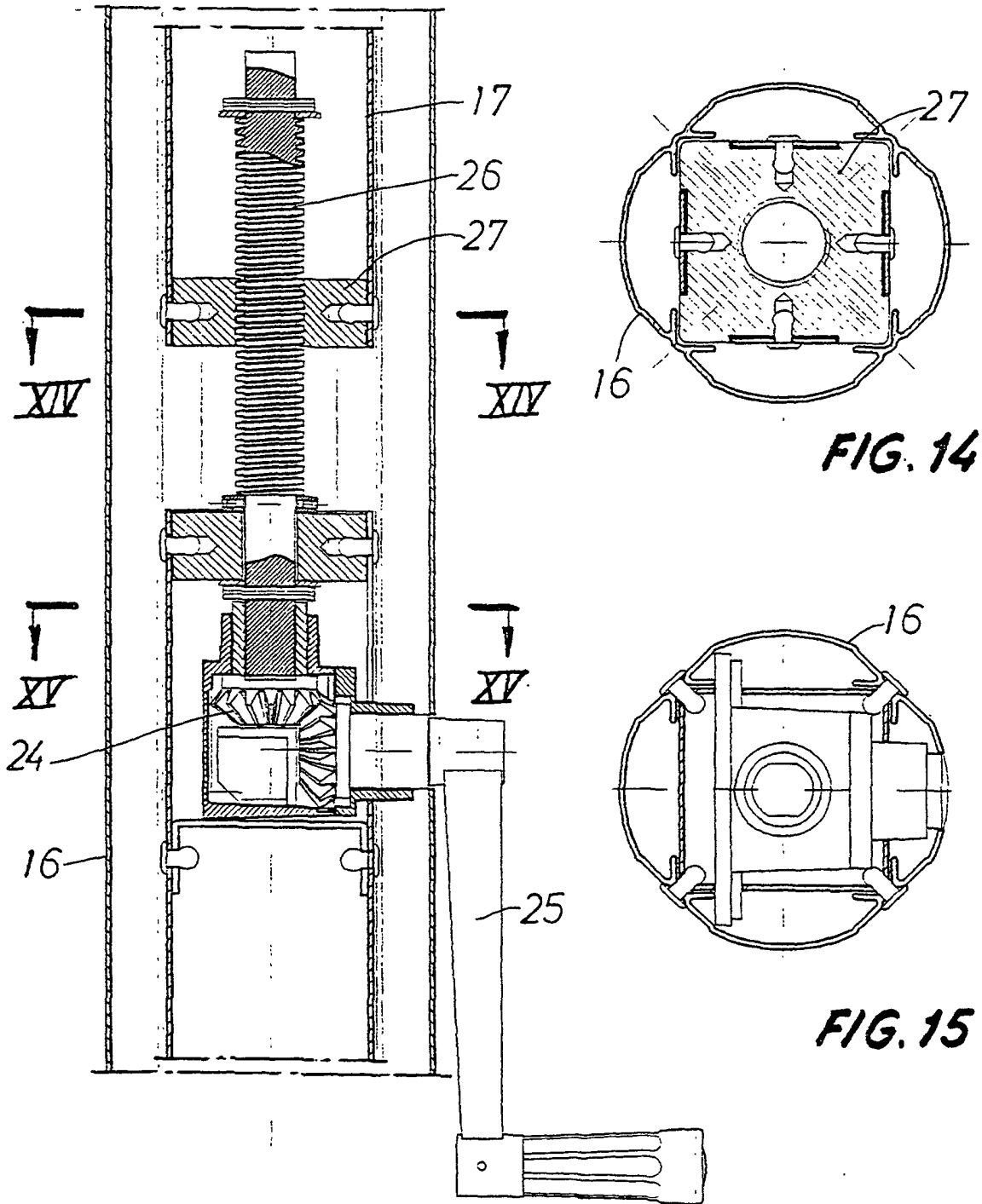
14. Store conformément à la clause 7, **caractérisé par**  
**le fait qu'il** comporte un élément annulaire auquel  
 sont unies les bandés support des bras radiaux  
 supportant la couverture, cet élément annulaire  
 étant mobile coaxialement par rapport au mât et rat-  
 taché à un élément flexible sans fin qui est parallèle  
 au mât et entoure les roues de guidage ou cylindres  
 bien ancrés à ce mât.







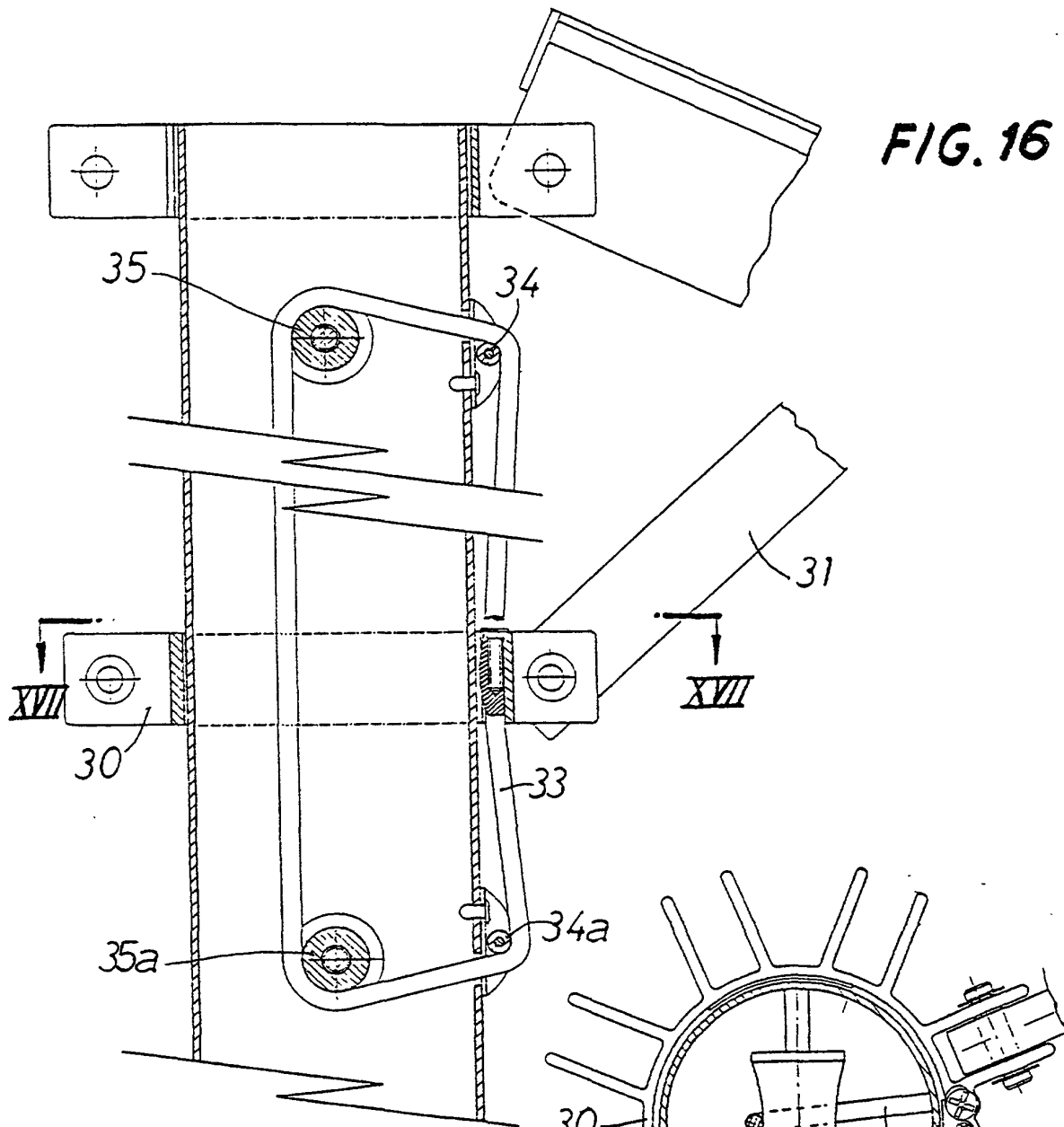




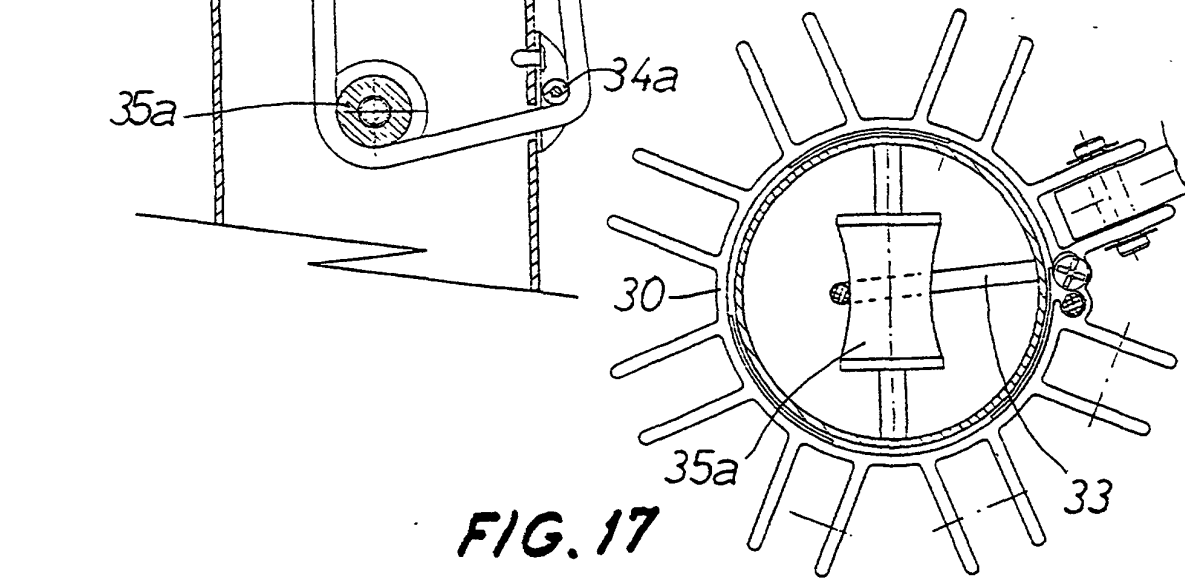
**FIG. 13**

**FIG. 14**

**FIG. 15**



**FIG. 16**



**FIG. 17**