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(54) **Pitch awning**

(57) Pitch awning which comprises a cloth (3) having a plurality of pitches (4) substantially parallel to each other and movable along a slide direction (Y) substantially orthogonal to the extension direction (X) of the pitches (4), between at least one retracted position (A), in which the pitches (4) are arranged close to each other, and at least one extended position (B), in which the pitches (4) are at least partially extended above the area to be covered (5). Each of the pitches (4) is delimited by a bottom fold (6) and by at least two top folds (7) between which a drain channel (9) is defined that is oriented transversely to the slide direction (Y) of the cloth (3) and provided with at least one slope towards a side edge (3') of the cloth (3). The awning also comprises two pairs of tie rods (10', 10"), including an upper (10') and a lower (10") tie rod, fixed at their ends to the support structure (2) of the awning. The tie rods (10', 10") are preferably substantially extended in a parallel manner and are positioned one above the other along the slide direction (Y) of the cloth (3) at its side edges (3'). The latter are slidably engaged with the side ends of the top folds (7) with the upper tie rods (10') and with the side ends of the bottom folds (6) with the lower tie rods (10"). The tie rods (10', 10") are spaced from each other, when the cloth (3) is in collected position (A), to a greater extent than when the cloth (3) is in extended position (B) by a mean distance causing an elastic tensioning of the pitches (4) of the cloth (3) in the aforesaid extended position (B).

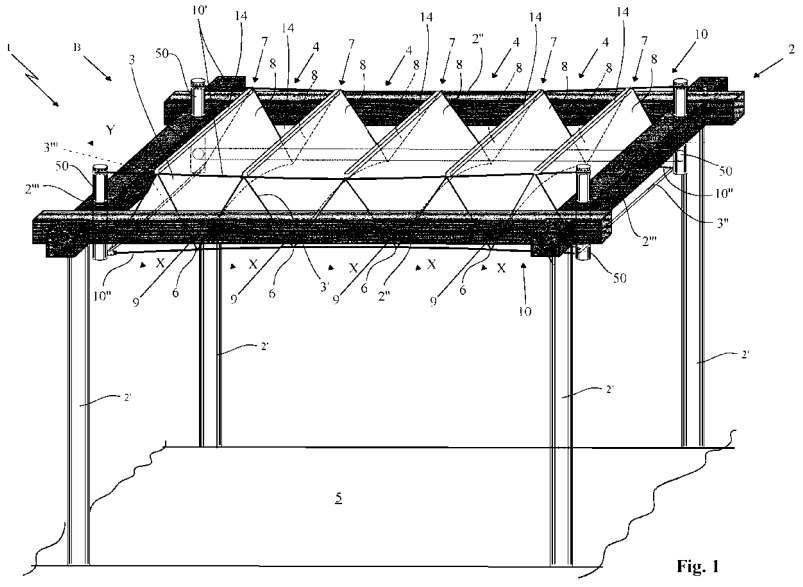

Fig. 1

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Description

Field of application

[0001] The present invention regards a pitch awning, according to the preamble of the main independent claim.

[0002] The present awning is intended to be employed for covering external areas, protecting them from weathering agents and in particular from sun and rain.

[0003] The awning, object of the present invention, is advantageously of packing type, i.e. it is provided with a cloth movable between a collected position, in which a plurality of its pitches are arranged close to each other, and an extended position, in which the pitches are at least partially extended above the area to be covered.

[0004] The present awning is therefore recommended for obtaining pergolas, porches and more generally covered external areas employable in gardens of private homes as well as in restaurants, hotels, bathing establishments or other structures.

[0005] The aforesaid awning can be abutted against the wall of a building, or it can be of isolated type, being supported by a dedicated support structure of self-bearing type.

[0006] The awning can also be associated with lateral closures in order to better protect the covered environment from weathering agents and to create a greater separation with the external environment.

[0007] The awning that is the object of the present invention therefore falls within the industrial field of the production of awnings for covering external settings.

State of the art

[0008] Numerous pitch awning solutions are known on the market; such awnings comprise a support structure fixed to the ground provided with two parallel lateral longitudinal members that are supported, substantially horizontally or slightly tilted, at the desired height with respect to the ground by the support structure columns.

[0009] The cloth of the awning is suspended above the area to be covered between a plurality of adjacent crosspieces, which are arranged transverse to the lateral longitudinal members and are slidably engaged at their ends in guides arranged on the lateral longitudinal members themselves by means of carriages or similar slidable guide means.

[0010] The cloth can be made of a single body or of a plurality of separate elements joined in succession by the crosspieces.

[0011] The cloth obtains a plurality of pitches or pockets, whose front and rear edges, substantially placed at a same height, are supported by two successive crosspieces. Driving means are also provided for moving the cloth between a collected position, in which its pitches are side-by-side each other, and an extended position, in which the pitches are at least partially extended above the area to be covered.

[0012] A first problem encountered in this pitch type lies in the need to ensure a correct drainage of the rainwater when the awning is in collected position as well as when the awning is in extended position.

[0013] Known from the patent FR 2205917 is a pitch awning, in which the cloth alternately has, at its side ends, tightened pitches and slack pitches in order to form drain channels extended transverse to the lateral longitudinal members.

[0014] The main drawback of this awning lies in the fact that the pitches are moved with the wind in an excessively free manner, so as to move and deform the drain channel, draining the water in an overly imprecise manner. In addition, the excessively free cloth of the pitches causes pitching, which can generate noise and which can in the long run cause the breakage of the cloth.

[0015] In order to overcome these drawbacks, known for example from the patent FR 2840339 is an awning of the above-described type in which the support structure also comprises a front longitudinal member and a rear longitudinal member fixed transversely to the two lateral longitudinal members, and a plurality of parallel cables extended at regular distances between the two front and rear longitudinal members.

[0016] The aforesaid cables support, with eyelets, the upper crests of the pitches which have the lower vertex associated with the drain channel, engaged in a guided manner via slidable connections in guides obtained on the lateral longitudinal members.

[0017] The distance between the cables and the longitudinal members is such to ensure the complete unfolding of the pitches, when the cloth is in completely extended position and a provided front crosspiece fixed to the front edge of the cloth has correspondingly reached the front longitudinal member of the support structure.

[0018] The function of the cables is only that of supporting the weight of the cloth, maintaining it spread out in extended position or packed up in the collected position.

[0019] The function of the cables is not aimed to define any tensioning of the cloth of the pitch awning; such cloth, stressed by the forces of the wind, therefore maintains a sufficient freedom of oscillation that causes annoying squeaking, or which can lead over time to cloth wear, cloth tearing or to awning malfunctioning.

[0020] On the other hand, the aforesaid pitch awning is not susceptible to elastically tighten the cloth laterally between the cables and the longitudinal members, since while the cables are distributed over the entire coverage area, the longitudinal members are only extended on the side of such area; hence, one such tensioning of the cloth would cause an irregular lateral stress of the awning with respect to its central part, with the formation of aesthetically unacceptable folds.

[0021] In addition, a tightening of the cloth through the cables cannot be proposed, since it would no longer allow the sliding of the same cloth between the collected positions and extended positions due to the high friction that

would be produced at the numerous support eyelets of the cloth.

[0022] In order to attempt to resolve the tensioning problems of the pitch awning cloths, at the same time maintaining the functionality of the awnings to drain rainwater due to the drain channels obtained by the pitches themselves, the patent EP -A- 2284330, in the name of the same applicant, describes a pitch awning comprising a kinematic mechanism for each pitch of the cloth, adapted to tension the cloth of the awning when it is in partially extended position.

[0023] Such kinematic mechanism is constrained to the side ends of a pair of successive crosspieces that support the cloth, and to the lower vertex of the pitch of the cloth defined between the two crosspieces, which determines the formation of the water drain channel.

[0024] More in detail, the aforesaid kinematic mechanism comprises a pair of cranks, each of which hinged at one end thereof to a crosspiece of the aforesaid crosspiece pair, and a connecting rod constrained to the two cranks, by means of a pair of hinges, and to the cloth at the aforesaid drain vertex, preferably with the interposition of an elastic element.

[0025] Such pitch awning, even if solving the problem of the correct tensioning of the cloth and the single pitches, in practice has resulted overly complex and difficult to achieve. In addition, the kinematic mechanism confers an aesthetic heaviness to the awning that one seeks to avoid.

[0026] In the same patent EP -A- 2284330, a pitch awning is also described which in accordance with an alternative embodiment provides for the substitution of the above-described kinematic mechanism, which acts elastically on the lower vertex of each pitch of the cloth in order to tension it, with a single metal cable or bar on which slidable connections are slidably coupled, such connections connected to the lower vertex of the drain section of the cloth. The cable or bar is drawn downward by a counterweight or by a spring in order to transmit a traction force on the lower vertices of each pitch of the cloth.

[0027] The aforesaid pitch awning embodiments have proven to be overly complex and unsuitable for resisting, in an optimal manner, the stresses produced by the action of the wind on the cloth.

[0028] In accordance with an alternative embodiment described in the same patent EP -A-2284330, the downward traction cable of the lower vertex of the pitches can be of elastic, non-metal type, and can be rigidly fixed at its ends to the awning support structure. The deformation via elongation of the elastic cable allows exerting a downward traction of the slidable connections connected to the lower vertex of the drain section of the cloth.

[0029] The tensile structure obtained with a rigid beam and an elastic material cable has not proven cable of optimally resisting wind stresses, nor of optimally tensioning the pitches of the cloth in the passage from the collected position to the extended position.

Presentation of the invention

[0030] In this situation, the essential problem underlying the present invention is therefore that of eliminating the drawbacks of the solutions of known type mentioned above, by providing a pitch awning which is susceptible to optimally resisting the stresses imposed by the wind on the cloth.

[0031] Another object of the present invention is to obtain a pitch awning which allows draining the rainwater in an optimal manner, both in its collected position and in its extended position.

[0032] A further object of the present invention is to provide a pitch awning which is inexpensive to make, safe and entirely reliable in operation.

[0033] A further object of the present invention is to provide a pitch awning which has an aesthetic appearance not deteriorated by kinematic mechanisms and mechanical components aimed for tensioning the pitches for the drainage of the rainwater.

Brief description of the drawings

[0034] The technical characteristics of the finding, according to the aforesaid objects, can be clearly found in the contents of the below-reported claims, and the advantages of the same will be more evident in the following detailed description made with reference to the enclosed drawings which represent a merely exemplifying and non-limiting embodiment thereof, in which:

- FIG. 1 shows a perspective view of a pitch awning, object of the present invention, with the cloth in extended position;
- FIG. 2 shows a first side view of the pitch awning of figure 1 with the cloth in collected position;
- FIG. 3 shows a second side view of the pitch awning of figure 1 with the cloth in extended position;
- FIG. 4 shows the pitch awning of figure 1 in a rear view;
- FIG. 5 shows a detail of the pitch awning of figure 2 relative to a cloth sliding sleeve.

Detailed description of a preferred embodiment

[0035] With reference to the drawing set, a pitch awning that is the object of the present invention has been indicated in its entirety with 1.

[0036] The present awning 1 is recommended for obtaining pergolas, porches or more generally covered external areas that can be employed in gardens of private homes, and also in restaurants, hotels, bathing establishments or other structures.

[0037] The aforesaid awning 1 can be abutted against the wall of a building, or it can be of isolated type, such as in the embodiment illustrated in the enclosed figures, being sustained by a dedicated support structure 2, of self-bearing type.

[0038] The awning 1 can also be associated with lateral closures for better protecting the covered setting from weathering agents, and for creating a greater separation with the external environment, not illustrated in detail since of *per se* known type.

[0039] In accordance with the embodiment illustrated in the enclosed figures, the support structure 2 comprises four support columns 2' connected together by two lateral longitudinal members 2" and by two transverse longitudinal members 2"' including a front and a rear longitudinal member.

[0040] More particularly, the present awning 1 is advantageously of packing type, i.e. it is provided with a cloth 3 which is extended with a plurality of pitches or pockets 4 (e.g. four in number in accordance with the embodiment of the enclosed figures) having extension directions X substantially parallel to each other, between side edges 3' starting from a rear edge 3" up to a front edge 3"'.

[0041] Below, an isolated awning will be illustrated, i.e. not flanked by a building wall and provided with four pitches 4; nevertheless, it is intended that the awning 1 can also be of the type abutted against a wall and provided with a smaller or greater number of pitches 4, more tilted or less tilted with respect to that illustrated. The awning 1 can be composed of multiple separate cloths 3, side-by-side on a same support structure or on support structures that are in turn side-by-side, and it can be of very large size, for example for covering areas 5 intended for use in restaurants or similar structures.

[0042] The cloth 3 with its pitches 4 is movable along a slide direction Y, substantially orthogonal to the extension direction X of its pitches 4, between at least one retracted position A, in which the pitches 4 are arranged close to each other, and at least one extended position B, in which said pitches 4 are at least partially extended above the area 5 to be covered.

[0043] Of course, the cloth can also be positioned in an intermediate position with the pitches 4 of the cloth 3 partially spread out over the area 5 to be covered.

[0044] More in detail, each pitch 4 is delimited by at least one bottom fold 6 and by at least two top folds 7, between which two sides 8 of the cloth are defined; such sides delimit at least one drain channel, indicated with 9, oriented along the extension direction X of the relative pitch 4, transverse to the slide direction Y of the cloth 3.

[0045] The drain channel 9 is equally defined in collected position A of the cloth 3 as well as in extended position B of the cloth 3.

[0046] In accordance with the embodiment of the enclosed figures, the bottom folds 6 define a curve with concavity directed towards the area to be covered 5 so as to define the drain channel 9, with slope for the drainage of the water directed for each pitch from both side edges 3' of the cloth 3. In substance, the cloth 3 of each pitch 4 defines a substantially cambered surface adapted to drain the rainwater on both sides of the awning 1. Otherwise, in accordance with an embodiment not illustrated in detail in the enclosed figures, the drain channel 9 can be oriented only towards one side edge 3' of the cloth 3, provided that the pitches 4 of the awning 1 have the cloth 3 taut between the two apices 7, alternately at opposite side edges 3' of the awning 1, so as to obtain pitches 4 in succession that are suitable for defining drain channels 9 alternately capable of draining on one side of the awning 1 or on the other.

[0047] According to the idea underlying the present invention, the pitch awning 1 comprises at least two pairs 10 of tie rods, each pair formed by an upper tie rod 10' and a lower tie rod 10", fixed at their ends to the support structure 2.

[0048] Preferably, four columns 50 are provided, projectingly fixed to the transverse longitudinal members 2"' at the side edges 3' of the cloth 3 and divided by the same longitudinal members 2"' into an upper section and a lower section with respect thereto.

[0049] Such columns 50 are provided with through holes adapted to receive threaded end terminals of the tie rods 10', 10", engaged in counter-threaded nuts positioned inside the through holes of the columns 50 in abutment against an internal shoulder thereof. By screwing and unscrewing the nuts, it is possible to adjust the tensioning of the tie rods 10', 10".

[0050] The tie rods 10', 10" of a same pair 10 are substantially spaced with one on top of the other, and they are extended substantially parallel to the slide direction Y of the cloth 3, at the side edges 3' of the latter.

[0051] Such side edges 3' are slidably engaged with the side ends of the top folds 7 with the upper tie rods 10' and with the side ends of the bottom folds 6 with the lower tie rods 10".

[0052] In addition, according to the invention, the tie rods 10', 10" of the pairs 10 of tie rods are spaced from each other when the cloth 3 is in collected position A, to a greater extent than when the cloth 3 is in extended position B, by an approach distance causing an elastic tensioning of the pitches 4 of the cloth 3 in extended position B. Such approach distance is given by the difference between the distance of the tie rods 10', 10" of each pair 10 when the cloth 3 is in the collected position A and the distance of the tie rods 10', 10" when the cloth 3 is in the extended position B.

[0053] During the passage of the cloth 3 from the collected position A to the extended position B, the pitches 4 draw the tie rods 10', 10" of each pair 10 closer together, and consequently such pitches are subjected to an elastic reaction force by the same tie rods 10', 10", which places the pitches in substantially vertical traction, causing an optimal extension thereof.

[0054] The distance between the tie rods 10', 10" remains unchanged between the two positions A and B of the cloth 3 at the points of connection to the support structure 2, whereas it is reduced to a minimum value at the median position of the cloth 3.

[0055] The tie rods 10', 10" are advantageously extended parallel to each other such that the maximum ap-

proach distance is at the median position of the cloth 3, indicated with the amount F in figure 3.

[0056] The tie rods 10', 10" can even have (in accordance with embodiments not illustrated in detail), starting from the rear edge 3" of the cloth 3, a converging or diverging progression, given that in this case the cloth 3 is shaped with pitches 4 with correspondingly decreasing or increasing size.

[0057] When the cloth 3 is in extended position B, the pitches 4 extend from the median zone of the cloth 3 towards the front 3"' and rear 3" edges of the cloth 3.

[0058] The number of pitches 4 and their size are designed so that the cloth 3, in order to reach the extended position B, must elongate the pitches 4 in the slide direction Y (i.e. increase the angle at the vertex α between the sides 8) by drawing the tie rods 10', 10" closer together until the desired extended position thereof is attained.

[0059] Also contributing to the formation of the approach distance between the tie rods 10', 10" of the cloth 3, due to the unfolding of the pitches 4 in extended position B, is the deformation (especially elastic deformation) of the support structure 2. Such deformation will move the rear and front longitudinal members 2"' closer together due to the additional tensioning of the tie rods 10', 10" in the passage of the cloth 3 from the collected position A to the extended position B.

[0060] Advantageously, during the passage of the cloth 3 from the collected position A to the extended position B, the pitches 4 respectively tighten closer together the upper 10' and lower 10" tie rods of the two tie rod pairs 10, so as to subject the same pitches 4 to an elastic reaction force by the tie rods 10', 10"; such force places the pitches in substantially horizontal traction, causing an optimal extension thereof.

[0061] The cloth 3 is slidably connected at the bottom folds 6 and the top folds 7 of its pitches 4 by means of slidable coupling means 11.

[0062] Such slidable coupling means 11 advantageously comprise a sleeve 12 provided with a through hole, which slidably houses a tie rod 10', 10" and is connected, e.g. by means of a string/tape, to an eyelet internally bordered by a metal reinforcement ring and obtained on the side edge 3' of the cloth 3, at the side ends of the bottom folds 6 and the top folds 7 of the pitches 4 of the cloth 3.

[0063] If the length of the pitches 4 in their extension direction X is rather extensive, then stiffening crosspieces 14 can be provided in order to facilitate the extension action of the tie rods 10', 10" on the horizontal plane. Such crosspieces are mounted at the top folds 7 of the pitches 4 of the cloth 3.

[0064] In accordance with a preferred embodiment of the present invention, the sleeves 12 have cylindrical body shape and are provided with a transverse notch 15, orthogonal to the through hole and affecting the thickness of the cylindrical body. During the connection of the stiffening rod 14 to the tie rod 10', 10", a head 16 axially projecting from the end of the stiffening crosspiece 14 is insertable from top to bottom within the notch 15 arranged in vertical position, until the median position is reached. The end stop of the insertion of the aforesaid head 16 in the notch 15 of the cylindrical body up to the aforesaid median position is defined by the abutment of a casing 17 externally projected from the same end of the stiffening crosspiece 14, above the same cylindrical body. At this point, the rotation of the cylindrical body below the casing 17 allows moving the notch 15 from the vertical position to a horizontal position, until the head 16 abuts with its cylindrical body against the bottom of the notch 15, retaining therewith the stiffening crosspiece fixed to the sleeve 12.

[0065] A fixing screw (not illustrated) can be inserted in a through hole obtained on the upper part of the casing 17, with the shank in engagement with the cylindrical body in order to securely fix the latter to the casing 17 itself.

[0066] The cloth 3 can be obtained in a single piece, or preferably in a plurality of shaped portions joined together at the top folds 7 and/or bottom folds 6 of the pitches 4 of the cloth 3, in order to advantageously shape the portions into the above-described cambered shape.

[0067] The stiffening crosspieces 14 support (or even join) the cloth portions at the top folds 7. The cloth portions are preferably joined at the bottom folds 6 by means of sewing, pasting or welding.

[0068] The tie rods 10', 10" have a rather high tension and form a tensile structure with the support structure 2 capable of supporting the cloth 3 without excessive pitching, which would modify the drain channels 9 in addition to causing annoying noise. The tie rods 10', 10" allow absorbing the gusts of wind without transmitting excessive stress to the cloth 3, which otherwise could tear it.

[0069] For such purpose, the tie rods 10', 10" are preferably made of steel and advantageously have a diameter comprised between 4 and 20 mm and a percentage elongation with the cloth 3 in extended position B comprised between 0.01% and 0.5%.

[0070] Preferably, the tie rods 10', 10" are obtained with steel cables, in particular multi-strand, or with steel rods, e.g. with circular section.

[0071] The tie rods 10', 10", advantageously made of steel, have length comprised between 1,000 and 8,000 mm and elongation (elastic elongation, not adjustment elongation) ranging from 1 to 20 mm with the cloth 3 in extended position B.

[0072] The pitch awning 1 also advantageously comprises drawing means 18 which act on the front edge of the cloth 3 in order to move it between the collected position A and the extended position B.

[0073] Preferably, the front edge 3"' of the cloth 3 is provided with a movable front bar, on which the drawing means 18 act.

[0074] Preferably, also the rear edge 3" of the cloth 3 is provided with a rear bar fixed to the support structure 2 at the start of the cloth 3, i.e. projecting from the ground

at the start of the area 5 to be covered.

[0075] Advantageously, the drawing means 18 comprise a transport cable 19 wound in a ring-shaped manner on a pair of pulleys 20 mounted on the support structure 2 at the front 3"' and rear edges 3" of the cloth 3. Preferably, two pairs of pulleys 20 are provided, mounted on each side of the cloth 3.

[0076] The cable 19 is then fixed to the front edge 3"' of the cloth 3 and is driven to rotate around the pulleys 20 by means of the actuator means 21, so as to move the cloth 3 back and forth along its slide direction Y, due to its parallel sections flanking the side edges 3' of the cloth 3 itself.

[0077] The actuator means 21 control the rotation of a drive pulley, preferably kinematically connected to the pulley arranged parallel on the other side by means of a transmission rod, e.g. having square ends.

[0078] The actuator means 21 are of manual type, e.g. constituted by a hoist or by a sheave mechanically connected to one of the pulleys (drive pulley); or they can be of automatic type, e.g. constituted by a motor, electrically connected to a control panel and mechanically connected with its shaft to the drive pulley by means of transmission means such as toothed wheels or a belt.

[0079] The pulleys 20 are mounted on pins, preferably in windows obtained in the lower portion of the columns 50.

[0080] The finding thus conceived therefore attains the pre-established objects.

Claims

1. Pitch awning which comprises:

- a support structure (2);
- at least one cloth (3) being extended between two side edges (3') from a rear edge (3") to a front edge (3"'):

  - defining a plurality of pitches (4) with extension direction (X) substantially parallel to each other,
  - supported by said support structure (2) above an area to be covered (5), and
  - movable along a slide direction (Y) substantially orthogonal to the extension direction (X) of said pitches (4), between at least one retracted position (A), in which said pitches (4) are arranged close to each other, and at least one extended position (B), in which said pitches (4) are at least partially extended above said area to be covered (5); said pitches (4) being delimited by at least one bottom fold (6) and by at least two top folds (7) between which two sides (8) are defined, such sides delimiting at least one drain channel (9) oriented transversely to the slide direction (Y) of said cloth (3) and provided with at least one slope towards at least one side edge (3') of said cloth (3);

characterized in that it comprises at least two pairs (10) of tie rods, each pair (10) comprising an upper tie rod (10') and a lower tie rod (10"), fixed at their ends to said support structure (2), being extended spaced from each other and one above the other substantially along said slide direction (Y) of the cloth (3) at its side edges (3'); the side edges (3') of said cloth (3) being slidably engaged with the side ends of said top folds (7) with said upper tie rods (10') and with the side ends of said bottom folds (6) with said lower tie rods (10"); the tie rods of said pairs of tie rods (10) being spaced from each other to a greater extent when said cloth (3) is in collected position (A) than when said cloth (3) is in extended position (B), the distance difference being an approach distance (F) causing an elastic tensioning of the pitches (4) of said cloth (3) in said extended position (B).

2. Pitch awning according to claim 1, **characterized in that** said tie rods (10', 10"), in particular made of steel, have diameter comprised between 4 and 20 mm and a percentage elongation with said cloth (3) in extended position (B) comprised between 0.01% and 0.5%.

3. Pitch awning according to claim 1 or 2, **characterized in that** said tie rods (10', 10") are obtained with steel cables, in particular multi-strand, or with steel rods.

4. Pitch awning according to any one of the preceding claims, **characterized in that** said tie rods (10', 10") have length comprised between 1,000 and 8,000 mm and elongation ranging from 1 to 20 mm with said cloth (3) in extended position (B).

5. Pitch awning according to any one of the preceding claims, **characterized in that** said tie rods (10', 10") are substantially parallel to each other and that the pitches (4) extend from the median line of the cloth (3) to the front (3"') and rear (3") edges of the cloth (3) with said cloth (3) in extended position (B).

6. Pitch awning according to any one of the preceding claims, **characterized in that** during the passage of the cloth (3) from the collected position (A) to the extended position (B), the pitches (4) of the cloth (3) tighten the tie rods (10', 10") of each pair of tie rods (10) closer together, such pitches being consequently subjected to an elastic reaction force by said tie rods (10', 10") which places them in substantially vertical traction.

7. Pitch awning according to any one of the preceding

claims, **characterized in that** during the passage of the cloth (3) from the collected position (A) to the extended position (B), the pitches (4) respectively tighten closer together the upper tie rods (10') and the lower tie rods (10") of the two pairs of tie rods (10), such pitches being consequently subjected to an elastic reaction force by said tie rods (10', 10") which places them in substantially horizontal traction.

8. Pitch awning according to any one of the preceding claims, **characterized in that** it comprises drawing means (18) acting on the front edge (3"') of said cloth (3) in order to move it between the collected position (A) and the extended position (B).

9. Pitch awning according to any one of the preceding claims, **characterized in that** said drawing means (18) comprise a transport cable (19) wound in a ring-shaped manner on a pair of pulleys (20) mounted on said support structure (2) at the front (3"') and rear (3") edges of said cloth (3), such cable fixed to the front edge (3"') of said cloth (3) and actuated to rotate around said pulleys (20) by actuator means (21).

10. Pitch awning according to claim 9, **characterized in that** said actuator means (21) are constituted by a hoist, or by a sheave mechanically connected to one of said pulleys (20), or by an electric motor.

11. Pitch awning according to any one of the preceding claims, **characterized in that** it comprises a plurality of stiffening crosspieces (14) mounted at the top folds (7) of the pitches (4) of said cloth (3).

12. Pitch awning according to any one of the preceding claims, **characterized in that** said cloth (3) is obtained by means of a plurality of shaped portions joined together at the top folds (7) and/or bottom folds (6) of the pitches (4) of said cloth (3).

13. Pitch awning according to claims 11 and 12, **characterized in that** said stiffening crosspieces (14) support said cloth portions (3) between them at said top folds (7).

14. Pitch awning according to claim 12, **characterized in that** said cloth portions (3) are joined together at said bottom folds (6) by means of sewing, pasting or welding.

15. Pitch awning according to any one of the preceding claims, **characterized in that** said bottom folds (6) define a curve with concavity directed towards the area to be covered (5), so as to define said drain channel (9) with drainage of the water from both side edges (3') of the cloth (3).

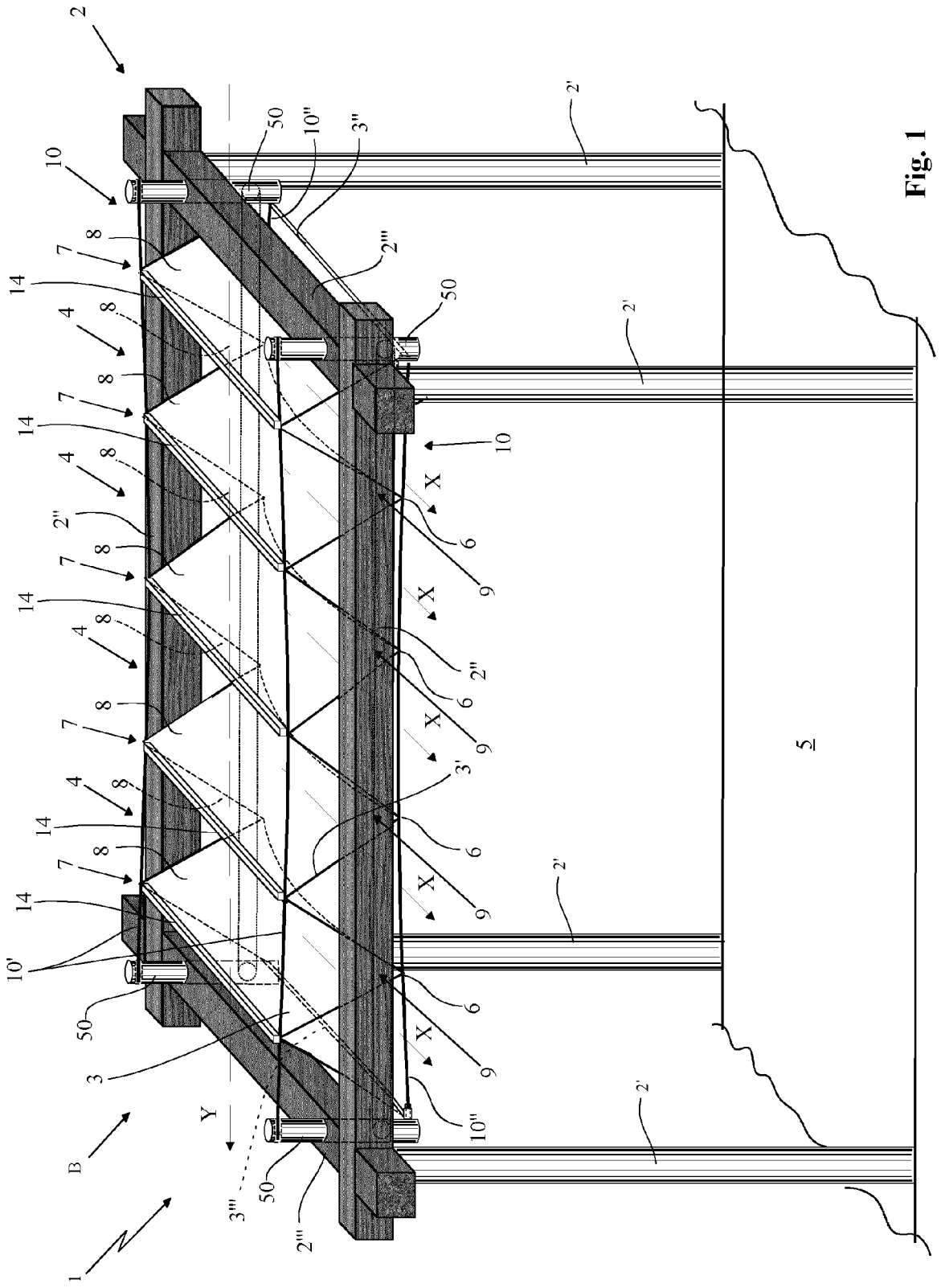

Fig. 1

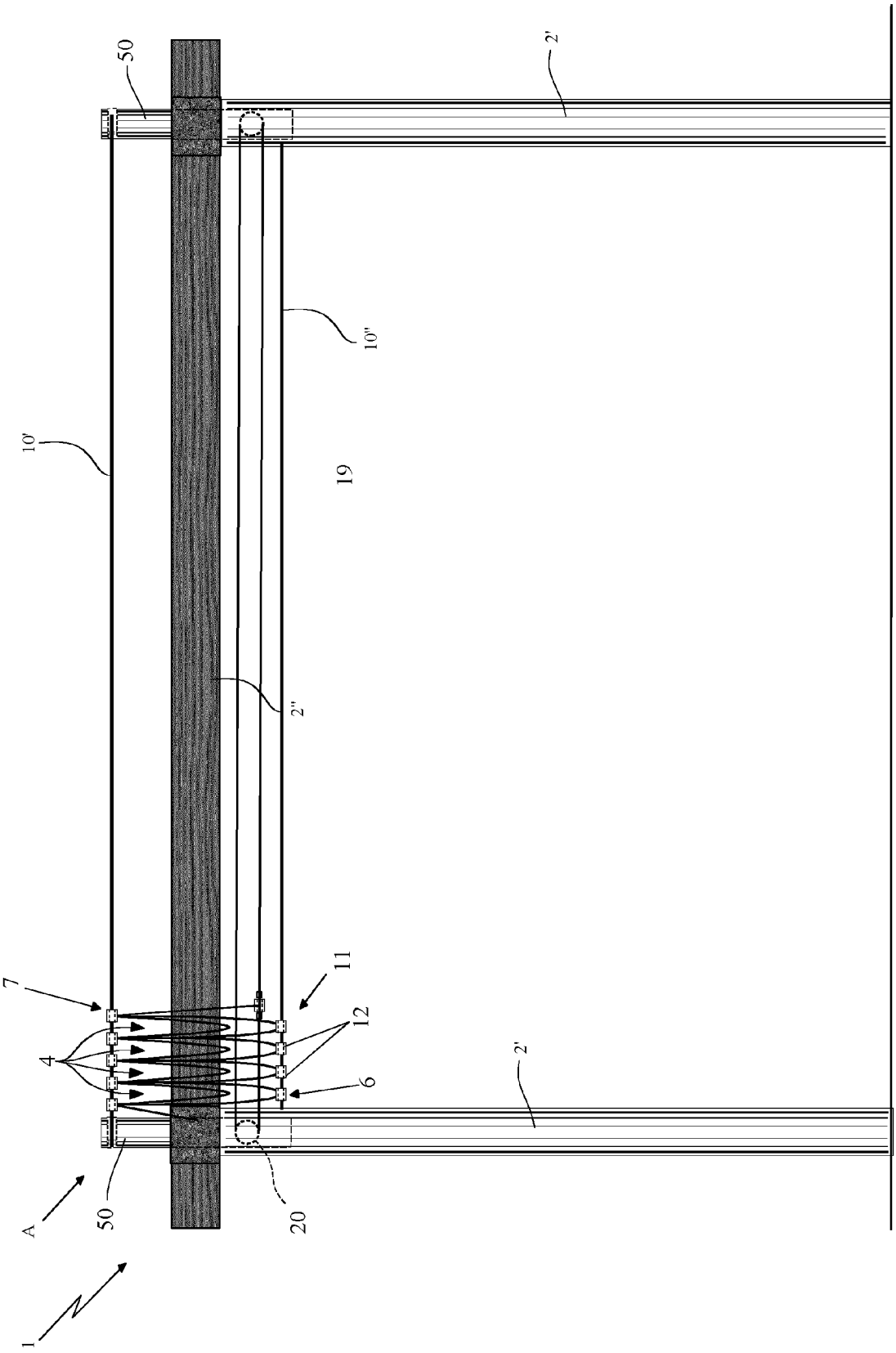

Fig. 2

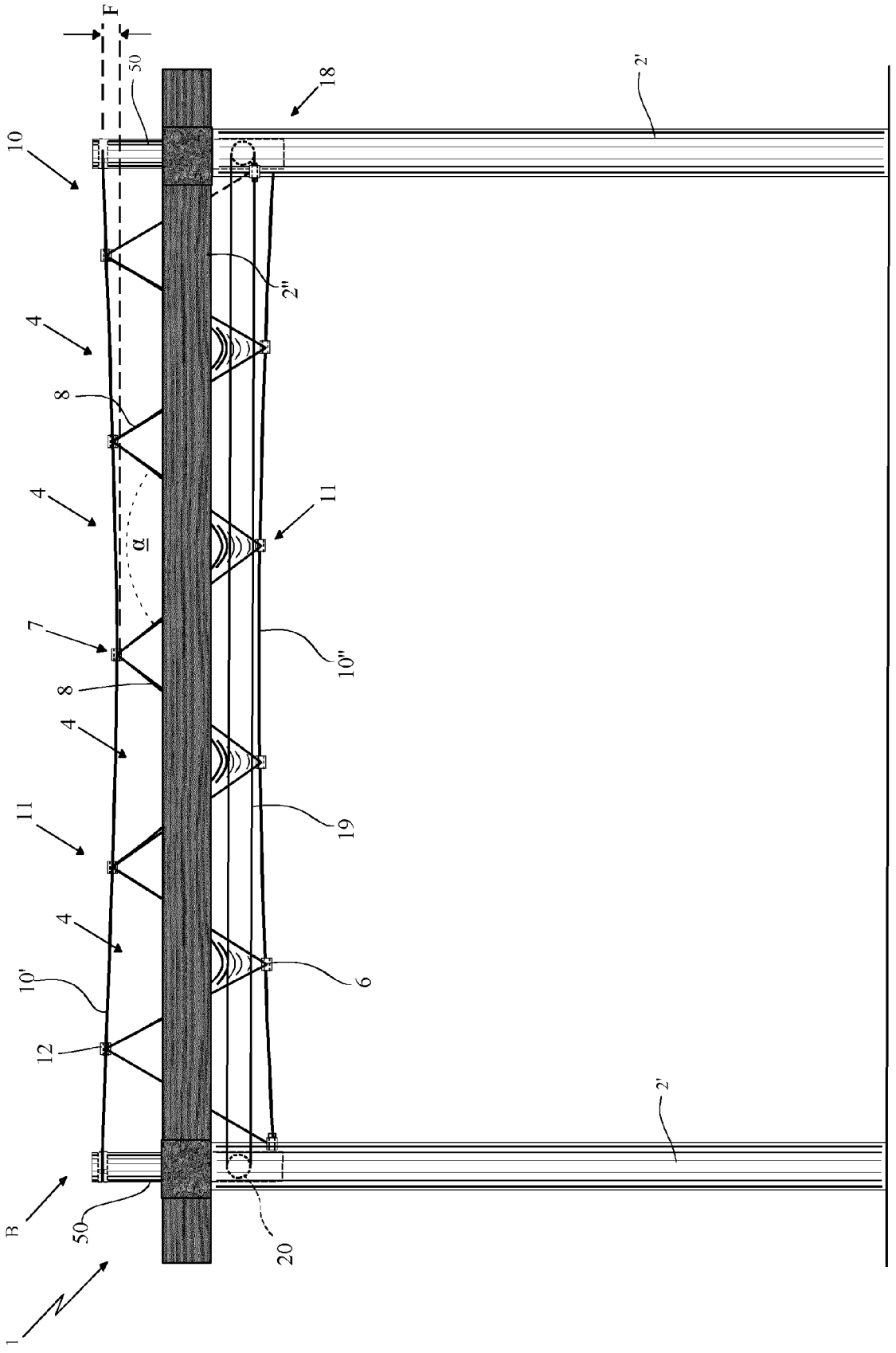

Fig. 3

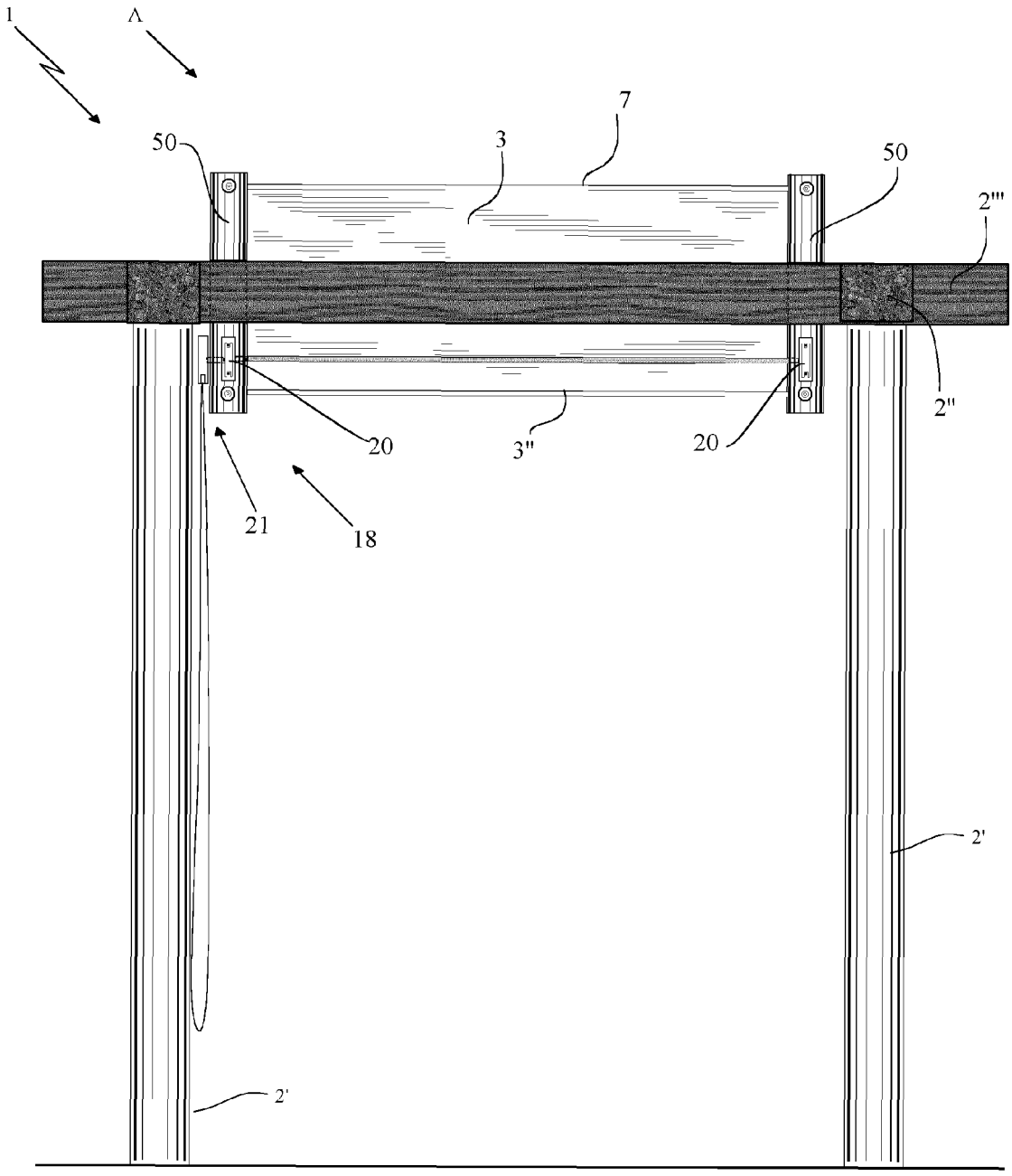

Fig. 4

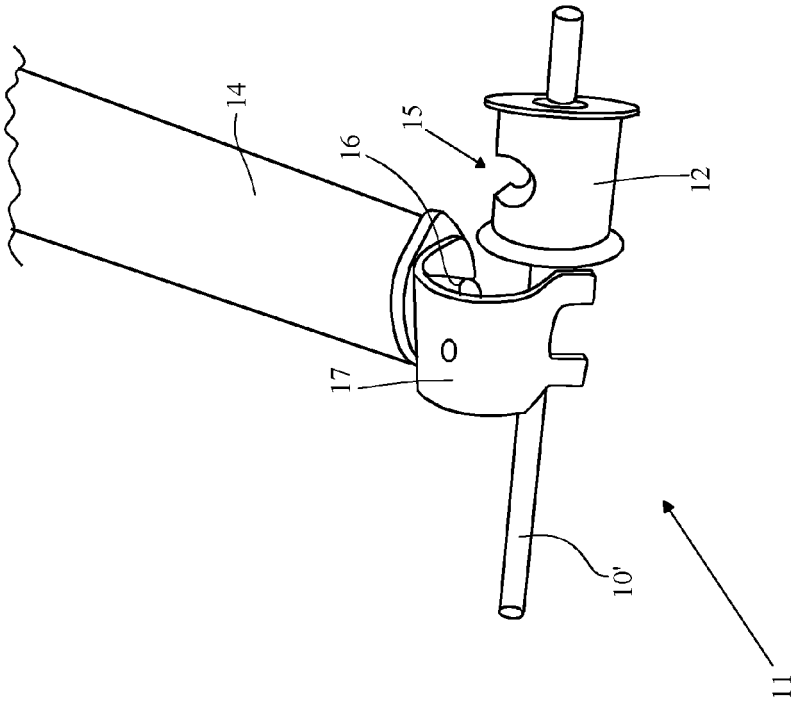

Fig. 5

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EUROPEAN SEARCH REPORT

Application Number
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	28 November 2012	Jülich, Saskia

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