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(54) **Luminaire**

(57) The claimed luminaire comprises an elongated container (1) with walls (2) and closed ends (3). The container (1) comprises an electrical supply (4) for the operation of an electrical lamp (30). Transverse containers (11) comprising lamp holders (10) are fixed to walls

(2) of container (1). By virtue of the presence of additional transverse containers (11), luminaires are obtained in which more than one lamp can be accommodated.

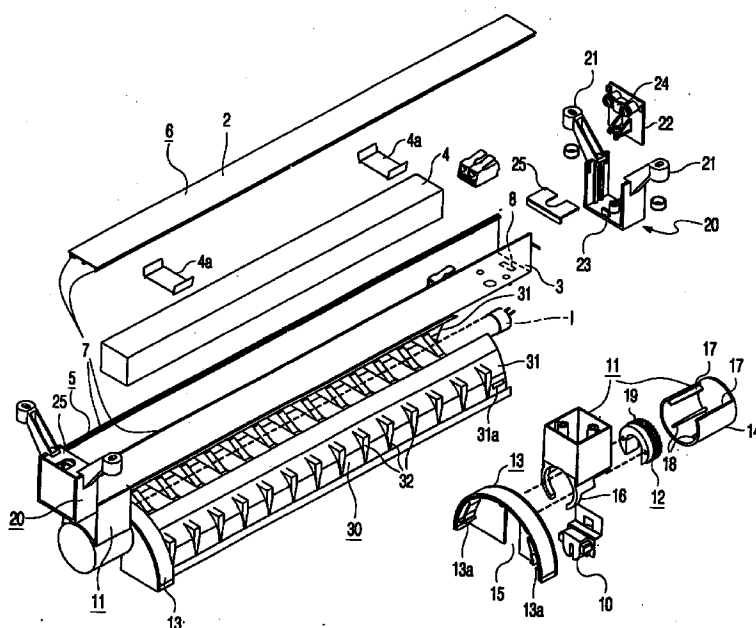


FIG. 2

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Description

[0001] The invention relates to a luminaire provided with:

an elongated container having side walls and ends which are closed;
lamp holders for accommodating, along the container, a tubular electric lamp socketed on two sides, which lamp holders are connected to the container near the ends thereof;
an electric supply for operating the lamp in the container.

[0002] Such a luminaire is known from DE-U-296 11 509.

[0003] In this known luminaire, the lamp holders are each accommodated in a housing, which closes the container at one of its ends. In an embodiment in which the luminaire can suitably accommodate two lamps, two housings, with a lamp holder each, are mounted, however, to a intermediate piece which closes the container at an end. The known luminaire does not only require additional constructional components, i.e. the intermediate pieces, in order to be suitable for two lamps, but it also requires a container of a smaller length in order to be able to accommodate similar lamps. These are drawbacks of the known luminaire.

[0004] DE-B-43 24 225 discloses a luminaire of the type described in the opening paragraph, comprising a sleeve which is arranged so as to be slidable about the ends of the lamp, said sleeve covering, in the operating state, a lamp holder and the adjoining part of the lamp. When the lamp is replaced, the sleeves must be transferred to the new lamp.

[0005] In DE-U-1 851 274, a description is given of a luminaire of the type described in the opening paragraph, in which the lamp holders project sideways from the container. The lamp holders with the ends of an accommodated lamp are each covered with a cap, which also closes an end of the container. The caps must be removed before the lamp can be replaced. In this luminaire, a wall of the container is V-shaped in cross-section, and the lamp is recessed in the cavity thus formed.

[0006] DE-U-94 13 466 discloses a luminaire in which the lamp is surrounded by a protective tube having teeth at its ends, which co-operate with teeth of a holder. As a result, the rotational position of the body relative to the lamp can only be adjusted and fixed when the luminaire is being assembled.

[0007] It is an object of the invention to provide a luminaire of the type described in the opening paragraph, which is of a simple construction and which makes it possible to render the luminaire suitable for accommodating more than one lamp without the use of other constructional components.

[0008] In accordance with the invention, this object is

achieved in that the lamp holders are each accommodated in a transverse container, which containers are fixed to a side wall of the elongated container.

[0009] Since the lamp holders are each accommodated in a transverse container, a single luminaire in accordance with the invention, which is suitable for one lamp, can be readily made into a luminaire suitable for a number of lamps by securing transverse containers to a corresponding number of side walls of the container.

[0010] In general, the elongated container is substantially square in cross-section, however, other shapes, such as, for example, an equilateral, pentagon are also possible.

[0011] It is favorable if the elongated container comprises extension parts at its ends, which extension parts close the container and are provided with means for securing the luminaire to a support. The extension parts may comprise widened portions, which enable a stable mounting to a support, a wall or a ceiling to be achieved. Said widened portions may be in the form, for example, of legs, which can be used, for example, to accommodate the end of a cable to secure the armature to a ceiling.

[0012] In an advantageous embodiment, the extension parts have a removable partition parts which extends transversely to the elongated container. As a result, the extension parts enable the luminaire to be coupled in line, after removal of said partition parts, to the elongated container of a neighboring luminaire, and the formation of a common attachment point at a support.

[0013] In a favorable embodiment, the elongated container is composed of a U-shaped profile and a plate-shaped part which is free of transverse containers. Said plate-shaped part preferably faces the support of the luminaire, so that any means for securing the plate-shaped part to the profile are invisible. The elongated container may be made, for example, of a metal such as aluminium, or of a synthetic resin.

[0014] In a favorable variant, the plate-shaped part is connected to the U-shaped profile by means of a snap connection. This variant saves mounting time and securing means. Since the cross-section of the container may be constant throughout its length, said container, or its parts, can be readily obtained by means of extrusion. Besides, the container only has to be provided with holes, for example screw holes and apertures, for passing cables to the lamp holders.

[0015] In a particular embodiment, a rotatable member is situated in the transverse containers around the relevant lamp holder, which rotatable member can be coupled to a coupling member to accommodate an optical element around the lamp. Said optical element may be a reflector, for example a mirror reflector, a diffuse reflector or a semi-mirror reflector, which, if necessary, may be provided with lamellae transverse to the lamp, or it may be a non-colored, light-transmitting diffusor.

[0016] It is favorable if, at a distance from the elon-

gated container, the transverse containers have an end portion which can slide along said container, which end portion, in an operative position, covers the entrance of the lamp to the lamp holders. This embodiment has the advantage that the slidable end portion stops the lamp if it accidentally becomes detached from the lamp holder, and that, by virtue of its slidability, the end portion does not have to be detached and removed if the lamp is replaced. As shown in the drawings, the above-mentioned extension parts to the elongated container enable the slidable end portion, also if two luminaires are mounted together in line, to be dimensioned so that the slidable end portion, put out of its operative position, remains within the maximum length dimension of the elongated container.

[0017] In a very attractive variant, the slidable end portion, in its operative position, interlocks with the rotatable member. This embodiment has the advantage that the rotatable member is fixed in a selected position. As a result, an optical element connected to this member can be held in a desired position.

[0018] These and other aspects of the invention will be apparent from and elucidated with reference to the embodiments described hereinafter.

[0019] In the drawings:

Fig. 1 is a side view of a first embodiment;

Fig. 2 is a exploded view of the luminaire of Fig. 1;

Fig. 3 is a perspective view of a second embodiment;

Fig. 4 is a perspective view of a third embodiment.

[0020] The luminaire shown in Figs. 1 and 2 comprises an elongated container (1) with side walls (2) and ends (3) which are closed. Lamp holders (10) serve to accommodate, along the container (1), a tubular electric lamp 1 having sockets on two sides. The lamp holders (10) are connected to the container (1) near the ends (3) thereof. In the container (1), there is provided an electrical supply (4) to operate the lamp 1. Said supply (4) is secured by means of resilient brackets (4a).

[0021] The lamp holders (10) are each accommodated in a transverse container (11), which transverse containers are secured to a side wall (2) of the elongated container (1).

[0022] In the Figures, the elongated container (1) has extension parts (20) at its ends (3), which extension parts close the container (1) and are provided with means (21) to secure the luminaire to a support. In the luminaire shown, these means (21) are legs which spread outward and which have drilled-through feet, which cause the luminaire to be very stable when it is secured to a support or suspended from a ceiling by means of cables.

[0023] The extension parts (20) have a removable partition parts (22) which extends transversely to the longitudinal direction of the container (1), so that, in the absence thereof, they can be coupled to the elongated

container (1') of a neighboring luminaire (Fig. 1). To this end, the elongated container (1) is provided with a recess (8), (Fig. 2), in which a projection (23) of an extension part (20) can engage.

[0024] In the embodiment shown, the elongated container (1) is composed of a U-shaped profile (5) and a plate-shaped part (6) which is free of transverse containers (11) and which forms a side wall (2) of the container (1).

[0025] The plate-shaped part (6) is connected to the U-shaped profile (5) by a snap connection (7). The part (6) is retained, in the longitudinal direction, between bent-over plates (25) of the extension parts (20), which have an aperture to allow passage of an electrical cable. The partition parts (22) has a clamping element (24) to mechanically hold this cable.

[0026] In the transverse containers (11), see Fig. 2, a rotatable member (12) is provided around the relevant lamp holder (10), which rotatable member can be coupled, for example by means of screws, to a coupling member (13) which allows an optical element (30) to be arranged around the lamp 1. The element (30) shown comprises side reflectors (31), arranged on either side of the lamp 1, and a number of transverse lamellae (32), which extend transversely to the lamp 1. The rotatable member (12) has a smooth cylindrical front part which is accommodated in and projects through a seating (16) of the transverse container (11). The rotatable member (12) has a radial slit which corresponds to a slit (15) in the coupling member (13), enabling the lamp 1 to be inserted sideways into the lamp holder (10).

[0027] The transverse containers (11) comprise, at a distance from the elongated container (1), an end portion (14) which can be slid along said container (1) and which, in an operative position (Fig. 1 and on the left in Fig. 2), covers the entrance of the lamp 1 to the lamp holders (10). The slidable end portion (14) has ribs (17) with which it slides in grooves, not shown in Fig. 2, in the transverse container (11).

[0028] In the operative position, the slidable end portion (14) interlocks, with other ribs (18), with a toothed jacket portion (19) of the rotatable member (12).

[0029] As shown in Fig. 1, the extension part (20) enables the slidable end portion (14) to be moved along the container (1), away from the optical element (30), also if there is a neighboring luminaire with a container (1'). During this sliding movement, the rotatable member (12) is disengaged from the ribs (18).

[0030] In the embodiment shown, the optical element (30) is retained in the coupling piece (13) by resilient elements (13a) thereof, which engage in apertures (31a) in the side reflectors (31).

[0031] When the optical element (30) is pulled loose from the coupling pieces (13) and the slidable end portions (14) are moved outwards, a lamp can be provided or exchanged, if the slit (15) corresponds to the seating (16). When the optical element (30) is provided, the coupling pieces (13) are interconnected and can be

rotated as desired, and, if necessary, adjusted later, to bring the optical element in the desired direction. The optical element is then secured in this position by bringing the slidable end portions (14) in the operative position.

[0032] The parts of the luminaire may be made of a synthetic resin or a metal, for example aluminium.

[0033] In Figs. 3 and 4, parts corresponding to parts of the preceding Figures are denoted by the same reference numerals.

[0034] In Fig. 3, the luminaire comprises transverse containers (11) which are arranged against three side walls (2) of the container (1), and the luminaire is suitable to accommodate three tubular electric lamps 1, which, in the Figure, are fluorescent lamps. Cables k hanging from a ceiling are attached to means (21) for securing the luminaire to a support.

[0035] The luminaire shown in Fig. 4 is intended for two tubular electric lamps since transverse containers (11) are secured at two opposite side walls (2). The coupling pieces (13) have accommodated asymmetrical reflectors as the optical element (30).

Claims

1. A luminaire provided with:

an elongated container (1) having side walls (2) and ends (3) which are closed;

lamp holders (10) for accommodating, along the container (1), a tubular electric lamp 1 socketed on two sides which lamp holders are connected to the container (1) near the ends (3) thereof;

an electric supply (4) for operating the lamp 1 in the container (1), characterized in that the lamp holders (10) are each accommodated in a transverse container (11), which containers are fixed to a side wall (2) of the elongated container (1).

2. A luminaire as claimed in claim 1, characterized in that the elongated container (1) comprises extension parts (20) at its ends (3), which extension parts close the container (1) and are provided with means (21) for securing the luminaire to a support.

3. A luminaire as claimed in claim 2, characterized in that the extension parts (20) comprise a detachable partition parts (22) which extends transversely to the elongated container (1), so that, in the absence thereof, the extension parts can be coupled to the elongated container (1') of a neighboring luminaire.

4. A luminaire as claimed in claim 1 or 2, characterized in that the elongated container (1) is composed of a U-shaped profile (5) and a plate-shaped part (6) which is free of transverse containers (11).

5. A luminaire as claimed in claim 4, characterized in that the plate-shaped part (6) is connected to the U-shaped profile (5) by means of a snap connection (7).

6. A luminaire as claimed in claim 1, 2 or 4, characterized in that a rotatable member (12) is situated in the transverse containers (11) around the relevant lamp holder (10), which rotatable member can be coupled to a coupling member (13) to accommodate an optical element (30) around the lamp 1.

7. A luminaire as claimed in claim 1, 2, 4 or 6, characterized in that, at a distance from the elongated container (1), the transverse containers (11) have a end portion (14) which can slide along said container (1), which end portion, in an operative position, covers the entrance of the lamp 1 to the lamp holders (10).

8. A luminaire as claimed in claim 7, characterized in that, in its operative position, the slidable end portion (14) interlocks with the rotatable member (12).

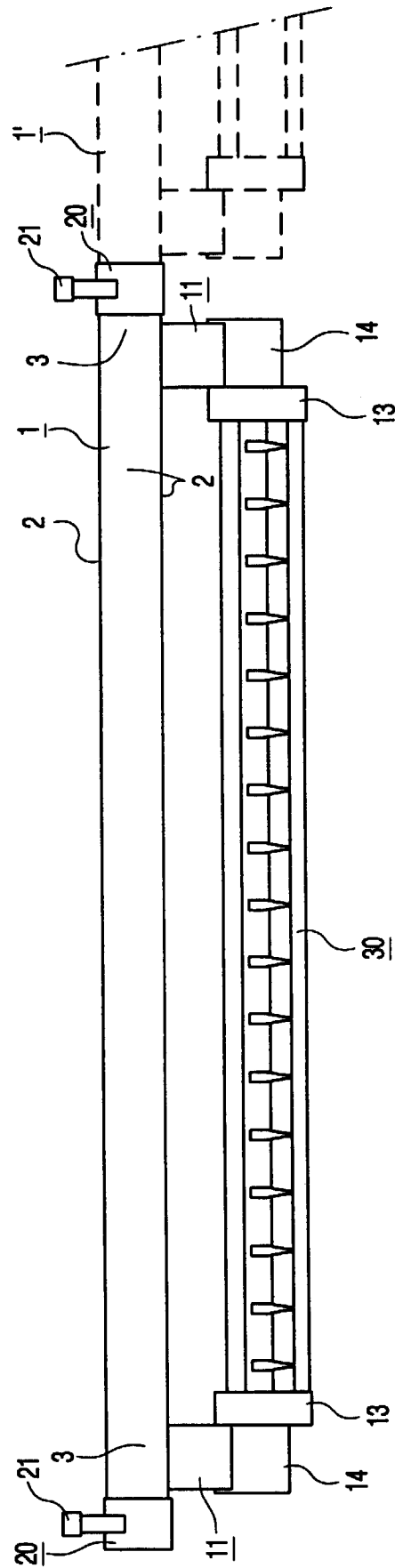


FIG. 1

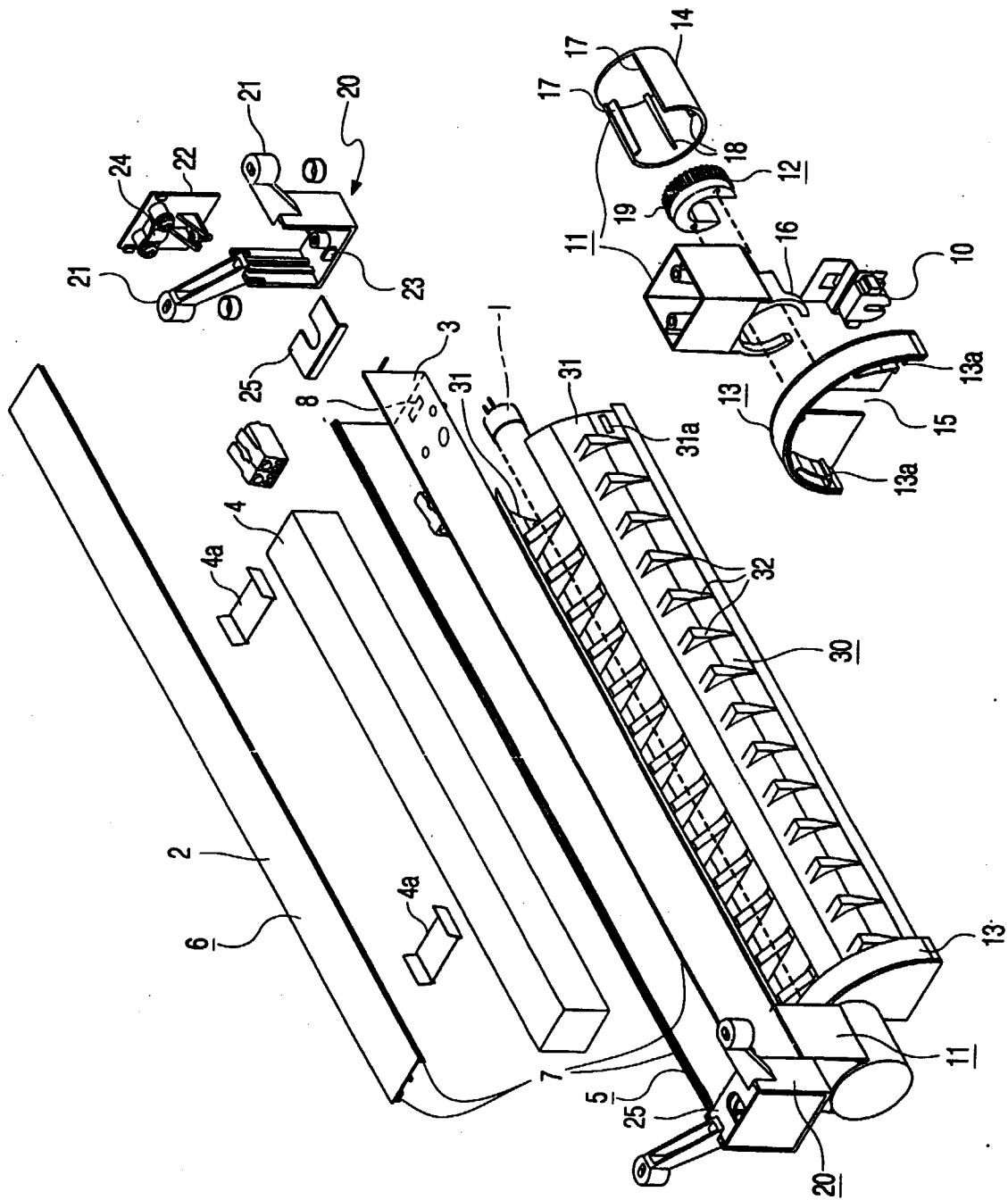


FIG. 2

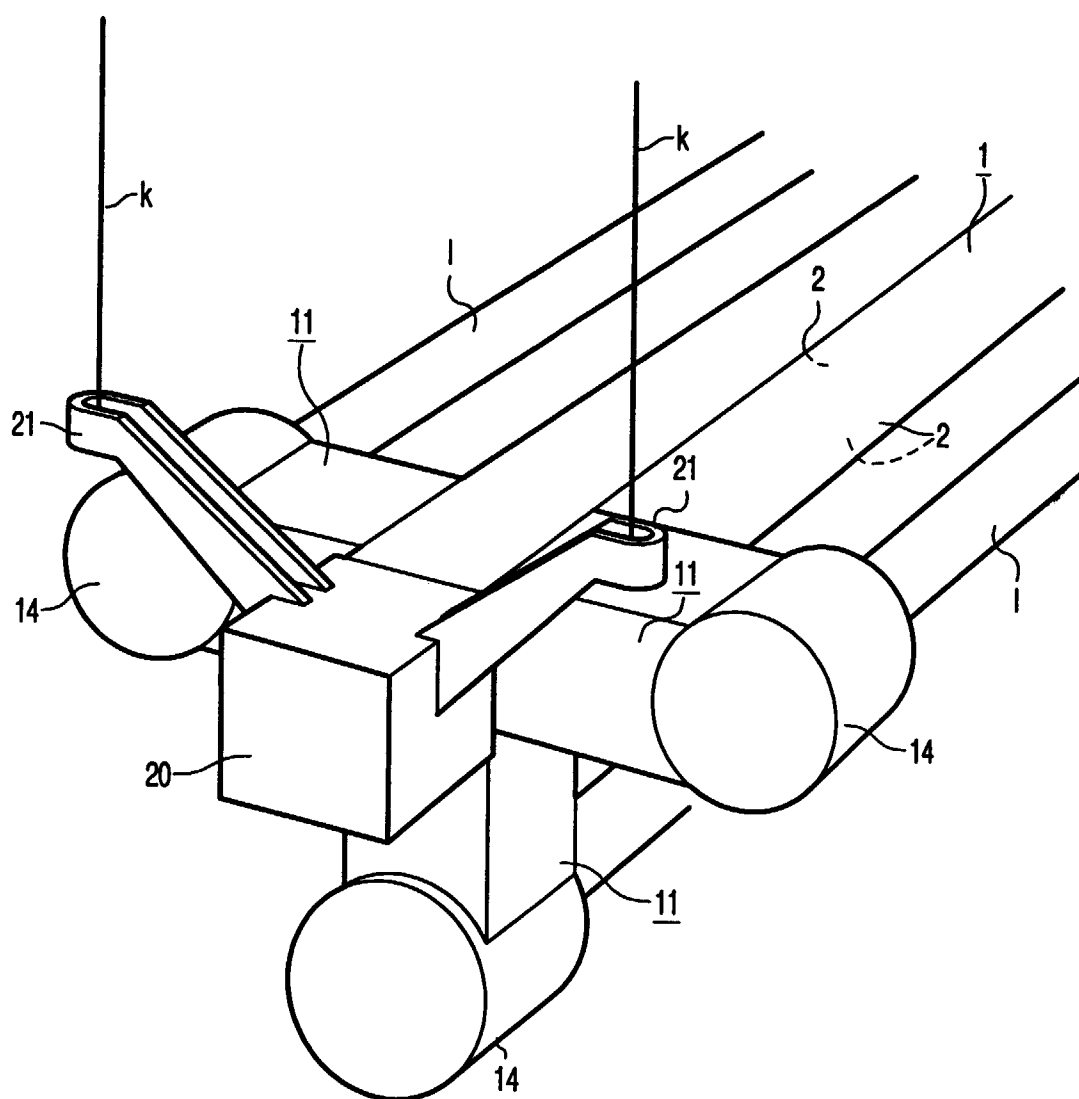


FIG. 3

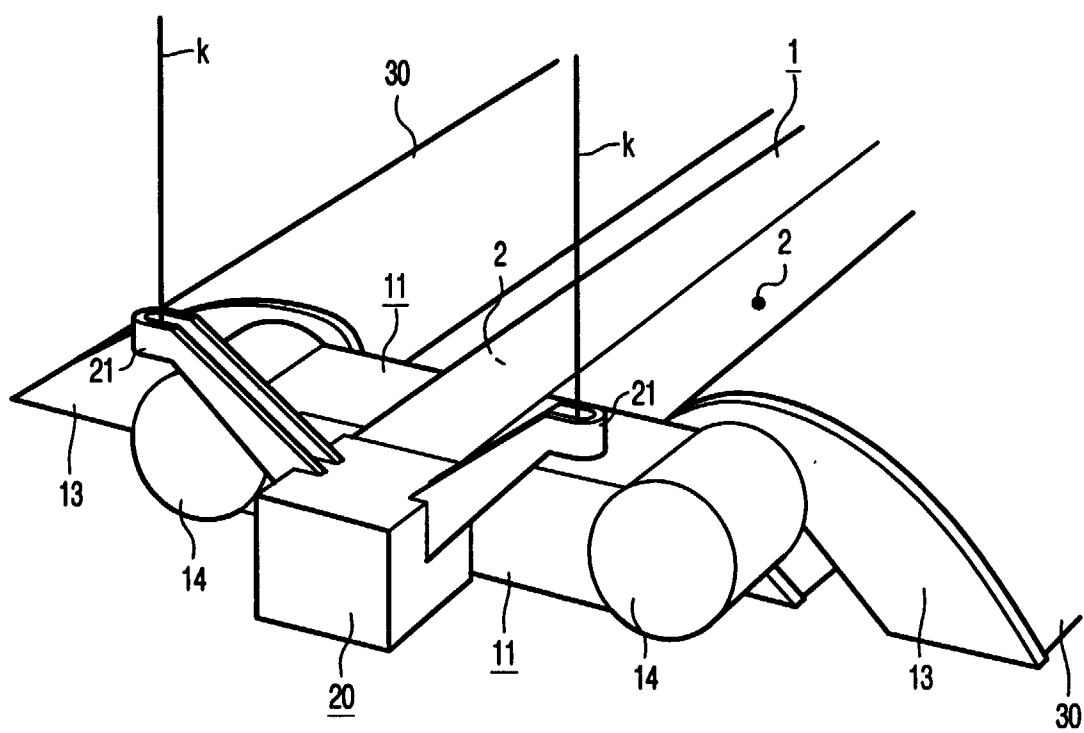


FIG. 4