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(54) **APPARATUS FOR A VISUAL DISPLAY ON A PLATFORM OF A MOTOR VEHICLE AND/OR OF A TRAILER**

(57) Apparatus (10) for a visual display (12) on a platform (18) of a motor vehicle (11) and/or of a trailer, comprising telescopic means (14) for extending the visual display (12).

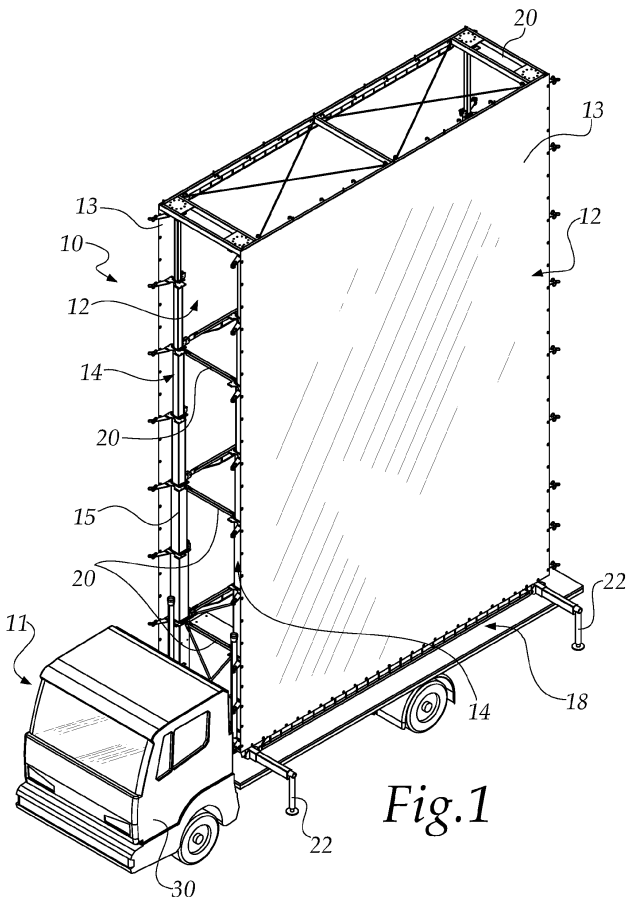


Fig.1

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## Description

**[0001]** The present invention relates to an apparatus for a visual display on a platform of a motor vehicle and/or of a trailer.

**[0002]** Nowadays, wide use is made of motor vehicles and/or trailers with a platform provided with apparatuses for visual displays, for advertising for example election campaigns or the like.

**[0003]** Such motor vehicles are usually placed proximate to roads, to locations for events or other places with high visibility.

**[0004]** The visual display apparatuses available nowadays on the market generally comprise two masts which are pivoted on a horizontal axis on fixed supporting structures.

**[0005]** In order to provide the visual display, the masts are rotated 90° in order to deploy them vertically, and at this point a trolley is made to slide along a guide on the masts, and the trolley pulls a canvas on which the advertising communication is printed.

**[0006]** Such known art has a number of drawbacks.

**[0007]** In fact, with such an apparatus, the maximum dimensions that can be reached are constrained, decisively, by the maximum bulk of the vehicle when it is being driven.

**[0008]** In particular the length of the masts, which when lowered must remain within the bulk of the platform of the motor vehicle, determines the maximum height that can be reached by the visual display during use.

**[0009]** Therefore the size of the display is limited by the dimensions of the masts.

**[0010]** Alternatively, there are the so-called "sail trucks", motor vehicles provided with a fixed sail that extends along the axis of the platform, which allows a visual display on the two opposite sides of the platform.

**[0011]** This known art also presents the drawback of having a maximum preset height that is constrained by the overall bulk permitted when the motor vehicle is driven.

**[0012]** The aim of the present invention is to provide an apparatus for a visual display on a platform of a motor vehicle and/or of a trailer that is capable of improving the known art in one or more of the above-mentioned aspects.

**[0013]** Within this aim, an object of the invention is to provide an apparatus for a visual display on a platform of a motor vehicle and/or of a trailer that can reach greater heights and dimensions than those reached by conventional apparatuses.

**[0014]** Another object of the invention is to provide an apparatus for a visual display on a platform of a motor vehicle and/or of a trailer in which the dimensions of the visual display are not constrained by the dimensions of the platform of the motor vehicle and/or of the trailer, and/or by the overall permitted drivable bulk of the motor vehicle and/or of the trailer.

**[0015]** Furthermore, another object of the present invention is to overcome the drawbacks of the known art in an alternative manner to any existing solutions.

**[0016]** Another object of the invention is to provide an apparatus for a visual display on a platform of a motor vehicle and/or of a trailer that is highly reliable, easy to implement and of low cost.

**[0017]** This aim and these and other objects which will become better apparent hereinafter are achieved by an apparatus for a visual display on a platform of a motor vehicle and/or of a trailer, characterized in that it comprises telescopic means for extending said visual display.

**[0018]** Further characteristics and advantages of the invention will become better apparent from the detailed description that follows of a preferred, but not exclusive, embodiment of the apparatus for a visual display on the platform of a motor vehicle and/or of a trailer, according to the invention, which is illustrated for the purposes of non-limiting example in the accompanying drawings wherein:

- Figure 1 is an overall perspective view of an apparatus for a visual display on the platform of a motor vehicle and/or of a trailer, according to the invention, in a configuration for use;
- Figure 2 is a side view of the apparatus of Figure 1, in an inactive configuration;
- Figure 3 is a schematic perspective view of the apparatus of Figure 1.

**[0019]** With reference to the figures, an apparatus for a visual display on a platform of a motor vehicle and/or of a trailer, according to the invention, is generally designated by the reference numeral 10.

**[0020]** The apparatus 10 is used on the platform 18 of a motor vehicle 11 and is provided with at least one visual display 12, which comprises a canvas 13 bearing, for example, an advertisement or election slogan.

**[0021]** In the example shown in Figure 1, the apparatus 10 has two visual displays 12, along the two longitudinal sides of the platform 18 of the motor vehicle 11.

**[0022]** In other embodiments not shown in the figures, the apparatus 10 can be used on a trailer, i.e. a vehicle without an engine, which can be towed as needed by a motorized vehicle.

**[0023]** One of the characteristics of the invention consists in that the apparatus 10 comprises telescopic means 14 for extending the visual display 12.

**[0024]** Such telescopic means 14 comprise at least two telescopic elements 15, each of which has a plurality of extensions 17, and which are moved by respective hydraulic cylinders 16.

**[0025]** The telescopic elements 15 have a vertical arrangement and an axis of extension that is perpendicular to the plane of arrangement of the platform 18 and/or to the plane of advancement of the motor vehicle 11.

**[0026]** In the present description, the terms "vertical", "horizontal", "higher" etc. refer to the configuration for use of the apparatus.

**[0027]** In the present description, the expression "plane of advancement of the motor vehicle" means the plane on which the motor vehicle lies, for example the road surface.

**[0028]** With reference to Figure 2, the telescopic elements 15 reach, in the inactive configuration, a height that is substantially comparable to the height of the cab 30 of the motor vehicle 11.

**[0029]** In particular, in the embodiment shown in the figures, the apparatus 10 comprises four telescopic elements 15 substantially arranged proximate to the four corners of the platform 18 of the motor vehicle 11.

**[0030]** In other embodiments, not shown in the figures, the apparatus 10 according to the invention has two telescopic elements, which are each arranged at the longitudinal ends of the platform of the motor vehicle, substantially proximate to/at the longitudinal axis of symmetry of the latter.

**[0031]** In particular, the apparatus 10 comprises a hydraulic flow divider 19, in fluid connection with each one of the hydraulic cylinders 16, which is adapted to maintain the synchrony of the hydraulic cylinders 16 during ascent and descent.

**[0032]** Advantageously, the apparatus 10 comprises a plurality of movable frames 20:

- each one is defined by a border which lies on a plane that is substantially parallel to the plane of arrangement of the platform 18,
- each one is supported by the upper ends of the corresponding t extensions 17, which are arranged at the corners of the movable frames 20.

**[0033]** Such movable frames 20 are adapted to support the canvases 13 of the visual displays 12 and to confer greater rigidity and stability on the apparatus 10.

**[0034]** During their movement, the extensions 17 pull the respective movable frames 20 and the canvas 12 associated with them.

**[0035]** The apparatus 10 comprises a fixed frame 21, which is defined by a border lying on a plane that is substantially parallel to the plane of arrangement of the platform 18, and is fixed thereto.

**[0036]** The movable frames 20 and the fixed frame 21 have a quadrangular, preferably rectangular, outline and mutually connect the respective and successive extensions 17 arranged at the corners thereof.

**[0037]** Advantageously, the fixed frame 21 has a plurality of stabilizing feet 22 which are adapted to increase the supporting base of the apparatus 10 in order to ensure a greater stability thereof once the canvas 13 is extended, and to contrast the action of the wind.

**[0038]** In the example shown in the figures, there are four feet 22 arranged at the four corners of the fixed frame 21, and each foot has:

- a first portion 23, which can slide along the plane of arrangement of the fixed frame 21,
- a second portion 24, which is hinged to the end of the first portion 23 that is directed toward the outside of the apparatus 10, with an axis of extension that is perpendicular to the axis of extension of the first portion 23.

**[0039]** In particular, the first portion 23 of each foot 22 is arranged/can slide along the direction of a respective transverse side of the fixed frame 21, and is retracted within a tubular housing 25, corresponding to the respective transverse side of the fixed frame 21, when the apparatus 10 is not in use, as shown in Figure 2.

**[0040]** In the present description, the term "transverse" means along a direction perpendicular to the longitudinal direction and parallel to the plane of arrangement of the platform 18.

**[0041]** In practice, when the apparatus 10 is not in use, the first portion 23 of the foot 22 is inserted in the tubular housing 25 and does not protrude from the bulk of the platform 18.

**[0042]** Similarly, when the apparatus 10 is not in use, the second portion 24 of the foot 22 is rotated so as to extend upward (as shown in Figure 2) and is also arranged within the bulk of the platform 18.

**[0043]** By contrast, when the apparatus 10 is in use, as shown in Figures 1 and 3:

- the first portion 23 of the foot 22 exits from the tubular housing 25 so as to protrude from the bulk of the platform 18,
- the second portion 24 of the foot 22 is rotated downward, outside the bulk of the platform 18.

**[0044]** Advantageously, the apparatus 10 is provided with a plurality of cable transmission members 26, each one extending between the upper ends of two successive and coaxial extensions 17, as shown in Figure 3, in order to ensure the extensions 17 are synchronized during movement.

**[0045]** Conveniently, the apparatus 10 comprises at least one anemometer 27, preferably two, arranged on the movable frame 20 and adapted to be higher than the apparatus 10 in the configuration for use.

**[0046]** The anemometers 27 are arranged in a substantially central position of the transverse sides of the respective movable frame 20 and are adapted to detect the speed and/or pressure of the wind in order to guard against the sail effect on the canvases 13 and prevent damage to the apparatus 10 and/or prevent the tipping of the motor vehicle 11.

**[0047]** It should be noted that the apparatus 10, provided with telescopic elements 15 provided with a plurality of extensions 17, makes it possible to overcome the drawback of conventional apparatuses which are constrained by the maximum dimensions of space occupation when the motor vehicle is being driven.

**[0048]** It should also be noted that by varying the number of extensions 17 the vertical travel, and therefore

also the size of the visual display 12, can be increased, which is impossible in conventional solutions.

**[0049]** Furthermore it should be noted that, with the apparatus 10, according to the invention, it is possible to stow the structure and the visual display 12 in order to allow road travel or in the event of adverse weather conditions, without the need for an external energy source, since the descent of the telescopic elements 15 is controlled, but determined by gravity.

**[0050]** Also, the apparatus according to the invention allows, for the same maximum size reached, a considerable economy of weight and an appreciable reduction in costs compared to conventional apparatuses, with masts hinged to a horizontal axis.

**[0051]** In practice it has been found that the invention fully achieves the intended aim and objects by providing an apparatus for a visual display on the platform of a motor vehicle and/or of a trailer that can reach greater heights and dimensions than those that can be reached by conventional apparatuses.

**[0052]** Furthermore, with the invention an apparatus for a visual display on the platform of a motor vehicle and/or of a trailer has been devised in which the dimensions of the visual display are not constrained by the dimensions of the platform, and/or by the overall permitted drivable bulk of the motor vehicle and/or of the trailer.

**[0053]** The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims. Moreover, all the details may be substituted by other, technically equivalent elements.

**[0054]** In practice the materials employed, provided they are compatible with the specific use, and the contingent dimensions and shapes, may be any according to requirements and to the state of the art.

**[0055]** The disclosures in Italian Patent Application No. 102022000023271 from which this application claims priority are incorporated herein by reference.

**[0056]** Where technical features mentioned in any claim are followed by reference signs, such reference signs have been inserted for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

## Claims

1. An apparatus (10) for a visual display (12) on a platform (18) of a motor vehicle (11) and/or of a trailer, **characterized in that** it comprises telescopic means (14) for extending said visual display (12).

2. The apparatus (10) according to claim 1, **characterized in that** said telescopic means (14) comprise at least two telescopic elements (15) each of which has a plurality of extensions (17), said at least two telescopic elements (15) being moved by respective hydraulic cylinders (16).

3. The apparatus (10) according to claim 2, **characterized in that** said at least two telescopic elements (15) have a vertical arrangement and an axis of extension that is perpendicular to the plane of arrangement of said platform (18).

4. The apparatus (10) according to one or more of the preceding claims, **characterized in that** it comprises four telescopic elements (15).

5. The apparatus (10) according to one or more of the preceding claims, **characterized in that** it comprises a hydraulic flow divider (19) in fluid connection with each one of said hydraulic cylinders (16).

6. The apparatus (10) according to one or more of the preceding claims, **characterized in that** it comprises a plurality of movable frames (20):

   - each one of said movable frames being defined by a border which lies on a plane that is substantially parallel to said plane of arrangement of said platform (18),
   - each one of said movable frames being supported by the upper ends of the corresponding ends of said extensions (17), said extensions (17) being arranged at the corners of said movable frames (20).

7. The apparatus (10) according to one or more of the preceding claims, **characterized in that** it comprises a fixed frame (21) defined by a border which lies on a plane that is substantially parallel to said plane of arrangement of said platform (18), and adapted to be fixed to said platform (18).

8. The apparatus (10) according to one or more of the preceding claims, **characterized in that** said movable frames (20) and said fixed frame (21) have a quadrangular outline and mutually connect the respective and successive said extensions (17) arranged at the corners thereof.

9. The apparatus (10) according to one or more of the preceding claims, **characterized in that** said fixed frame (21) has a plurality of stabilizing feet (22).

10. The apparatus (10) according to one or more of the preceding claims, **characterized in that** there are four said feet (22), arranged at the four corners of said fixed frame (21), and each one has:

    - a first portion (23), which can slide along the plane of arrangement of said fixed frame (21),
    - a second portion (24), which is hinged to the

end of said first portion (23) that is directed toward the outside of said apparatus (10), said second portion (24) having an axis of extension that is perpendicular to the axis of extension of said first portion (23).

**11.** The apparatus (10) according to one or more of the preceding claims, **characterized in that** said first portion (23) of each one of said feet (22) is configured to slide along the direction of a respective transverse side of said fixed frame (21).

**12.** The apparatus (10) according to one or more of the preceding claims, **characterized in that** it comprises a tubular housing (25) for said first portion (23) when not in use.

**13.** The apparatus (10) according to one or more of the preceding claims, **characterized in that** it has a plurality of cable transmission members (26), each one of said cable transmission members (26) extending between the upper ends of two of said extensions (17) which are successive and coaxial.

**14.** The apparatus (10) according to one or more of the preceding claims, **characterized in that** it comprises at least one anemometer (27).

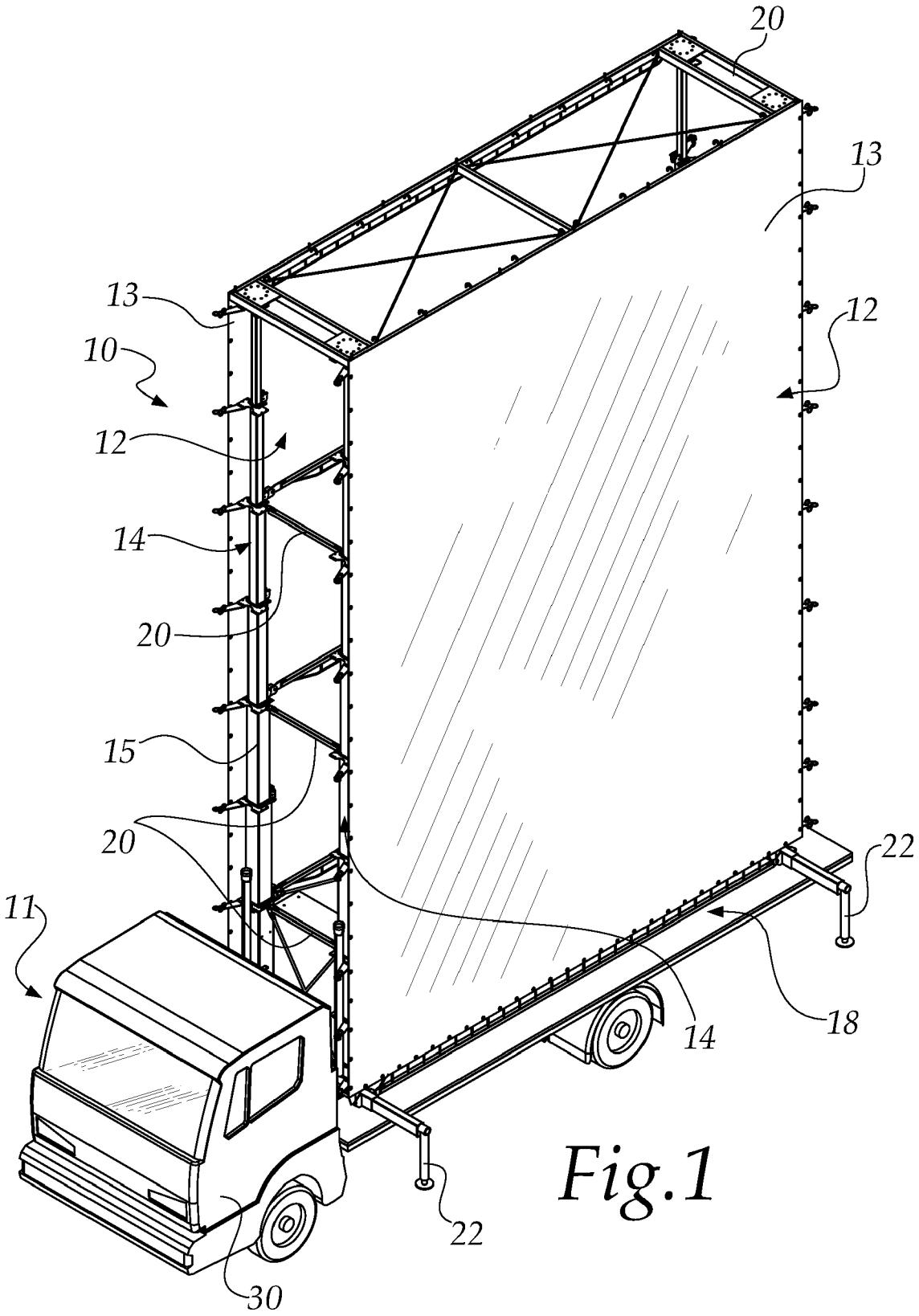


Fig.1

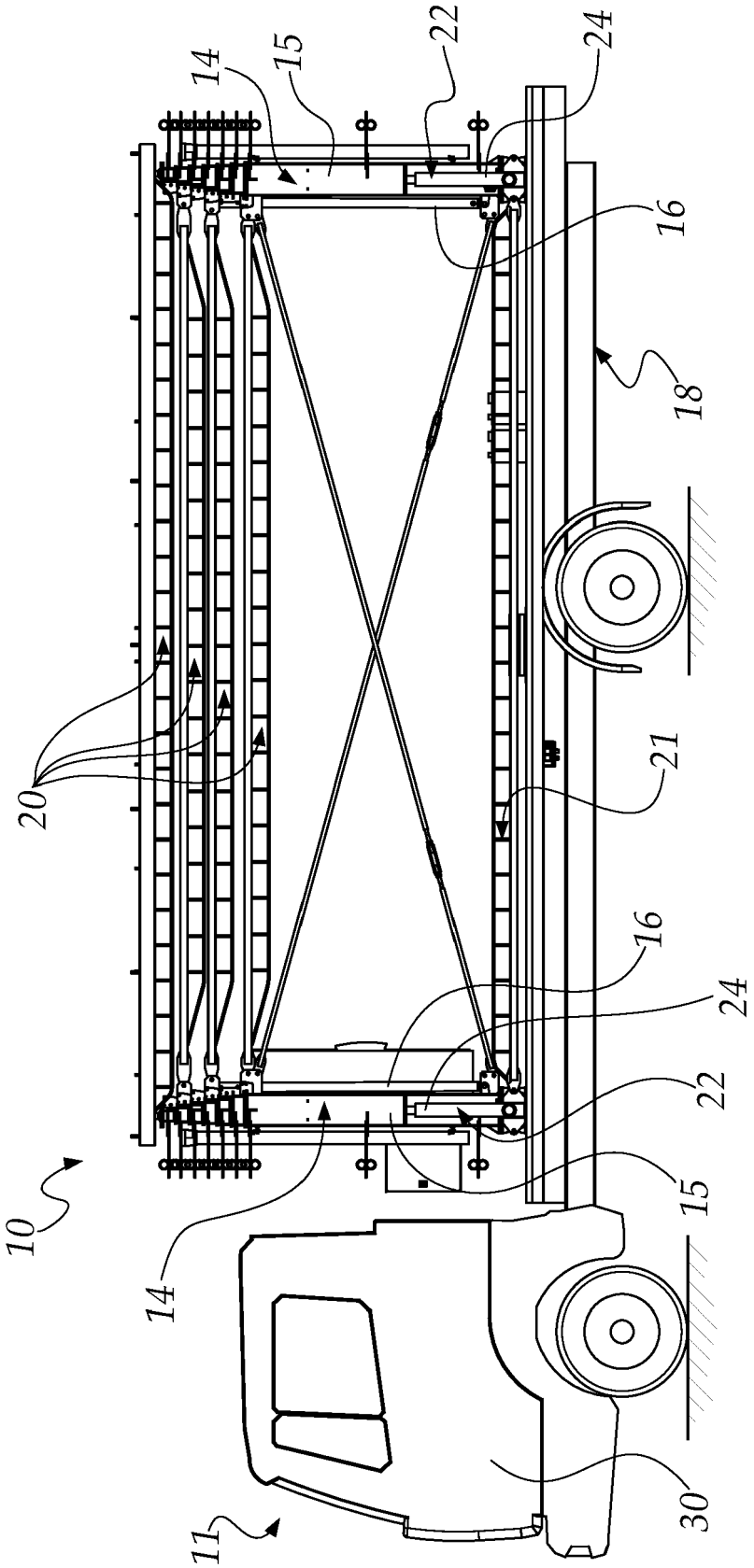


Fig.2

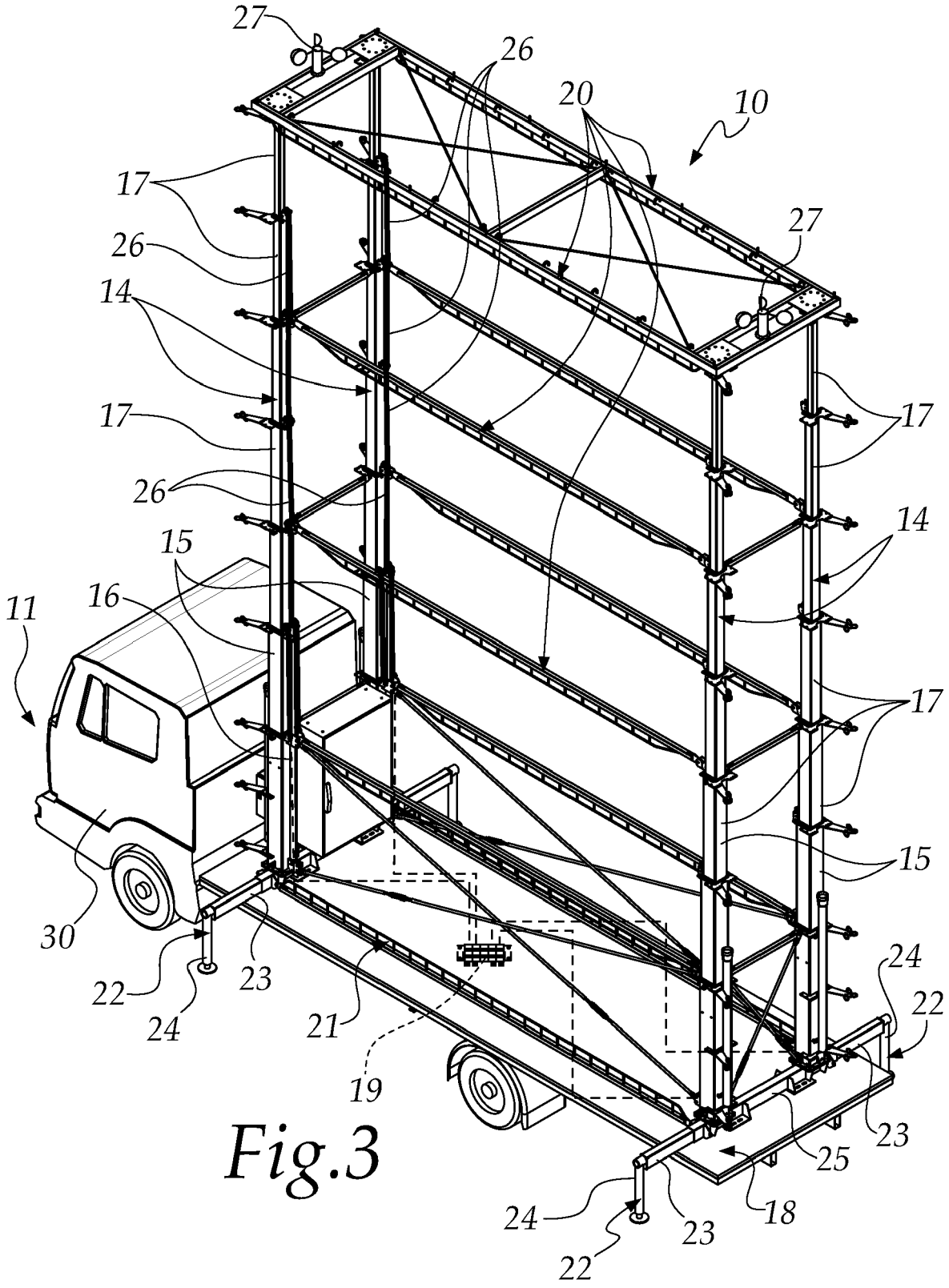
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Fig.3

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# EUROPEAN SEARCH REPORT

Application Number
EP 23 20 1247

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| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (IPC) |
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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 | 14 November 2023 | Lechanteux, Alice |

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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E : earlier patent document, but published on, or after the filing date
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## ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 23 20 1247

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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