(12)Indian Patent Application

---

(21) Application Number: 201841008332

(22) Filing Date: 07/03/2018 (43) Publication Date: 13/12/2019

(71) Applicant(s): L&T TECHNOLOGHY SERVICES LIMITED

(72) Inventor(s): TUNGAL, MANJUNATH
PARTHA, ADITYA

(51) International Classifications: H02G 7/08

(54) Title: AN ARRANGEMENT FOR A CABLE CLAMP

(57) Abstract: A cable clamp arrangement 100 is disclosed. The cable clamp comprises a rotatable pulley connected to a lever arrangement through a shaft. The lever arrangement enables a selective axial movement of the pulley in a horizontal direction. The cable clamp further comprises a support member for supporting the shaft. The support member has a clamp arrangement for clamping the cable clamp to a support structure.

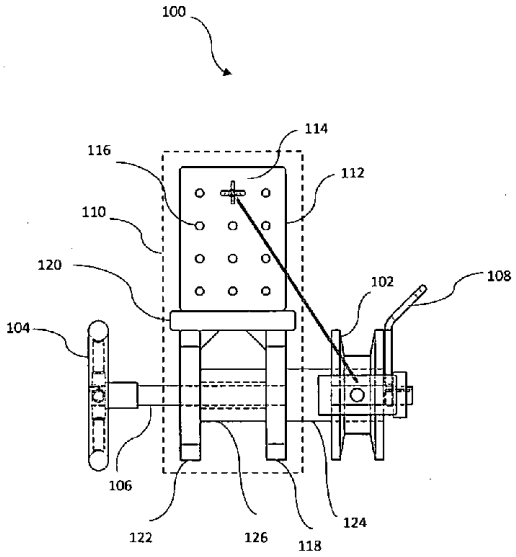
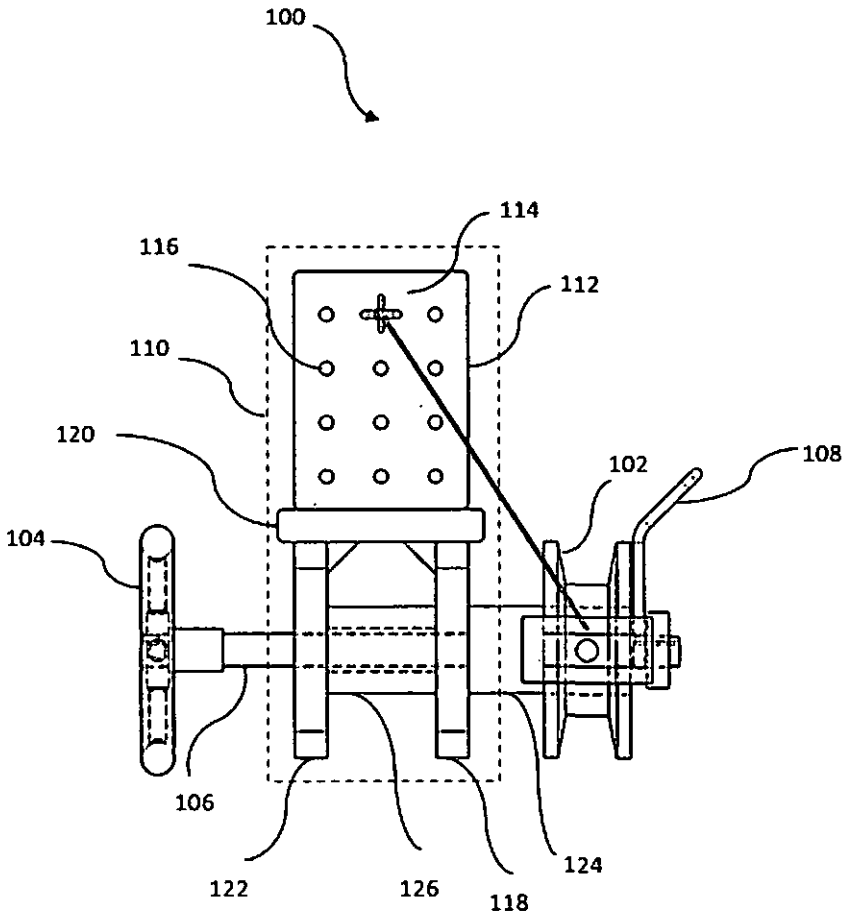


Figure 1

ABSTRACT

An Arrangement for a Cable Clamp

A cable clamp arrangement 100 is disclosed. The cable clamp comprises a rotatable pulley connected to a lever arrangement through a shaft. The lever arrangement enables a selective axial movement of the pulley in a horizontal direction. The cable clamp further comprises a support member for supporting the shaft. The support member has a clamp arrangement for clamping the cable clamp to a support structure.



We Claim:

1. A cable clamp 100 comprising:

a rotatable pulley 102 connected to a lever arrangement 104 through a shaft 106, such that the lever arrangement 104 enables a selective axial movement of the pulley 102 in a horizontal direction; and

a support member 110 for supporting the shaft 106, the support member 110 having a clamp arrangement 112 for clamping the cable clamp 100 to a support structure.

2. The cable clamp 100 as claimed in claim 1, further comprises a resilient member 124 configured between the support member 110 and the pulley 102.

3. The cable clamp 100 as claimed in claim 2, further comprises a spacer 126 configured between the support member 110 and the lever arrangement 104.

4. The cable clamp as claimed in claim 3, further comprising a partition between the spacer 126 and the lever arrangement 104.

5. The cable clamp as claimed in claim 3 or 4, wherein the resilient member 124 is biased in an axially opposite direction to the spacer 126.

Dated this 7th day of March 2018

Mohammed Faisal (INPA No: 1941)
Head, IPR Dept.
L&T Technology Services Limited
DLF 3rd Block, 2nd Floor,
Manapakkam, Chennai, TN, 600089

FIELD OF INVENTION

The invention relates to cable clamps and more particularly to clamping cables to poles, tower or other overhead support structures.

BACKGROUND

For many applications, power cables are clamped to poles, towers or other support structures. Various forms of cable clamping structures are known. Some of the cable clamping structures include a pulley kind of arrangement. However, the process of coiling the cable on the pulley of a cable clamp structure is a tedious process and at times it becomes difficult to place the cable in the pulley. Hence, there is a need for an arrangement to selectively displace the cable clamp structure for easy placing of the cable on the pulley. The easy placement of the cable on the pulley will reduce the time taken in cable clamping.

SUMMARY OF THE INVENTION

Exemplary embodiments of the invention disclose a cable clamp. The cable clamp comprises a rotatable pulley connected to a lever arrangement through a shaft, such that the lever arrangement enables a selective axial movement of the pulley in a horizontal direction. The cable clamp further comprises a support member for supporting the shaft. The support member has a clamp arrangement for clamping the cable clamp to a support structure.

BRIEF DESCRIPTION OF DRAWINGS

Other objects, features, and advantages of the invention will be apparent from the following description when read with reference to the accompanying drawings. In the drawings, wherein like reference numerals denote corresponding parts throughout the several views:

Figure 1 illustrates a front view of a cable clamp, according to an exemplary embodiment of the invention;

Figure 2 illustrates a back view of a cable clamp, according to an exemplary embodiment of the invention;

Figure 3 illustrates an isometric view of a cable clamp, according to an exemplary embodiment of the invention;

Figure 4 illustrates a side view of a cable clamp, according to an exemplary embodiment of the invention;

Figure 5 illustrates a side view of a cable clamp, according to an exemplary embodiment of the invention;

Figure 6 illustrates a top view of a cable clamp, according to an exemplary embodiment of the invention; and

Figure 7 illustrates a bottom view of a cable clamp, according to an exemplary embodiment of the invention;

DETAILED DESCRIPTION OF DRAWINGS

The following description with reference to the accompanying drawings is provided to assist in a comprehensive understanding of exemplary embodiments of the invention. It includes

various specific details to assist in that understanding but these are to be regarded as merely exemplary. Accordingly, those of ordinary skill in the art will recognize that various changes and modifications of the embodiments described herein can be made without departing from the scope and spirit of the invention. In addition, descriptions of well-known functions and constructions are omitted for clarity and conciseness.

Figures 1 illustrates a front view of a cable clamp, according to an exemplary embodiment of the invention. The cable clamp 100 may be suitable for clamping a cable to a support structure. According to an exemplary embodiment, the support structure may be an overhead high-tension power line tower, pole or the like. The cable clamp may also be suitable for rigid mounting to the support structure. According to an embodiment, the cable may be a lower power electrical distribution cable, telephone cable, cable television cable or fibre optical cable. According to another embodiment, the cable may be a OPGW (optical ground wire).

The cable clamp 100 includes a rotatable pulley 102 that is connected to a lever arrangement 104 through a shaft 106. According to an embodiment, the shaft may have external threads. The lever arrangement 104 enables selective axial movement of the pulley 102 in a horizontal direction. According to an embodiment, the lever arrangement 104 may be a wheel. According to another embodiment, the lever arrangement 104 may be any such arrangement that enables rotation of the pulley 102 along its axis. According to an exemplary embodiment, the pulley 102 may be attached to a catcher 108. The catcher 108 may assist in placing the cable on pulley 102 by providing extended span for coiling the cable around the pulley 102. The inclination of the catcher 108 may guide the cable onto the pulley 102. According to an embodiment, the pulley102 and catcher 108 may be moved outside of the support structure to provide more

The cable clamp 100 has a support member 110 that includes a clamp arrangement 112 for clamping the cable to a support structure. According to an exemplary embodiment, the clamp arrangement 112 may include one or more plates 114 to attach the clamp arrangement to the support structure. According to an embodiment, the one or more plates may have a plurality of slots 116 to provide multiple fixing options of the plates to the support structure. According to an exemplary embodiment, the slots 116 may be horizontal or vertical.

According to an embodiment, the support member 110 may include one or more support plates between the lever arrangement 104 and the pulley 102. According to an embodiment, the support member 110 may include a first support plate 118 between the lever arrangement 104 and the pulley 102. According to an exemplary embodiment, the first support plate 118 may have an aperture for allowing the shaft 106 to extend perpendicular to the first support plate 118. The first support plate 118 may be secured to a base member 120. According to another embodiment, the support member 110 may include a second support plate 122 between the lever arrangement 104 and the pulley 102. According to another exemplary embodiment, the second support plate 122 may be substantially parallel to the first support plate 118 and has an aperture substantially similar to the aperture in the first support plate 118 for allowing the shaft 106 to extend through the second support plate 122. According to an embodiment, the second support plate 122 may be secured to the base member 120 and moveable with respect to the first support plate 118.

According to an embodiment, the cable clamp may include a resilient member 124 between the support member 110 and the pulley 102. The resilient member 124 may maintain a predefined distance between the support member 110 and the pulley 102. According to another

embodiment, the cable clamp may include a spacer 126 between the support member 110 and the lever arrangement 104. The spacer 126 may maintain a predefined distance between the support member 110 and the lever arrangement 104. The spacer 126 may be a resilient member or a non-resilient member. According to an exemplary embodiment, the spacer 126 may have internal threads. According to yet another embodiment, the cable clamp may include a partition between the spacer 126 and the lever arrangement 104. According to an exemplary embodiment, the resilient member 124 and the spacer 126 may be a compression spring.

According to an embodiment, the resilient member 124 is biased in an axially opposite direction to the spacer 126. Hence, when the lever arrangement 104 rotates the shaft 106, the spacer 126 is compressed and the resilient member 124 is expanded thereby pushing the pulley 102 in outward direction. The outward movement of the pulley 102 enables easy coiling of the cable around the pulley 102.

Figure 2 illustrates a back view of a cable clamp, according to an exemplary embodiment of the invention. According to an exemplary embodiment of the invention, a stiffener 202 may be attached to the first support plate 118 and the second support plate 122. According to an embodiment of the invention, the catcher 108 may be locked using a locking nut 204.

Figure 3 illustrates an isometric view of a cable clamp, according to an exemplary embodiment of the invention. According to an exemplary embodiment of the invention, the standard cable clamp 302 may be connected to holes 116 in the clamp arrangement 112 through connector 304.

Figure 4 illustrates a side view of a cable clamp, according to an exemplary embodiment of the invention. Figure 4 illustrates a side view of the cable clamp when viewed from the side of a lever arrangement.

Figure 5 illustrates a side view of a cable clamp, according to an exemplary embodiment of the invention. Figure 5 illustrates a side view of the cable clamp when viewed from the side of a pulley.

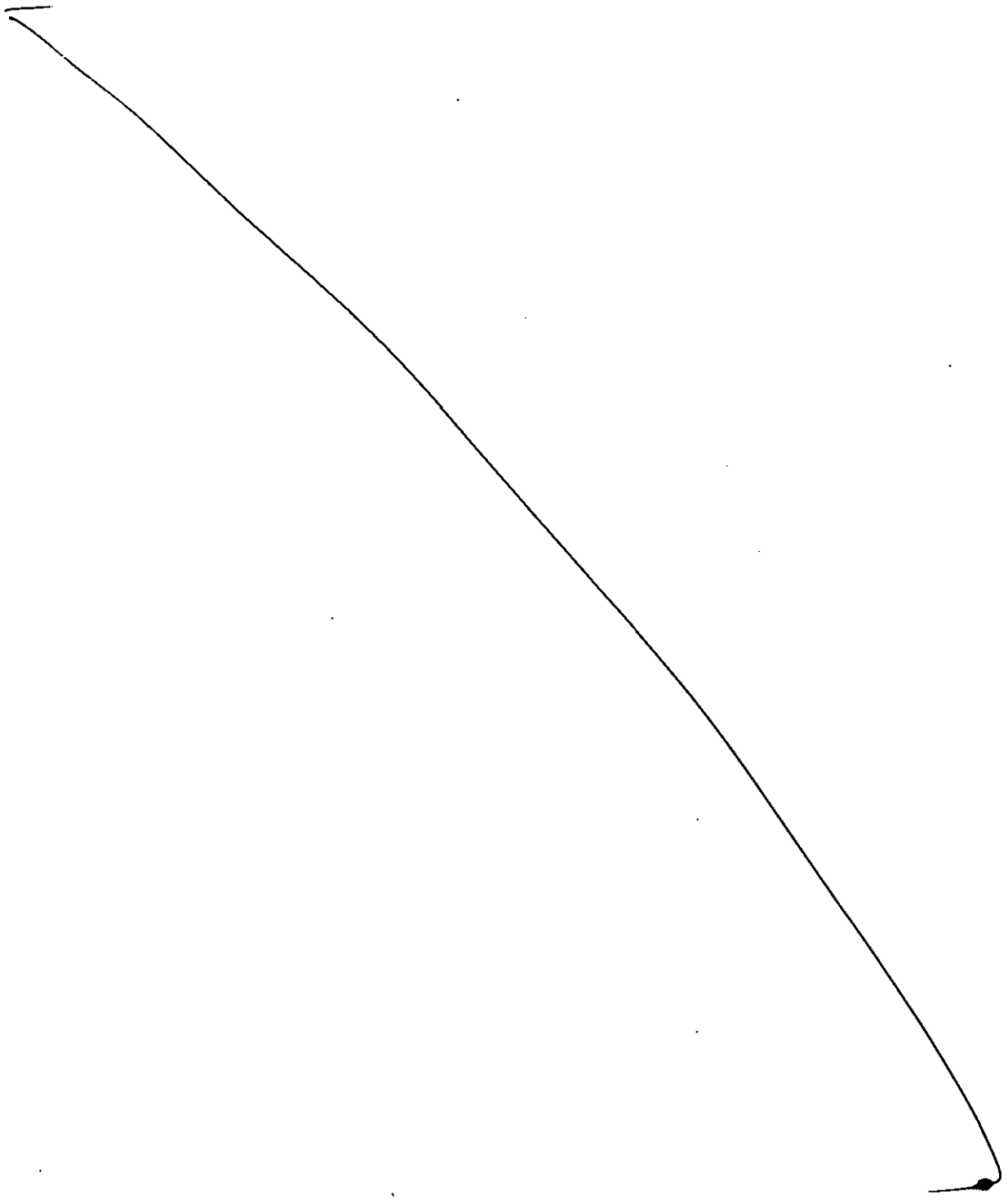
Figures 6 and 7 illustrate top and bottom perspective views respectively of a cable clamp, according to an exemplary embodiment of the invention.

The disclosed cable clamp has at least advantages of enabling easy set-up, rigid mounting of the clamp on the tower, reduction in cable stringing time and effort in manual as well as heli-stringing.

In the drawings and specification there has been set forth preferred embodiments of the invention, and although specific terms are employed, these are used in a generic and descriptive sense only and not for purposes of limitation. Changes in the form and the proportion of parts, as well as in the substitution of equivalents, are contemplated as circumstances may suggest or render expedient without departing from the spirit or scope of the invention.

It is understood that the above description is intended to be illustrative, and not restrictive. It is intended to cover all alternatives, modifications and equivalents as may be included within the spirit and scope of the invention as defined in the appended claims. Many other embodiments will be apparent to those of skill in the art upon reviewing the above description.

The scope of the invention should, therefore, be determined with reference to the appended claims, along with the full scope of equivalents to which such claims are entitled. In the appended claims, the terms "including" and "in which" are used as the plain-English equivalents of the respective terms "comprising" and "wherein," respectively.



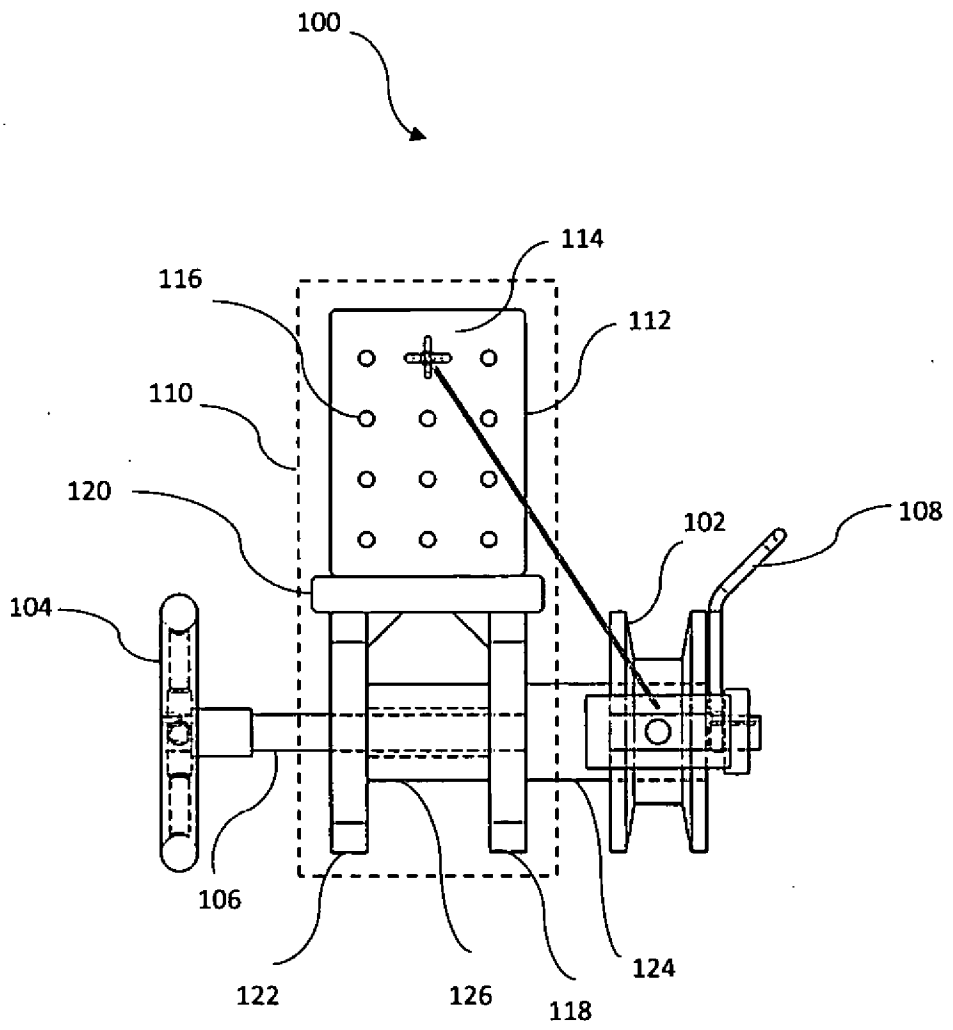


Figure 1

Mohammed Faisal (INPA No: 1941)
Head, IPR Dept.
L&T Technology Services Limited
DLF 3rd Block, 2nd Floor,
Manapakkam, Chennai – 600089

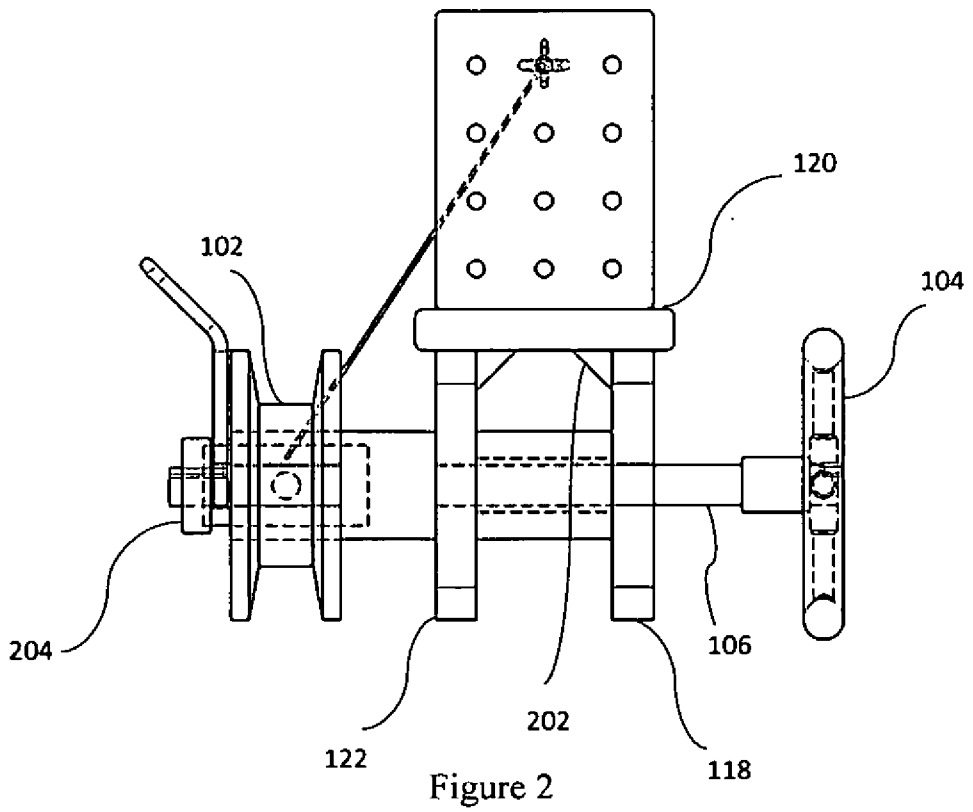


Figure 2

Mohammed Faisal (INPA No: 1941)
Head, IPR Dept.
L&T Technology Services Limited
DLF 3rd Block, 2nd Floor,
Manapakkam, Chennai – 600089

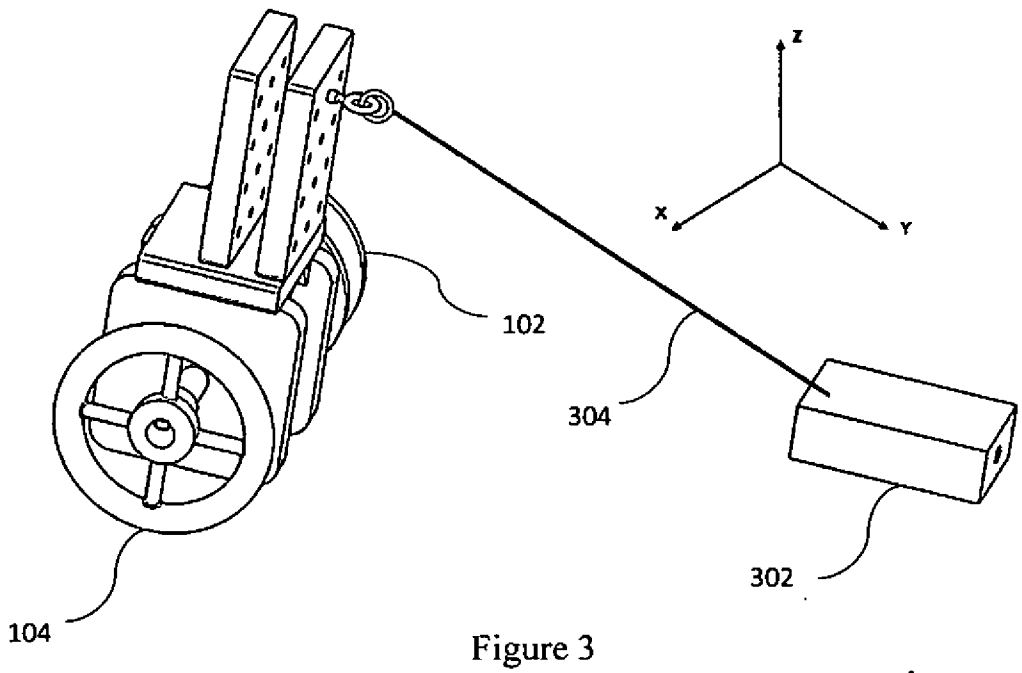


Figure 3

Mohammed Faisal (INPA No: 1941)
Head, IPR Dept.
L&T Technology Services Limited
DLF 3rd Block, 2nd Floor,
Manapakkam, Chennai – 600089

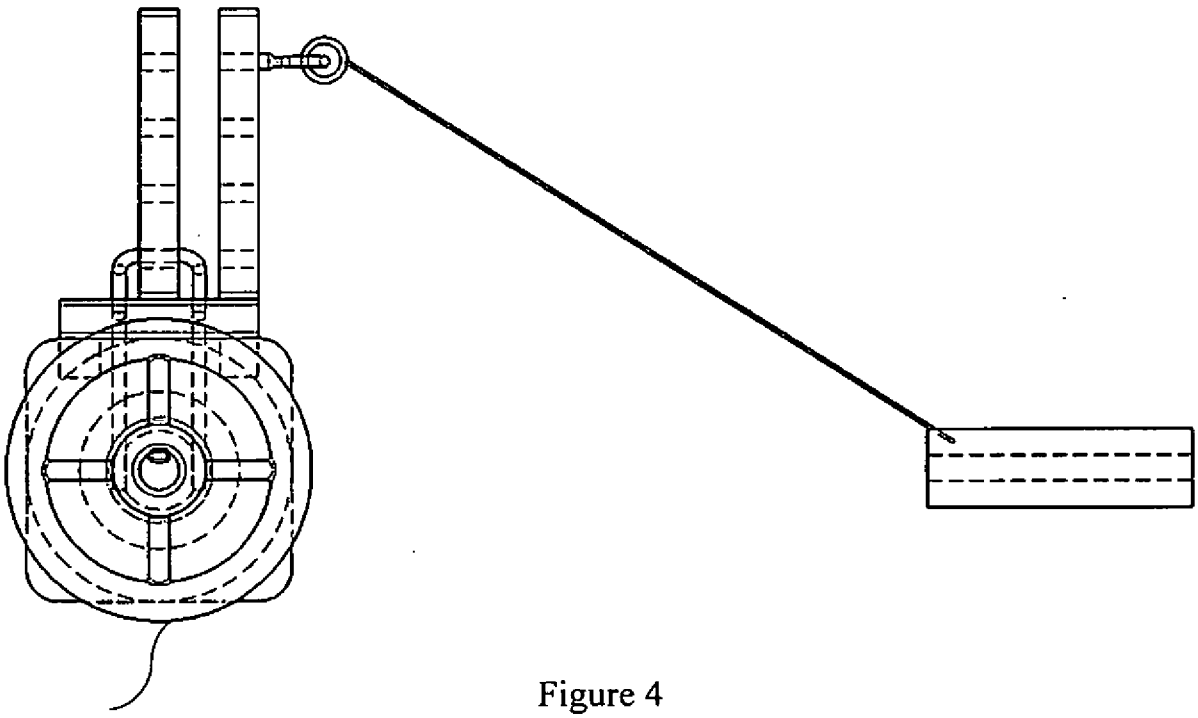


Figure 4

Mohammed Faisal (INPA No: 1941)
Head, IPR Dept.
L&T Technology Services Limited
DLF 3rd Block, 2nd Floor,
Manapakkam, Chennai – 600089

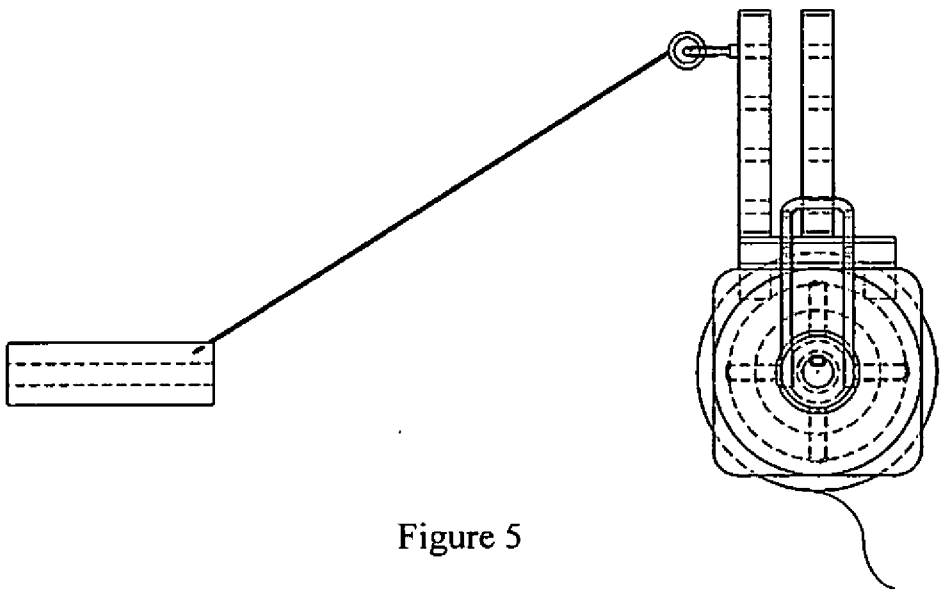


Figure 5

Mohammed Faisal (INPA No: 1941)
Head, IPR Dept.
L&T Technology Services Limited
DLF 3rd Block, 2nd Floor,
Manapakkam, Chennai – 600089

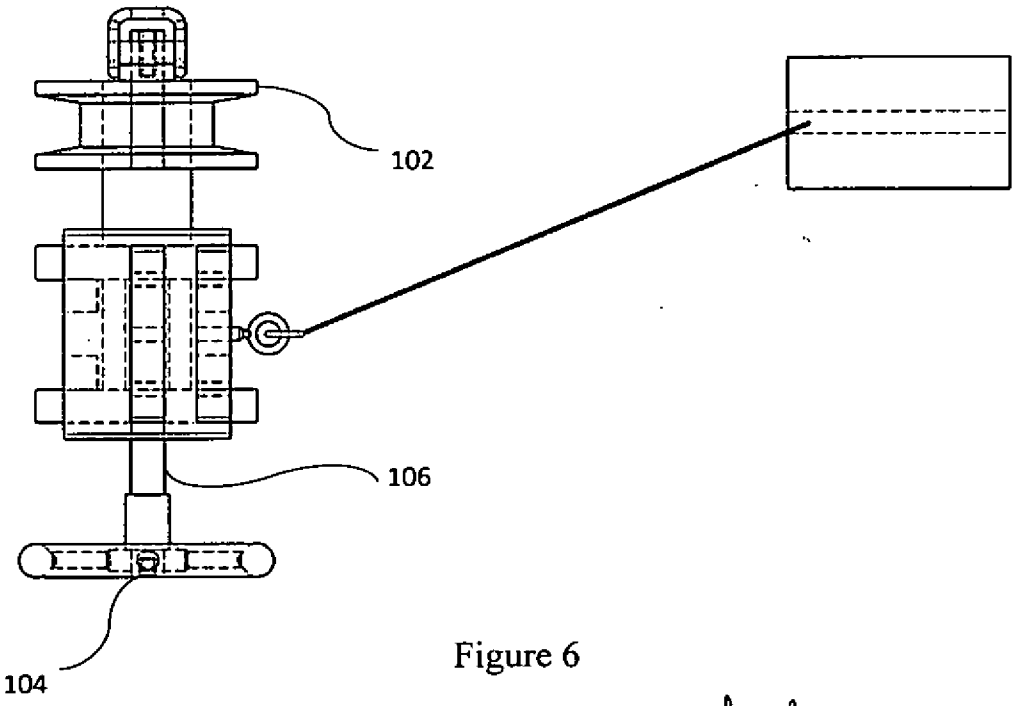


Figure 6

Mohammed Faisal (INPA No: 1941)
Head, IPR Dept.
L&T Technology Services Limited
DLF 3rd Block, 2nd Floor,
Manapakkam, Chennai – 600089

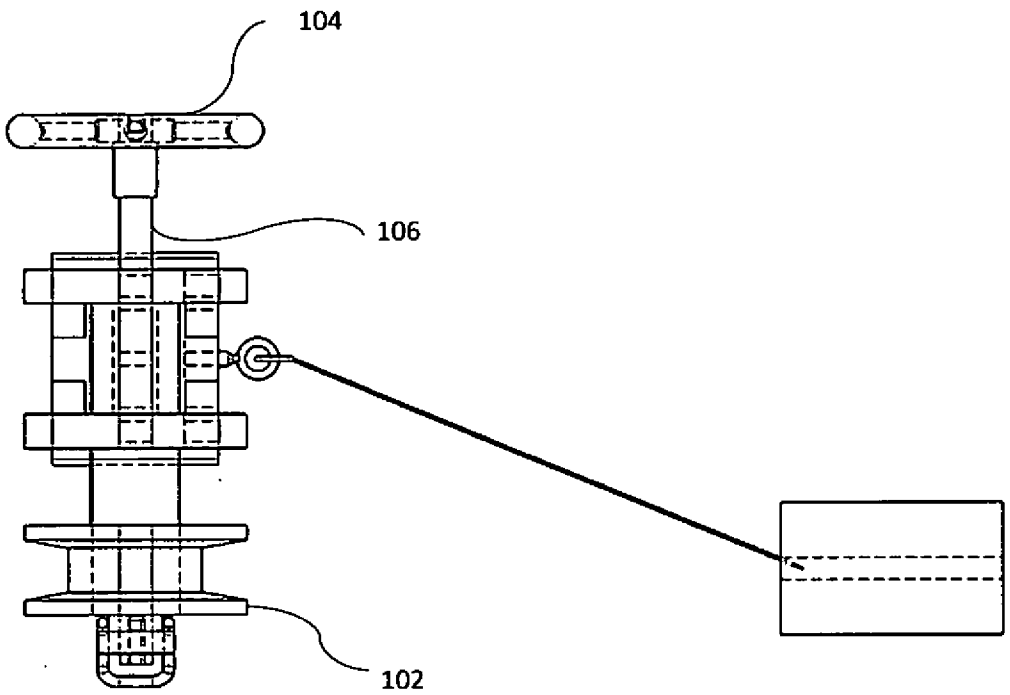


Figure 7

Mohammed Faisal (INPA No: 1941)
Head, IPR Dept.
L&T Technology Services Limited
DLF 3rd Block, 2nd Floor,
Manapakkam, Chennai – 600089