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(54) **SEA RESCUE MACHINE**

(57) Machine for launching rescue buoys (11), comprising a frame (3) on which frame (3) a launching unit and a unit supplying the rescue buoy (11) are mounted, the launching unit comprising two contrarotating rubber rollers (26) each one driven by an electric motor (15), the two electric motors (15) being orientable on two independent axes (19, 20) one with respect to the other one,

such to orient the rescue buoy launch, to the right or to the left or straight or like a parabola, said supplying unit comprising at least one carriage (31) mounted so as to be movable in the direction of said rollers (26), which carriage (31) has at least one housing compartment for housing said rescue buoy (11), such to move the rescue buoy (11) near the rollers (26) and to launch it.

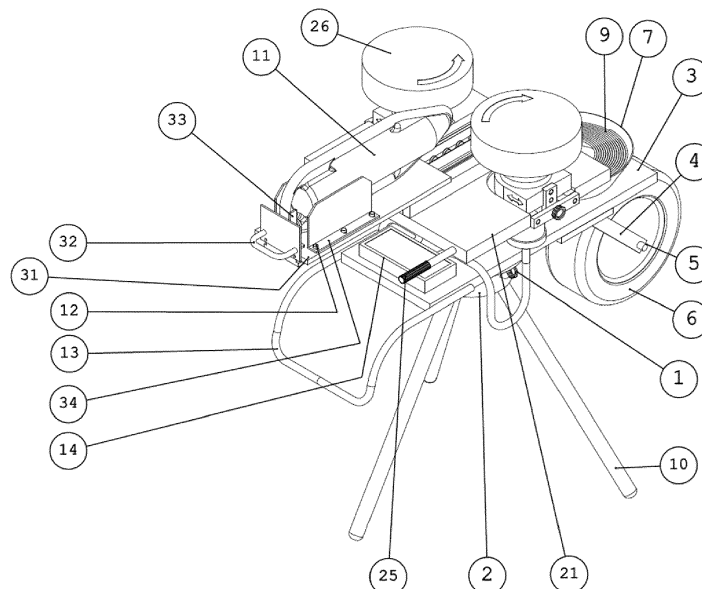


Fig. 2

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Description

[0001] The rescue buoy launching machine is designed to easily help from shore, and without going into the water, the person who is in trouble in the sea, without affecting and above all without exposing the rescuers safety to a risk.

[0002] This handy and revolutionary machine will allow all bathing establishments to be able with any sea conditions to rescue the person unable to return from the sea to the shore with his/her own efforts.

[0003] The rescue buoy launching machine may operate by electric current or it may have a suitable battery power supply.

[0004] The machine is composed of a frame on which two electric motors are mounted at the top having two big rollers made of aluminium covered by soft rubber material for guaranteeing the rescue buoy to be properly held. The electric motors in turn are orientable on two axes independent from each other in order to provide the possibility of orienting the launch, once the machine is placed, to the right or to the left or straight or like a parabola or depending on needs.

[0005] At the center of the machine and between the two rollers there is a carriage mounted on bearing guides that, pushed manually forward, acts for moving the rescue buoy near the rollers that rotate at variable speed moved by the two motors. Afterwards and by moving the rescue buoy near the rollers it will contact the rollers that will launch it upwardly, thus obtaining the real launch of the rescue buoy to the desired distance and with the desired trajectory, since it has been previously easily set on the computer by the operator. The computer allows the speed of the rollers to be set depending on how much long the launch of the rescue buoy has to be (from a minimum of 10 meters to a maximum of 55 meters).

[0006] The computer is able to provide to the person in charge, the necessary data before making the launch. It automatically provides the number of revolutions with which the two motors have to rotate and at the same time the degrees of inclination of the motor supporting table, necessary for making a parabolic launch necessary for reaching the desired distance.

[0007] Moreover an accurate and practical laser rangefinder is provided together with the machine in order to easily find the person to be rescued and his/her precise distance from the shore and from the machine, in order to allow the rescue buoy to be launched with the greatest accuracy.

[0008] Moreover the machine is equipped with a container holding the rope, attached beforehand to the rescue buoy and once the launch is made it will follow the rescue buoy in its path up to the desired destination.

[0009] Once the rescue buoy has reached the destination, the rope attached to the rescue buoy allows rescuers to easily tow from the shore the person in trouble grabbed to the rescue buoy in a completely safe manner.

[0010] If the launch does not accurately reach the des-

tinuation, a second or third launch can be performed by the same procedure used for the first launch.

[0011] Moreover the machine is equipped with 3 torpedo rescue buoys (BayWatch type) such to surely achieve the object and thus avoiding loss of time.

[0012] The machine is studied for being easily transported by hand only by one person on any soil above all sandy soil, since the wheel arranged for the transport, intentionally has an enlarged section, such to avoid sinking in presence of soft soils.

[0013] In most cases the machine will be used on shorelines of beaches, since it is specifically designed for helping staff in charge of the rescue on beaches.

[0014] According to what mentioned above, the machine can be of great help to staff on beaches for shores and coastlines.

[0015] Moreover the machine may also be installed on cruise ships or on ships of law enforcement authorities.

[0016] The construction of the machine is all designed to be made of Anticorodal Aluminium both for the base structure and for all the pieces composing it except for the motors, the transport wheel and the roller table on which the rescue buoy carrying carriage rests.

[0017] Anticorodal Aluminium is particularly suitable for this type of use since, as regards the technical properties it provides optimal load strength, a considerable lightness for transport purposes and finally a considerable resistance to corrosion resulting from atmospheric agents such as rusts and saltiness of sea water.

[0018] These and other characteristics and advantages of the present invention will be more clear from some embodiments shown in the annexed drawings wherein:

Fig.1 is a front axonometric view;

Fig. 2 is a rear axonometric view;

Fig.3 is a top view;

Fig. 4 is a rear view;

Fig.5 is a side view.

[0019] Figures show a machine for launching rescue buoys 11, which comprises a frame 3 on which a launching unit and a unit supplying the rescue buoy 11 are mounted, the launching unit comprising two contra-rotating rubber rollers 26 each one driven by an electric motor 15.

[0020] The two electric motors 15 are orientable on two independent axes 19, 20 one with respect to the other one, such to orient the rescue buoy launch, to the right or to the left or straight or like a parabola.

[0021] The supplying unit comprises at least one carriage 31 mounted so as to be movable in the direction of said rollers 26, which carriage 31 has at least one housing compartment for housing the rescue buoy 11, such to move the rescue buoy 11 near the rollers 26 and such to launch it.

[0022] There is provided at least one control unit intended to adjust the launch height and the speed of the rollers 26 on the basis of the launch distance parameters.

[0023] The control unit is settable by hand by a user such to adjust the speed and the inclination of the rollers 26 such to launch the rescue buoy 11 to the desired distance and with the desired trajectory.

[0024] The carriage 31 is mounted on bearing guides 30 and it has a safety guide for a self-floating rope 8 such to prevent it from interfering with the moving rollers 26. Preferably the housing compartment has at least two guides, a side guide 34 and a rear guide 33, for properly positioning the rescue buoy 11.

[0025] The control unit comprises a computer 14, which computer allows the rotational speed of the rollers 26 to be set depending on how much long the launch of the rescue buoy will be.

[0026] The computer 14 is able to provide the necessary data before making the launch to the person in charge.

[0027] The computer automatically provides the number of revolutions with which the two motors 15 have to rotate while transmitting the speed to the rollers and contemporaneously the inclination degrees by means of a scaled joint 19 of the motor supporting table 21 to be manually adjusted, necessary to carry out a parabolic launch and necessary for reaching the desired distance.

[0028] There is provided an accurate and practical laser rangefinder such to easily find the person to be rescued and the his/her precise distance from the shore and from the machine, such to allow the rescue buoy 11 to be launched with the highest accuracy.

[0029] There is provided a container 7 holding the rope 9, which rope 9 attached beforehand to the rescue buoy 11 and once the launch is carried out, will follow the rescue buoy in its path up to the desired destination, such that once the rescue buoy is at destination, the rope 9 attached to the rescue buoy will allow the rescuers to easily tow from the shore the person in trouble grabbed to the rescue buoy in a completely safe manner.

[0030] There is provided a handle 13 for transporting the machine by only one person on any soil above all sandy soil, by providing a wheel 6 intended for the transport directly fastened on the frame by a suitable attachment 4.

[0031] The wheel 6 has an enlarged section in order to prevent it from sinking in case of soft soils.

[0032] The machine is supported, in the operating condition, by a leg supporting assembly 2 that supports the table of the frame 3 on which all the machine structure is mounted.

[0033] Removable stabilizing legs 10 are fastened to the leg supporting assembly which are firmly fastened by screw locks 1 for a safe and correct positioning.

[0034] There are provided powering means for operating the machine by electric current 15 or by a suitable battery power supply.

[0035] The electric motors 15 are orientable on two independent axes 19, 20 one from each other by a suitable handle 25.

[0036] The machine provides two adjustable guides

23, 24 with suitable adjusting screws 22, in order to obtain the greatest adhesion of the rubber rollers 26 on the rescue buoy 11.

5 Reference list

[0037]

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|-------|-----------------------------------|
| 1 | Leg locks |
| 10 2 | Leg supporting assembly |
| 3 | Frame |
| 4 | Wheel holder |
| 5 | Wheel pin |
| 6 | Transport wheel |
| 15 7 | Rope holding tray |
| 8 | Rope guide tray |
| 9 | Rope |
| 10 | Removable legs |
| 11 | Rescue buoy |
| 20 12 | Attachments |
| 13 | Transport handle |
| 14 | Computerized control unit |
| 15 | Motors |
| 16 | Adjustable motor holding supports |
| 25 17 | Joint holding plate |
| 18 | Joint pin |
| 19 | Scaled joint |
| 20 | Scaled rotary plate |
| 21 | Base plate |
| 30 22 | Motor adjusting plates |
| 23 | Adjustment blocks |
| 24 | Adjustment knobs |
| 25 | Adjustment handle |
| 26 | Rubber rotating discs |
| 35 27 | L guides for carriage |
| 28 | T guide for carriage |
| 29 | Carriage stop |
| 30 | Rollers |
| 31 | Rescue buoy carrying carriage |
| 40 32 | Handle for carriage |
| 33 | Rescue buoy rear guides |
| 34 | Rescue buoy side guides |

45 Claims

1. Machine for launching rescue buoys (11),
characterized in that
said machine comprises a frame (3) on which frame (3) a launching unit and a unit supplying the rescue buoy (11) are mounted, the launching unit comprising two contra-rotating rubber rollers (26) each one driven by an electric motor (15),
the two electric motors (15) being orientable on two independent axes (19, 20) one with respect to the other one, such to orient the rescue buoy launch, to the right or to the left or straight or like a parabola, said supplying unit comprising at least one carriage

- (31) mounted so as to be movable in the direction of said rollers (26), which carriage (31) has at least one housing compartment for housing said rescue buoy (11), such to move the rescue buoy (11) near the rollers (26) and to launch it.
2. Machine according to claim 1, wherein there is provided at least one control unit intended to adjust the launch height and the speed of the rollers (26) on the basis of the launch distance parameters.
 3. Machine according to claim 2, wherein said control unit is settable by hand by a user such to adjust the speed and the inclination of the rollers (26) such to launch the rescue buoy (11) to the desired distance and with the desired trajectory.
 4. Machine according to one or more of the preceding claims, wherein said carriage (31) is mounted on bearing guides (30) and it has a safety guide for a self-floating rope (8) such to prevent it from interfering with the moving rollers (26), said housing compartment having at least two guides, a side guide (34) and a rear guide (33), for properly positioning the rescue buoy (11).
 5. Machine according to one or more of the preceding claims, wherein said control unit comprises a computer (14), which computer allows the rotational speed of the rollers (26) to be set depending on how much long the launch of the rescue buoy will be, the computer (14) being able to provide to the person in charge the necessary data before making the launch, the computer automatically providing the number of revolutions with which the two motors (15) have to rotate while transmitting the speed to the rollers and contemporaneously the inclination degrees by means of a scaled joint (19) of the motor supporting table (21) to be manually adjusted, necessary to carry out a parabolic launch and necessary for reaching the desired distance.
 6. Machine according to one or more of the preceding claims, wherein there is provided an accurate and practical laser rangefinder such to easily find the person to be rescued and his/her precise distance from the shore and from the machine, such to allow the rescue buoy (11) to be launched with the highest accuracy.
 7. Machine according to one or more of the preceding claims, wherein there is provided a container (7) holding the rope (9), which rope (9) attached beforehand to the rescue buoy (11) and once the launch is carried out, will follow the rescue buoy in its path up to the desired destination, such that once the rescue buoy is at destination, the rope (9) attached to the rescue buoy will allow the rescuers to easily tow from shore the person in trouble grabbed to the rescue buoy in a completely safety manner.
 8. Machine according to one or more of the preceding claims, wherein there is provided a handle (13) for transporting the machine by only one person on any soil above all sandy soil, by providing a wheel (6) arranged for the transport directly fastened on the frame by a suitable attachment (4), said wheel (6) having an enlarged section in order to prevent it from sinking in case of soft soils, the machine being supported, in the operating condition, by a leg supporting assembly (2) that supports the table of the frame (3) on which all the machine structure is mounted, removable stabilizing legs (10) being fastened to the leg supporting assembly which are firmly fastened by screw locks (1) for a safe and correct positioning.
 9. Machine according to one or more of the preceding claims, wherein there are provided powering means for operating the machine by electric current (15) or by a suitable battery power supply.
 10. Machine according to one or more of the preceding claims, wherein the electric motors (15) are orientable on two independent axes (19, 20) one from each other by a suitable handle (25), said machine providing two adjustable guides (23, 24) with suitable adjusting screws (22), in order to obtain the greatest adhesion of the rubber rollers (26) on the rescue buoy (11).

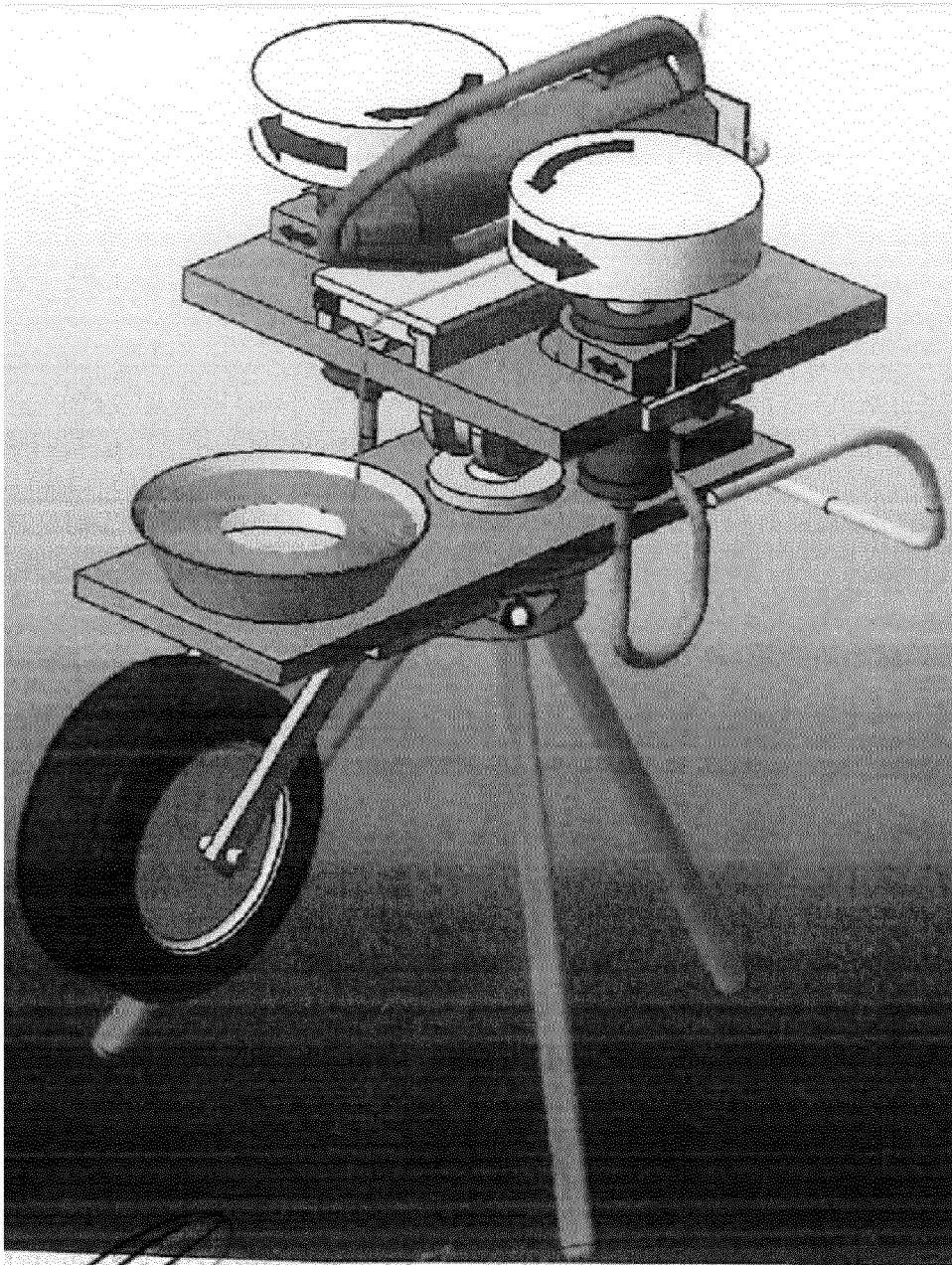


Fig. 1

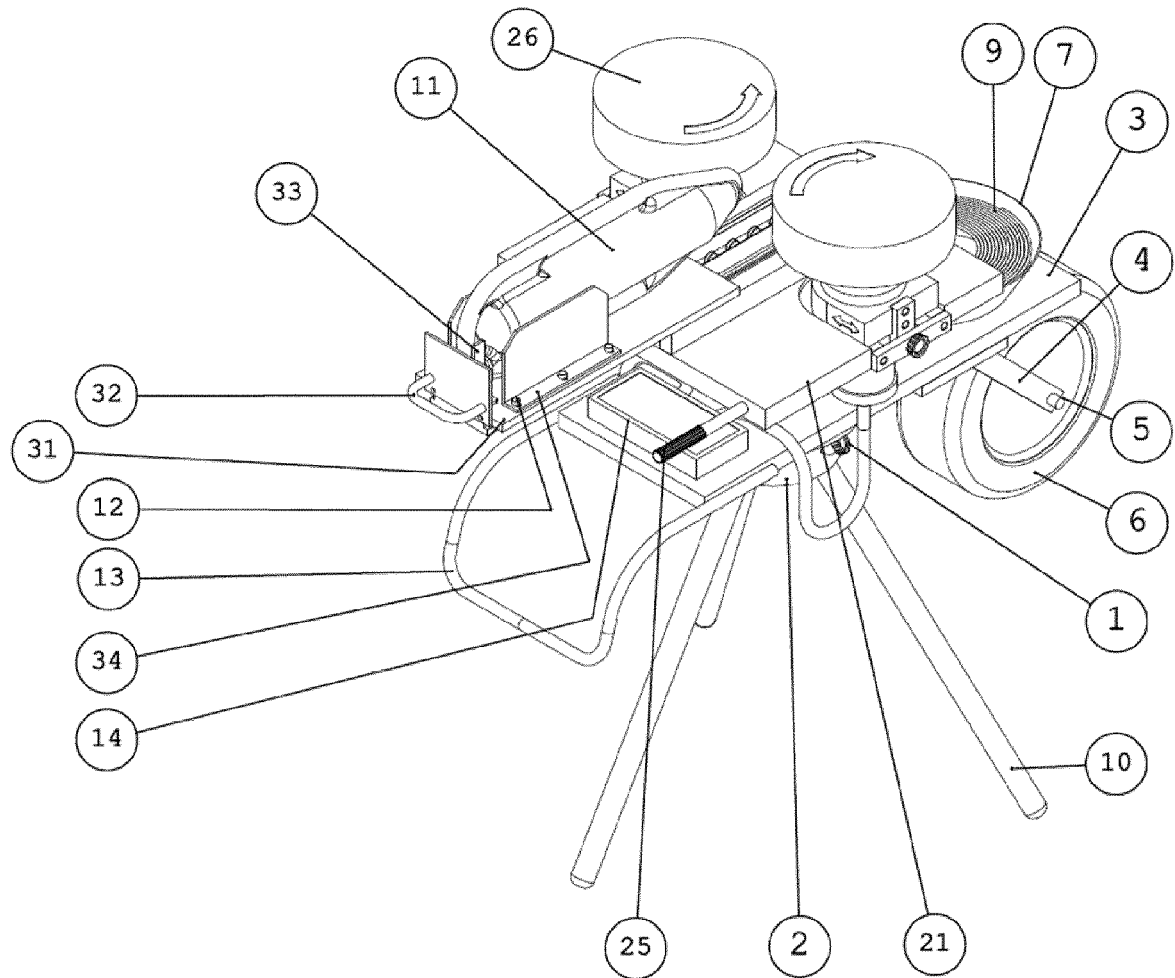


Fig. 2

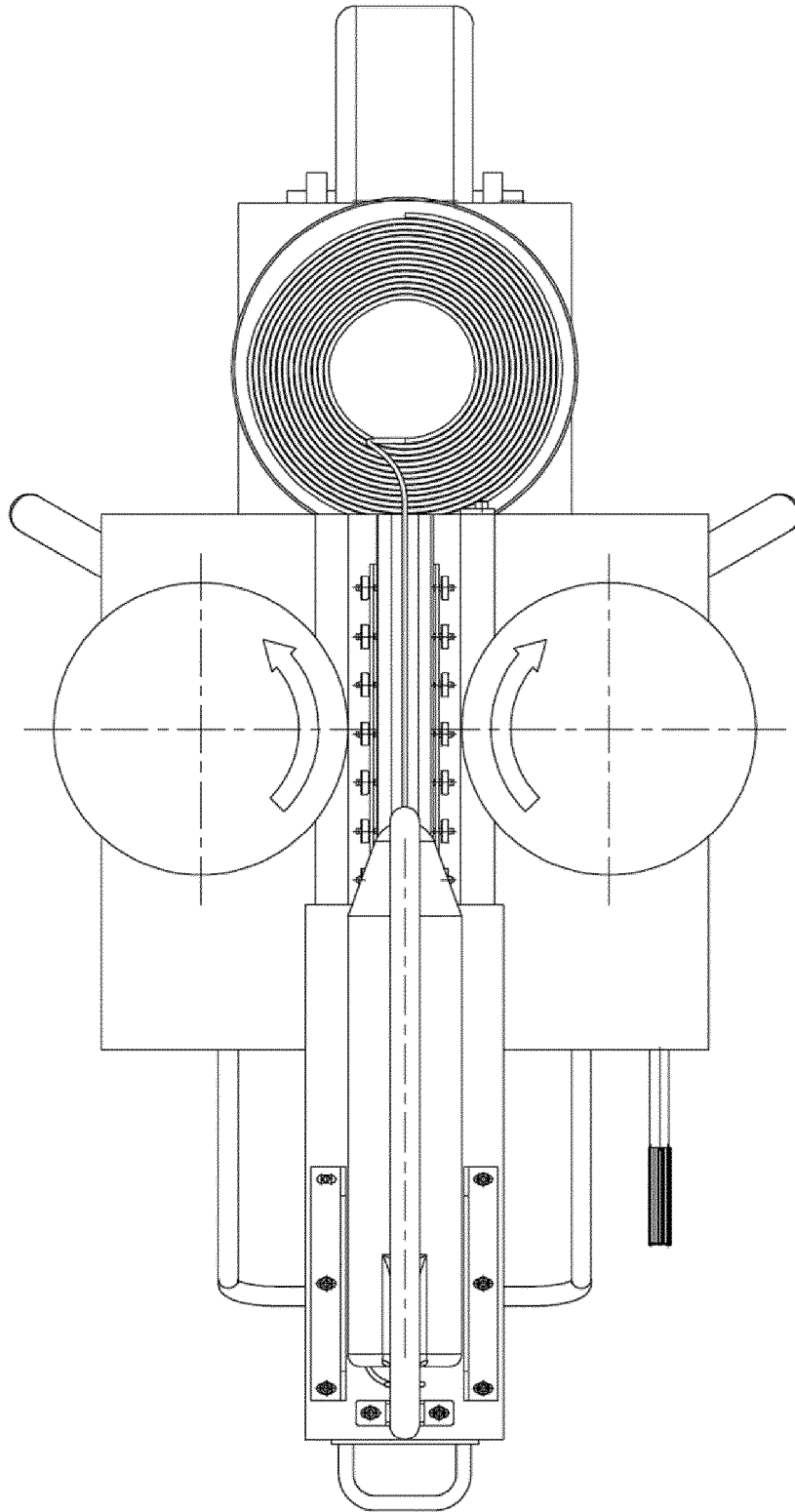


Fig. 3

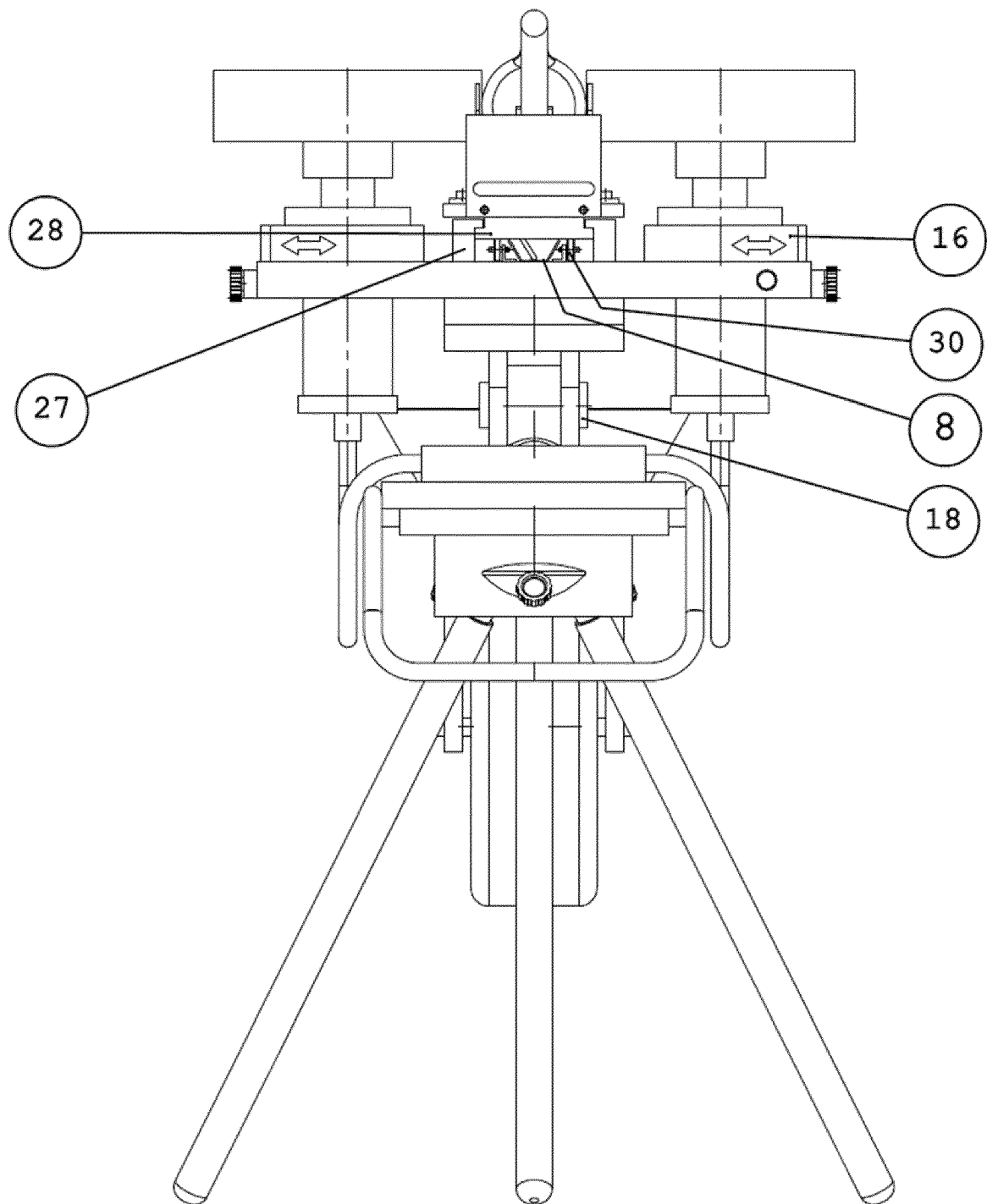


Fig. 4

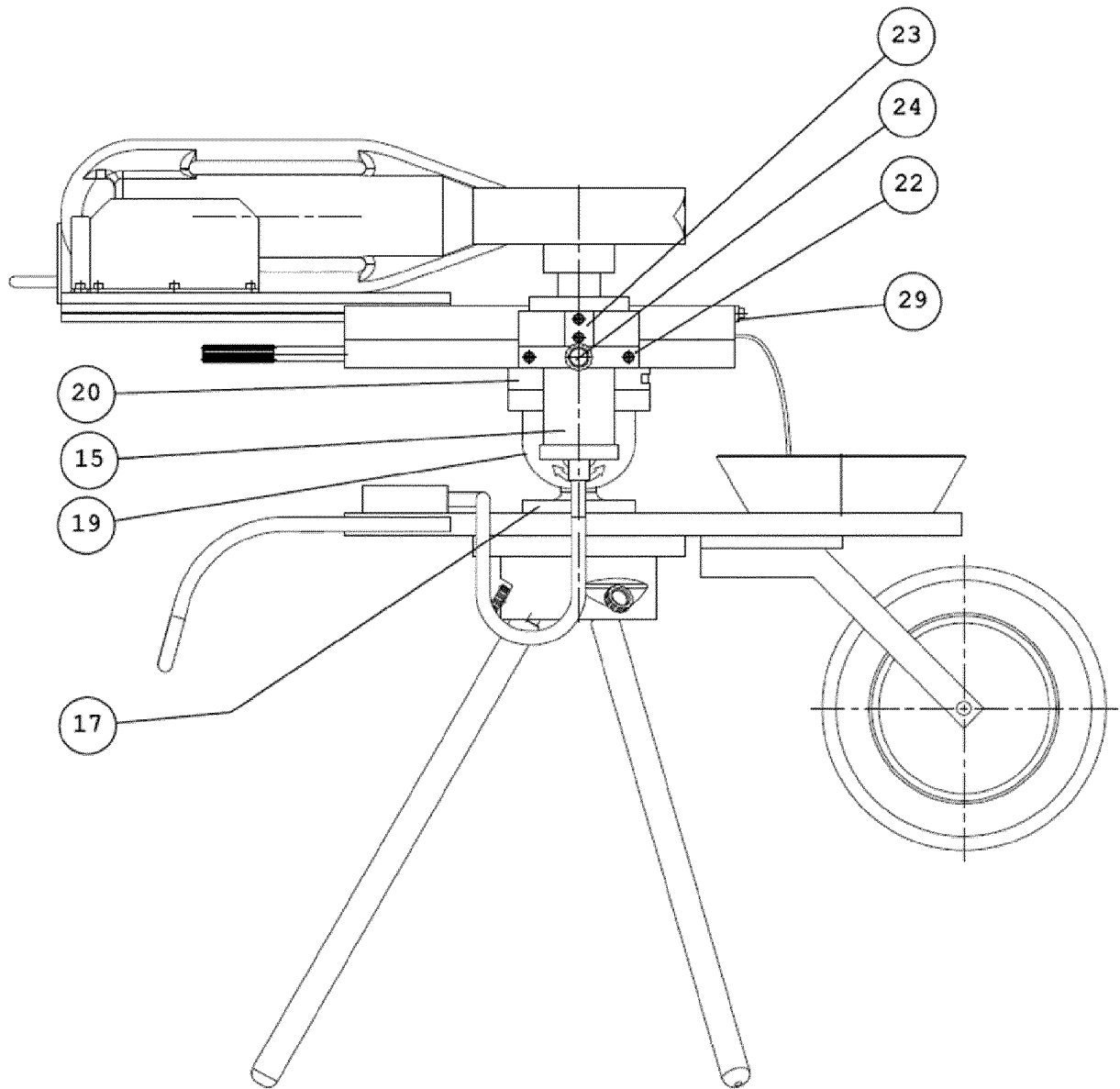


Fig. 5



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Application Number
EP 15 16 6075

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Place of search The Hague		Date of completion of the search 14 October 2015	Examiner Mauriès, Laurent
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