No. 637,820. Patented Nov. 28, 1899.

O. E. OSBORNE.

ROPE CONTROLLER.

(Application filed Jan. 13, 1898.)

(No Model.)

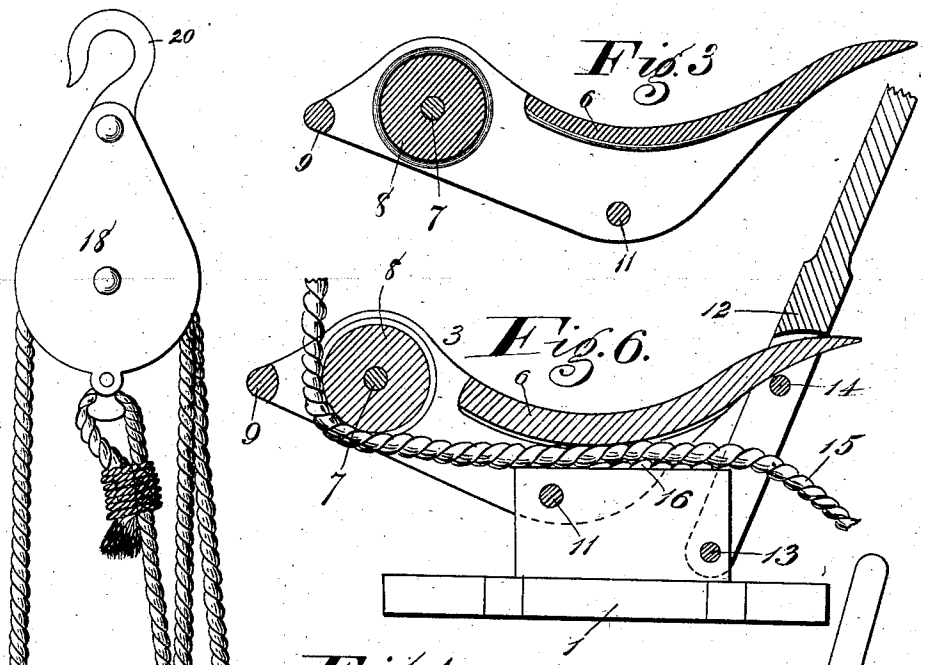


Fig. 1

Fig. 3

Fig. 6.

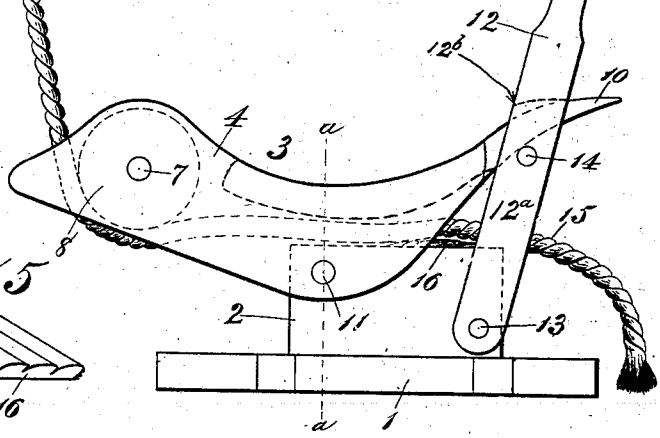


Fig. 2

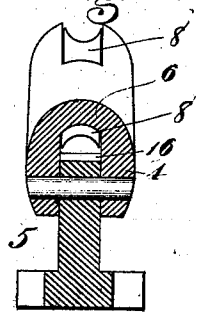


Fig. 5

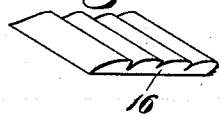
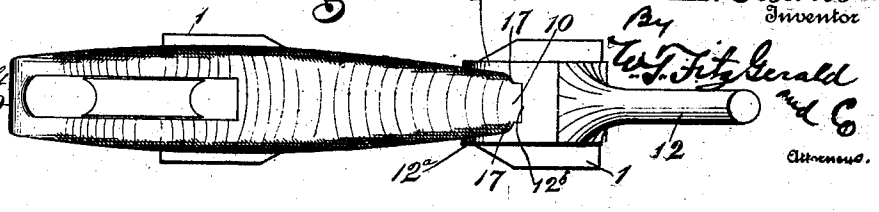


Fig. 4



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UNITED STATES PATENT OFFICE.

OSCAR E. OSBORNE, OF ASHTABULA, OHIO.

ROPE-CONTROLLER.

SPECIFICATION forming part of Letters Patent No. 637,820, dated November 28, 1899.

Application filed January 13, 1898. Serial No. 666,549. (No model.)

To all whom it may concern:

Be it known that I, OSCAR E. OSBORNE, a citizen of the United States, residing at Ashtabula, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Rope-Controllers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in means for regulating or controlling various pulley-blocks; and it consists of certain details of construction and arrangement of parts deemed necessary for accomplishing such result, the object of my invention being to provide a reliably-efficient controlling device or regulator to be used in connection with any variety of block and tackle, by means of which little attention will be necessary on the part of the operator, as my improved governor is thoroughly self-acting.

It will be hereinafter made clear that my governing device is practically a pulley-block within itself, though it is to be used in connection with the pulley-block of ordinary construction.

In the accompanying drawings, Figure 1 is a side elevation showing my invention as applied to use in connection with block and tackle of the usual construction. Fig. 2 is a transverse section of Fig. 1 on line *a a*. Fig. 3 is a longitudinal central section of the body portion or housing of my improved governor. Fig. 4 is a top plan view of the governor illustrated in Fig. 1, while Fig. 5 is a perspective detail of the portion of the clutch-plate, Fig. 6 being a central longitudinal section of my clamping device, showing the same in position for engaging the rope.

It will be understood that my improved governor will be useful for any and all of the purposes for which block and tackle are employed, as upon derricks, slaughter-house winding-drums, elevators, &c.

It will be clear that while I have shown in Fig. 1 my invention as applied to use upon the floor it will also be equally efficient and useful if attached to the ceiling, the wall, or any other position where its coöperation is needed. It will be further observed that my improved governor may be made of any preferred material and that it consists of but a few simple parts readily constructed and assembled in their respective operative positions, and while I will hereinafter describe the preferred construction and accessories deemed necessary in the embodiment of my governor, yet I desire this application to comprehend any substantial equivalent thereof and that I be not strictly confined to the exact showing I have made.

In materializing my invention I provide the base or body section 1, upon which is integrally formed or otherwise attached the rib or plate 2, upon which the other parts forming my governor are pivotally mounted, as will be hereinafter fully specified.

Upon the rib-section 2 I pivot, preferably at one end thereof near its upper edge, the housing 3, which is oblong in general outline and consists of the two parallel side sections 4 and 5, joined together or integrally formed at their upper edge by the connecting-section 6, and between the forward ends of said sections I mount upon a suitable shaft, as by bolt or rivet 7, the grooved pulley 8, while the extreme pointed ends of said sections are connected with each other or integrally united by means of the reinforcing end section 9, while the opposite ends of said sections terminate in the pedal or controlling-stem 10, by means of which the entire housing 3 may be moved upon its pivot 11. Upon the plate or rib 2 I also pivot at the outer end thereof the bifurcated controlling-lever 12, the ends 12^a of which are designed to lie upon both sides of the stem 10 and loosely receive the same. The ends 12^a are sufficiently separated to permit the stem 10 to be received between them, thus providing at the point where said ends unite with the lever 12 the shoulder or head 12^b, which is designed to engage the upper side of the end of the stem 10 and enable the same to be forced downward by the outward movement of said lever, thereby setting up a binding condition upon the rope. In addition to the pivot 13, by means of which said lever is mounted upon the plate 2, I also provide the rivet or bolt 14, which passes through the bifurcated end of the lever from side to side thereof immediately under the stem 10 a sufficient distance below the same to permit the

free play of said stem between the bifurcated ends of the lever when the latter is moved from side to side, the purpose of such movement being hereinafter fully described and fully set forth.

In order to provide that the rope, (indicated at 15,) which is designed to pass between the curved ceiling of the housing 3 and the upper face of the rib or plate 2, may be more reliably grasped by said parts as the lever 12 is moved outward and the stem 10 thereby forced downward, I provide that the upper face of said plate or rib may be roughened or corrugated, as indicated at 16, while, if desired, it will be understood that the ceiling of the housing 3 may also be roughened, if deemed necessary.

In Fig. 5 I have shown a section of the preferred form of corrugations 16, which may be integrally formed in the edge of the plate 2 or consist of a metal plate to be firmly attached in position in case said plate or rib 2 is formed of wood. The stem end is preferably so formed that a shoulder or offset 17 will be provided upon each side of the body at this point, which will check an undue inward movement of the lever 12, while too great an outward movement will be checked by the lever contacting with the outer end of the stem 10. The shoulder 17 is simply an offset formed by abruptly reducing the width of the body in order to form the stem 10.

For the purpose of illustrating one of the uses of my invention I have shown a pair of simple double-pulley blocks properly connected with each other, though it will be clear that any form of block having any preferred number of pulleys may be as efficiently employed and that the coöperation of my automatic governor will be equally as efficient and reliable where a block of simple or the most complex construction is used or whenever a rope is to be held and without the coöperation of block and tackle of any kind.

In using my invention the automatic governor is secured directly to the floor, ceiling, wall, or other preferred point by bolting or otherwise attaching the base 1 in position and the free end of the rope passed under the pulley 8, and thence through the body 3 between the sides 4 and 5 above the plate or rib 2, and it will be clear that the clamping operation of the governor will be automatic, inasmuch as the pull upon the rope will elevate the tapered end 9, thereby causing the curved inner face of the section 6 to bind tightly against the rope and force it against the corrugated face 16 of the rib 2, thereby preventing the further longitudinal movement thereof, and thus checking further movement of the pulley-wheels in the pulley-blocks, (indicated at 18 and 19,) the former block being provided with the hook 20 for attachment to the ceiling or other point, while the latter is provided with the hook 21, designed to engage directly with the load to be raised.

When it is desirable to ease or loosen the pressure upon the rope 15, due to the binding force brought to bear thereon by the section 6 and the corrugation 16, the controlling-lever 12 may be moved inward, which will bring the bolt or rivet 14 to bear against the under side of the stem 10, resulting in the elevation of said stem and the consequent release of the rope 15. It will also be clear that when for any reason it is desirable to more tightly bind said rope in position an outward movement of the lever 12 will bring about such result, as the stem 10 will be forced downward by the shoulder or head 12^b, it being understood that in case the device is attached to a ceiling or other high point said lever will be made of sufficient length to enable it to be easily grasped by the operator from his position upon the floor. It will be further apparent that for all ordinary practical purposes said lever may be entirely omitted, if desired, in which case the foot may be brought to bear directly upon the stem or pedal 10, resulting in binding the rope 15 in a positive manner or regulating its movement by a reduction of such pressure.

My invention will be found to be especially desirable as a reliable means for directing the action of the pulley-blocks upon elevators and derricks controlling heavy loads, but will also be desirable for every variety of work of this character, whether light or heavy.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. As an improvement in rope-controllers, a supporting-base having a rib, a housing carrying a pulley and fitting over and pivoted to said rib, a rope passing between said rib and housing and a lever pivoted to said rib and engaging an extension formed on said housing, whereby the rope may be released at the will of the operator, all arranged as set forth.

2. The herein-described clamping device for ropes comprising the base having a rib thereon, a housing having a longitudinal groove designed to receive said rib and carrying a pulley upon one end, a rope running in said groove between said housing and rib and over said pulley, and a lever pivoted to said rib and engaging said housing whereby the rope will be released at will, all arranged as set forth.

3. In a clamping device for ropes, a base having a rib provided with serrations, a housing provided with separated side sections adapted to receive said rib between them and carrying a pulley near its forward end, means to pivotally connect said side sections to said rib, a controlling stem or extension upon the end of the housing and suitable means coöperating with said extension for forcing the housing into engagement with said rib whereby the rope interposed between said parts will be automatically secured or manually released as specified and for the purpose set forth.

4. In a controlling device for ropes, a base

having a rib, a housing pivoted to said rib and having a pulley in one end and an extension upon its opposite end, a rope extending between said housing and rib, a bifurcated lever having the ends 12^a the shoulder or head 12^b and bolt 14 attached to said base by said ends and designed to receive the extended end of the housing between the same whereby when said lever is moved outward said shoulder will bear upon said stem and force the same downward thereby clamping the rope while an opposite movement of the lever will release said rope, as specified and for the purpose set forth.

5. In a rope-clamping device a suitable support or base, a housing pivoted to said base, a pulley mounted in one end of said housing and a pivoted bifurcated lever having a crossbar designed to coöperate with an extension formed on said housing whereby the latter may be moved at the will of the operator to release the rope passing between said housing and base, all arranged as set forth.

6. In a clamping device for ropes, a base having a rib provided with serrations, a housing carrying a pulley at one end and having an extension upon its opposite end, said housing being pivoted to said rib, a rope passing over said pulley and between said housing and rib and a lever pivoted to said rib and cooperating with said extension whereby the rope passing between the housing and rib may be released at will to be again automatically clamped by the action of the weight when said device is released, all arranged as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

OSCAR E. OSBORNE.

Witnesses:
EDWARD SEYMOUR,
FRED C. SMITH.