

No. 848,524.

PATENTED MAR. 26, 1907.

E. C. YEAGER.
LIFTING JACK.

APPLICATION FILED NOV. 23, 1906.

Fig. 1.

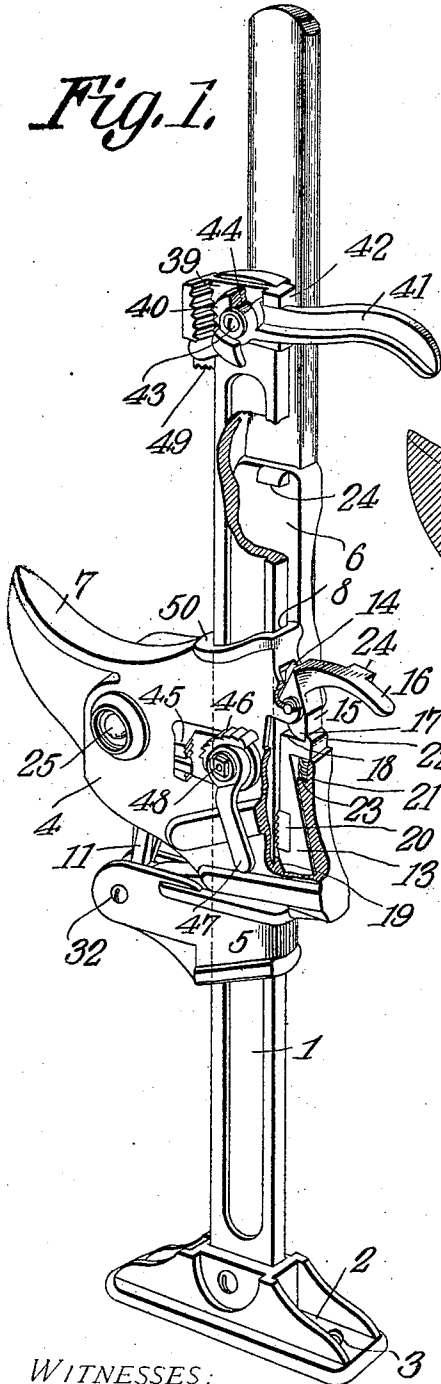
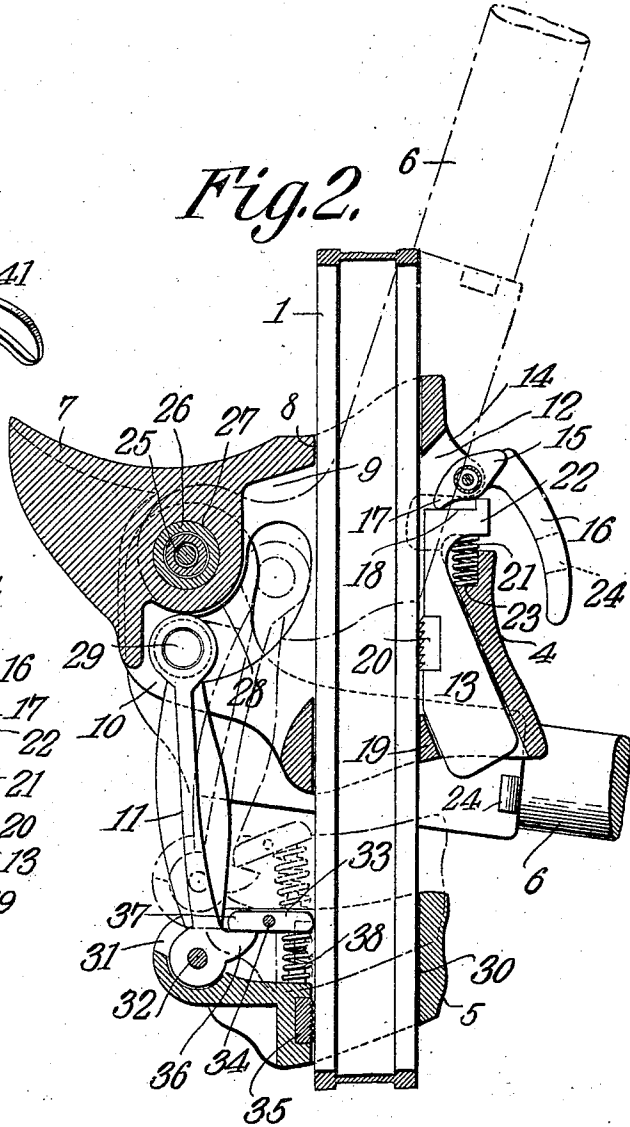


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EARNEST CURTIS YEAGER, OF THORNDALE, TEXAS.

LIFTING-JACK.

No. 848,524.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed November 23, 1906. Serial No. 344,769.

To all whom it may concern:

Be it known that I, EARNEST CURTIS YEAGER, a citizen of the United States, residing at Thorndale, in the county of Milam and State of Texas, have invented a new and useful Lifting-Jack, of which the following is a specification.

This invention relates to a combined lifting-jack and wire-stretcher of that character typified in the United States Letters Patent No. 752,502, granted to me on the 16th day of February, 1904.

The invention has for one of its objects to improve and simplify the construction and operation of a lifting-jack of the class referred to, so as to be reliable and efficient in use, easily and quickly adjusted, and capable of producing a powerful draft.

A further object of the invention is to provide a simple means for releasing the clamp of the upper runner from the standard when it is desired to lower the runners, which means is adapted to be thrown automatically out of operation by the downward movement of the operating handle or lever.

With these objects in view and others, as will appear as the nature of the invention is better understood, the invention comprises the various novel features of construction and arrangement of parts, which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawings, which illustrate one of the embodiments of the invention, Figure 1 is a perspective view of the lifting-jack with portions broken away and showing the parts in position to permit the runners to be lowered to the desired position on the standard. Fig. 2 is an enlarged sectional view taken vertically through the runners of the jack, showing the members in two different positions for illustrating the movement thereof.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

Referring to the drawings, 1 designates the standard of the jack, mounted on the base 2, which is provided with screw-receiving apertures 3, whereby the base can be attached to a base-plate, if desired. Mounted for vertical movement on the standard are the upper and lower runners 4 and 5, respectively, which are moved along the standard in a

step-by-step manner through the oscillation of the operating handle or lever 6. The upper runner 4 is provided with the usual horn or arm 7 for engaging under the object to be lifted. The upper runner 4 comprises a casting or other structure provided with a vertically-extending passage 8, through which extends the standard 1. A chamber 9 is formed at one side of the passage and open at 10 for accommodating the upper end of the pitman 11, which is connected with the operating-lever and with the lower runner 5. A chamber 12 is formed in the upper runner 4 on the side of the standard opposite from the chamber 9, and in this chamber is arranged a clamping member 13, mounted to have a combined vertical and lateral movement, so as to be moved out of and into engagement with the standard. The upper end of the chamber 12 is open at 14, and at this open end is pivoted a dog 15, having a lever 16 extending laterally from the runner 4 and in close proximity to the path of the operating-lever 6. The nose 17 of the dog engages the upper end surface 18 of the clamping member and causes the latter to move downwardly as the lever 16 is swung upwardly. Adjacent the bottom of the member 13 is a wedge-shaped projection or abutment 19, formed on the runner between the standard and clamping member, which causes the latter to be moved laterally, so that the gripping-block 20 on the inner vertical face of the clamping member will be moved out of engagement with the edge of the standard as the dog 15 causes the clamping member to move downwardly. A helical compression-spring 21 is arranged between the extension 22 on the upper end of the gripping member 13 and the shoulder 23 on the upper runner, which spring operates to return the clamping member 13 to its original position when the dog 15 is released and maintain the gripping-block 20 in operative relation to the standard. On the opposed faces of the levers 6 and 16 are lugs 24, which are arranged in a common path, so that as the operating-lever 6 of the jack is swung downwardly from the position shown in Fig. 1 the lug on the operating lever or handle 6 will strike on the lug of the lever 16 and cause the latter to be depressed, so that the clamping member 13 will return to its operative position.

The operating-lever 6 is fulcrumed on the upper runner by means of the bolt 25, a boss

26 being formed on the lever to engage in the opening 27 in the said runner. The rear wall of the chamber 9 is cut away to form an arc-shaped slot 28, which is approximately a quarter of a circle, for the reception of the crank-pin 29, extending inwardly through the slot from the lever 6. The upper end of the pitman 11 is formed into an eye to engage around the crank-pin 29.

The lower runner 5 comprises a casting or other suitable structure having a vertically-extending passage 30 for receiving the standard 1. On the horn side of the standard the lower runner 5 is formed with a chamber 31, in which the lower end of the pitman 11 is fulcrumed on the bolt 32. The chamber 31 opens into the passage 30, and at the said opening is arranged a dog 33, fulcrumed at 34, so that one end thereof is adapted to cooperate with the gripping-block 35 to hold the lower runner 4 stationary on the standard during the upward movement of the top runner 5. The long end of the pitman 11 is provided with a nose 36, which engages under the outer end 37 of the dog 33. The dog and nose are held in engagement with each other by means of a helical compression-spring 38, disposed between the inner end of the dog 33 and the bottom of the chamber 31 and in close proximity to the standard.

On the upper end of the standard 1 is a stationary jaw member 39 of one of the wire-stretcher clamps, and cooperating with the said jaw member is a movable jaw 40, having a handle 41, that is adapted to abut the stop 42 to form a handhold for lifting and placing the jack. The stationary jaw member 39 is secured to the standard by the bolt 43 and is provided with a boss 44, that forms a bearing for the movable jaw 40. Arranged on the upper runner 4 and in alinement with the upper wire-stretcher clamp is the lower clamp, comprising a fixed jaw 45, on the front outer surface of the runner, and a movable jaw 46, having a handle 47 and fulcrumed on the bolt 48. The fixed jaw member 39 of the upper clamp has a serrated horizontal surface 49, which cooperates with the upper end of the runner 4 at 50 to form wrench-jaws adapted to grip nuts and similar fastenings by moving the upper runner 4 in proximity to the serrated face 49.

In operation the lever 6 is first thrown to its upright position (shown in Fig. 1) and the lever 16 raised on its pivot. The clamping member 13 is thereby thrown out of engagement with the standard, and the lever 6 causes the pitman 11 to permit the dog 33 of the lower runner to assume approximately the broken-line position, (shown in Fig. 2,) so that the said runner will be capable of moving freely on the standard. Both runners are now free to move, and they are adjusted on the standard to the position in which the horn 7 is in proper relation to the object to be

lifted. The operating-lever 6 is now swung downwardly so that the lever 16 is automatically released and the dog 33 of the lower runner permitted to return to its operative relation. As the lever 6 moves downwardly to the full-line position (shown in Fig. 2) the lower runner is held stationary on the standard while the upper runner is raised. At the limit of the downward stroke of the lever 6 the upper runner comes to rest and serves as a support whereby the lower runner is moved upwardly by the pitman as the lever 6 moves to the broken-line position. As soon as the lever is moved downwardly on the succeeding stroke the lower runner becomes clamped to the standard while the upper runner is raised another step, and so on, as the lever is oscillated, the runners move upwardly step by step.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of the construction and of the method of operation will be readily understood, and while I have described the principle of operation of the invention, together with the apparatus which I now consider to be the best embodiment thereof, I desire to have it understood that the apparatus shown is merely illustrative and that such changes may be made, when desired, as are within the scope of the claims.

What is claimed is—

1. In a lifting-jack, the combination of a standard, a pair of runners movable thereon, a handle fulcrumed on the upper runner, a pitman connected with the handle and lower runner, a clamping member movably mounted on the upper runner, means engaging the member for moving the same out of contact with the standard, and means on the handle arranged to engage the said means on the downward stroke of the handle and release the means from the clamping member.

2. In a lifting-jack, the combination of a standard, a pair of runners movable thereon, a handle fulcrumed on the upper runner, a pitman connected with the handle and lower runner, a clamping member movably mounted on the upper runner, a dog engaging the member to move the same in a direction parallel with the standard, an inclined abutment on the upper runner for moving the member laterally simultaneously with its movement along the standard for moving it out of engagement with the latter, and a spring arranged to return the clamping member to its operative position when the dog is released.

3. In a lifting-jack, the combination of a standard, a pair of runners movable thereon, a handle fulcrumed on the upper runner, a pitman connected with the handle and lower runner, a clamping member movably mounted on the upper runner, a dog engaging the member to move the same away from the standard, means for holding the member in

engagement with the standard when the dog is released, a lever on the dog, and means on the lever and handle arranged to strike one on the other when the handle is actuated for automatically releasing the dog.

4. In a lifting-jack, the combination of a standard, a pair of runners movable thereon, a handle fulcrumed on the upper runner, a pitman connected with the handle and lower runner, a clamping member movably mounted on the upper runner, a serrated gripping-block on the member for gripping one edge of the standard, means for guiding the member to move in a direction inclined to the standard, a dog engaging one end of the member for moving the latter in one direction, a spring arranged to move the member in the opposite direction, a pivotal mounting on the upper runner for the dog, a lever connected with the dog, and lugs arranged on the operating-handle and lever to actuate the latter to release the dog by the downward movement of the handle.

5. In a lifting-jack, the combination of a standard, a pair of runners movable thereon, a handle fulcrumed on the upper runner, a pitman connected with the handle and lower runner, gripping-teeth arranged on the lower runner, and means actuated by the pitman

and cooperating with the teeth to clamp the lower runner to the standard.

6. In a lifting-jack, the combination of a standard, a pair of runners movable thereon, a handle fulcrumed on the upper runner, a pitman connected with the handle and lower runner, gripping-teeth arranged on the lower runner, a dog pivoted on the lower runner, a spring tending to release the dog, and means between the pitman and dog for actuating the latter to grip the standard.

7. In a lifting-jack, the combination of a standard, an upper and lower runner movable thereon, a clamping means on the upper runner, an operating-lever fulcrumed on the upper runner, a pitman between the lever and the lower runner, a dog on the lower runner disposed between the pitman and standard for gripping the latter, a spring on the lower runner which engages one end of the dog to move it away from the standard, and means on the pitman for actuating the dog.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EARNEST CURTIS YEAGER.

Witnesses:

W. H. CAMP,
G. A. WILLIAMSON.