No. 727,192. PATENTED MAY 5, 1903.

O. E. PAYNE.

SPRING LIFTING JACK FOR VEHICLES.

APPLICATION FILED DEC. 1, 1902.

NO MODEL.

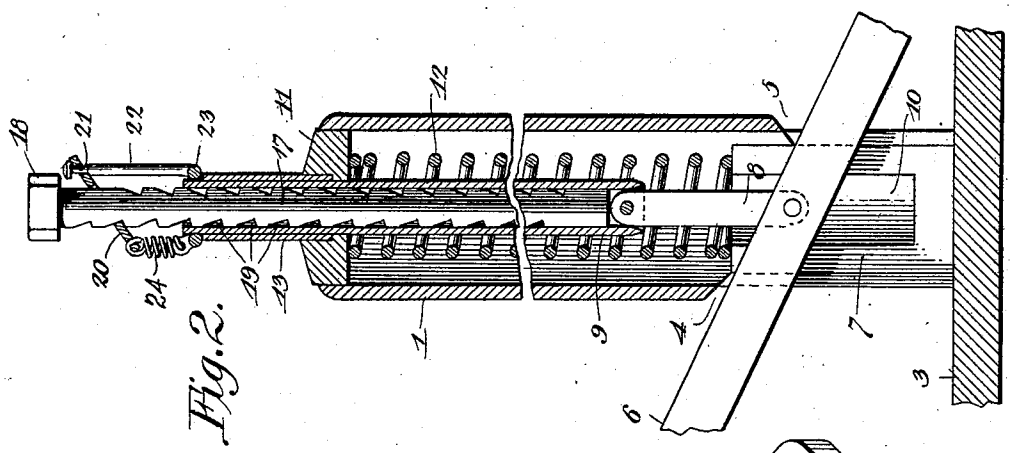


Fig. 2.

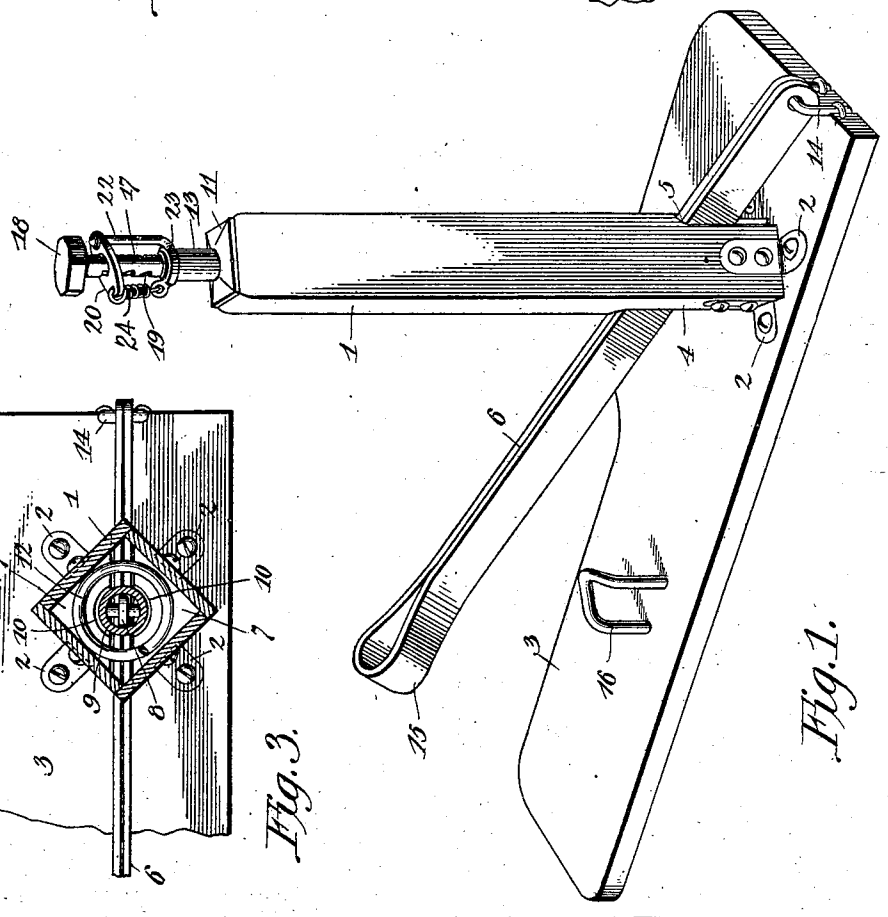


Fig. 1.

Fig. 3.

Witnesses

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No. 727,192. Patented May 5, 1903.

UNITED STATES PATENT OFFICE.

OLEN E. PAYNE, OF NEWCASTLE, INDIANA.

SPRING LIFTING-JACK FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 727,192, dated May 5, 1903.

Application filed December 1, 1902. Serial No. 133,420. (No model.)

To all whom it may concern:

Be it known that I, OLEN E. PAYNE, a citizen of the United States, residing at Newcastle, in the county of Henry and State of Indiana, have invented a new and useful Spring Lifting-Jack for Vehicles, of which the following is a specification.

The invention relates to improvements in lifting-jacks for vehicles.

The object of the present invention is to improve the construction of lifting-jacks for vehicles and to provide an exceedingly simple and inexpensive one of great strength and durability in which the operation of lifting a vehicle will be effected by spring-power and which will be capable of ready adjustment to arrange it for operating on vehicles having axles at different elevations.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a lifting-jack constructed in accordance with this invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a horizontal sectional view.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a hollow post or standard, preferably rectangular in cross-section, secured by L-shaped plates or knees 2 to a base 3; but the said post or standard may be mounted on the base in any other desired manner. The lower portion of the post or standard is provided at opposite corners with slots or openings 4 and 5, through which passes a lever 6, and triangular blocks 7 are secured within the lower portion of the post or standard. These blocks are spaced apart at the slots or openings 4 and 5 to receive the lever 6, which is connected by a link or bar 8 with the lower end of a tubular spring-actuated plunger 9. The triangular blocks are grooved at their adjacent faces at 10 to provide a way for the lower end of the tubular plunger, which is provided between its ends with a rectangular collar 11. The collar 11, which slides in the tubular post or standard and which conforms to the configuration thereof, is engaged by a coiled spring 12, interposed between the collar and the blocks 7 and adapted to be compressed by the lever before the lifting-jack is applied to a vehicle, whereby when the plunger is free to move it will be lifted by the spring to raise one of the wheels of the vehicle above the ground. A spacing-sleeve 13 is interposed between the upper end of the tubular plunger 9 and the collar 11, and it is suitably secured to the plunger. The lever is fulcrumed at its rear end on the base by means of a staple or loop 14, which has the terminals of its sides secured to the lower face of the base; but the lever may be fulcrumed in any other desired manner. In the accompanying drawings the lever is shown constructed of a single piece of metal doubled at its center and bent to form a loop 15, which is adapted to be readily engaged by the foot of the operator, so that his weight may be utilized for compressing the coiled spring. The spring is maintained in a compressed position by engaging the lever with a catch 16, consisting of an approximately U-shaped piece having its upper transverse portion bent at an angle, as shown in Fig. 1. The lever is capable of a limited lateral movement to enable it to be engaged with and disengaged from the catch. The tubular plunger receives an adjustable stem 17, having a head 18 at its upper end for engaging an axle and provided at its opposite sides with notches forming shoulders for engaging a locking plate or dog 20. This locking plate or dog, which consists, preferably, of a washer, encircles the stem, and the notches 19 engage the plate or dog at opposite sides of the opening. The plate or dog is also provided with a perforation receiving a reduced portion 21 of an arm 22, which is formed integral with a ring 23 and extends above the plunger. The plate or dog is arranged normally in an inclined position, its opening being sufficient to permit it to swing downward, as shown.

24 is a spring having one end attached to the ring 23 and its other end attached to the dog 20. This spring tends to pull the dog downward and hold it more securely in engagement with the notches 19 and prevents the dog from jumping out of the notch when the weight of the vehicle is dropped upon the head 18. When it is desired to disengage

the dog from the notch to permit the movement of stem 17, the operator lifts the same by hand against the action of the spring. In other words, the spring is simply a safeguard to insure the continuous engagement of the dog with the notch except when disengaged by hand. After the spring has been compressed the jack is placed beneath the axle of a vehicle, and the stem is then lifted until the head is brought against the lower face of the axle. The lever is then disengaged from the catch, and the spring will force the plunger upward and raise the axle of the vehicle to lift the adjacent wheel clear of the supporting-surface.

It will be seen that the jack is simple and inexpensive in construction, that the weight of the operator is utilized to compress the spring, and that by this means and by the lever a spring of sufficient strength for lifting vehicles may be readily manipulated. Also the lifting-jack may be made of any desired size and strength to adapt it for the character of vehicle it is intended to lift, the parts may be constructed of any desired material, and various changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. A lifting-jack comprising a base having a standard, a vertically-movable plunger guided on the standard, a spring for raising the plunger, a lever connected with the plunger for compressing the spring, and means for engaging the lever to hold the plunger against upward movement, substantially as described.

2. A lifting-jack comprising a base, a hollow standard, a plunger having a collar guided in the standard, a spring housed within the standard and engaging the collar, and a lever connected with the plunger for compressing the spring, substantially as described.

3. A lifting-jack comprising a base, a hollow standard provided at its bottom with an opening, a spring-actuated plunger guided in the standard, a foot-lever fulcrumed on the base and extending through the opening of the standard and connected with the plunger, and a catch mounted on the base and arranged to be engaged by the lever, substantially as described.

4. A lifting-jack comprising a base, a hollow standard provided at its bottom with openings, a lever fulcrumed on the base and extending through the openings, blocks arranged within the standard at opposite sides of the lever, a plunger having a collar guided by the standard, means for connecting the plunger with the lever, and a spring housed within the standard and terminally seated on the blocks and the collar, substantially as described.

5. A lifting-jack comprising a base, a hollow standard, a lever fulcrumed on the base and extending through the standard, a plunger guided in the standard and connected with the lever and provided with a collar, a sleeve arranged on the upper part of the plunger and engaging the collar, a ring secured to the plunger above the sleeve and having an arm, a dog having an opening and supported by the arm, and a stem passing through the opening of the dog and extending into the plunger and provided with means for engagement by the dog, substantially as described.

6. A lifting-jack comprising a base, a hollow standard, a spring-actuated plunger guided in the standard, a lever fulcrumed on the base and connected with the plunger, and a fixed catch arranged in the path of the lever and consisting of an approximately U-shaped piece having the upper portion bent at an angle, substantially as described.

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

OLEN E. PAYNE.

Witnesses:
W. V. BEACH,
B. F. KUMLER.