

A. H. SCHOLLE.
 MULTIPLE LIFTING JACK.
 APPLICATION FILED MAY 11, 1909.

961,899.

Patented June 21, 1910.

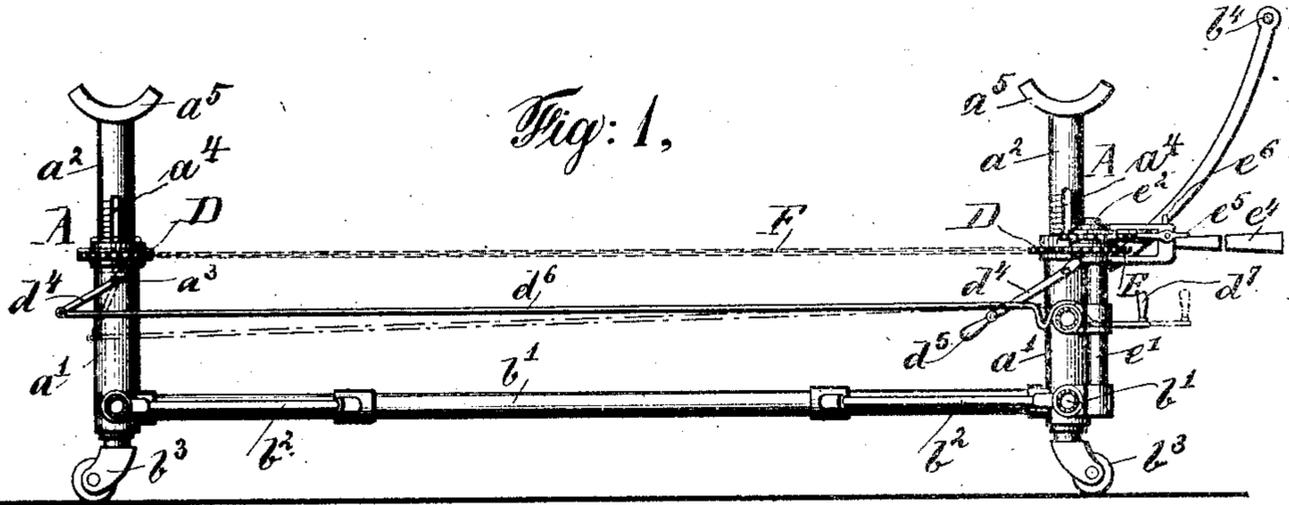


Fig: 1,

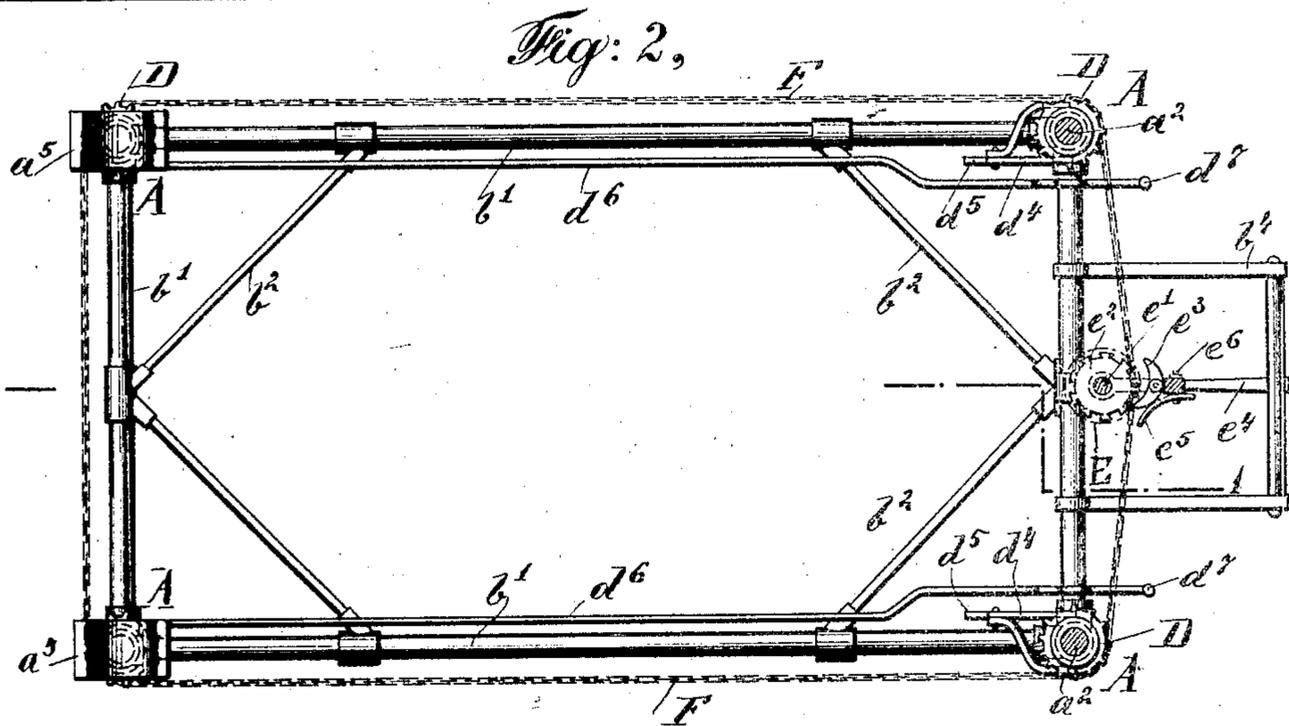


Fig: 2,

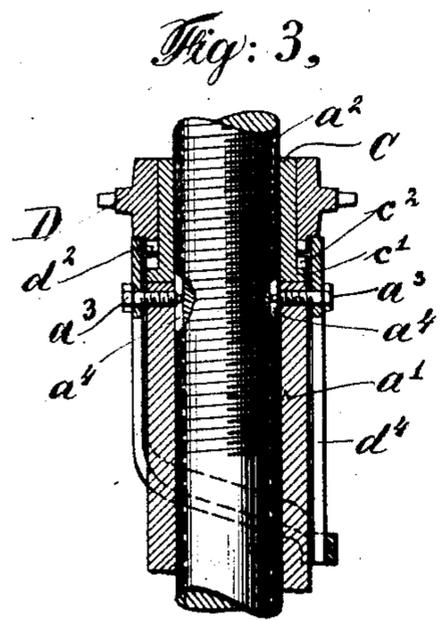


Fig: 3,

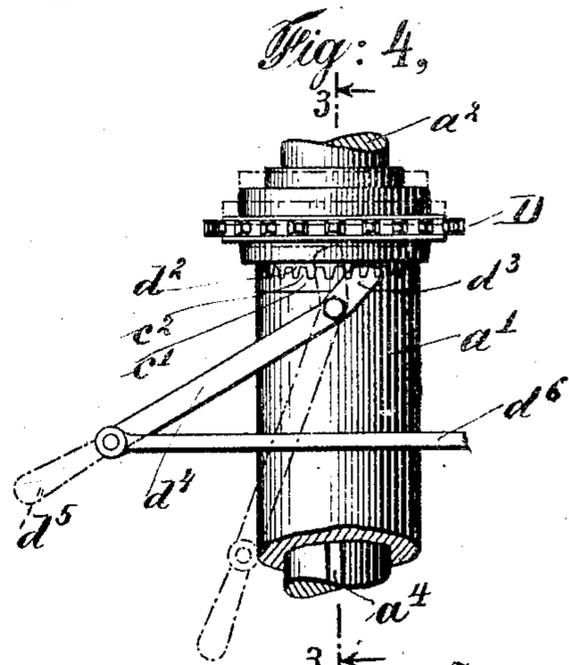


Fig: 4,

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MULTIPLE LIFTING-JACK.

961,899.

Specification of Letters Patent. Patented June 21, 1910

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To all whom it may concern:

Be it known that I, ALBERT H. SCHOLLE, a citizen of the United States of America, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Multiple Lifting-Jacks, of which the following is a specification.

This invention has reference to a novel multiple lifting jack.

It is the special object of my invention to produce a lifting jack composed of a multiple of single jacks which are operated from a common central point by one operating device whereby all the jacks may simultaneously be raised or lowered as desired. In this way a saving of time and labor is effected.

In order to render the novel lifting jack useful for various applications means are provided which enable the operator to raise the front jacks alone and thereby but one portion of an object. Likewise the rear jacks alone may be raised and also those jacks located on either side of the device. To attain these desirable results the jacks are mounted on a common frame and connect with each other and the central operating device. By simplicity in construction, particularly by the use of but one operating device for all the jacks, the cost of production is kept low. Means are provided on the device to permit of the moving of the whole apparatus about the ground or floor which means may be operated by one element of the operating device, and it has been sought to produce a neat and desirable article, all as will be fully described hereinafter with reference to the accompanying drawing, in which:

Figure 1 represents a multiple lifting jack in section on line 1, 1 of Fig. 2 embodying in desirable form the present improvements. Fig. 2 is a top plan view of same. Fig. 3 is a detail view of a portion of one of the jacks in sectional elevation on line 3, 3 of Fig. 4, and Fig. 4 shows in elevation said portion of one of the jacks at a right angle to Fig. 3.

Similar characters of reference denote like parts in all the figures.

For various applications a different number of lifting jacks may be combined with one operating device. In most cases, however, a device composed of four lifting jacks

and one operating device is sufficient to attain the desired purpose and therefore a device embodying four lifting jacks is illustrated on the drawing.

The apparatus shown in Figs. 1 and 2 consists of lifting jacks A connected by a frame work preferably made of tubular main bars b^1 and struts b^2 , the whole being mounted on casters b^3 so that it may be easily moved about. To facilitate this a handle b^4 is provided attached to the frame. The jacks A consist each of a cylinder a^1 into which a plunger a^2 is inserted. This plunger may be moved up and down in the cylinder but is prevented from turning therein by the ends of tapbolts a^3 passing through the wall of the cylinder a^1 into grooves a^4 formed in the plungers, as clearly shown in the sectional detail view Fig. 3. On the top ends of the plungers there are crutches a^5 adapted to engage the axles of an automobile or other vehicle. On each plunger a strong screw thread is formed, and engaging therewith is a nut C that rests on the top of the cylinder a^1 . By turning this nut C, evidently the plunger a^2 may be raised or lowered respectively. The means for turning the nut is as follows: The nut on its lower face has a flange c^1 on which there are formed teeth c^2 extending upward. Surrounding the upper part of the nut and concentric with it, is a sprocket wheel D, the hub of which is provided at its lower face with downwardly projecting teeth d^2 meshing with the teeth c^2 of the nut C aforementioned. The two sets of teeth c^2 and d^2 of the two members C and D constitute, in fact, a clutch that enables the nut C to be driven by the sprocket when the teeth are in engagement, or, to be left unaffected by the sprocket when the latter is lifted so as to disengage the clutch. The lifting or lowering of the sprocket D to open or close the clutch is effected by a cam-piece d^3 forming the short arm of a forked lever d^4 pivoted on the tapbolts a^3 aforementioned. All four jacks and their accessories are constructed alike except that the forked levers d^4 of those two jacks nearest the operating end, that is, to the right in Figs. 1 and 2 have each a hand piece d^5 directly on the end of their long arms, while for the other two jacks connecting rods d^6 are attached to the forked levers d^4 extending to the right and terminating in handles d^7 near the operating

end for the convenience of the person using the device. A central sprocket wheel E is mounted on a vertical shaft e^1 supported in bearings on the main frame, and capable of being intermittently rotated by a ratchet e^2 and pawl e^3 the latter being mounted on a ratchet lever e^4 . The pawl e^3 is a double one, and either its left or its right tooth can be made to engage the ratchet e^2 by bringing to bear on it either the one or the other of the two pawl springs e^5 and e^6 as clearly shown in Figs. 1 and 2. Connecting the central sprocket E with the four sprockets D of the jacks is an endless chain F.

The operation of the apparatus is as follows: The device is rolled to the proper position under the two axles of a motor car, for instance, which is easily done by the handle b^1 . If it is desired to raise the car off the ground bodily, the clutches of all the four jacks are brought into engagement by releasing their operating levers. The ratchet lever e^4 is then swung to and fro thus driving the sprocket E, the chain F, and the sprockets D, and with these the nuts C whereby the plungers a^2 are raised to any required height, and with them the car resting with its axles on the four crutches a^5 . If it be desired to raise only one end of the car, say, the rear end, only the two rear jacks are operated by disengaging the clutches of the other two. Similarly, if the front of the car is to be raised, only the front jacks are operated. Likewise the vehicle may be raised on one side only by using one front, and one rear jack. To let down the car the movement is reversed by swinging the pawl spring e^5 away from, and the other spring e^6 into engagement with the pawl e^3 .

I claim as my invention:

1. A multiple lifting jack adapted to be operated from a common central point, comprising a plurality of single jacks with stationary cylinders, a frame composed of horizontal rigid members connecting the stationary cylinders and always retaining its fixed position during operation, an operating device common to all jacks and in connection therewith, means in connection with the operating device for raising and lowering all the jacks simultaneously, and means for making inoperative some of the jacks.

2. A multiple lifting jack adapted to be operated from a common central point, comprising a plurality of single jacks consisting each of a cylinder, a threaded plunger therein having vertical grooves, tapbolts passing through the cylinder one into each groove, a frame composed of horizontal rigid members connecting with the cylinders of the jacks and always retaining its fixed position during operation, an operating device common to all jacks and in connection therewith, means for raising and lowering

all the jacks simultaneously, and means for making inoperative some of the jacks.

3. A multiple lifting jack adapted to be operated from a common central point, comprising a plurality of single jacks each consisting of a cylinder with caster below, a threaded plunger therein having vertical grooves, tapbolts passing through the cylinder into said grooves, a rigid frame connecting the cylinders, a nut mounted on the top of each cylinder engaging with the thread of the plunger, a flange on the lower face of said nut having upwardly extending teeth, a sprocket wheel concentric with the nut having a hub provided at its lower face with downwardly projecting teeth, the nut and sprocket wheel forming a clutch, bearings on the main frame, a central sprocket wheel therein, an endless chain connecting all the sprocket wheels, and means for operating the central sprocket wheel.

4. A multiple lifting jack adapted to be operated from a common central point, comprising a plurality of single jacks each consisting of a cylinder with caster below, a threaded plunger therein having vertical grooves, tapbolts passing through the cylinder into said grooves, a rigid frame connecting the cylinders, a nut mounted on the top of each cylinder engaging with the thread of the plunger, a flange on the lower face of said nut having upwardly extending teeth, a sprocket wheel concentric with the nut having a hub provided at its lower face with downwardly projecting teeth, the nut and sprocket wheel forming a clutch, bearings on the main frame, a central sprocket wheel therein, an endless chain connecting all the sprocket wheels, means for operating the central sprocket wheel, and means in connection with the clutch to make inoperative some of the jacks.

5. A multiple lifting jack adapted to be operated from a common central point comprising a plurality of single jacks each consisting of a cylinder, a threaded plunger therein having vertical grooves, tapbolts passing through the cylinder into said grooves, a rigid frame connecting the cylinders, a nut mounted on the top of each cylinder engaging the thread of the plunger, a sprocket wheel concentric with the nut forming a clutch therewith, a central sprocket wheel, an endless chain connecting all the sprocket wheels, a double ratchet and pawl with ratchet lever in connection with the central sprocket wheel, and means for operating the clutches.

Signed at New York, N. Y., this 4th day of May, 1909.

ALBERT H. SCHOLLE.

Witnesses:

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