

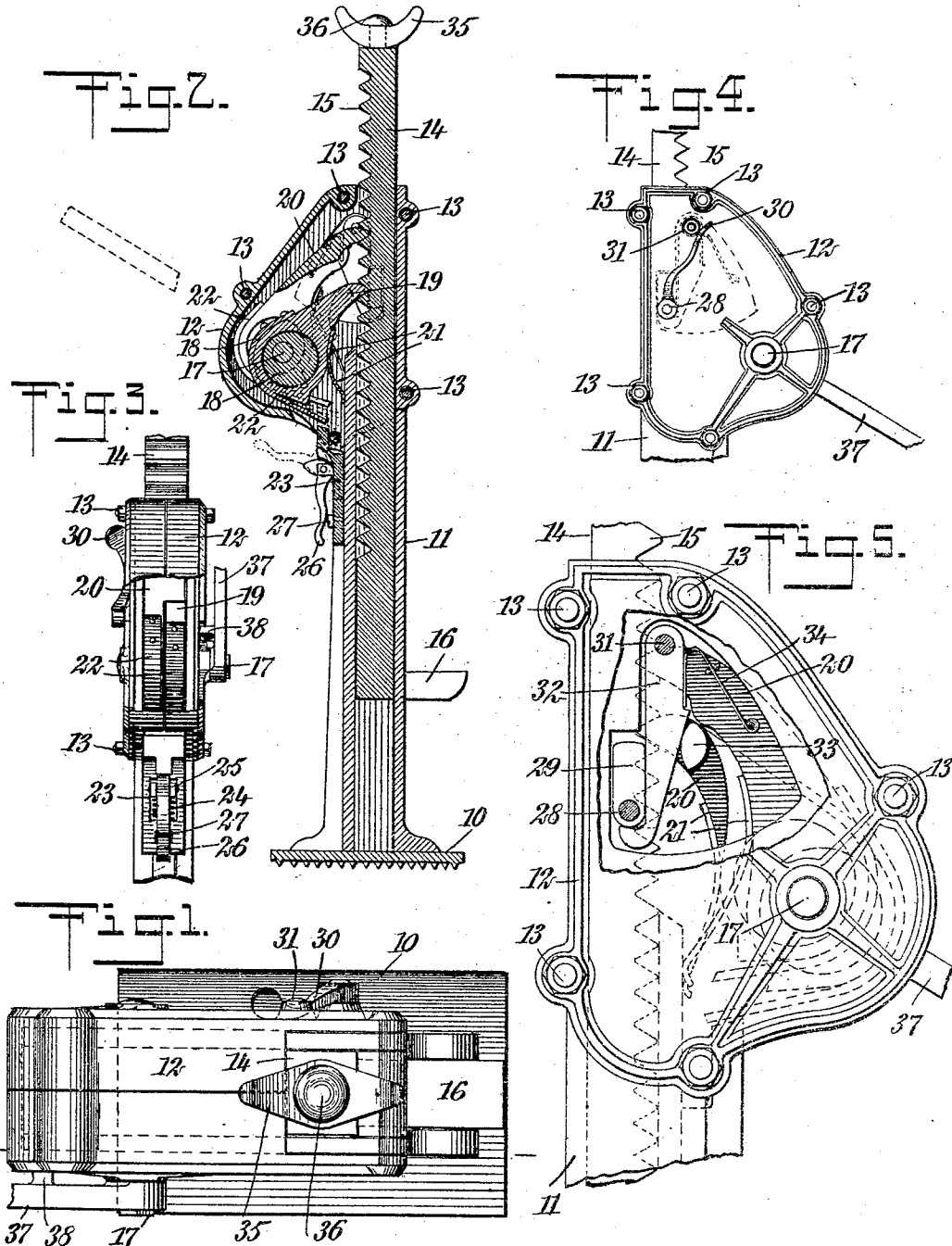
W. B. McCAIN.

JACK.

APPLICATION FILED DEC. 24, 1908.

944,629.

Patented Dec. 28, 1909.



WITNESSES
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UNITED STATES PATENT OFFICE.

WILLIAM B. McCAIN, OF CLEARLAKE, WASHINGTON, ASSIGNOR, BY MESNE ASSIGNMENTS, OF ONE-HALF TO H. E. GRAHAM AND ONE-HALF TO R. E. FARLOW, BOTH OF ANACORTES, WASHINGTON.

JACK.

944,629.

Specification of Letters Patent. Patented Dec. 28, 1909.

Application filed December 24, 1908. Serial No. 469,106.

To all whom it may concern:

Be it known that I, WILLIAM B. McCAIN, a citizen of the United States, and a resident of Clearlake, in the county of Skagit and State of Washington, have invented a new and Improved Jack, of which the following is a full, clear, and exact description.

This invention is an improvement in jacks of the double action type, which, by its operation, lifts the load step by step or lowers it in a like manner, according to the relative disposition of certain parts, and is provided with means for entirely releasing the lifting bar, whereby the latter may drop instantly to initial position.

The object of the invention is to provide springs in connection with the lifting pawls to forcibly eject these devices from the teeth of the lifting bar in lowering the load step by step in order that this operation may be expeditiously performed.

The invention is further provided with means for entirely releasing the lifting-bar, whereby the latter may drop instantly to initial position.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan of a jack embodying my invention; Fig. 2 is a vertical sectional view of the same, taken at one side of the longitudinal center; Fig. 3 is a fragmentary edge view, partly broken away to better show the construction; Fig. 4 is a side elevation of the casing which carries the actuating mechanism; and Fig. 5 is a similar view on an enlarged scale, with a portion of the casing broken away for the purpose of disclosing the interior construction.

The construction of the jack includes a base-plate 10, preferably having a toothed or roughened under face for preventing it from slipping, and having rigidly secured to its opposite and upper face, an upright casing 11, provided with a head 12, expanded at one side for inclosing a portion of the working mechanism. The head of the casing, as shown in Figs. 1 and 3, is made in

two half sections secured together by cross-bolts 13.

Slidably fitting the casing 11 is a lifting-bar 14, having teeth 15 on its front face and a foot 16 on its opposite face at or near its lower end; the said foot passing through a slot in the rear of the casing, and is for a purpose well known in the art.

Journaled transversely in the expanded head 12 of the casing, is a shaft 17, having reversely arranged eccentrics 18 secured thereto, at an intermediate point of which are respectively journaled pawls 19 and 20, each being adapted to engage with the teeth 15 of the lifting-bar 14, and with the upper pawl 20 overhanging, or arranged in the path of, the under pawl 19. Each pawl has secured to its inner edge a flat spring 21 adapted to bear on the adjacent projecting wall of the casing, and is also provided with a spring 22 arranged on its lower edge and projecting inwardly into the path of a slide 23 carried on the adjacent face of the casing 11. This slide is normally forced to a withdrawn or inoperative position by a spring 24, the latter being located in a slot of the slide and interposed between one of the end walls thereof and lugs 25, rigid with the casing, the said lugs providing a pivotal support for a lever 26, which is constructed with a cam-head, as best shown in Fig. 2, adapted to engage with the upper offset end of the slide and elevate it against the tension of the spring when the lever is thrown to the dotted position indicated. A bolt 27, passing through a slot in the slide and threaded into the casing 11, holds these parts in sliding engagement.

Journaled in one side of the casing-head is a pin 28, having an arm or other projection 29 secured to it within the casing, and a thumb-lever 30 attached to it at the outside of the casing, said lever being limited in its movement in one direction by a bolt or equivalent device 31, which forms the pivot of a dog 32, arranged within the casing in the path of the arm 29, and is itself also at its opposite side in the path of a projection 33, formed on one side of the bottom pawl 19. A spring 34 pressing on the dog 32 normally

forces it to an inoperative position and in engagement with the arm 29.

The lifting-bar 14 carries at its upper end a bearing member 35, having upwardly curved and oppositely-disposed fingers for engaging the load, the said member being revoluble on the body of a bolt or rivet 36, threaded or otherwise attached in the lifting-bar.

The shaft 17 is extended at one side of the casing for receiving an operating-lever 37, the latter being provided with a lug 38 on its inner face, movable in the path of radial ribs formed on one side of the casing-head 12, the said ribs, in connection with the projection on the lever, operating as a stop to limit the oscillatory movement of the lever.

In the operation of the jack, by working the lever 37 when the parts are disposed as represented in Fig. 2, the pawls 19 and 20 will be caused to travel in opposite directions, successively engaging and reengaging the teeth of the lifting-bar, causing said bar to travel upwardly step by step. If the slide 23 be elevated in the path of the springs 22, as by drawing up the cam-lever 27, each spring will be alternately compressed on the downward movement of the pawls and will forcibly and successively eject them from the teeth of the lifting-bar as the pawls again start on their upward movement; thus causing the lifting-bar to descend in the same manner as in the lifting movement. As the pawls are thrown out of engagement with the teeth by the springs 22, the springs 21 strike the jack casing and limit the outward movement of the pawls. If it is desired to instantly drop the lifting-bar, this is accomplished when the lever 37 is in its highest position, by throwing the thumb-lever 30 to one side, which movement causes the dog 32 to carry the lower pawl 19 from the path of the teeth of the lifting-bar, which in turn engages the pawl 20 and likewise presses it to an inoperative position.

The invention as shown and described while being the preferred practical embodiment of my improved jack, the same may nevertheless be modified in particulars within the scope of the appended claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a jack, a lifting-bar having teeth, a shaft, pawls carried by the shaft adapted to engage with the teeth of the lifting-bar, means for causing said pawls to move in reverse directions when the shaft is oscillated, whereby the lifting-bar is elevated and moved in one direction, a slide, springs attached to the pawls, and means for moving the slide into the path of the springs, operating to eject the pawls from the teeth of the lifting-bar preparatory to their upward movement, whereby the actuation of said shaft causes said bar to be successively lowered.

2. In a jack, a lifting-bar having teeth, a shaft, pawls carried by the shaft adapted to engage with the teeth of the lifting-bar, means for causing said pawls to move in reverse directions when the shaft is oscillated, whereby the lifting-bar is elevated and moved in one direction, a slide, springs attached to the pawls, means for moving the slide into the path of the springs, operating to eject the pawls from the teeth of the lifting-bar preparatory to their upward movement, whereby the actuation of said shaft causes said bar to be successively lowered, and means independent of said slide and springs for forcing said pawls from the path of the teeth of the lifting bar, whereby said bar is permitted to instantly drop.

3. In a jack, a casing having an expanded head, a shaft journaled transversely in said head, ribs formed on the expanded head of the casing and extending radially from the shaft, and a lever for oscillating the shaft, having a projection arranged in the path of said ribs, operating to limit the oscillatory movement of the lever in each direction.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM B. MCCAIN.

Witnesses:

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G. W. PETTIGREW.