(No Model.)

J. McMURRIN.

TRACK JACK.

No. 549,933. Patented Nov. 19, 1895.

Fig. 1

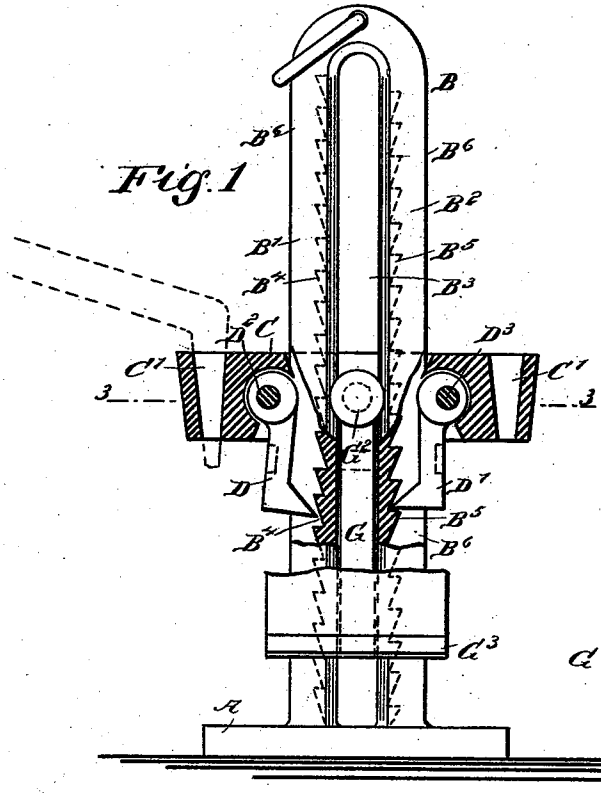


Fig. 2

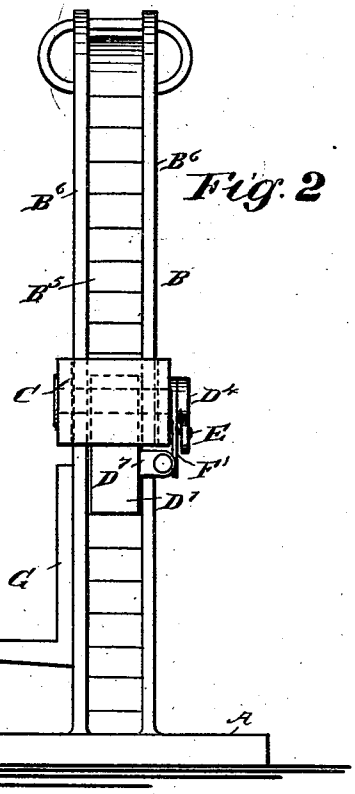


Fig. 3

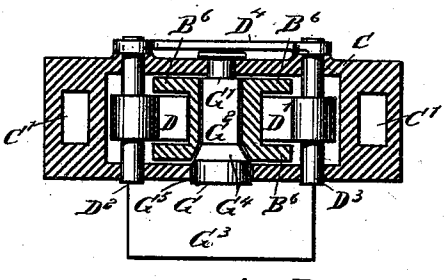


Fig. 4

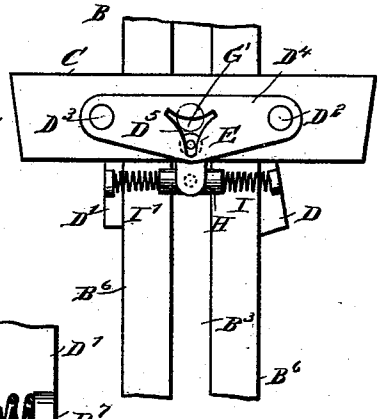
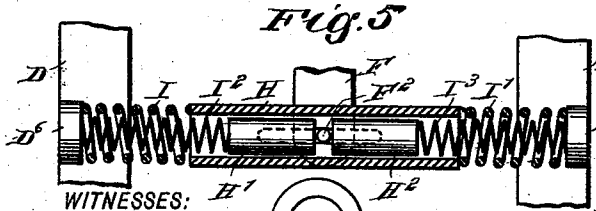


Fig. 5



WITNESSES:

John A. Bergstrom

Rud. G. Hoster Jr.

Fig. 6

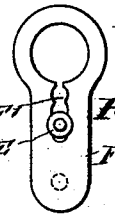
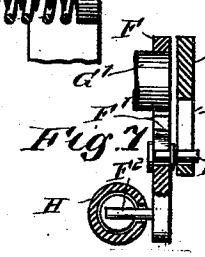


Fig. 7



INVENTOR

J. McMurrin

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOSEPH McMURRIN, OF SHOSHONE, IDAHO.

TRACK-JACK.

SPECIFICATION forming part of Letters Patent No. 549,933, dated November 19, 1895.

Application filed March 4, 1895. Serial No. 540,448. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH McMURRIN, of Shoshone, in the county of Logan and State of Idaho, have invented a new and Improved Track-Jack, of which the following is a full, clear, and exact description.

The invention relates to track-jacks such as shown and described in the Letters Patent of the United States, No. 504,935, granted to me on September 12, 1893.

The object of the invention is to provide a new and improved track-jack which is comparatively simple and durable in construction, more especially designed for use on railroad-tracks to raise and lower rails, &c., and arranged to permit the operator to conveniently manipulate the jack with comparatively little exertion.

The invention consists in certain parts and details and combinations of the same, as will be hereinafter more fully described, and then pointed out in the claims.

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

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is an end view of the same. Fig. 3 is a sectional plan view of the same on the line 3 3 of Fig. 1. Fig. 4 is a rear elevation of the slide and standard. Fig. 5 is an enlarged sectional side elevation of the springs for operating the dogs. Fig. 6 is a rear view of the lever for operating the springs, and Fig. 7 is a transverse section of the same and adjacent parts.

The improved track-jack is provided with a base A, on which is fastened a standard B, provided with two legs B′ and B^2, placed a suitable distance apart to form the vertical slot B^3, as plainly shown in the drawings. On the outer faces of the legs B′ and B^2 are arranged teeth B^4 and B^5, respectively, having an upward inclination, with the upper surfaces of the teeth flat or straight. The top surfaces of the teeth on one leg of the standard are transversely opposite about the center of the teeth on the opposite leg, so that the teeth on the two legs are alternate in location. Flanges B^6 are arranged on the ends of the teeth B^4 and B^5 on both legs B′ and B^2, as will be readily understood by reference to Fig. 3.

On the legs B′ and B^2 of the standard B is fitted to slide vertically a ratchet-slide *c*, provided at its ends with apertures C′, adapted to be engaged by the pointed end of a tool to manipulate the slide, as hereinafter more fully described. In the ratchet-slide C are pivoted the dogs D and D′, adapted to engage the teeth B^4 and B^5, respectively, the said dogs having their pivots D^2 and D^3 transversely in the slide C, with the rear ends connected with each other by a cross-bar D^4.

In the middle of the cross-bar D^4 is formed a triangular opening D^5, engaged by a button E, extending into a vertically-disposed slot F′, formed in a lever F, secured on the trunnion G′, formed on the upper end of a lifting-bar G, fitted to slide with its shank G^2 in the slot B^3, the lower end of the shank carrying a foot G^3, projecting to the front of the standard B to support a rail or other device. The shank G^2 is preferably formed with the widened front portion G^4, fitted into the correspondingly-widened front part of the slot B^3, as will be readily understood by reference to Figs. 1, 2, and 3. A pivot G^5, formed on the shank G^2 opposite the trunnion G′, engages a bearing in the front face of the slide C, so that the latter is mounted to rock on the lifting-bar G at G^5 and G′.

On the lower end of the lever F is secured a transversely-extending pin F^2, extending through a longitudinal slot into a tube H, pressed on at its outer ends by springs I and I′, connected with flanges or lugs D^6 and D^7, respectively, projecting from the dogs D and D′. Lighter coiled springs I^2 and I^3 are arranged within the springs I and I′, and likewise rest with their outer ends on the said lugs D^6 and D^7, and their inner ends press on blocks H′ and H^2, fitted loosely in the tube H on opposite sides of the pin F^2. (See Fig. 5.)

Now, it will be seen that when the button E is in an uppermost position in the aperture D^5, then it permits the lever F to hang loose, so that no action is had on the springs I, I′, I^2, and I^3 by the pin F^2 operating on the blocks H′ and H^2. When the button E is in this position, the lifting-bar G is raised, as by manipulating the ratchet-slide C by canting it alternately sidewise. The dogs D and D′, it will be understood, are through this manipulation of the slide C alternately engaged with

their corresponding teeth on opposite sides of the standard.

When it is desired to lower the lifting-bar G, then the operator presses the button E down in the aperture D^5 to the position shown in Fig. 4, whereby tilting or canting of the ratchet-slide C causes the button to impart a swinging motion to the lever F, so that the pin F^2 presses alternately on the inner ends of the blocks H' H^2 to compress the corresponding springs $I^2 I^3$ to throw the corresponding dog D or D' out of engagement with its corresponding tooth.

The button E is shifted in the slot F' of the lever F, preferably, by hand.

The lever F is made of spring material and the slot F' is connected with the aperture for the trunnion G'. The slot F' is contracted at a point near its top, as shown in Fig. 6, so that when the button E is pushed up to the top of the slot the stem of the button is forced through this contracted portion and retained above it until the button E is again moved by hand to its lower position.

It is understood that the lever F causes the springs to push the upper dog, so that when the pressure on the hand-lever or other tool used on the ratchet-slide C is sufficient to take the weight from the lifting-bar G, then the dog will jump back off the ratchet-tooth in the standard B. The alternating movement given to the ratchet-slide C releases the upper dog, and consequently the slide is lowered by the passing of the dog downward alternately from one tooth to another. Two springs I I^2 and I' I^3 are used, the springs I I' being pull-springs and the springs I^2 I^3 being push-springs of sufficient tension to overcome the tension of the pull-springs, so that the inner coil has the power of extending the outer coil when the short lever F acts upon the corresponding block H' or H^2.

It is also understood that when the lifting-bar G is lowered at the time the button E is in a lowermost position in the aperture D^5, then the short lever F swings alternately with the motion of the slide C, and when the weight is released from the upper dog by pressure on the hand-lever manipulating the slide C, then the pressure on the small lever brings pressure on the inner springs, so as to force that dog out of its tooth, whereby the lifting-bar is permitted to drop one tooth, thereby throwing the dog on the opposite side into an uppermost position and thereby canting the slide in the other direction. At the same time the short lever F now acts on the inside spring connected with the other and now upper dog, and the above-described operation is again repeated.

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

1. A track jack, comprising a standard having legs spaced apart to form a vertical slot, the outer faces of the legs being provided with teeth pitched in one direction and alternately located, a ratchet slide on the said standard, spring pressed dogs pivoted on the said slide and held at the outer sides of the said legs and a lifting bar fitted to slide in the said slot, the said ratchet slide being journaled on the upper end of the said lifting bar, substantially as shown and described.

2. A track jack, comprising a standard provided on opposite sides with teeth pitched in one direction and alternately located, a ratchet slide on the said standard, spring-pressed dogs pivoted on the said slide, a lifting bar fitted to slide on the said standard and on which the said ratchet slide is journaled, and a lever mounted to swing and adapted to be actuated by the canting of the said ratchet slide, the said lever serving to compress the springs for throwing the dogs out of their teeth when lowering the slide, substantially as shown and described.

3. A track jack provided with a standard formed on opposite sides with teeth pitched in one direction and alternately located, and flanges arranged on the ends of the teeth to protect the latter and strengthen the standard, substantially as shown and described.

4. A track jack, comprising a toothed standard, a ratchet slide fitted to slide on the said standard, a lifting bar fitted to slide on the standard and forming a fulcrum for the said ratchet slide, to cant the latter, dogs pivoted on the said slide and adapted to engage the teeth of the standard, an apertured plate holder on the said slide, a button engaging the aperture in the plate, a lever engaged by the said button and provided with a pin, and springs adapted to be compressed by the said lever pin and connected with the said dogs, substantially as shown and described.

JOSEPH McMURRIN.

Witnesses:
WAD SWOPE,
HENRY WINN.