

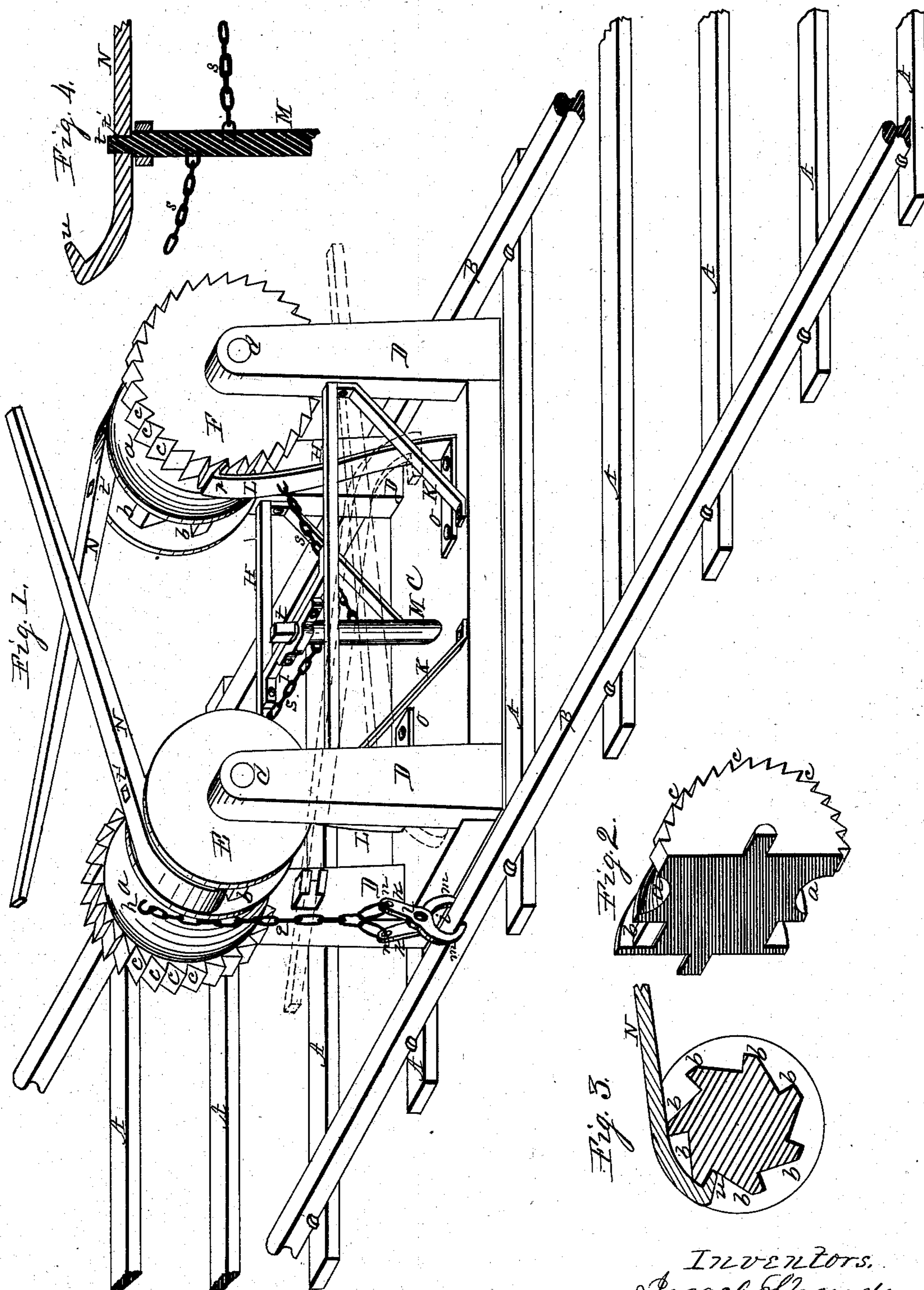
(No Model.)

I. SHOUDY & J. LICHER.

RAILROAD JACK

No. 249,488.

Patented Nov. 15, 1881.



Witnesses:
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UNITED STATES PATENT OFFICE.

ISRAEL SHOUDY AND JOHN LICHER, OF PAW PAW, ILLINOIS.

RAILROAD-JACK.

SPECIFICATION forming part of Letters Patent No. 249,488, dated November 15, 1881.

Application filed September 13, 1881. (No model.)

To all whom it may concern:

Be it known that we, ISRAEL SHOUDY and JOHN LICHER, citizens of the United States, residing in the town of Paw Paw, in the county of Lee and State of Illinois, have invented a new and useful Railroad-Jack, of which the following is a specification.

Our invention relates to machines employed to lift or raise the rails of railroad-tracks; and its object is to provide a machine capable of use on the track of railroads, to raise one or both rails for the purpose of leveling the track, or for other purposes requiring the rails to be raised; and it consists in the devices and the combinations of devices represented in the accompanying drawings, in which—

Figure 1 is an isometrical representation of our improved jack as applied in use. Fig. 2 is a central section of one of the ratchet-windlasses lengthwise of its axis. Fig. 3 is a transverse section cut centrally of the lever and its ratchet, and Fig. 4 is a vertical central section of the pawl-detaching mechanism.

In the figures, A represents the sills, and B the rails, of a railroad-track spiked to the sills in the usual manner.

At C is represented the sill of our improved jack, which in this instance is a plank rectangular in plan and section, and of suitable dimensions.

At D are represented vertical posts, rectangular in section and of proper dimensions, having their lower ends securely fixed to the corner portion of the sill, from which they rise to a proper height.

At E and F are represented drums or windlasses of the peculiar form represented in the drawings. The center portions of these windlasses are of concave form, as represented at *a*. These windlasses, near one end, are formed with ratchet-teeth, (represented at *b*,) adapted to receive a suitable operating-lever, and at their opposite ends are formed with ratchet-teeth *c*, of suitable conformation to receive a spring-pawl. These windlasses are provided with axial journals *d*, on which they are mounted to revolve in suitable bearings in the upper end portions of the posts.

At *e* is represented a chain of suitable construction, having its end portion fixed centrally in the concave portion of the drum E by means of a staple, *h*, or otherwise.

At *i* is represented grappling-tongs of one of the usual forms of such implements, consisting of the bars *k*, pivoted to each other, as at *l*, in the usual manner. The free ends of these arms, as at *m*, are of proper form to span and grasp the head of the rail, and their lever-arms, as at *n*, are connected to the free end of the chain by means of links *o*, forming a grapple of proper form to grasp the head of the rail. In the drawings this chain and grapple is only shown on the drum E; but it is designed to use a like chain and grapple on the drum F, in the same manner as shown on the drum E, but is not shown, as its position would be immediately behind the post of the frame.

At H are represented bars, which connect the posts toward their upper ends on each side of the frame. These beams are connected at about the center of their length by means of a transverse bar, I, securely fixed to the lengthwise bars H.

At K are represented braces of suitable dimensions, placed in the lengthwise inner angle formed by the posts and sill, and are securely fixed thereto for the purpose of giving firmness to the parts.

At L are represented spring-pawls of bar form, having a foot portion, *o*, securely fixed to the sill of the frame, and their free upper ends are made in hook form, as at *p*, adapted to engage the ratchet-teeth *c*, to hold the windlasses.

At M is represented a vertical shaft, of suitable dimensions, mounted to revolve in a foot-bearing in the sill, and near its upper end in a suitable bearing in the transverse bar I.

At *s* are represented chains, which connect the spring-pawls to the vertical shaft in such a manner that in the turning of the shaft the chain will be wound thereon, which action will disengage the springs from the ratchets. The upper end of this vertical shaft is of rectangular form, as at *t*, fitted to enter the hole *t'*, formed in the levers to receive it, by means of which the shaft may be rotated to disengage the pawls.

At N are represented the operating-levers, which are suitably curved, and are provided with a hook, *u*, fitted to engage the ratchet-teeth *b*, in the manner clearly shown in the drawings.

With these several parts constructed and arranged as shown and described, the opera-

tion of our machine is as follows: The machine is placed between the rails crosswise of the track, and between the sills or ties thereof. The grapples are then placed to engage the rails on both sides. The levers are then employed in the manner represented in the drawings, and as hereinbefore described, by means of which the operators will be enabled to rotate the windlasses, which action will wind the chain thereon, and will lift the track on one or both sides, as the levers of one or both sides are operated, and when raised will be held in their raised position by means of the spring-pawls engaging the ratchet-teeth; and when the track is properly adjusted the jack is disengaged by removing the levers from the ratchets and placing one of them on the vertical shaft, to be employed as a sweep-wrench to disengage the spring-pawls, to permit both the windlasses to revolve at once, and permit both rails to drop at the same time.

At P are represented clasps, fixed to the inner sides of the posts on diagonal opposite corner-posts of the frame, in position to receive the handle end of the operating-levers, as seen in the dotted lines, in which position their projecting ends will serve as handles by means of which the machine may be readily moved from place to place, as required.

It will also be observed that these windlasses are in every particular the same and are interchangeable, and receive the operating-levers on opposite sides in such a manner as to be operated without interfering with each other, and that its whole use may be within the track.

We claim as our invention—

1. In a railroad-jack, the combination, with the herein-described like windlasses, made interchangeable, mounted in a suitable frame, provided with grapples adapted to engage the rails, of the curved hook-levers to engage the ratchet-teeth of the windlasses on opposite sides of the frame, and of spring-pawls to engage the ratchet-teeth of the windlasses, substantially as and for the purpose hereinbefore set forth.

2. The combination, with the spring-pawls, of a winding-shaft and chain-connection, substantially as and for the purpose hereinbefore set forth.

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